



Effects of increased Social Media Usage on Sleep Quality in the global adult population: A Comprehensive Study

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ABSTRACT :

The study examines how increased use of social media affects adults' sleep quality around the globe. It explores the complex association between social media usage patterns and sleep problems using a conceptual framework. Results point to a strong link between prolonged social media use and poor sleep quality, explaining plausible causes such as elevated cognitive activation, thrown off circadian cycles, and psychological stress. The study also emphasizes the necessity of public health campaigns and comprehensive treatments to lessen negative impacts on sleep hygiene. Through shedding light on the complex relationships between social media use and sleep habits, this study advances one's knowledge on the topic.

KEY CONCEPTS: Social Media; Sleep quality; global adult population

INTRODUCTION:

According to the Oxford Dictionary, social media is 'websites and applications that enable users to create and share content or to participate in social networking.' Social media refers to a variety of technologies that facilitate the sharing of ideas and information among their users.¹

Sleep quality is defined as an individual's self-satisfaction with all aspects of the sleep experience. Sleep quality has four attributes: sleep efficiency, sleep latency, sleep duration, and wake after sleep onset. Antecedents include physiological (e.g., age, circadian rhythm, body mass index, NREM, REM), psychological (e.g., stress, anxiety, depression), and environmental factors (e.g., room temperature, television/device use), and family/social commitments. Good sleep quality has positive effects such as feeling rested, normal reflexes, and positive relationships. Poor sleep quality consequences include fatigue, irritability, daytime dysfunction, slowed responses, and increased caffeine/alcohol intake.²

Poor sleep quality can imply short-term as well as long-term consequences both psychologically and physically. Sleep deficiency can cause problems with learning, focusing, and reacting. The psychological consequences may include an individual having trouble making decisions, solving problems, remembering things, managing your emotions and behaviour, and coping with change. One may take longer to finish tasks, have a slower reaction time, and make more mistakes.³

Sleep deprivation occurs when a person does not get enough quality sleep. It can affect a person's health, well-being, and ability to focus on daily tasks. It can also affect the immune system and may increase the risk of certain health conditions.

Sleep deficiency is linked to many chronic health problems, including heart disease, kidney disease, high blood pressure, diabetes, stroke, obesity, and depression. Sleep deficiency is also linked to a higher chance of injury in adults, teens, and children.⁵ These are the effects of poor sleep quality or sleep deprivation on the physical body of an individual.

Research studies have proved that the increased usage of social media has had negative effects on the sleep quality of adults.^{6,7,8}

BACKGROUND OF THE STUDY

As of 2024, the average daily social media usage of internet users worldwide amounted to 143 minutes per day, down from 151 minutes in the previous year. Currently, the country with the most time spent on social media per day is Brazil, with online users spending an average of three hours and 49 minutes on social media each day. In comparison, the daily time spent with social media in the U.S. was just two hours and 16 minutes.

Currently, the global social network penetration rate is 62.3 percent. Northern Europe had an 81.7 percent social media penetration rate, topping the ranking of global social media usage by region. Eastern and Middle Africa closed the ranking with 10.1 and 9.6 percent usage reach, respectively. People access social media for a variety of reasons. Users like to find funny or entertaining content and enjoy sharing photos and videos with friends, but mainly use social media to stay in touch with current events friends.

Social media has a wide-reaching and significant impact on not only online activities but also offline behavior and life in general. During a global online user survey in February 2019, a significant share of respondents stated that social media had increased their access to information, ease of communication, and freedom of expression. On the flip side, respondents also felt that social media had worsened their personal privacy, increased a polarization in politics and heightened everyday distractions.[9]

According to figures, the biggest social media platforms, at the beginning of 2023, there were 398.0 million users in India who were 18 years of age or older, or 40.2 percent of the country's entire population. In general, 67.5% of all internet users in India in January 2023 (regardless of age) used at least one social networking platform. The average person spends about 145 minutes on social media every day. Time is a precious commodity. Therefore, it's significant that the average person globally spends a significant portion of their day—about 145 minutes—on social media. Interestingly, Indians, on average, spend about 141.6 minutes on social media daily.

To put this into perspective, if the average person maintained this usage over an average life span of 73 years, the end result is an astonishing 5.7 years spent on social media platforms.[10]

David Lee, PhD, from the University at Buffalo, the State University of New York, and coauthors demonstrated that social media use was associated with higher levels of C-Reactive Protein (CRP), a biological marker of chronic inflammation in the blood that is associated with chronic illnesses such as cardiovascular diseases and cancers. Social media use was also related to experiencing more frequent somatic symptoms. It also positively correlated with more visits to the doctor or health centres for an illness.

High levels of social media use or screen time may negatively affect physical health in multiple ways. For example, it may reduce users' amount and quality of sleep. Hyperconnectivity may also increase stress or displace health-promoting activities such as exercise.[11]

Research participants in this study who used social media excessively were found to have higher levels of C-reactive protein (CRP), a biological marker of chronic inflammation that predicts serious illnesses, such as diabetes, certain cancers and cardiovascular disease. In addition to elevated CRP levels, results suggest higher social media use was also related to somatic symptoms, like headaches, chest and back pains, and more frequent visits to doctors and health centers for the treatment of illness.[12]

Social media has associations with depression, anxiety, and feelings of isolation, particularly among heavy users. A 2015 Common Sense survey found that teenagers may spend as much as 9 hours of each day online. Many of these individuals are themselves concerned that they spend too much time browsing social networks. This wave of concern suggests that social media could affect the mental health of its users. The researchers behind a 2017 Canadian study confirmed this finding. They noted that students who use social media for more than 2 hours daily are considerably more likely to rate their mental health as fair or poor than occasional users.

