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The Effect of Social Media Use on Sleep and Emotion Regulation among University Students

Shalini Bhushan1[1]

[1]B.A.(H) Applied Psychology, Amity University, Lucknow, Uttar Pradesh

Abstract

This study investigates the influence of social media engagement on sleep quality and emotion regulation among young adult college students aged 18 to 24, with a focus on gender differences. A sample of 100 participants was recruited for the study. The research employed a multifaceted approach, utilising established assessment tools including the Pittsburgh Sleep Quality Index (PSQI) to evaluate sleep patterns, the Emotion Regulation Questionnaire (ERQ) to measure emotion regulation strategies, and the Bergen Social Media Addiction Scale (BSMAS) to assess social media usage patterns. Additionally, participants completed the Emotion Regulation Difficulties with social media (ERD-SM) scale to elucidate emotion regulation challenges specific to social media platforms.

Preliminary analysis revealed significant relations between social media usage, sleep quality, and emotion regulation. Both male and female participants exhibited a negative association between increased social media engagement and poorer sleep quality, as indicated by elevated PSQI scores. Furthermore, heightened social media usage was associated with difficulties in emotion regulation, manifested by lower ERQ scores and higher ERD-SM scores. These findings underscore the importance of recognising the differential impact of social media use on sleep quality and emotion regulation among young adult college students. Tailored interventions addressing gender-specific vulnerabilities may be pivotal in promoting healthier social media habits and improving overall well-being in this demographic. Further results were taken out by using the SPSS.

Keywords: *social media engagement, sleep quality, emotion regulation, young adults, college students, gender differences, Pittsburgh Sleep Quality Index (PSQI)*

Introduction

Social media/Web-based entertainment alludes to online stages and innovations that empower clients to make, share, and collaborate with content, as well as interface with others. It envelops sites and applications intended to work with interpersonal interaction, correspondence, content sharing, and local area working in computerised conditions. Online entertainment stages permit clients to share different kinds of content, like text, pictures, recordings, connections, and sight and sound, and take part continuously collaborations through highlights like remarks, likes, offers, and informing. The basic role of web-based entertainment is to work with social association, correspondence, and association among people, gatherings, and networks, rising above geological limits and empowering worldwide availability.

The idea of web-based entertainment rotates around utilising on the web stages and innovations to work with social collaboration, correspondence, content sharing, and local area building. Online entertainment stages give clients advanced spaces where they can associate with others, share data, articulate their thoughts, and participate in different exercises. Key parts of the idea of virtual entertainment include:

1. Networking: Web-based entertainment empowers clients to construct and keep up with organisations of associations, including companions, family, partners, colleagues, and similar people. Clients can associate with others in view of shared interests, affiliations, geographic area, or different models.

2. Content Sharing: Clients can make, distribute, and share different kinds of content, like text, pictures, recordings, connections, and media. Content sharing permits clients to articulate their thoughts, share encounters, feelings, and information, and draw in with others in significant ways.

3. Interactivity: Web-based entertainment stages encourage communication and commitment among clients through elements like remarks, likes, shares, responses, makes reference to, and direct informing. These intuitive components empower clients to convey, team up, and take part in discussions continuously.

4. Community Structure: Web-based entertainment works with the development and supporting of online networks, gatherings, discussions, and organisations in view of shared interests, leisure activities, callings, personalities, or geographic areas. Networks furnish clients with chances to associate, team up, and support each other in chasing after shared objectives or interests.

5. Information Revelation: Online entertainment fills in as a wellspring of data, news, patterns, and diversion for clients. Through web-based entertainment stages, clients can find and access an extensive variety of content from different sources, including media sources, forces to be reckoned with, associations, and people they follow.

6. Personalisation: Virtual entertainment stages utilise calculations and client information to customise the substance clients see on their feeds, timetables, or landing pages. Personalisation highlights expect to convey content that is applicable, connecting with, and customised to clients' inclinations, inclinations, and conduct.

