

The Impact of Social Media on Sleep Quality

Akansha A. Yewale¹, Dr. Arshiya A. Khan²

¹Student, Master of Computer Application, JSPM University, Pune, Maharashtra, India

akanshayewale500@gmail.com

²Mentor, JSPM University, Pune, Maharashtra, India.

Abstract— *Social media is nowadays an integral part of most people's everyday life and largely shapes their communication, studying, or entertainment habits. However, the growing prevalence of social networking across different age groups entails a range of negative effects, which include their negative influence on the state of people's health and their sleep in particular. Thus, in the current review paper, the focus will be made on the problem of the effect of social networking on sleep disturbances experienced by adolescents, adults, and senior citizens. The usage of social media, particularly before going to bed, may harm not only sleep quantity but also its quality.*

The following are a few reasons explaining why using social networking in the evenings can negatively affect one's sleeping regime, including exposure to the blue light of smartphones, emotional excitement, fear of missing out syndrome, and notifications-induced constant involvement in various activities. The latter may eventually result in such negative consequences as lack of concentration, academic and professional problems, irritability, etc.

Keywords— *Social Media, Sleep Quality, Blue Light, Adolescents, Mental Health, Digital Behaviour.*

I. INTRODUCTION

The role of social media in modern-day society cannot be separated from our daily lives. It is utilized to communicate, entertain, educate, promote businesses, and network. Social media users can easily post their information, communicate with other users, read news, and watch videos anytime of the day. The convenience offered by smartphones has further facilitated the growth of social media.

However, the amount of daily use of social media has increased immensely. One such issue is poor sleep quality. Sleep is required for the proper functioning of cognitive abilities, mental stability, memory recall, immunity, healing, and restfulness. Typically, adults should sleep between seven and nine hours every night, whereas teenagers should get eight to ten hours of sleep every night.

The importance of sleep is recognized as one of the most important aspects of maintaining good health as it affects our physical fitness, emotional wellness, cognitive processes, and performance throughout the day. The deficiency of proper sleep could have negative effects on a person's ability to focus, remember, work, and generally feel good in their daily life routine.

This review paper seeks to explore the effects of social media on sleep quality, find out why people have sleep disorders, investigate the influence of social media on sleep quality among different ages, and provide possible remedies.

II. LITERATURE REVIEW

Numerous scholars have studied the relationship between the use of social media and people's sleep behaviour. Contemporary studies indicate that those who use smartphones and social networking sites spend more time falling asleep, sleep less, and do not enjoy their sleep [1, 2].

As stated in medical research, the exposure of the body to blue light from mobile phones prevents the production of melatonin. This is a hormone responsible for maintaining the cycle of falling asleep. Lack of melatonin delays people's natural sleep process and distorts their circadian rhythms [2,3].

Psychological research indicates that the application of social media in the pre-sleep period results in the emergence of multiple emotions including excitement, stress, curiosity, anxiety, and envy. Therefore, the brain can no longer rest [3].

Furthermore, according to various studies, teenagers are especially vulnerable to adverse effects caused by social media usage. In particular, adolescents are avoid users of these websites and thus experience poor academic performance, moods, and focus abilities [4].

Hence, a wide range of scientific publications distinctly highlight the fact that careless social media use has become a major public health issue associated with the worsening of sleeping conditions [1,2,5].

III. OBJECTIVES

The main purpose of this review article is to examine the effect of social media usage on the quality of sleep and overall well-being of individuals in various age categories. Today, in the digital world, social media websites have become an integral part of everyone's lives and are widely used for interaction purposes, entertainment, learning, networking and even sharing valuable information. While there are many benefits associated with social media websites, its misuse especially at night has become a matter of grave concern due to its adverse effects on one's health, wellbeing and sleeping habits. Thus, this review will try to examine the pros and cons of using social media and come up with solutions.

The specific objectives of this study include the following:

1. To examine the effects of using social media on sleep quality and sleeping habits

The primary aim of the present study is to assess how prolonged use of social media platforms impacts the sleep quality and length of individuals. In particular, the aim of the study is to find out whether excessive use of social networking sites such as Instagram, Facebook, WhatsApp, Snapchat, YouTube, and Twitter causes sleeping delays, reduction in sleeping time, and poor sleep quality [6].

The problem occurs primarily due to the fact that spending time on social networking sites at night results in increased screen time, consequently affecting the natural sleep rhythm of the body. This happens as the blue light emitted by the phone affects the amount of melatonin, the hormone responsible for regulating the sleep rhythm. Moreover, engaging in activities like scrolling through various sites, chatting, getting emotionally attached, receiving notifications, and feeling FOMO increases brain activity [3,7].

