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Abstract

Social media platforms like Facebook, Twitter, Instagram, and TikTok have become integral parts of daily life, especially among college students. Mental health is the main pillar of healthy human societies, which plays a vital role in ensuring the dynamism and efficiency of any society in such a way that other parts of health cannot be achieved without mental health. The nature of the study was quantitative that was conducted through correlational research design. For the purpose of data collection survey was conducted by using questionnaire. Convenient sampling technique was employed to select 150 college students (male=75, female=75). Results reveal that significant positive correlation was measured between use of social media, depression, anxiety, and stress. Moreover, there was negative relationship between use of social media and sleep quality of college students. Findings of the study reveal that there is statistically significant mean score difference was found between male and female college students on use of social media, depression, and anxiety, stress and sleep quality. Colleges could use the findings to design programs and workshops aimed at educating students about the importance of a healthy digital lifestyle.

Keywords: Social media, mental health

1. Introduction

Social media is one of the newest and most popular internet services, which has caused significant progress in the social systems of different countries in recent years (Jin, 2022). The use of the Internet has become popular among people in such a way that its use has become inevitable and has made life difficult for those who use it excessively. Social media has attracted the attention of millions of users around the world owing to the possibility of fast communication, access to a large amount of information, and its widespread dissemination (Karhan, 2019; Zafar & Younis, 2020; Fathi et al., 2020; Shah & Kanwal, 2021). Facebook, WhatsApp, Instagram, and Twitter are the most popular media that have attractive and diverse spaces for online communication among users, especially the young generation (Rasheed, 2020; Hemayatkhah, 2021; ven Zanden, 2023). Spending too much time on social media can easily become problematic. Excessive use of social media, called problematic use, has symptoms similar to addiction. Problematic use of social media represents a non-drug-related disorder in which harmful effects emerge due to preoccupation and compulsion to over-participate in social media platforms despite its highly negative consequences (Labeeque & Sanaullah, 2019; Cheng et al., 2021; Saijo, 2022; Rada, 2023), which leads to adverse consequences of mental health, including anxiety, depression, lower well-being, and lower self-esteem (Huang, 2017; Das, 2022; Nkegbe & Abor, 2023).

1.1. Social Media and Mental Health

Mental health is the main pillar of healthy human societies, which plays a vital role in ensuring the dynamism and efficiency of any society in such a way that other parts of health cannot be achieved without mental health. According to World Health Organization's (WHO) definition, mental health refers to a person's ability to communicate with others. Some researchers believe that social relationships can significantly affect mental health and improve quality of life by creating a sense of belonging and social identity (Galderisi et al., 2015; Clark, 2022). It is also reported that people with higher social interactions have higher physical and mental health (Chang et al., 2014; Jerome, 2019; Audi & Yu, 2024). Scientific evidence also shows that social media affect people's mental health (Chang et al., 2014; Situngkir, 2024). Social studies and critiques often emphasize the investigation of the negative effects of Internet use (Haand & Shuwang, 2020; Fan & Iqbal, 2022). For example, Kim et al. studied 1573 participants aged 18–64 years and reported that Internet addiction and social media use were associated with higher levels of depression and suicidal thoughts (Kim et al., 2016). Zadra (2016) also studied adults and reported that excessive use of social media and the Internet was correlated with stress, sleep disturbances, and personality disorders. Richards et al. (2015) reported the negative effects of the Internet and social media on the health and quality of life of adolescents. There have been numerous studies that examine Internet addiction and its associated problems in young people, as well as reports of the effects of social media use on young people's mental health (Chen et al., 2020). A study on Iranian students showed that social media leads to depression, anxiety, and mental health decline (Lebni et al., 2020).

