

Impact of Social Media Usage on Sleep and Eye Health: A Survey Study Among University Students

Soothram Sahithya¹, Prakash Panwar²

¹Ph.D. Scholar, Dept. of Extension Education and Communication Management, College of Community and Applied Sciences, MPUAT, Udaipur, Rajasthan, 313001.

²Professor, Department of Extension Education, Bhilwara, College of Agriculture, MPUAT, Udaipur, Rajasthan, 313001.

Abstract

Social media has become essential for university students, particularly during the pandemic, however, excessive late-night use can disrupt sleep due to screen light and impacting overall well-being and academic performance. Therefore, it is important to examine the purposes for which social networking sites are used and the effect of social media on sleep health among students. For the present study exploratory research design was adopted and the data was collected through google forms. The results indicated that, majority of the students were female, highest per cent belonged to 20-24 years age group, nearly seventy per cent were under graduates, students were using all major social media platforms daily to know the latest news and to chat with friends. The high social media usage of social media had high impact on their vision and led to late bedtimes.

Keywords: Sleep Health, Social Media Effects, Eye Health and Purpose of Using Social Media

Introduction:

The social media has become one of the most important means of communication in recent times. It is a computer-based technology that which enables sharing of ideas, thoughts and information through virtual networks and communities. In other words, social media refers to websites and computer programs that allow people to communicate and share on the internet using a computer or mobile phone. Social media refers to the platform for broadcasting information, while social networking is a platform for communication. Some popular social media platforms include YouTube, Facebook, Instagram and WhatsApp.

Social media has made it easier for people to access information and carry out daily activities, leading to increased dependence on these platforms. These are widely used by students and they spend a lot of their time on these sites as a part of their daily lives. According to Research studies, University students use social networking sites more than students in other age groups [1]. Number of social media platforms increasing gradually which leads to more usage among university students. During that time, the Covid-19 pandemic has happened which has affected the usage time. People's lifestyles have shifted, and they involved more in social networking sites, especially among young generations who were already active users before lockdown. This situation was worsened during the pandemic due to more leisure time. People

were forced to rely on social media to stay connected. University students spend a lot of their time on social media both during the day and at night, and it can be contended that such technologies play an important role in their daily lives. Social media has more adverse effects than positive ones [2]. Since students tend to spend more time on social media other than educational purposes; this tends to cause distraction from the learning environment, affecting their academic progress [3] [4].

According to the National Sleep Foundation, sleep is crucial for overall health and mental wellbeing. Most healthy adults need about eight hours of sleep at night, although individual sleep requirements can vary. A report from the United Kingdom found that 20 per cent of respondents often wake up at night to check social media notifications, leading to increased fatigue compared to their peers. This maladaptive use of social media and compulsive checking can result in sleep disruptions, poor sleep quality, fatigue and even insomnia if the habit persists [5].

Therefore, because of the high demand for social media usage among university students, it is important to examine the purposes for which social networking sites are used and the effect of social media on the sleep health of students.

Review of Literature:

Steeffan *et al.* (2023) found that majority of the respondents used social media for 2-4 hours and the purpose of using social media was for gaming, entertainment and for educational purposes. Among all platforms Instagram was the most popular social media platform. Majority of the respondents spent averagely 1 hour before sleep. Almost 70 per cent of the students used social media immediately after waking up in the morning. It was found that there was a reverse correlation between the time spent on social media and quality of sleep. Additionally, they also found that there was a direct correlation between the average use in social media and depression.

Jayaraman *et al.* (2023) found that social media usage had significant negative impact on the sleep quality among university students, most students reported poor sleep quality and WhatsApp and Facebook were the frequently used social media platforms.

Patel (2021) found that the Pearson's correlation results showed that there was a positive correlation between sleep quality and social media usage. There was no significant difference between male and female in social media usage and sleep quality among male and female.