2. To ascertain the reasons for sleep disturbance owing to use of social media

One of the other main aims of this review is to establish the reasons why sleep disturbance occurs as a consequence of social media use. In particular, some of the causes include being exposed to blue light emanating from electronic gadgets, incessant notifications, emotional stimulation, addiction to scrolling, and increased interaction online [8].

3. For studying the psychological effects of social media use at night

This study attempts to determine the psychological impact of the use of social media during the night. The activities include reading posts, having conversations, watching videos, and comparing one's self with others. These activities might result in the development of emotions such as stress, anxiety, excitement, FOMO, jealousy, loneliness, and depression [4].

This occurs due to the constant stimulation of the human brain by social media through emotionally engaging material. The brain remains stimulated psychologically by such things as negative news, comparisons among people on social media, socializing online, and constant engagement in the digital world, which makes it difficult for one to have a relaxed mind emotionally prior to sleeping [10].

4. To investigate the effect of social media usage among various age groups

One more purpose of this review paper is to conduct an analysis regarding the impact that social media usage has on adolescents, college students, professionals, adults, and elderly. As different age groups have distinct life styles, sleeping needs and habits, the aim of this review is to find out which age group suffers the most from sleep problems caused by their social media addiction [11].

Adolescents and college students are usually more active on social networking platforms for entertainment, communication, and social interaction. Night-time over-usage often causes sleep delays, impaired concentration, emotional shifts, educational pressures, and fatigue during the day. Social media is mostly used by professionals and adults for building relationships, professional purposes, and recreational activities at the end of working hours. Being exposed to long hours of screen use and staying awake during nighttime hours may trigger stress, unproductiveness, tiredness, and poor sleep quality. In the case of seniors, although the effects will be minimal, they will surely be affected in terms of their sleep cycles, fatigue, and mental peace.

IV. MECHANISM OF IMPACT

1. Blue Light Impact

One of the main factors that causes sleep issues among individuals because of the utilization of social media is the blue light that comes from digital products, for example, smartphones, laptops, televisions, and

computers. Most people utilize such gadgets prior to bedtime for watching different video clips, checking their feed in social networks, answering different messages, or surfing the Internet. Unfortunately, constant usage of screens leads to negative effects on the normal process of sleep.

It should be noted that humans have their own natural way of regulating sleep through the production of the hormone named melatonin. If one stays glued to his or her screen for a long period of time, it decreases the amount of melatonin produced. This leads to increased brain activity due to the fact that it receives signals similar to those at daytime, which makes it difficult to go to bed [3,12,13].

2. Psychological Stimulation

Social media platforms are designed to keep people immersed psychologically and emotionally for hours of use. Scrolling down comments, watching entertaining videos, participating in multiple battles, communicating with your friends, or seeing what's new on others always keeps your brain cells active. Social media isn't relaxing; it actually gets people thinking more [4,13].

The nature of content on social media can evoke different emotions in us depending on the content. While there are users who may feel excitement watching videos or chatting with friends, there are also users who may feel anxiety, depression, stress or disappointment by learning about unpleasant news, having an argument, or comparison with others.

As the emotional activation lingers until the session's end, users will continue to ruminate on multiple topics long after placing down their devices. The use of social media makes it hard for many people to sleep because one of the ways of activating a person's brain is psychological stimulation [14].

3. FOMO (Fear of Missing Out)

People are afraid of missing out some important information, updates, news, social gatherings and online chats if they do not stay online. Lately, the issue has gained a lot of importance in the case of teenagers and young adults who use social networking apps actively on a daily basis.

Apart from causing loss of sleep, FOMO is associated with mental unrest. Individuals who have tried to fall asleep end up being busy thinking about social interactions or waiting for notifications and messages. This makes it difficult to achieve psychological

relaxation, thus making people feel stressed out and disrupting their sleep [15].

4. Interruptions by Notifications

Notifications by social media platforms are one of the factors that interrupt sleeping schedules. Nowadays, cell phones produce notifications in various ways including through messages, calls, vibrations, reminders, and social media posts. People prefer having their phones close to their beds in order to reply instantly whenever there are any notifications.

The least vibration or noise at night can lead to disturbance of sleep. Some people even end up waking up to check their phones when they receive notifications [10,16].

5. Social Networking Addiction and Health Issues

Overusing social networking websites is prone to result in addiction and dependency. Individuals tend to spend a significant amount of time watching short videos, scrolling down the feed, messaging other people, and responding to the comments and messages from other users without even realizing how long it takes. Social networking apps are purposely made to engage a person constantly [15,17].

As the amount of time spent online increases, the sleeping hours become less. Rather than ensuring a healthy sleep routine, many people find themselves staying up late at night for socializing purposes using social media networks. Such a routine does not only impact the person's sleep adversely but also gives rise to several health issues [19].

