

IMPACT OF SOCIAL MEDIA ON SLEEP PATTERN AMONG STUDENTS OF SARHAD UNIVERSITY OF SCIENCE AND INFORMATION TECHNOLOGY

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ABSTRACT

This study investigated the impact of social media on sleep patterns among adults at Sarhad University of Science and Information Technology Peshawar. The purpose of this study is to evaluate how social media use affects adults' sleep patterns at Sarhad University of science and information technology Peshawar effects of social media use on their general well-being and quality of sleep. A cross-sectional design was used with a sample of 334 students selected through convenience sampling. Data were collected using a structured questionnaire covering demographics, social media usage habits, and sleep patterns, and analyzed through SPSS (version 2020). The results revealed that the majority of participants (75.4%) reported using social media for more than 30 minutes before bedtime, with 24.6% using it for over two hours. Nearly half (49.4%) perceived social media as negatively affecting their sleep, while 43.4% admitted frequently losing sleep due to late-night use. A substantial proportion (71.6%) checked social media immediately upon waking up, and 64.4% believed it had some effect on their sleep quality. These patterns indicate a strong association between excessive or ill-timed social media use and sleep-related disturbances. It is concluded that excessive use of social media, especially at night, significantly contributes to poor sleep quality among young adults. The promotion of digital hygiene, such as limiting screen use before bedtime, is recommended to

improve sleep health. Further longitudinal studies are suggested to establish causality and guide effective interventions.

Keywords: Social media, sleep patterns, young adults, sleep quality, digital hygiene

INTRODUCTION

There are various definitions of social media. The technological aspects of social media that set it apart from more conventional technologies are the subject of certain definitions. emphasized that web 2.0 technology and the internet are the foundations of social media as an application type. Other definitions concentrate on how social media differs from traditional media in terms of communication. Social media is an online platform that allows users to both create and consume material, much of which is created by other users. (J Chen, Y

Wang et al.,2021)

Social media use, or communicating with people via online electronic platforms like Facebook, Instagram, Twitter, Youtube, and others, has grown immensely in popularity as a means of fostering social connection. Unlike more traditional media, social media allows users to actively create and shape the experience, making it a valuable interactive medium for kids and young adults.(Berryman et al .,2018)

A normal person who is in his adolescence stage, middle stage, or old stage needs seven to eight hours of sleep, according to the study and the expert physician. This number may grow for newborns and infants between the ages of four and ten according to the findings of the research and the expert physician. The length of time spent sleeping is an important factor in determining both a person's performance and their overall health. Heart attacks and numerous other deadly illnesses would arise from the shorter sleep duration (MD Pandian -et al 2019)

Complete physical growth, maturity, and a variety of biological, cognitive, social, personality, and aging-related changes are characteristics of adulthood, the stage of human development. This period represents the pinnacle of brain development and the acquisition of social and personal skills necessary for achieving social status, mating and reproduction, and building relationships with others in general (Tavakkoli et al.,2024)

The promotion of good health depends on sleep and circadian functioning. Although 7 to 9 hours of sleep per night is recommended for young and midlife adults ,40% of American adults report getting less than 7 hours on weeknights. Additionally, 21% have trouble falling asleep at least a few evenings a week, and 38% wake up feeling unrefreshed. 67% of young adults between the ages of 19 and 29 say they don't get enough sleep for optimal functioning. 96% of young adults between the ages of 18 and 30 use technology of some kind before bed, including computers (60%), cell phones (67%), and electronic music players.(Reid chassiakos et al .,2016)

Young adults' usage of social media (SM), which has grown significantly in recent years, has been positively correlated with sleep disturbance. Teenagers who use social media have also been found to have greater levels of anxiety and depression; two variables connected to sleep disturbance.(Levenson, et al.,2017)

There is a growing body of research on how young people post about their sleep habits on social media and in turn, how their use of social media impacts the quality of their sleep. Research conducted in the last decade has linked the use of electronic media by young adults to both shorter sleep durations and poorer sleep quality.

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More recently, research has connected obsessive Facebook checking—a habit that requires less cognitive effort—to poorer sleep quality and higher rates of social media use to more sleep disturbance. More sleep issues have also been connected to freshmen's higher daily texting usage. (*Garett et al., 2018*)

Review studies indicate that total screen time may negatively impact sleep but social media poses particular difficulties in this area. The interactive element allows the user on the other side of the screen to jointly decide whether to stop using, which raises the risk of involuntary sleep disruption. Ongoing conversations and continuous ruminating after they are cut off may result in elevated levels of pre-sleep arousal, and incoming alerts may interfere with sleep attempts and trigger night awakenings social media does not require significant amounts of free time before bedtime, despite the fact that screen mobility has made all media activities more accessible in the bedroom. (*Exelmans, et al., 2019*)

Adolescent boys and girls have been found to have varied associations between various forms of electronic media use and sleep complaints, and there are notable gender disparities in terms of sleep as well. Age has a high correlation between social media use and sleep, and it also considerably moderates the association between adult weariness, sleep duration, and mobile phone use before bed. (*Exelmans et al., 2019*)

Students use social networking sites and applications extensively, spending a significant amount of time on them as part of their daily lives. Research has shown that university students use social networking the most among all student age groups. Social networking sites are crucial to education because they give students access to the most up-to-date information and learning opportunities by connecting with other educational systems and learning groups. (Kolhar, M et al., 2021)

There are over 2.5 billion users of cellphones and social media platforms worldwide. Due to the ease of use and portability of smartphones, an increasing proportion of these users use social media nocturnally, or at night. As a result, researchers are currently concentrating on comprehending how excessive and nighttime usage of social media and other technology affects users' wellbeing.

(Tandon, et al., 2020)

People were able to communicate and use the Internet more easily at the start of the twenty-first century. Data may now be simply accessed anywhere and more swiftly by people. One of the greatest platforms for sharing images, films, ideas, micro tweets, and more is social media. People of all ages are drawn to contemporary social media. However, the younger generations are mostly enthusiastic about its use. (Hasibuzzaman et al., 2022).