Dhir *et al.* (2021) observed that social media usage related to the stalking of others' profiles on social media and indulging in online self-disclosure influences users' sleep behaviour, especially among young adults. The major sleep problems were sleep hygiene and problematic sleep. social media sleep hygiene as maintaining a consistent sleep schedule, checking posts and messages just before sleeping or immediately upon waking. Problematic sleep includes various sleep disruptions such as delayed sleep, inadequate sleep duration, erratic patterns, chronotypes and issues with the quality of sleep.

Kolhar *et al.* (2021) reported that ninety seven percent of students using social media, in that 65 per cent of the students belonged 20-24 years. The students were used social media mainly to pass time by browsing and chatting on WhatsApp/face book/snap chat. It was reported that majority (60 %) of the students felt that social media usage affected their relationships with their family members and friends. Fifty-seven per cent and thirty-four per cent of the students spend more than three hours on social media during day and night. One-third of students access social media at any spare moment and remaining students used during free time.

Hamilton *et al.* (2022) concluded that lower levels of physical activity and higher levels of social media

use are associated with late sleep timing, point to the potential role of these modifiable behaviours in adolescent sleep health and potential circadian disruption, and the importance of time cues such as physical activity and social interactions in maintaining healthy sleep. Critically, these behaviours do not exist in isolation and likely influence one another to disrupt or promote sleep. Maintaining healthy sleep and circadian rhythms is critical to helping adolescents cope with the psychological toll during COVID-19 pandemic and physically stay healthy.

Saman *et al.* (2019) found that there was a significant relationship between the rate of social network use and the overuse of cell phone and sleep quality. In other words, by increasing the use of cell phone, the rate of sleep disorders increases. The most common reasons for using social networks were to have communication with friends (94.39%), obtaining scientific information and news (80.99%), entertaining and having fun (71.65%), sharing movies and photos (48.59%), being lonely (34.26%), having activity in groups and channels (26.66%) and others (9.34%). Per cent word not symbol

Operational definition:

- Social Media usage is defined as the amount of time spent on the usage of social media.
- Sleep Quality is defined as the amount and quality of sleep an individual gets in order to function adequately [8]

Objectives of the study:

1. To know the profile characteristics of students
2. To examine the purpose of using social media
3. To assess the impact of social media usage on Sleep health and Eye health
4. To find the association between variables

Methodology

Research design

Exploratory research design was adopted for the present study to examine the purposes for which social networking sites used and its impact on student's sleep health and eye health. Quantitative research was used rather than qualitative because quantitative data will have closed ended questions and they make the statistical analysis easy.

Exploratory field study is one that intends to discover significant variables in the field situation and find out relations among those variables so that the ground work for better and systematic testing of hypothesis can be laid.

Location:

The study was conducted in Maharana Pratap University Agriculture and Technology, Udaipur district of Rajasthan.

Population

The population of the study was the students who are pursuing their education in Maharana Pratap University of Agriculture and Technology (MPUAT) university i.e. UG, PG and Ph.D.

Sample and sampling procedure

Convenient sampling technique was adopted in selecting the participants. The sample comprises of MPUAT university students from different subjects like community science, Agriculture and Agricultural

Engineering etc., students who did not use social media were not included during the response collection for the study.

Inclusion criteria

- Students who are using social media platform.
- Students of MPUAT University.
- Students who can read English.

Exclusion criteria

- Students who do not have access to social media was excluded.
- Other than MPUAT students were excluded for the study

Development of Research Tool

In Questionnaire, statements were developed by reviewing research and review articles related to the research topic. Framed questions or statements were given to expert for the evaluation and finalised with the incorporated suggestions and corrections received from the expert. Developed questionnaire consists of Two main sections:

a. General information

General information includes the questions like age, gender, education, preferred language to use social media, frequency of social media usage, increased social media usage during holidays, time spent on social media during day time and night time.

b. Specific information

Specific information consists of the statements related to the purpose of using social media and impact of Social Media usage on eyes health and sleep health among university students. Different purposes of using social media were mentioned and the statements related to impact of social media usage on eye health and sleep health were framed which can assist to analyse social media impact among students.