Numerous studies link the usage of social media to unfavorable effects such enhanced anxiety, anxious behavior, loneliness, and narcissism. The growing use of social media among young people raises questions about potential drawbacks. If social media use is associated with unfavorable outcomes, research should focus more on determining the root causes of these issues and possible solutions. Contrarily, Rosen et al. (2013) discovered that participants who spent more time online and frequently censored their social media photos had more severe symptoms of serious depression. A 2012 Croatian study (Pantic et al.) showed a link between high school students' Facebook use and depression. Frequent usage of social media, according to Lau, (2017), is a predictor of increased isolation among American university students. Additionally, Kokkinos and Saripanidis (2017) found that undergraduates who reported having more Facebook friends had a worse time emotionally adjusting to university life. According to the same study, students who used social media more regularly than those who used it less frequently reported having less self-confidence. Furthermore, research conducted by Abbasi and Alghamdi (2018) showed a link between depression and web use, indicating that potentially more social Internet activities like gaming and talking reduce the risk of depression.

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1.2. Social Media and Sleeping Patterns

Over 90% of young people now use social media sites day and night, including Facebook and Twitter, and they have quickly established themselves as essential parts of their life (Santarossa & Woodruff, 2017). A person's quality of sleep is a reliable indicator of their physical health. It not only represents one's daily routine but also their physical health and can give them a sense of total wellness. Additionally, many people utilize alarm clocks to help with their sleep patterns (Zou et al., 2019). According to Xie et al. (2018), understudies frequently have poor sleep quality, which has been linked to discouragement, unease, and a lack of courage. It is crucial to understand how usage of virtual entertainment relates to these characteristics because youth is the time when resistance to poor identity value and the beginning of discouragement and unease are increasingly prevalent (Yang & Bradford Brown, 2016). Additionally, the use of social media by students and their mental health are related. Alluhidan et al. (2024) discovered that the increased usage of social media platforms for communication by adolescents speaks to a significant role for these sites in the formation of the minds of adolescents and social groups. How social media affects people's psychological well-being is only getting started, and it covers a wide range of issues. The results highlight the complex relationship between students' psychological development and their usage of social media. There are several possible risks linked with social media use, including excessive and problematic use, and unhealthy comparisons. Having loved ones close could help soften the shock. The potential advantage of making it easier to maintain friendships and networks, both of which can be crucial for preserving a positive sense of identity when using social media. The prevalence of social media has increased due to its numerous hazards, making it even more crucial to create and provide preventative and therapeutic mental health care services. Psycho-educational programs for parents and children should cover the drawbacks, advantages, and merits of parental supervision of social media use (Ashraf Iqbal & Hussain, 2024). Furthermore, some studies discuss whether anxiety has been shown to have a strong correlation with excessive usage of social media. In today's culture, the usage of social media by people reached the point where it is almost pandemic. It would seem that those who experience social anxiety or who spend a significant amount of time alone are more likely to prefer and actively seek out social relationships through online platforms such as social media. It's been shown that those who spend a lot of time alone are more likely to engage in potentially harmful activities online. It is necessary to do more research to ascertain the degree to which social anxiety, feelings of isolation, and the usage of social media is associated (O'Day & Heimberg, 2021).

1.3. Statement of the Problem

Social media platforms like Facebook, Twitter, Instagram, and TikTok have become integral parts of daily life, especially among college students. In Pakistan, these platforms are frequently used for communication, entertainment, information sharing, and socializing. However, the excessive or unchecked use of social media may lead to various mental health challenges, including anxiety, depression, low self-esteem, and body image issues. Despite the growing usage of these platforms, there is limited research focusing on the specific impact of social media use on the mental health of college students in Pakistan. The lack of awareness about the potential psychological consequences of prolonged engagement with these platforms, such as social comparison, cyberbullying, and fear of missing out (FOMO), may contribute to adverse mental health outcomes among students. This study seeks to investigate the effects of Facebook, Twitter, Instagram, and TikTok on the mental health of college students in Pakistan, with a focus on understanding how these platforms influence emotional well-being, self-perception, and overall psychological health. By exploring the relationship between social media usage and mental health, this research aims to provide valuable insights that can inform the development of strategies to promote healthier online habits and mental health awareness among students.

1.4. Rationale of the Study

Social media platforms have gained widespread popularity, especially among young adults and students, offering a convenient means of social interaction, self-expression, and access to information. According to various reports, the younger demographic, particularly college students, is the highest consumer of social media, making this age group the focal point for assessing the influence of these platforms. Students often use social media for academic collaboration, personal networking, and entertainment. However, the implications of this digital interaction on their mental health remain under-explored.