Numerous empirical research have examined the impact of social media on the wellbeing of adolescents within the last ten years. The results of these empirical studies have been arranged and integrated in a number of recent reviews. These reviews all concur that there is a slight beneficial impact on wellbeing from active social media use, which is typically defined as publishing, and a slight negative impact from passive social media use, which is typically defined as viewing. (Beyens, et al., 2024)

Due to the widespread use of media devices in daily life and their infinite network of links with people, circumstances, culture, and social life, it is suggested that triggers

for media habits have become ubiquitous in modern life. Stated differently, media habits are particularly difficult to break since they are triggered by a greater variety of stimuli than other habits. It is estimated that more than half of all media actions are habitual as a result. (Exelmans, .et al 2019)

Students who spent more time on Facebook were more likely to report feeling envious or believing that people in their social network were doing better than they were, according to two cross-sectional surveys of university students in Germany and the United States, respectively, Facebook use has been linked to higher levels of stress. (E Abi-Jaoude et al.,2020)

The use of screen-based devices, including computers, tablets, and smartphones, as well as online activity on websites like Facebook and YouTube, has increased recently, especially among teenagers. The percentage of active social media users rose by more than 14% globally between January and December 2017, with 11 new users joining every second and each user spending more time online than before. (Varghese et al.,2021)

Teenagers' frequent usage of social media is linked to a number of sleep issues. Teenagers who use social media often during the day report getting less sleep overall and having lower quality sleep. Frequent usage of social media, especially in the evenings, is linked to later bedtimes, more trouble falling asleep, shorter sleep durations, and lower-quality sleep. These interactions could be influenced by a number of methods. First, blue light from laptop, tablet, and phone screens may inhibit the synthesis of melatonin, a hormone that promotes sleep. Secondly, engaging in online activities (like chatting) right before bed can raise emotional, mental, and physiological arousal, which can make it harder to fall asleep and result in lower quality sleep. Third, teens may find it hard to quit using social media as there is no clear end goal. (Eijnden et al.,2021)

Currently, social media can be defined as websites and programs that allow users to participate in social networking or generate and share content. The first social media platforms to be introduced were Facebook in 2004 and Twitter in 2006, with numerous others quickly following. In actuality, the most popular social media platforms worldwide are Facebook, which has 2.9 billion monthly active users, YouTube, Instagram, and TikTok, which have 2 billion, 1.5 billion, and 1 billion users, respectively. (Bozzola,et al.,2022)

Adolescent sleep difficulties and social media disorder have been strongly associated. Research from Europe, North America, and Asia has demonstrated that frequent use of social media has an impact on the length and quality of sleep. Beyond typical social media use, two studies conducted on teenagers and young people aged 12 to 18 showed that excessive use of social media, in particular, worsened sleep quality. (Azhari et al.,2022)

Youth who get enough sleep—including adequate sleep in terms of length, quality, and efficiency—are more likely to grow normally since it is essential for improved cognitive and emotional processing. Throughout developmental stages, healthy social interaction and learning are supported by improved cognitive and emotional processing. (Potenza et al., 2021).

The last decades have brought a rapidly increasing spread and use of new (mobile) communication technologies. Increasing portability and affordability can be seen as a

gateway for devices, such as TVs, laptops, or mobile phones to enter peoples' bedrooms. This increasing prevalence has led to an ongoing and recurring discussion about the adverse effects of using such technologies in the bedroom and especially immediately before sleeping. (Combertain et al., 2021)

Getting enough sleep is essential for both mental and physical well-being. However, in today's connected, fast-paced world, lack of sleep is a common and urgent health concern. While sleep disturbance refers to poor sleep quality that interferes with day-to-day functioning, sleep loss often refers to sleep time that is less than the seven to nine hours required for restful sleep. (Alonzo, et al., 2021)

As people may connect to virtual networks via the internet at any time and mobile phones are more than just talk phones, phones have become an everyday device in people's daily lives. Addiction, dependence, anxiety, and sadness are some of the negative consequences of social networks. Additionally, the negative impacts of mobile phone electromagnetic fields and decreased melatonin production can disrupt the quality of sleep. (Mohammadbeigi et al., 2016)

Many individuals now choose bedtime in particular as a time to totally and unrestrictedly immerse themselves in ESM use after finishing their necessary tasks and being free from other responsibilities of everyday life. Many individuals have made it a nightly habit to settle down with a mobile device before bed. (G Pinto-Zipp et al., 2018)

METHODOLOGY

Study Design

A Cross-sectional study was conducted in Sarhad University of Science and Information Technology.

Study Settings

The study setup was estimated at Sarhad Institute of Allied Health Sciences, Peshawar

Study Duration

Study duration for this research work was 6 months w.e.f November 2025 to February 2026.

Sample Size

The sample size was calculated using the following formula

$$\text{Sample size } (n) = \frac{Z^2 P (1-P)}{e^2}$$

Z is the confidence level;

P is the prevalence and

E is the score of margins of Error.

Prevalence= 32%

Confidence level= 95%

Error= 5%

$$n = \frac{(1.96)^2 * 0.32(1 - 0.32)}{(0.05)^2}$$

$n = 334$

Sampling Technique

Convenience sampling technique. Sample Selection

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Inclusion Criteria:

- Students age >18years
- Currently enrolled in Sarhad University
- Active users of one or more social media platforms

Exclusion Criteria

- Students with known sleep disorders or under treatment for sleep issues

Data Collection Procedure

The data collection procedure is crucial process, after the approval from the research committee of SIAHS, we have done a massive literature review on the different articles and have established a semi structure questionnaire. Our questionnaire consists of three parts including demographic profile which consist of age, gender, Academic level. The second part include questions related to how much an individual involve to social media platform like Usage before bedtime, Duration of use before sleep. Third portion of the questionnaire is related to the Sleep patterns and perceived effects of social media (sleep difficulties, sleep loss, wake-up behavior). The data will be collected in respectful manner. Participants were informed about the purpose and scope of the study, and written consent was obtained.

Data Analysis Procedure:

Data were Analyzed Through SPSS Version 26

Ethical Consideration:

This research study has been ethically approved by the research committee of Sarhad university of science and information technology Peshawar.