Procedure of data collection:

The study was conducted through an online survey method that is Google form. After the finalization of questionnaire, it was converted into google forms. Google forms are the easiest and effective way to collect data within a less time. The prepared google forms was shared to the students of Under Graduate, Post Graduate and Ph.D. with a description about the researcher along with the purpose of the study. By this method the data was collected. A total of 87 responses were received from the students. Thus, the final sample size is 87.

Ethical consideration

- Participation in this research was voluntary.
- Respect for the dignity of research participants has been prioritized.
- The research data was kept confidential

Analysis of data

Data Received through google forms were coded, analysed and tabulated. Frequency, Percentage, Mean Per cent Score (MPS), MPS Ranking and correlation was used.

Results and Discussion:

Table 1. Distribution of Students According to Their Profile Characters

n=87

| S. No. | Variable | f | % |
|--------|---|----|-------|
| 1. | Age group | | |
| | 17-19 years | 28 | 32.18 |
| | 20-24 years | 47 | 54.02 |
| | 25-29 years | 12 | 13.80 |
| 2. | Gender | | |
| | Male | 25 | 28.73 |
| | Female | 60 | 68.97 |
| | Prefer not to say | 02 | 2.30 |
| 3. | Education | | |
| | Undergraduate | 56 | 69.0 |
| | Post Graduate | 14 | 16.1 |
| | Doctor of Philosophy | 13 | 14.9 |
| 4. | Preferred language while using social media | | |
| | English | 43 | 49.4 |
| | Mother Tongue | 44 | 50.6 |
| 5. | Frequency of Social Media usage | | |
| | Daily | 79 | 90.8 |
| | Weekends | 8 | 9.2 |
| 6. | Increased Social media usage during holidays | | |
| | Yes | 69 | 79.3 |
| | No | 18 | 20.7 |
| 7. | Time spent on social media during the Day time | | |
| | Less than 30 minutes | 5 | 5.74 |
| | Less than 1 hr | 26 | 29.89 |
| | 1-3 hrs | 35 | 40.23 |
| | More than 3 hrs | 21 | 24.14 |
| 8. | Time spent on social media at night | | |
| | Less than 30 minutes | 19 | 21.84 |
| | Less than 1 hr | 42 | 48.27 |
| | 1-3 hrs | 18 | 20.70 |
| | More than 3 hrs | 8 | 9.19 |

Age

Based on the purpose of the study Age group of the students is divided into 3 ranges (Kolhar, 2021) that is 17-19 years, 20-24 years and 25-29 years.

It is clear from table no.1. that more than half (54.02 %) of the respondents belong to 20-24 years age group and the rest belongs to other two age groups i.e., 17-19 years (32.18 %) and 25-29 years (13.80 %).

Gender

It is clearly seen from the table 1 that more than majority (68.97 %) of responded students were female,

nearly 30 per cent were male and 2.30 per cent of the respondents prefer not to reveal their gender.

Education

From table no. 1, it could be depicted that more than two-third (69 %) per cent of the student’s pursuing graduation followed by post graduate (16.1 %) and Doctor of philosophy (14.9 %).

Preferred language while using social media

Table no. 1 indicated that, half of the (50.6 %) respondents prefer to use social media in their mother tongue followed by remain half (49.4 %) of the students use social media in English language

Frequency of Social Media usage

It can be clearly seen from the table no.1 that ninety per cent of the students use social media platforms daily followed by very few (9.2 %) were using them during weekends.

Increased Social media usage during holidays

The results from the table no. 1 reveals that the social media usage during holidays rises among more than one-third of the respondents followed remaining i.e. twenty per cent students it remains same like normal days.