7. Accessibility and Comfort: Web-based entertainment offers clients advantageous admittance to correspondence, content sharing, and systems administration apparatuses whenever,

anyplace, utilizing web associated gadgets, for example, cell phones, tablets, and PCs. This availability improves correspondence and network among clients across geographic distances.

8. Privacy and Security: Virtual entertainment stages deal with clients' protection and security through settings, approaches, and elements intended to safeguard individual data, control perceivability, and moderate dangers, for example, information breaks, wholesale fraud, cyberbullying, and online provocation.

Some examples of popular social media platforms:

1) Facebook: One of the largest and most well-known social media platforms, Facebook allows users to create profiles, connect with friends and family, share updates, photos, videos, and articles, join groups, and follow pages of interest.
2) Instagram: A photo and video-sharing platform, Instagram enables users to share visual content, such as photos and short videos, with their followers. Users can also interact with posts by liking, commenting, and sharing, as well as use features like Stories, Reels, and IGTV.
3) Twitter: Twitter is a microblogging platform where users can share short messages called "tweets" of up to 280 characters. Users can follow accounts, engage in conversations, share links, images, and videos, and participate in trending topics using hashtags.
4) LinkedIn: Geared towards professionals and businesses, LinkedIn is a platform for networking, job searching, and professional development. Users can create profiles showcasing their work experience and skills, connect with colleagues and industry professionals, join groups, and share professional content.
5) YouTube: A video-sharing platform, YouTube allows users to upload, watch, like, comment on, and share videos. Users can subscribe to channels, create playlists, and engage with content creators through comments and messages.
6) Snapchat: Known for its disappearing content, Snapchat lets users share photos and videos with their friends, which disappear after being viewed. The platform also features Stories, which are temporary collections of photos and videos shared by users, as well as messaging and video chat.
7) TikTok: A platform for short-form video content, TikTok allows users to create and share videos up to 60 seconds long. Users can explore content on their For You page, engage with videos by liking, commenting, and sharing, and participate in viral challenges and trends.

Sleep quality-

The significance and idea of rest quality allude to the abstract assessment of the general fulfilment, and peacefulness experienced during rest. It envelops different elements that add to the apparent adequacy and restoration accomplished through rest. Here is a breakdown of the key components:

1. Subjective Insight: Rest quality is innately abstract, as it relies upon a singular's very own evaluation of how well they dozed. It incorporates sensations of tranquility, fulfilment, and restoration after awakening.

2. Duration: While not the sole determinant, the length of rest assumes a part in surveying rest quality. Sufficient span is commonly viewed as 7-9 hours for grown-ups, albeit individual requirements might change.

3. Continuity: Rest quality is affected by the coherence of rest over the course of the evening. Interferences, arousals, or divided rest can diminish the apparent nature of rest, regardless of whether the absolute length meets suggested rules.

4. Depth and Serenity: Profound, helpful rest stages, especially REM (quick eye development) and slow-wave rest, add to sensations of tranquillity and revival. Rest quality is many times higher when these stages are accomplished reliably over the course of the evening.

5. Efficiency: Rest productivity alludes to the level of time spent snoozing contrasted with the complete time spent in bed. Higher rest proficiency demonstrates better rest quality, as it mirrors an insignificant measure of time spent conscious during the evening.

6. Absence of Inconvenience: Rest quality is affected by elements, for example, solace, temperature, commotion levels, and natural unsettling influences. An agreeable rest climate adds to more readily rest quality by limiting interruptions and uneasiness.

7. Impact on Daytime Working: Eventually, rest quality is decided by its effect on daytime working and prosperity. Quality rest upholds mental capability, state of mind guideline, actual wellbeing, and generally efficiency and execution during waking hours.

8. Consistency: Consistency in rest examples and schedules adds to more readily rest quality after some time. Ordinary rest wake plans, sleep time ceremonies, and sound rest propensities advance more relaxing and reviving rest encounters.