RESULT

Age Distribution of Participants

In our study of 334 participants, a majority ($n = 252$) belonged to the 18–22 age group, followed by 78 participants in the 23–27 age group, and only 4 participants in the 28–32 age group. These findings suggest that the study sample was primarily composed of young adults.

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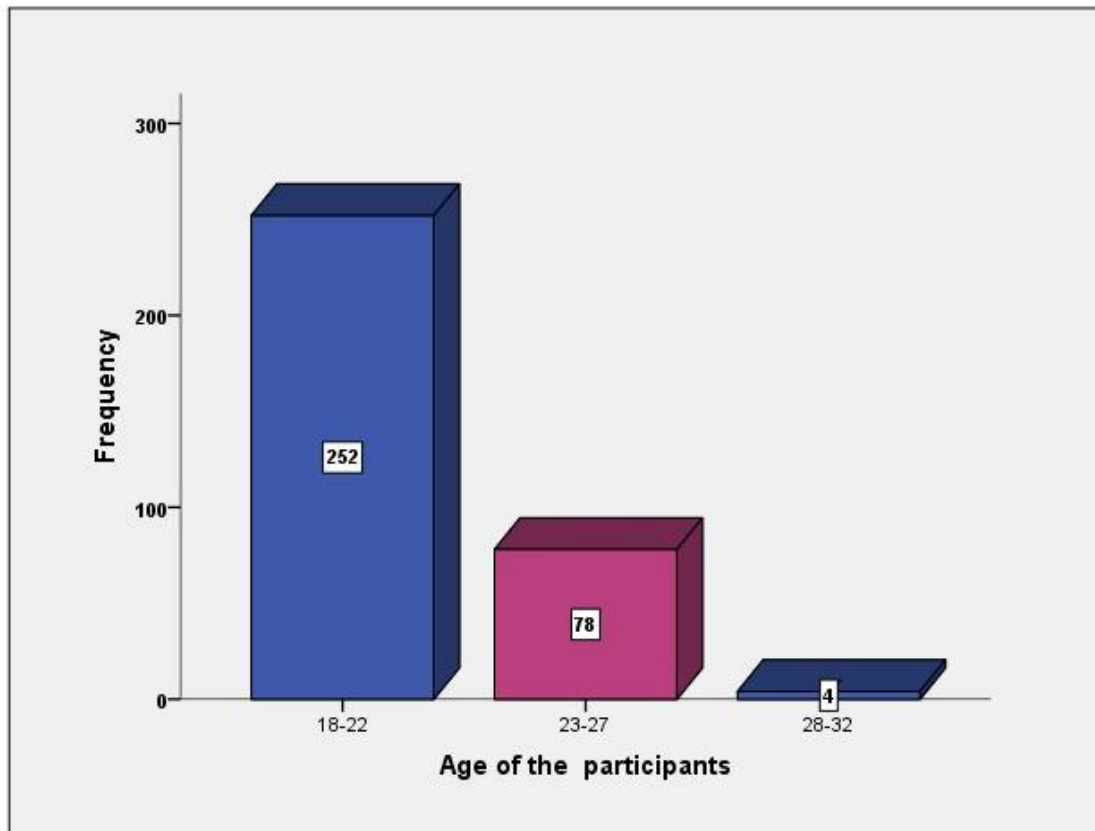


Figure 4.1: Age of the Participants

Gender of the Participants

Out of 334 participants 183 are males ,150 are females and 1 is other gender as shown in figure 4.2

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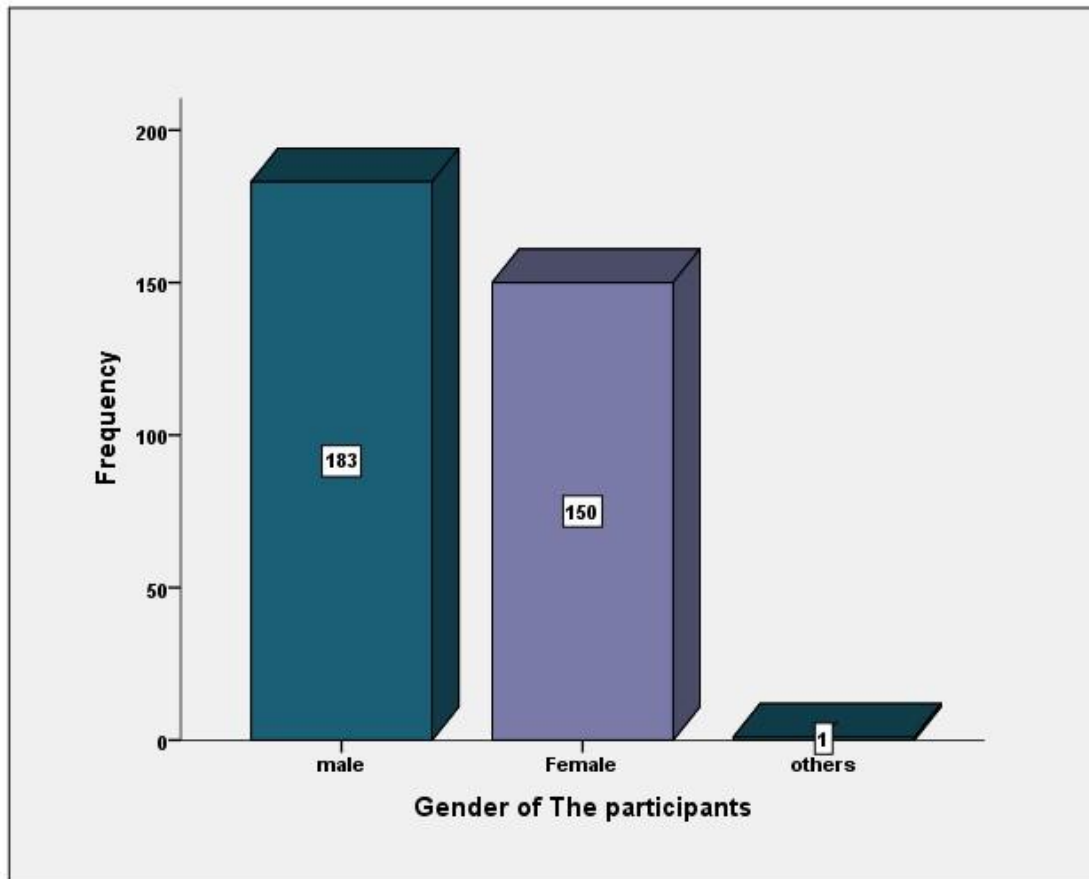


Figure 4.2: Gender of the Participants

Academic Level of Students

Out of 334 participants 329 were undergraduate ,4 were graduate and 1 were postgraduate as shown in figure 4.3.