Time spent on social media during the day

According to table no. 1. highest per cent (40.23 %) of the students using 1-3 hrs of social media during their day time, 29.89 per cent using less than 1 hr, 24.14 percent using more than 3 hrs and only 5.74 per cent of the students using less than 30 minutes.

Time spent on social media at night

From table no. 1 nearly half of the (48.27 %) of the respondents using less than 1 hr during night time, 21.84 per cent using less than 30 minutes, 20.70 per cent using 1-3 hrs and only 9.19 per cent of the students using more than 3 hrs.

Purpose of using social media

Table 2 Distribution of the respondents according to the purpose of using social media

n=87

| S. No. | Purpose | Yes | No | MPS | MPS Ranking | | |
|--------|---|-----|------|-----|-------------|-------|----------|
| 1 | To watch Instagram reels and YouTube shorts | 66 | 75.9 | 21 | 24.1 | 75.86 | 6 |
| 2 | To scroll/browse to pass time | 51 | 58.6 | 36 | 41.4 | 58.62 | 5 |
| 3 | To read and watch News | 77 | 88.5 | 10 | 11.5 | 88.5 | 1 |
| 4 | To shop Online/Instagram | 66 | 75.9 | 21 | 24.1 | 75.86 | 4 |
| 5 | To make Instagram reels or TikTok videos | 29 | 33.3 | 58 | 66.7 | 33.33 | 6 |
| 6 | To Chat friends | 74 | 85.1 | 13 | 14.9 | 85.05 | 2 |
| 7 | For Academic purpose | 72 | 82.8 | 15 | 17.2 | 82.75 | 3 |

The result indicated in table no. 2 that majority (88.5 %) of the students use social media to know the latest news and information which is happening and it also got first rank (MPS Ranking) followed by Chatting on WhatsApp/Instagram/snapchat/Facebook/any other (85.1 %) with second rank, eighty two per cent of the respondents use social media for academic purposes (rank 3), three by four per cent of the students use social media for online shopping and watching Instagram reels & YouTube shorts (rank 4), more than half (58.6 %) of the students use social media just to pass time by scrolling (rank 5) and very few students (33.3 %) use it for making Instagram reels (rank 6).

Impact of Social Media usage on Eyes health and Sleep health

Table 3. Distribution of the respondents according to the impact of social media usage on eyes health and sleep health

n=87

| S. No. | Purpose | Yes | | Not Sure | | No | | MPS | MPS Ranking |
|--------|--|-----|------|----------|------|----|------|------|-------------|
| 1 | Impact of brightness on vision during the night | 57 | 65.5 | 9 | 10.4 | 21 | 24.1 | 70.7 | 1 |
| 2 | Sleep disorder (reduction in time and quality of sleep) | 47 | 54.1 | 13 | 14.9 | 27 | 31 | 61.5 | 3 |
| 3 | Mild insomnia (trouble sleeping at night and staying asleep) | 38 | 43.7 | 14 | 16.1 | 35 | 40.2 | 51.7 | 7 |
| 4 | Sleep disturbance | 44 | 50.6 | 13 | 14.9 | 30 | 34.5 | 58 | 5 |
| 5 | Late bed times | 50 | 57.5 | 11 | 12.7 | 26 | 29.8 | 63.8 | 2 |
| 6 | Headache and nightmare | 45 | 51.7 | 11 | 12.7 | 31 | 35.6 | 58 | 5 |
| 7 | Sleep deprivation reflected in weight gain and hypertension | 47 | 54.0 | 8 | 9.2 | 32 | 36.8 | 58.6 | 4 |
| 8 | Late night sleep, being obese and hypersomnia (excessive sleepiness) | 43 | 49.4 | 11 | 12.7 | 33 | 37.9 | 55.7 | 6 |
| 9 | Eye problems like Eye irritation and burning sensation | 47 | 54.1 | 13 | 14.9 | 27 | 31.0 | 61.5 | 3 |

From the above table no. 3, the results indicated that, more than majority (65.5 %) of the students had impact of brightness on their vision during the night (MPS rank 1) followed by late bed time, sleep disorder and eye problems were faced by more than half (54.1 %) of the respondents with third rank, weight gain and hypertension (54 %) due to sleep deprivation got fourth rank, sleep disturbance (50.6 %), headache and nightmare (51.7 %) got fifth rank, almost half (49.4 %) of the respondents face hypersomnia due to late night sleep with the MPS rank six and forty-three per cent of the students faced mild insomnia with seventh rank.