A 2019 study Trusted Source tied social media use to disrupted and delayed sleep. Regular, high quality sleep is essential for well-being, and evidence shows that sleeping problems contribute to adverse mental health effects, such as depression and memory loss. Aside from the adverse effects on sleep, social media may trigger mental health struggles by exposing individuals to cyberbullying. In a 2020 survey of more than 6,000 individuals aged 10–18 years, researchers found that about half of them had experienced cyberbullying.

One of the downsides of social media platforms is that they give individuals the opportunity to start or spread harmful rumors and use abusive words that can leave people with lasting emotional scars. [13] Social Media impacts the sleep quality of an individual if the person is a user of social media in bed. Sleep disturbances, depression, stress, hyperactivity disorder, increased daytime sleepiness and impacts on the psychosocial behaviour are some of the effects of increased social media usage on a person's health causing poor sleep quality. [14, 15, 16, 17, 18]

OBJECTIVES OF THE STUDY:

1. To understand the effects of increased social media usage on the sleep quality of the adult social media users globally.
2. To enable further researchers to study on the topic with relevant intervention methods.

EFFECTS OF INCREASED USAGE OF SOCIAL MEDIA ON SLEEP QUALITY IN THE GLOBAL ADULT POPULATION

According to the Datareportal January 2024 global overview, we can see that social media growth has continued to increase: More than half of the world now uses social media (62.3%). 5.04 billion people around the world now use social media, 266 million new users have come online within the last year. The average daily time spent using social media is 2h 23m. [19]

Self-determination theory explains our fundamental needs to feel connected, authentic, and accomplished. Research shows that social media helps people accomplish self-determination goals.

When people's social media use is based on their self-determined motivation, they feel happier. [20] Considering the pros of using social media, the cons of the same cannot be neglected, especially its impact on the health of a person, that is, all aspects of health.

The average social media usage by a person is not hazardous to the health. But, increased amounts of prolonged and excessive use of social media may cause a range of health issues due to poor sleep quality. The duration of sleep decreases with increased usage of social media at night.[21]

The effects of social media on the sleep quality were studied thoroughly with the help of ample sources of literatures on the topic.

The use of social media can affect health, both physically and psychologically. This research relies on systematic literature review (SLR) method obtained from databases, namely Google Scholar from many countries in the world, and data about digital 2021 global overview report from Hootsuite & We Are Social. Of the 55 studies obtained, 41 studies stated that Insufficient sleep was found to be linked to social media use. daytime sleepiness, insomnia, or sleep patterns. According to the research, excessive usage of social media is related to sleep problems or disruptions. The usage of social media will have a beneficial impact, since it will make daily tasks easier. However, unrestricted use of social media can have a detrimental effect on sleep habits.[22]

Smartphone is becoming pervasively used and the prevalence of problematic smartphone use is increasing. Characteristics and main findings of 14 studies on association of problematic smartphone use with poor sleep quality, depression, and anxiety were systematically reviewed.

Positive associations between the problematic smartphone usage and sleep quality, depression, and anxiety were evidenced. High levels of problematic smartphone use elevated risk of poor sleep quality, depression, and anxiety. [23]

The reason for which social media usage impacts the sleep quality of an individual is due to the following:

It's well-established that looking at phone screens can impact sleep. Mobiles emit mostly blue light, and these wavelengths are particularly good at keeping us productive and focussed, so perfectly suited for daytime phone usage.

At night-time, however, this is not ideal. At its simplest, exposure to light tells us to be awake, so looking at a bright light from a phone just before bed is telling your body it's still time to be awake and not sleep time. In the hours leading up to bedtime, as natural light levels decrease, our brains start to produce a hormone called melatonin, which causes our alertness to begin to dip. It signals to our bodies to wind down and prepare for sleep.

The blue light emitted by mobile phones affects your melatonin levels more than any other wavelength does. It signals to your brain that it's daylight, melatonin production is suppressed and sleep becomes delayed.⁵ Without melatonin signalling to us that we are sleepy, we remain awake and alert, in a state of 'cognitive arousal'.^[24] 'Sleep displacement' by social media is well-recognised amongst adolescents, and recent studies are beginning to show similar effects across adult age groups, too.

For people still in education, who have early start times, this is a particularly bad combination. For adults, this often leads to later wake-up times and has a knock-on effect on time available to complete tasks over the coming day. ^[24,25,26]

The usage of social media has a direct impact on the sleep quality. ^[27, 28, 30] The best ways to tackle this issue is by limiting the use of gadgets and social media found in them during the night and in the bedroom in general. ^[29, 32] A few proven steps to improve sleep quality are mentioned below.

Avoiding the usage of social media thirty minutes before bedtime would be beneficial. ^[31]

A gradual reduction, that is thirty minutes, per day has proved to lower high levels of loneliness and anxiety and other side effects of poor sleep quality. ^[33]

CONCLUSION

In conclusion, it is clear from a number of angles that social media use and adult sleep quality are related. Platforms that enable social networking and content sharing, which have permeated contemporary lives, are included in the broad definition of social media. On the other hand, general wellbeing is strongly impacted by the quality of sleep, which is defined by variables like as efficiency, latency, duration, and alertness following sleep onset. The causes and effects of poor sleep quality demonstrate the complex ways in which it affects both mental and physical health. Research continually points to a negative correlation between people' growing use of social media and poorer sleep quality. This negative impact goes beyond simple fatigue; it impacts brain processes, emotional control, and general well-being. Recognizing these results emphasizes how crucial it is to encourage considerate social media usage practices and place a high priority on sleep hygiene.

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