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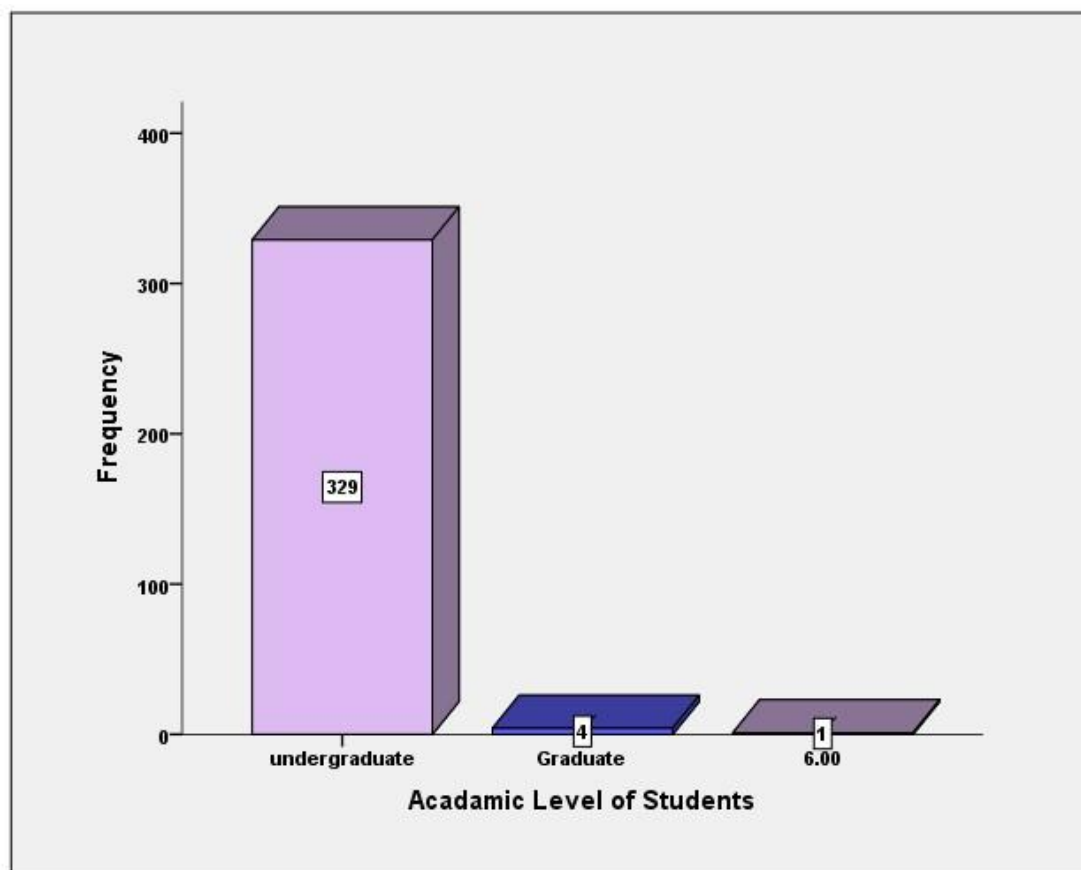


Figure 4.3: Academic Level of Students

Which social media platform do you use most frequently?

Out of 334 participants 35.93% were using tiktok, 22.46% were using Instagram ,14.37% were using facebook,12.87% were using snapchat ,8.98% were using youtube ,2.99% were using twitter and 2.40% were using other apps as shown in figure 4.4.

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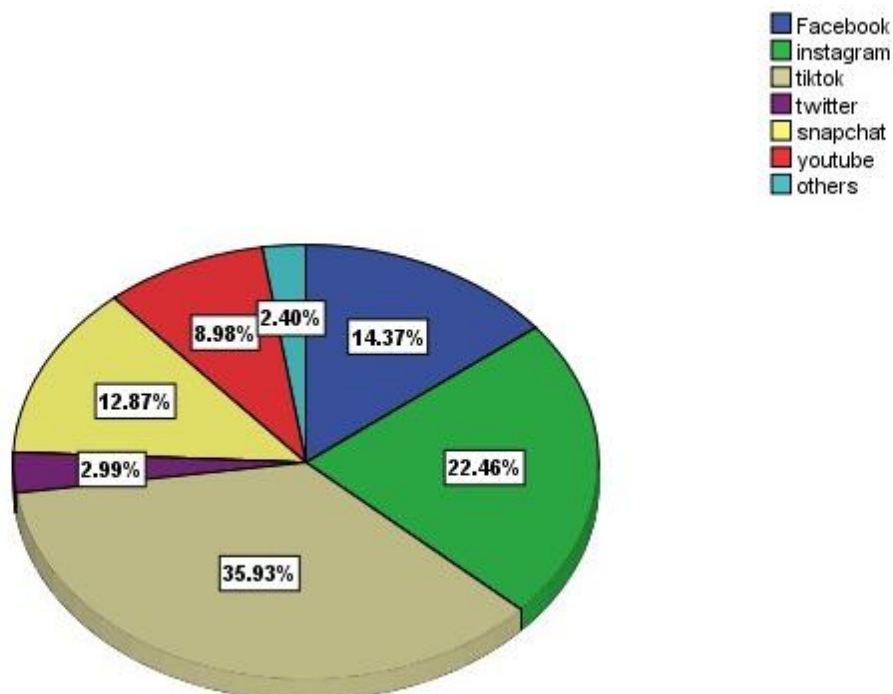