Correlation association between Age, Gender and Impact of Social Media usage on Eyes health and Sleep:

Table 4. Correlation analysis between Age, Gender and Impact of Social Media usage on Eyes health and Sleep

| | | Age | Gender | Impact of brightness on vision | Sleep disorder | Mild insomnia | Sleep disturbance |
|---------------|---------------------|-------|--------|--------------------------------|----------------|---------------|-------------------|
| Age | Pearson Correlation | 1 | .215* | .013 | -.066 | .030 | .069 |
| | Sig. (2-tailed) | | .045 | .906 | .547 | .784 | .523 |
| | N | 87 | 87 | 87 | 87 | 87 | 87 |
| Gender | Pearson Correlation | .215* | 1 | -.026 | -.240* | -.073 | -.261* |
| | Sig. (2-tailed) | .045 | | .811 | .025 | .503 | .015 |
| | N | 87 | 87 | 87 | 87 | 87 | 87 |

| | | Late bed times | bed headache | Weight gain | hypersomnia | eye problem |
|---------------|---------------------|----------------|--------------|-------------|-------------|-------------|
| Age | Pearson Correlation | .205 | -.123 | -.098 | .111 | .073 |
| | Sig. (2-tailed) | .056 | .257 | .364 | .307 | .504 |
| | N | 87 | 87 | 87 | 87 | 87 |
| Gender | Pearson Correlation | -.099 | -.402** | -.284** | -.295** | -.066 |
| | Sig. (2-tailed) | .360 | .000 | .008 | .006 | .542 |
| | N | 87 | 87 | 87 | 87 | 87 |

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Correlation Analysis:

Age with Social Media impact on sleep and eyes health

- Age does not have any significant correlation with the impact of social media on sleep health and eye health.

Gender with Social Media impact on sleep and eyes health

- Gender with sleep disorder and sleep disturbance had negative correlation at the 0.05 level of significance.
- Gender with headache and nightmare, sleep deprivation reflected in weight gain and hypertension and late-night sleep, being obese and hypersomnia had negative correlation at the 0.01 level of significance.

Summery and Conclusion:

The purpose of the present research was to study the profile characteristics of students, purpose of using social media and the impact of social media on sleep health and eyes health of students. The results indicated that more than half of the students belonged to 20-24 years age group, majority of the students were females, pursuing under graduation, half of the respondents prefer to use social media in English and the other prefer to use in mother tongue. Majority of the respondents use social media platforms daily and the usage was increasing during holidays. Students using social media majorly to read news and to get latest information and using social media had impact on vision because of brightness, late bed times and sleep disorder (reduction in time and quality of sleep). These are the major issues faced by the students related to their sleep and eye health. From the results, it can be concluded that, social media usage led to eye and other health problems, whether the usage time is more or less.

Implications

The findings of the present study can be used to develop interventions for students with poor quality of sleep and for students who are using high amount of social media usage to avoid social media addiction.

Limitations

- As the sample was taken only from one university i.e. MPUAT, it cannot be generalized to the whole population.

- Participants had to fill the questionnaire online. This could have affected the concentration of participant resulting in inaccurate responses.

Suggestions for Further Research

- Similar study can be carried out using larger population.
- Intervention can be carried out to reduce the social media usage
- Qualitative study using focus group interview can be carried out to understand the socio emotional reasons for too much of social media usage.

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