Being exposed to the screen for prolonged hours causes headache, tiredness in eyes, pain in neck, body, and mind. Such health conditions have a significant impact on a person's health and life. Consequently, in order to maintain sound sleep and other aspects of health as well, one should make sure that their use of social media is under control and well-balanced [6].

V. IMPACT

1. Adolescents and Young Adults

Young people are considered as frequent users of social networking sites. By nature, the biological clocks of teenagers have the tendency to make them stay awake longer; therefore, they are susceptible to any

disturbances in their sleep pattern. Insomnia among adolescents may lead to:

Mental Health Effects-

- **Poor academic performance:** Irregular sleep messes with concentration, which makes it harder to learn and usually drags grades down.
- **Lack of focus:** Spending too much time on social media during the day pulls your attention away from schoolwork and other things that actually need your focus.
- **Depression and anxiety:** Overuse of the internet and inadequate sleep cause people to become anxious, depressed, and stressed.
- **Irritability:** Youth become irritable due to lack of sufficient sleep.
- **Depression and anxiety:** Excess use of the internet and sleep deprivation make individuals feel stressed and anxious.

Physical Health Effects-

- **Eye strain and headaches:** Constant exposure to the screen leads to eye irritation, blurry vision, and persistent headaches.
- **Fatigue and low energy:** Lack of sleep affects your health by making you feel tired and weak.
- **Weakened immune system:** With insufficient sleep, the body becomes more vulnerable to diseases.
- **Increased risk of obesity:** Insufficient sleep may lead to unhealthy eating behavior and obesity.
- **Hormonal imbalance affecting growth:** Sleep is vital in ensuring proper development in teenagers.

Figure1. Impact of Social Media on Adolescents and Young Adults [4,8].

2. Adults

Adults who work may engage with social media during late-night hours for leisure, professional interaction, and networking purposes. Insufficient sleep among adults can create problems such as:

Mental Health Effects-

- **Low productivity:** Because of lack of sleep, you tend to have low productivity.

- **Poor decision-making:** Due to lack of sleep, decision-making skills are affected.
- **Elevated stress levels:** Constant involvement in the Internet without any rest can cause stress.
- **Mental exhaustion:** The excessive use of technology and digital devices causes mental exhaustion.

Physical Health Effects-

- **Chronic fatigue:** Tiredness and weakness in adults can be caused by lack of sleep.
- **Eye strain and digital eye syndrome:** Prolonged use of screens results in dry eyes and other eye complications.
- **Increased risk of high blood pressure:** Lack of sleep can have a negative effect on cardiovascular health and blood pressure.
- **Weight gain and metabolic issues:** Poor sleep disrupts metabolism and can lead to obesity and even diabetes.
- **Sleep disorders like insomnia:** Too much social media use prior to going to bed might result in sleeping disorders.

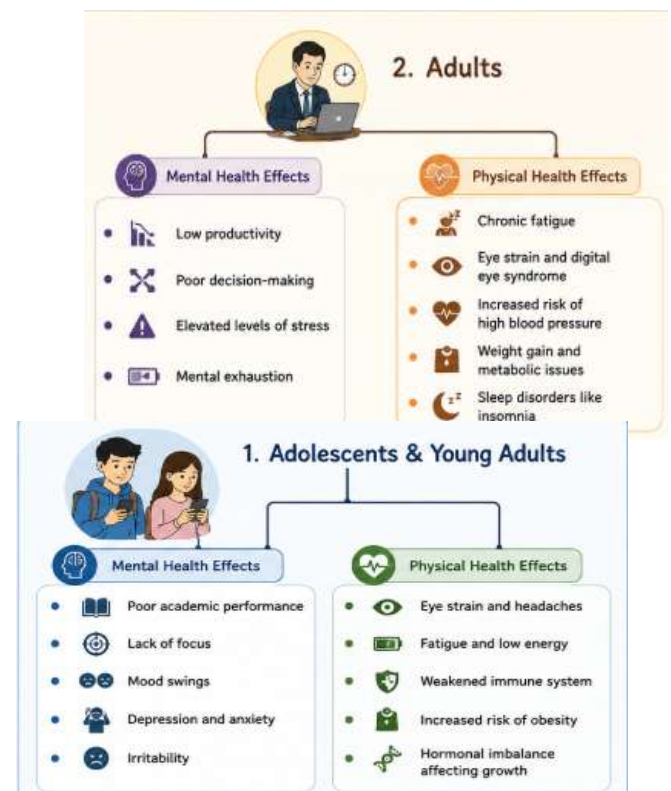


Figure2. Mental and Physical Health Effects of Social Media on Adults [7].