Figure 4.4: Which social media platform do you use most frequently

What is your daily social media usage

Out of 334 participants, 37 were spending less than 1 hour on social media, 109 were spending 1–3 hours, 103 were spending 3–5 hours, and 85 were spending more than 5 hours on social media, as shown in Figure 4.5

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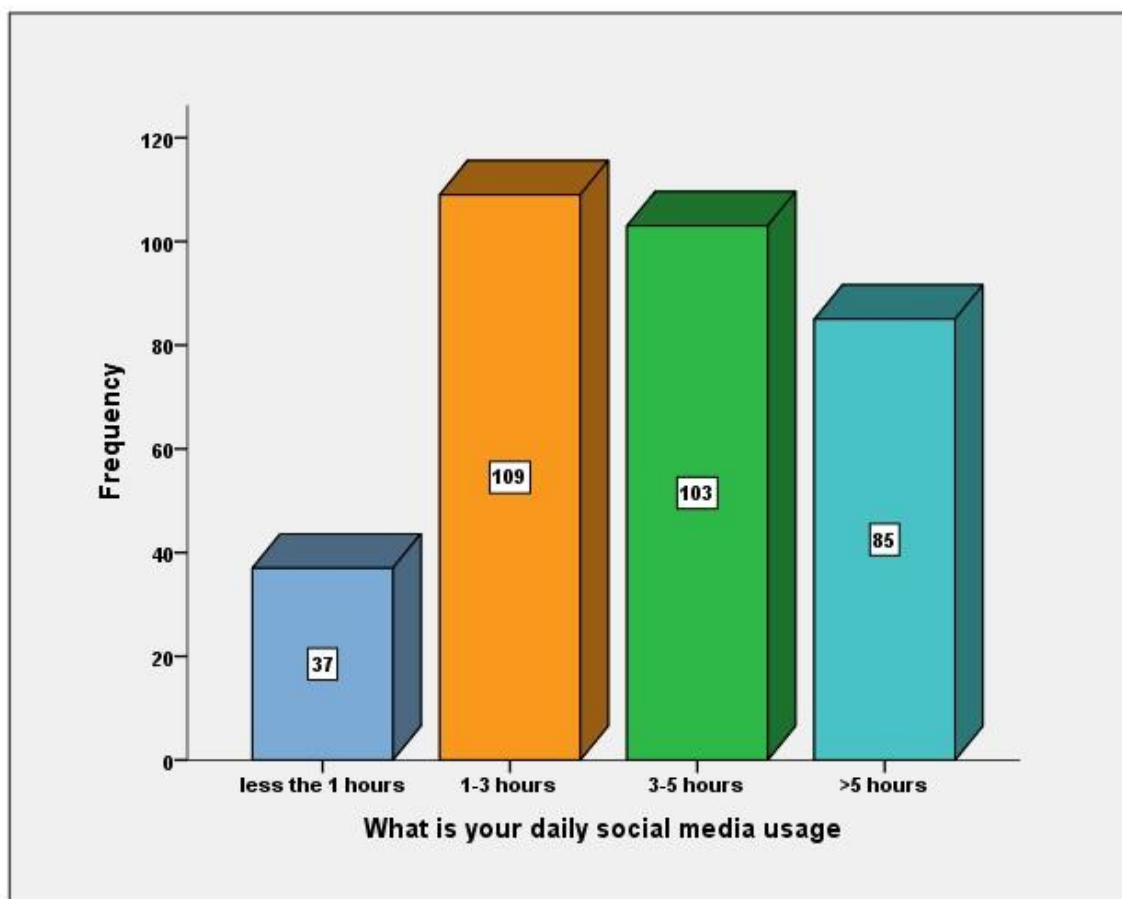


Figure 4.5: What is your daily social media usage

Do you use social media before going to bed

Out of 334 participants, 296 were using social media before going to bed, and 38 were not, as shown in Figure 4.6.

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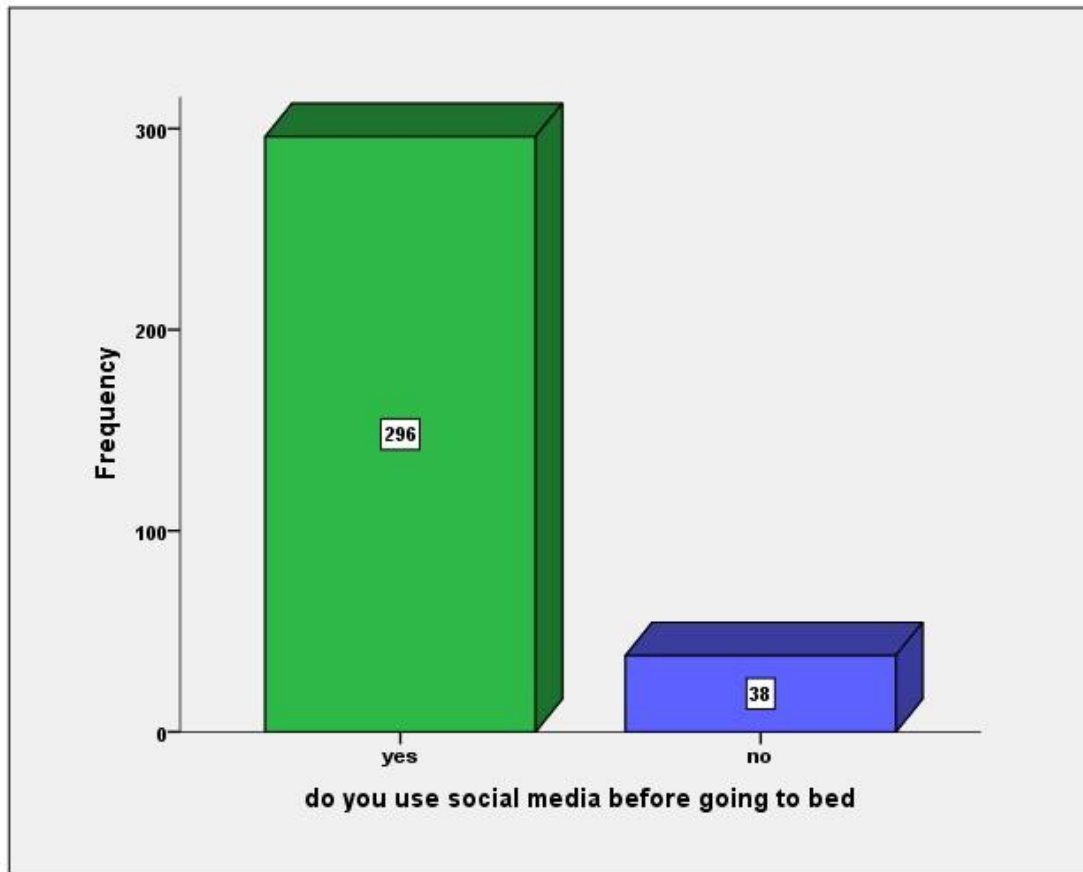