Surveying and further developing rest quality includes thinking about these elements and executing procedures to advance the rest climate, advance unwinding, address expected disturbances, and lay out sound rest propensities. While genuine measures, for example, rest observing gadgets can give bits of knowledge into rest designs, the emotional experience of feeling refreshed and invigorated after waking remaining parts vital to the idea of rest quality.

Emotion regulation-

"Emotional regulation refers to the process by which individuals influence which emotions they have, when they have them, and how they experience and express their feelings. Emotional regulation can be automatic or controlled, conscious or unconscious, and may have effects at one or more points in the emotion producing process."

(Gross, 1998, p. 275).

In psychology. social regulation alludes to the cycles through which people and gatherings control, make do, and impact the way of behaving, feelings, and cooperations of others inside friendly settings. It includes the foundation, implementation, and upkeep of normal practices, rules, assumptions, and principles overseeing conduct and cooperations inside a general public or gathering. Here is a more profound glance at the significance and idea of social guideline:

1. Establishment of Standards and Rules: Social guideline starts with the foundation of standards, rules, and principles that endorse OK way of behaving and communications inside a gathering or local area. These standards might be formalised through regulations, guidelines, arrangements, or casual social practices and customs.

2. Enforcement Mechanisms: Social guideline includes components for authorising adherence to laid out standards and rules. This might incorporate conventional establishments like policing, legal frameworks, and administrative bodies, as well as casual components, for example, social authorisations, peer strain, and socialisation processes.

3. Social Control: Social guideline envelops cycles of social control pointed toward keeping everything under control, solidness, and attachment inside society. Social control systems put freak conduct down, rebuff offences, and support adjustment to cultural standards and assumptions.

4. Influence on Conduct and Interactions: Social guideline impacts individual and aggregate way of behaving, feelings, and communications by folding view of suitable lead, social jobs, and relational connections. It applies strain on people to adjust to cultural norms and assumptions through remunerations, disciplines, and social endorsement or objection.

5. Role of Organisations and Authorities: Formal foundations and specialists assume a huge part in friendly guideline by declaring and implementing regulations, guidelines, and strategies pointed toward overseeing conduct and communications in different spaces, like training, medical care, business, and public security.

6. Cultural and Cultural Variation: Social guideline fluctuates across societies and social orders, reflecting contrasts in values, convictions, standards, and power elements. What is viewed as adequate or freak conduct in one social setting might vary from another, prompting varieties in friendly guideline rehearses.

7. Impact on Individual and Aggregate Well-Being: Social guideline impacts individual and aggregate prosperity by forming social request, union, and working. Powerful friendly guideline adds to the upkeep of social agreement, collaboration, and trust, while inadequate or harsh guideline can prompt social struggle, treachery, and imbalance.

Methodology

1. **Sample-** There was total 100 subjects including both of Amity university and Lucknow university. Out of 100, 3 have been outliers by using SPSS. Age group of the subjects were of young adults which is between 18-24 years old. Both male and female are included.
2. **Tools-** 3 scales have been used in this research which are as follows-

Pittsburgh Sleep Quality Index

The Pittsburgh Sleep Quality Index (PSQI) is a widely used instrument developed by researchers at the University of Pittsburgh to assess sleep quality and disturbances. It consists of 19 self-rated questions that cover various aspects of sleep, including subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleep medications, and daytime dysfunction. The PSQI was given by researchers at the University of Pittsburgh and was first published in 1989. It has demonstrated good reliability, with Cronbach's alpha coefficients typically ranging from 0.70 to 0.80, indicating consistent internal consistency. Validity of the PSQI has been established through comparisons with polysomnography (PSG) and other objective measures of sleep quality, as well as through correlations with other subjective sleep scales, demonstrating strong convergent validity. Scoring patterns involve rating each item on a scale from 0 to 3, with higher scores indicating poorer sleep quality. Sub-scale scores are then calculated, and a global PSQI score is obtained

by summing the sub-scale scores, with higher scores indicating worse overall sleep quality. This comprehensive assessment tool is valuable for researchers and clinicians in evaluating sleep patterns and disturbances among individuals.