3. Elderly People

Social media usage may be less frequent in this category but may interfere with sleep patterns by replacing regular activities before bedtime.

Mental Health Effects-

- **Confusion or reduced cognitive clarity:** Inadequate sleep may affect the concentration, memory, and cognitive abilities of older adults.
- **Anxiety due to online content:** Negative content on the Internet may increase anxiety levels.
- **Feelings of loneliness or isolation:** Use of social media could lead to an actual feeling of isolation rather than social contact.

Physical Health Effects-

- **Disturbed sleep cycle:** Screen use at night may disturb their normal sleeping pattern.
- **Increased tiredness during the day:** Lack of good sleep may result in fatigue during the day.
- **Eye discomfort or dryness:** Older individuals are highly susceptible to irritation of their eyes from long hours of screen usage.

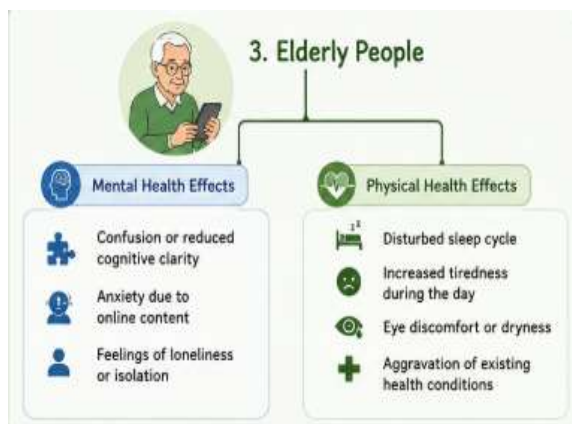


Figure2. Sleep Disturbance and Health Effects Among Elderly Social Media Users [6]

VI. METHODOLOGY

For this study, secondary research methodology was used since data and information were sourced from existing and credible resources instead of collecting new primary data through surveys and interviews. Secondary research was chosen for its ability to source an extensive pool of scientific literature, previous studies, health records, and statistics about social media

habits and sleep quality. It also facilitates comparisons among different demographics and age groups.

Information for this study was collected from several sources including medical review journals, health-related publications, psychological studies, survey results, and health institution reports [2,6]. The recent and credible studies by reputable institutions were analysed to guarantee validity and reliability of findings.

For this analysis, a comparative method was applied to establish the relationship between high usage of social media and sleep quality. Comparing different studies and examining their common features enabled the identification of the impact of excessive usage of social media on one's physical and psychological state. Some of the key indicators that were used for the analysis include the following:

Indicator for Comparative Research

1. Sleep Duration – The total number of hours per night that people spend sleeping and whether this period is enough according to the recommended norm.
2. Time to Fall Asleep (Sleep Latency) – The time period spent falling asleep at night.
3. Number of Awakenings – Number of times people are awake at night because of social media notifications or other reasons.
4. Sleep Fatigue During the Day – Symptoms of fatigue, weakness, and tiredness during daytime as a consequence of poor sleep quality.
5. Emerging Emotions – Mood swings, stress levels, anxiousness, and general mental stability as a result of poor sleep.

VII. RESULT

The results provide strong evidence of an evident negative relationship between high use of social media and sleep well-being.

Significant Findings:

- High frequency social media users experienced poor sleep quality when using it for more than 3 to 5 hours a day [9].

- Increased night-time scrolling led to delays in going to bed.
- The young age group was the most impacted by high use of social media.
- Notifications received caused disruptions in uninterrupted sleep patterns [10].
- Pre-sleep engagement resulted in high stress levels.
- Individuals experiencing poor sleep had poor performance at school and work.
- The study suggests that high use of social media can be considered a behavioural and health problem [19].

VIII. ADVANTAGES OF CONTROLLED MEDIA USE

If used responsibly and within limits, social media will be advantageous without influencing the sleep quality:

- Better connectivity with family and friends
- Sources of education
- Facilitates networking
- Communities offering emotional support
- Entertainment and creative activities

IX. CONCLUSION

Social networking plays a great role in today's society, but its overuse might interfere with proper rest. Among the factors causing sleeping disorders are excessive use of the site, exposure to the blue light of electronics, stressful emotions, and dependence on technology. In particular, young people are especially exposed to these threats due to their increased activity and shifting biological rhythms.

Sufficient quantity of sleep contributes significantly to one's mental condition, learning abilities, efficiency, and general health. Consequently, users have to learn how to handle their devices wisely. As a result, digital literacy and wellness require collaboration between all parties concerned – families, educators, healthcare practitioners, and policy-makers.

Thus, based on the presented study, it may be concluded that social networking itself does not cause any harm; however, overexposure to the Internet poses a number of threats.

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