Figure 4.6: Do you use social media before going to bed

Out of 334 participants, 67 were using social media for less than 30 minutes before sleeping, 97 were using it for 30 minutes to 1 hour, 88 were using it for 1–2 hours, and 82 were using it for more than 2 hours, as shown in Figure 4.7

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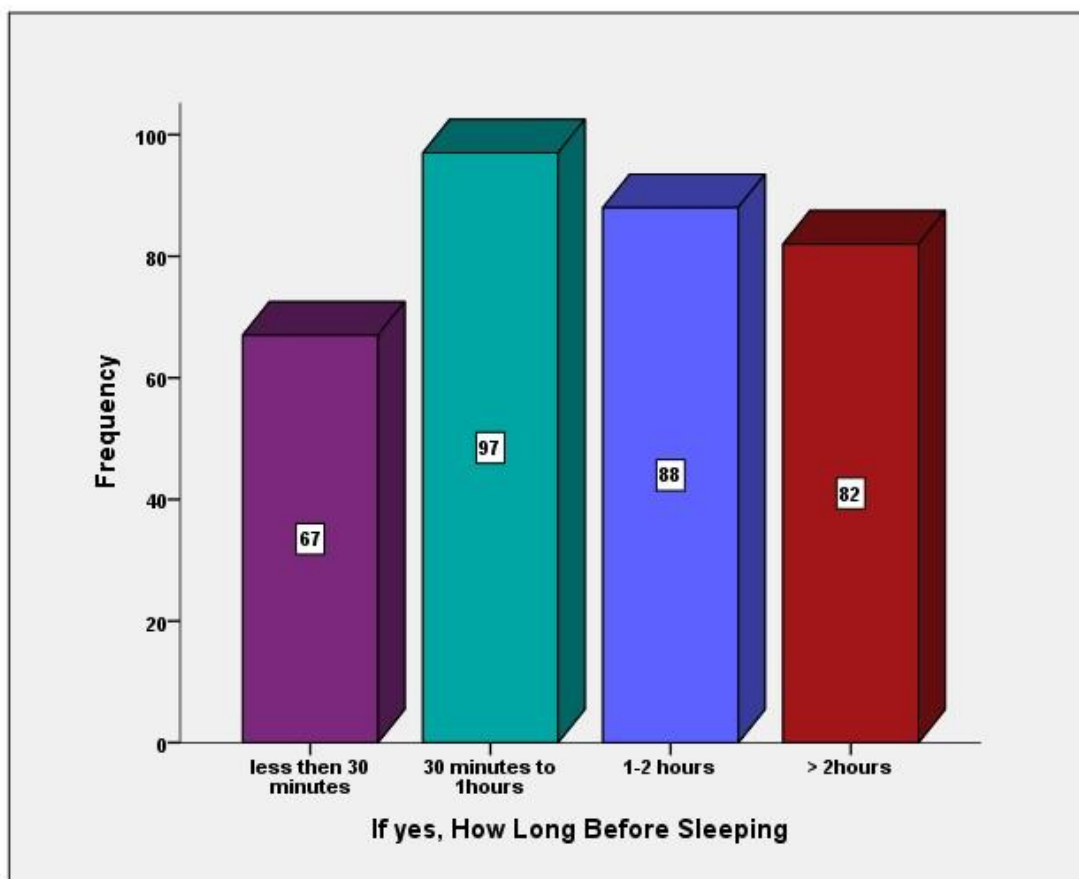


Figure 4.7: If Yes, How long before sleeping

How often do you experience difficulty before sleeping

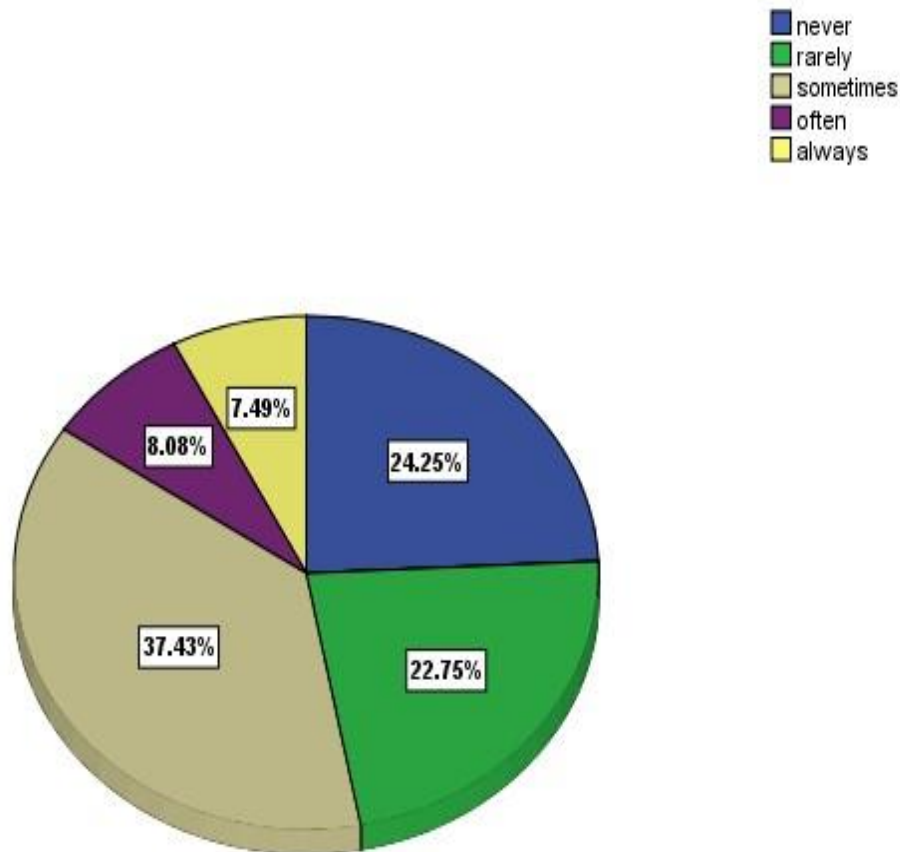
Out of 334 participants, 24.25% never experienced difficulty in falling asleep, 22.75% rarely experienced difficulty, 37.43% sometimes experienced difficulty, 8.08% often experienced difficulty, and 7.49% always experienced difficulty in falling asleep, as shown in Figure 4.8.