Emotion Regulation Scale

The Emotion Regulation Questionnaire (ERQ) is a psychometric tool designed to assess individual differences in emotion regulation strategies. Developed by Dr. James J. Gross and Dr. Oliver P. John, the ERQ consists of 10 items divided into two subscales: Cognitive Reappraisal and Expressive Suppression. The ERQ was first published in 2003, providing researchers with a reliable and valid measure to explore emotion regulation tendencies. It demonstrates good reliability, with Cronbach's alpha coefficients typically ranging from 0.70 to 0.80, indicating consistent internal consistency. Validity of the ERQ has been established through correlations with other measures of emotion regulation and related constructs, showing strong convergent validity. Scoring patterns involve rating each item on a 7-point Likert scale, with higher scores indicating a greater tendency to use the respective emotion regulation strategy. Subscale scores are then calculated by averaging the responses to the items within each subscale. The ERQ is a valuable tool for researchers and clinicians to assess and understand individual differences in emotion regulation strategies, providing insights into emotional well-being and psychological functioning.

Bergen Social Media Addiction Scale

The Bergen Social Media Addiction Scale (BSMAS) is a validated instrument designed to assess individuals' addiction to social media platforms. Developed by Dr. Cecilie Schou Andreassen and colleagues, the BSMAS consists of 6 items that measure various aspects of social media addiction, including preoccupation, withdrawal, tolerance, and conflicts. The BSMAS was first published in 2012, offering researchers and clinicians a reliable tool to explore social media addiction. It demonstrates good reliability, with Cronbach's alpha coefficients typically ranging from 0.83 to 0.94, indicating high internal consistency. The validity of the BSMAS has been established through correlations with other measures of addiction and related constructs, demonstrating strong convergent validity. Scoring patterns involve rating each item on a 5-point Likert scale, with higher scores indicating a higher level of social media addiction. Total scores are then calculated by summing the ratings across all items, with higher total scores indicating a greater degree of social media addiction. The BSMAS is a valuable instrument for identifying and assessing social media addiction, providing insights into its prevalence and associated factors. The Bergen Social Media Addiction Scale (BSMAS) is a validated instrument designed to assess individuals' addiction to social media platforms. Developed by Dr. Cecilie Schou Andreassen and colleagues, the BSMAS consists of 6 items that measure various aspects of social media addiction, including preoccupation, withdrawal, tolerance, and conflicts. The BSMAS was first published in 2012, offering researchers and clinicians a reliable tool to explore social media addiction. It demonstrates good reliability, with Cronbach's alpha coefficients typically ranging from 0.83 to 0.94, indicating high internal consistency. The validity of the BSMAS has been established through correlations with other measures of addiction and related constructs, demonstrating strong convergent validity. Scoring patterns involve rating each item on a 5-point Likert scale,

with higher scores indicating a higher level of social media addiction. Total scores are then calculated by summing the ratings across all items, with higher total scores indicating a greater degree of social media addiction. The BSMAS is a valuable instrument for identifying and assessing social media addiction, providing insights into its prevalence and associated factors.

Procedure-

To commence with the data collection, the researchers first seek approval from the Head of the Institute of both Lucknow University and Amity University. Following approval, contact will be made with university authorities to obtain permission to conduct the research on their premises. Once permission is secured, recruitment efforts will commence, including sending invitations via email or distributing flyers to potential participants aged 18-24. Informational sessions will be held at both universities to explain the study's objectives and significance, ensuring candidates understand the voluntary nature of participation and the confidentiality of responses. During the informed consent process, participants will receive detailed consent forms outlining the study's purpose, potential risks, and benefits. The questionnaire will be administered individually or in small groups, with each section explained to participants, emphasising the importance of honest responses. Standardised assessment tools such as the Pittsburgh Sleep Quality Index (PSQI), Emotion Regulation Questionnaire (ERQ), Bergen Social Media Addiction Scale (BSMAS), and Emotion Regulation Difficulties with social media scale will be utilised. Privacy and confidentiality will be maintained throughout data collection, with surveys conducted in designated spaces and completed questionnaires stored securely. Upon completion, participants will have the opportunity to ask questions and express gratitude for their contributions. Data analysis will follow, with findings disseminated through academic channels to inform future research and interventions.