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<http://amresearchreview.com/index.php/Journal/about>**Figure 4.8: How often do you experience difficulty before sleeping*****Do you feel that social media usage affect your sleep quality***

Out of 334 participants, 165 reported a negative effect on sleep quality, 65 reported a positive effect, 64 reported no effect, and 40 were not sure, as shown in table 4.9.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	165	49.4	49.4	49.4
	Negatively	65	19.5	19.5	68.9
	Yes, Positively	64	19.2	19.2	88.0
	No Effect	40	12.0	12.0	100.0
	Not Sure	334	100.0	100.0	
	Total				

Table: 4.1. Do you feel that social media usage affect your sleep quality***Have you ever lost sleep due to late night social media use***

Out of 334 participants, 145 had frequently lost sleep due to late-night social media use, 60 had occasionally lost sleep, 69 had rarely lost sleep, and 60 had never lost sleep, as shown in table 4.10.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes ,	145	43.4	43.4	43.4
	Frequently	60	18.0	18.0	61.4
	Yes ,	69	20.7	20.7	82.0
	Occasionally	60	18.0	18.0	100.0
	Rarely Never	334	100.0	100.0	
	Total				

Table. 4.2: Have you ever lost sleep due to late night social media use

Do you check social Media immediately upon waking up

Out of 334 participants, 239 reported immediately checking social media after waking up, while 95 did not, as shown in table 4.11.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	239	71.6	71.6	71.6
	No	95	28.4	28.4	100.0
	Total	334	100.0	100.0	

Table 4.3: Do you check social Media immediately upon waking up

In your opinion what is the biggest way social media affects your sleep

Out of 334 participants, 215 stated that social media affects their sleep, while 119 stated that it does not, as shown in Table 4.12.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	215	64.4	64.4	64.4
	No	119	35.6	35.6	100.0
	Total	334	100.0	100.0	

Table. 4.4: In your opinion what is the biggest way social media affects your sleep

DISCUSSION

The study's findings demonstrate a clear connection between young individuals' social media use and issues with sleep. With the majority of participants (252 out of 334) being between the ages of 18 and 22, the sample reflects a demographic known to be highly tech-savvy and particularly vulnerable to the detrimental effects of technology on sleep hygiene. The results showed that roughly 49.4% of people believed social media had a negative impact on their ability to sleep. Additionally, a sizable portion of the sample (71.6%) reported using social media right after waking up, and 64.4% believed that using social media had some impact on their ability to sleep.

These self-reported patterns strongly suggest that prolonged or inappropriate use of screens and digital stimuli may disrupt sleep start and circadian rhythms.

These results align with those of Garrett et al., who found that students who regularly used social media (≥ 3 hours a day) had significantly poorer sleep quality, with the likelihood of sleep disturbances increasing by 7% for each hour of use. The

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new study's findings, which revealed that 24.6% of participants utilized social media for more than two hours before bed—a behavior that most likely interferes with sleep—are in line with this quantifiable risk. In a similar vein, 78% of participants in a study by Bhat et al. spent an average of 42.3 minutes after lights out on social media while they were in bed. This is in line with our findings, which indicated a general trend of extended nighttime social media use, as only 20.1% of participants limited their use to fewer than 30 minutes before bed. The three most popular websites in their survey, Facebook, Instagram, and Twitter, are well known for their never-ending material streams, which may promote compulsive use and a later start to sleep.

Wang et al. discovered a connection between poor sleep quality and smartphone dependency, particularly among older college students. Even though the cohort in our study was younger, the behavioral patterns we observed—such as quick morning usage and prolonged evening screen time—are suggestive of smartphone reliance. This behavioral inclination may not only cause people to put off going to bed, but it may also lower the quality of their sleep by exposing them to blue light and engaging their minds.

In Muhammadbeigi et al.'s study, over 60% of students said they had trouble sleeping, and almost 11% were classified as heavy mobile phone users. Additionally, we found a robust link between digital use and sleep-related problems. The incidence of poor sleep in the study, as measured by the COS and PSQI, supports the idea that excessive use of mobile technology, especially social media, is detrimental to good sleep patterns.

CONCLUSION

Overall, the findings of this study and others suggest a consistent connection between poorer sleep quality and frequent social media usage, particularly immediately before bed. This connection may be influenced by several factors, including as emotional stimulation, psychological reliance, and blue light-induced reduction in melatonin secretion. The fact that this issue is consistent across populations and international contexts emphasizes how global it is and emphasizes the need for longer-term research to examine causality.

Young adults' sleep health may be improved by promoting digital hygiene practices, such as restricting technology use before bed, minimizing late-night screen exposure, and raising awareness about good sleep habits.