Statistical Analysis-

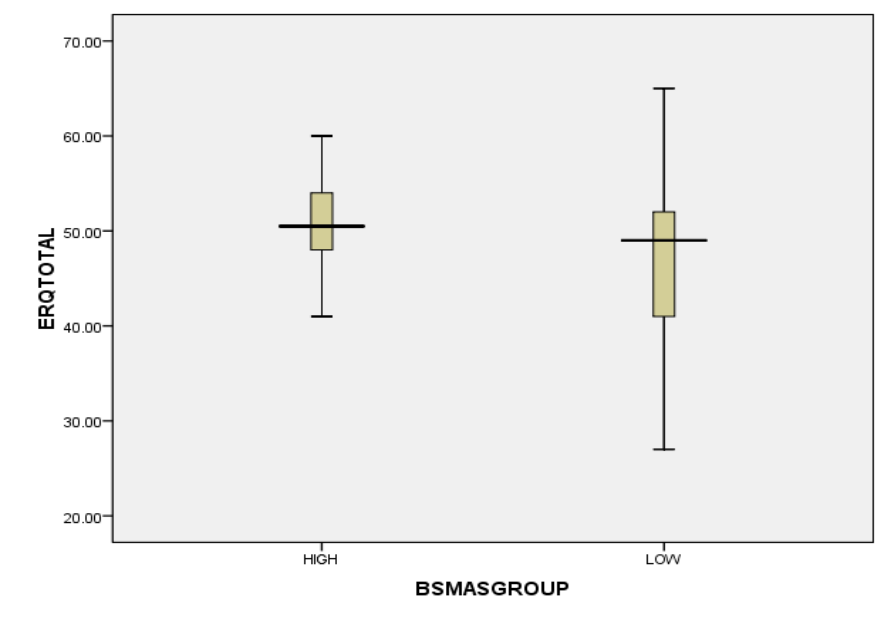
Descriptive statistics and one-way Innova analysis of variants was computed to fulfil the objective of the study.

Result-

To check the outliers, the researcher applied the box plot, three outliers were identified. So statistical analysis was done after excluding those cases. The following box plot explaining the scores on first and third quartile.

Box Plot 1-

This box plot showing first and third quartile of emotion regulation variables between high and low social media addiction group.



Box Plot 2-

This box plot showing first and third quartile of sleep, quality variable between high and low social media addiction group.

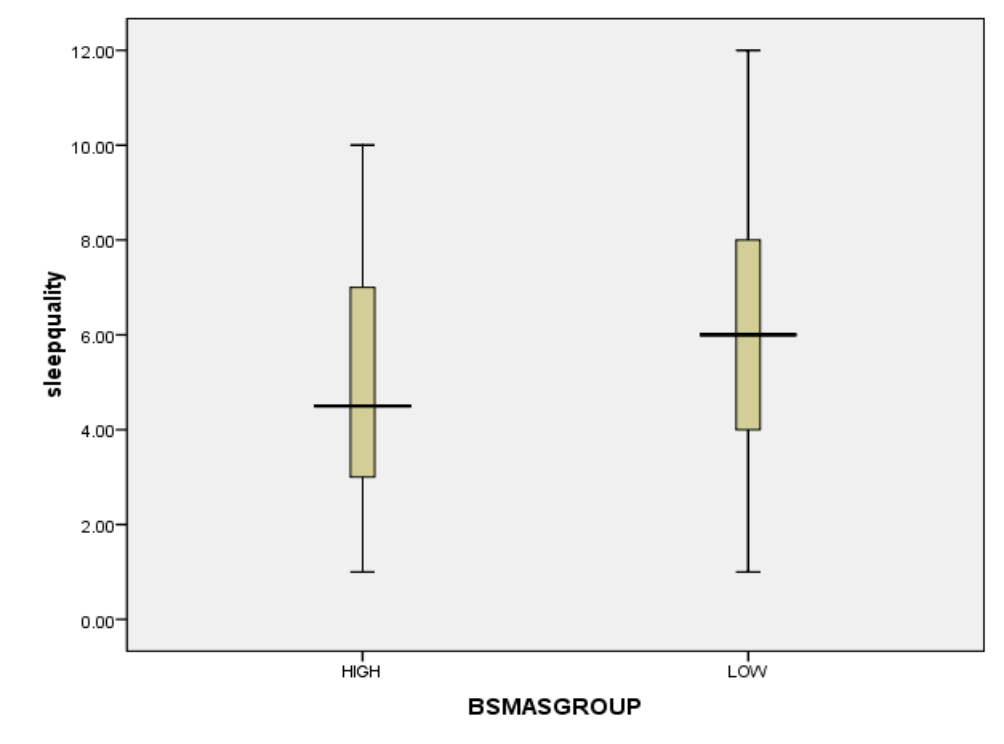


Table 2- Mean and SD value of emotion regulation sleep quality variable for high and low score group regarding social media addiction and mean comparison.

Table 2: Mean and SD values of emotion regulation and sleep quality for high and low scorer groups and mean comparisons.						
Measures.	High N=. 22		LOW N= 75		F	Sig
	Mean.	SD.	Mean.	SD		
ERQ						
ERQ 1	31.4545	4.54320	28.2667	5.70996	5.77	.323
ERQ 2	19.4091	2.98662	18.3467	4.06532	1.29	.024
ERQ TOTAL	50.8636	5.57456	46.6133	8.57226	4.79	.031
PSQI	4.8182	6.1733	2.51919	2.75766	4.26	.042

Table 2 explains the value of descriptive statistics and one way ANOVA of high and low scorer groups of social media addiction scale on emotion regulation and sleep quality. The mean and S.D. values of cognitive reappraisal, expressive suppression and total score of emotion regulation of high and social media user groups are discussed in Table 2. One-way analysis of variance highlighting group (high and low) differences on cognitive reappraisal ($F (1/ 99) = 5.77$, $p < 0.05$ and total score of emotion regulation ($F (1/ 99) = 4.79$, $p < 0.05$) which are measure of emotion regulation.

Discussion-

Table 2 presents a comprehensive analysis of the emotion regulation questionnaire and sleep quality questionnaires administered to individuals, focusing on the mean values, standard deviations, and analysis of variances. Notably, individuals with high social media usage demonstrated elevated levels of both cognitive reappraisal and expressive suppression, suggesting a potentially complex relationship between social media engagement and emotion regulation. To ascertain the significance of these findings, further analysis via analysis of variance was conducted.

The results revealed a significant difference in the cognitive reappraisal domain of the emotion regulation questionnaire between individuals with high and low social media usage. However, no significant difference was observed in the expressive suppression domain. Interestingly, the analysis yielded a significant result on the ERQ total scale, indicating a higher overall level of emotion regulation among individuals with greater social media usage, with a p-value of .031.

On the expressive suppression scale, mean values between the two groups did not exhibit considerable disparity, and the obtained p-value was not significant ($p = .258$).

Conversely, the cognitive reappraisal domain displayed a notable discrepancy in mean values, with individuals reporting high social media usage scoring significantly higher (31.45) compared to those with low social media usage (28.26). This observation is in line with findings from Chen et al. (2023), whose systematic review emphasised the adverse impact of excessive social media consumption on individuals' emotional regulation strategies.