REFERENCES

- Abi-Jaoude, E., Naylor, K. T., & Pignatiello, A. (2020). Smartphones, social media use and youth mental health. *CMAJ*, 192(6), E136–E141. <https://doi.org/10.1503/cmaj.190434>
- Al Hasibuzzaman, M., Noboneeta, A., Begum, M., & Hridi, N. N. C. (2022). Social media and social relationship among youth: A changing pattern and impacts in Bangladesh. *Asian Journal of Social Sciences and Legal Studies*, 4(1), 1–11. <https://doi.org/10.9734/ajsls/2022/v4i130190>
- Alonzo, R., Hussain, J., Stranges, S., & Anderson, K. K. (2021). Interplay between social media use, sleep quality, and mental health in youth: A systematic review. *Sleep Medicine Reviews*, 56, 101414. <https://doi.org/10.1016/j.smr.2020.101414>

Online ISSN

3007-3197

Print ISSN

3007-3189

<http://amresearchreview.com/index.php/Journal/about>

- Azhari, A., Toms, Z., Pavlopoulou, G., Esposito, G., & Dimitriou, D. (2022). Social media use in female adolescents: Associations with anxiety, loneliness, and sleep disturbances. *Acta Psychologica*, 229, 103706. <https://doi.org/10.1016/j.actpsy.2022.103706>
- Berryman, C., Ferguson, C. J., & Negy, C. (2018). Social media use and mental health among young adults. *Psychiatric Quarterly*, 89(2), 307–314. <https://doi.org/10.1007/s11126-0179535-6>
- Beyens, I., Pouwels, J. L., van Driel, I. I., Keijsers, L., & Valkenburg, P. M. (2024). Social media use and adolescents' well-being: Developing a typology of person-specific effect patterns. *Communication Research*, 51(6), 691–716. <https://doi.org/10.1177/00936502221148632>
- Bhat, S., Pinto-Zipp, G., Upadhyay, H., & Polos, P. G. (2018). —To sleep, perchance to tweet || : In-bed electronic social media use and its associations with insomnia, daytime sleepiness, mood, and sleep duration in adults. *Sleep health*, 4(2), 166–173. <https://doi.org/10.1016/j.jchb.2018.01.001>
- Bozzola, E., Spina, G., Agostiniani, R., Barni, S., Russo, R., Scarpato, E., ... Staiano, A. (2022). The use of social media in children and adolescents: Scoping review on the potential risks. *International Journal of Environmental Research and Public Health*, 19(16), 9960. <https://doi.org/10.3390/ijerph19169960>
- Chen, J., & Wang, Y. (2021). Social media use for health purposes: Systematic review. *Journal of Medical Internet Research*, 23(5), e17917. <https://doi.org/10.2196/17917>
- Combertaldi, S. L., Ort, A., Cordi, M., Fahr, A., & Rasch, B. (2021). Pre-sleep social media use does not strongly disturb sleep: A sleep laboratory study in healthy young participants. *Sleep Medicine*, 87, 191–202. <https://doi.org/10.1016/j.sleep.2021.05.008>
- Exelmans, L., & Scott, H. (2019). Social media use and sleep quality among adults: The role of gender, age and social media checking habit. *Sleep*, 42(2), zsy190. <https://doi.org/10.1093/sleep/zsy190>
- Garett, R., Liu, S., & Young, S. D. (2018). The relationship between social media use and sleep quality among undergraduate students. *Information, Communication & Society*, 21(2), 163–173. <https://doi.org/10.1080/1369118X.2016.1217616>
- Kolhar, M., Kazi, R. N. A., & Alameen, A. (2021). Effect of social media use on learning, social interactions, and sleep duration among university students. *Saudi Journal of Biological Sciences*, 28(4), 2216–2222. <https://doi.org/10.1016/j.sjbs.2020.12.024>
- Levenson, J. C., Shensa, A., Sidani, J. E., Colditz, J. B., & Primack, B. A. (2017). Social media use before bed and sleep disturbance among young adults in the United States: A nationally representative study. *Sleep*, 40(9), zsx113. <https://doi.org/10.1093/sleep/zsx113>
- Levenson, J. C., Shensa, A., Sidani, J. E., Colditz, J. B., & Primack, B. A. (2016). The association between social media use and sleep disturbance among young adults. *Preventive Medicine*, 85, 36–41. <https://doi.org/10.1016/j.ypmed.2016.01.001>
- Lin, C. Y., Potenza, M. N., Ulander, M., Broström, A., Ohayon, M. M., Chattu, V. K., & Pakpour, A. H. (2021). Longitudinal relationships between nomophobia, addictive use of social media, and insomnia in adolescents. In *Healthcare*, 9(9),

Online ISSN

3007-3197

Print ISSN

3007-3189

<http://amresearchreview.com/index.php/Journal/about>

1201. MDPI. <https://doi.org/10.3390/healthcare9091201>
- Mohammadbeigi, A., Absari, R., Valizadeh, F., Saadati, M., Sharifimoghadam, S., Ahmadi, A., ... Ansari, H. (2016). Sleep quality in medical students: The impact of over-use of mobile cellphone and social networks. *Journal of Research in Health Sciences*, 16(1), 46.
- Pandian, M. D. (2019). Sleep pattern analysis and improvement using artificial intelligence and music therapy. *Journal of Artificial Intelligence*, 1(2), 54–62. <https://doi.org/10.11648/j.jai.20190102.14>
- Tandon, A., Kaur, P., Dhir, A., & Mäntymäki, M. (2020). Sleepless due to social media? Investigating problematic sleep due to social media and social media sleep hygiene. *Computers in Human Behavior*, 113, 106487. <https://doi.org/10.1016/j.chb.2020.106487>
- Tavakkoli, M., Valarezo, E., & García, L. F. (2024). Perceptions of adulthood and mental health. *International Journal of Environmental Research and Public Health*, 21(6), 773. <https://doi.org/10.3390/ijerph21060773>
- van Den Eijnden, R. J., Geurts, S. M., Ter Bogt, T. F., van Der Rijst, V. G., & Koning, I. M. (2021). Social media use and adolescents' sleep: A longitudinal study on the protective role of parental rules regarding internet use before sleep. *International Journal of Environmental Research and Public Health*, 18(3), 1346. <https://doi.org/10.3390/ijerph18031346>
- Varghese, N. E., Santoro, E., Lugo, A., Madrid-Valero, J. J., Ghislandi, S., Torbica, A., & Gallus, S. (2021). The role of technology and social media use in sleep-onset difficulties among Italian adolescents: Cross-sectional study. *Journal of Medical Internet Research*, 23(1), e20319. <https://doi.org/10.2196/20319>