Moving on to the realm of sleep quality, the results indicated a clear distinction between individuals with varying levels of social media usage. Specifically, individuals with low social media usage exhibited better sleep quality compared to those with high social media usage. The mean sleep quality score for individuals with high social media usage was 4.81, whereas it was 6.17 for those with low social media usage. This finding aligns with previous research, such as the study conducted by Jessica C. Levenson et al. (2016), which established a significant correlation between heightened social media activity and increased risk of sleep disturbances, including difficulties falling asleep, frequent nocturnal awakenings, and morning fatigue.

These findings underscore the intricate relationship between social media usage, emotion regulation, and sleep quality. The observed association between heightened social media engagement and elevated levels of cognitive reappraisal suggests a potential adaptive response to the emotional stimuli encountered in digital environments. However, the lack of significant differences in expressive suppression warrants further investigation into the nuanced mechanisms underlying emotion regulation in the context of social media usage.

Moreover, the significant disparity in sleep quality between individuals with high and low social media usage highlights the detrimental impact of excessive digital engagement on sleep health. This underscores the importance of promoting healthy digital habits and implementing strategies to mitigate the adverse effects of social media on sleep quality.

In conclusion, the findings presented in Table 2 provide valuable insights into the complex interplay between social media usage, emotion regulation, and sleep quality. By elucidating the mechanisms through which social media influences emotional well-being and sleep health, this research contributes to our understanding of the psychological implications of digital technology in contemporary society. Moving forward, continued research in this area is crucial for developing targeted interventions aimed at promoting digital well-being and enhancing overall quality of life in an increasingly connected world.

Conclusion

The analysis of data from the emotion regulation and sleep quality questionnaires presented a nuanced picture of the relationship between social media usage, emotion regulation strategies, and sleep health among university students.

Emotion Regulation: High social media users exhibited higher levels of cognitive reappraisal, a strategy for reinterpreting situations to minimise negative emotions. This aligns with the idea that social media can be a source of emotional stimulation, and frequent users may develop stronger skills in reframing negative online experiences. However, the lack of a significant

difference in expressive suppression, which involves controlling outward expressions of emotion, suggests a more complex dynamic. Further research is needed to explore how social media use shapes different emotion regulation strategies and how these strategies may interact.

Sleep and social media: The study confirmed a clear negative impact of high social media use on sleep quality. This aligns with previous research highlighting the disruptive effects of blue light emission from screens and the psychological stimulation of social media content on sleep patterns. These findings underscore the importance of promoting healthy digital habits before bed, such as limiting screen time and establishing relaxing routines.

Moving Forward: This study provides valuable insights into the intricate interplay between social media and well-being. Future research should delve deeper into the specific mechanisms underlying these relationships. For example, studies could explore:

- **The types of social media use:** Does passive scrolling have the same impact as actively engaging with content or interacting with others online?
- **Individual differences:** How do personality traits or pre-existing emotional regulation skills influence the relationship between social media use and emotional well-being?
- **The role of sleep quality:** Does poor sleep quality make students more susceptible to the emotional influences of social media, or does social media use directly impact emotional regulation abilities?

By understanding these nuances, we can develop targeted interventions to promote digital well-being. This could involve:

- **Digital literacy programs:** Educating students about the potential downsides of excessive social media use and teaching them strategies for mindful digital engagement.
- **Promoting sleep hygiene:** Encouraging students to establish healthy sleep routines that minimise screen time before bed and prioritise restful sleep.
- **Developing emotional regulation skills:** Providing resources and training to help students develop healthy strategies for managing their emotions, both online and offline.

In conclusion, this research paves the way for a more comprehensive understanding of how social media use shapes emotional well-being and sleep health in university students. By continuing to explore these relationships and developing targeted interventions, we can empower students to navigate the digital world effectively and prioritise their overall well-being.

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