1.5. Objectives of the Study

- To measure the relationship between using social media, depression, anxiety, stress and sleeping pattern.
- To compare the mean score difference of using social media, depression, anxiety, stress and sleeping pattern with respect to gender.

2. Method

2.1 Participants

The nature of the study was quantitative that was conducted through correlational research design. To establish relationship between the study variables the correlational research design was used. For the purpose of data collection survey was conducted by using questionnaire. Convenient sampling technique was employed to select the participants. Demographic information was included; gender of the respondents.

2.2 Instrument

Motivations to Use Facebook, Instagram, Twitter, and TikTok: Motivations to Use Facebook, Instagram, Twitter, and TikTok was developed by Alhabash and Smischney (2024). All variables were measured on a 7-point scale (mostly Likert-type scales, with some frequency variation anchored with "Never" to "Very Often").

Sleep Quality Scale: Sleep Quality Scale was developed by Shahid et al. (2012). Total item are 28. Using a four-point, Likert-type scale, respondents indicate how frequently they exhibit certain sleep behaviors (0 = "few," 1 = "sometimes," 2 = "often," and 3 = "almost always"). Scores on items belong to factors 2 and 5 (restoration after sleep and satisfaction with sleep) and are reversed before being tallied. Total scores can range from 0 to 84, with higher scores demoting more acute sleep problems.

Depression, Anxiety and Stress Scales (DASS-21): The Depression, the Anxiety and Stress Scales (Lovibond, 1995) is used in the study to measure and assess the psychological burden in life of diabetic patients. It is a quantitative measure of distress with 3 axes

stress, anxiety and depression and not used for clinical diagnoses as a categorical measure. DASS is useful for assessing the disturbance and lot of other complication. It has 21 items that indicates and describes the level of depression, the anxiety and stress and the responses on this scale are listed as; 0 score means, it is statement of response which is not applied for that person. 1- Responses which are given on 1 number denote the situation that is matched with person sometimes and at some extend. The responses on the situation 2 express the statement about the individual for a good time. The responses on the category of 3 numbers, which finds the condition which, is related to very much close to that person. The normal score of the depression is ranged from (0-4), and as well as anxiety is separated from (0-3) and stress is moving the value from (0-7). The mild score of the depression of the people is start from the figure (5-6), while the anxiety is situated between these numbers (4-5) and the stress as well as is comes between this group (8-9). The moderate score of depression is ranging from (7-10), and the anxiety that is categorized between such type of values (6-7) and the stress values are ranged into this condition that is lies between these values (10-12). Severe and chronic level of the depression is categorized into these numbers (11-13), and the severe condition of anxiety lies between this group (8-9) and the stress is divided for it severity is ranged between such condition (13-16) while the extreme scores of the depression is indicated to this particularly is (14+), anxiety is related to this figure (10+) and the stress severe level is always indicates this category of score (17+). Scores of the individuals do not mean appropriate interventions.

3. Procedure

Permission was granted and informed consent was taken from the participants. All the necessary information and instruction was provided to respondents to gain their responses about the study. It was informed to them that their information will be kept confidential and will be used for the purpose of the study. Your honesty and cooperation about providing responses will be remarkable for the researcher.

4. Results

Table 1: Correlation matrix of Use of Social Media, Depression, Anxiety, Stress and Sleep Quality

	Mean	Std.Deviation	USM	D	A	S	SQ
Use of Social Media			1	.781**	.693**	.817**	-.751**
Depression				1	.597**	.763**	-.859**
Anxiety					1		-.740**
Stress						1	-.649**
Sleep Quality							1

Note; USM (Use of Social Media), Depression, A (Anxiety), S (Stress), SQ (Sleep Quality).

Table 1 shows the significant positive correlation between use of social media, depression, anxiety, and stress. Moreover, there was negative relationship between use of social media and sleep quality of college students.

Table 2: Mean score difference of Use of Social Media, Depression, Anxiety, Stress and Sleep Quality with respect to gender of the participants (n=100)

Variable	Gender	N	M	Std.Deviation	df	t-test	p-value
Use of Social Media	Male	75	13.6752	16.62388	148	9.981	<.001
	Female	75	19.5643	22.98654			
Depression	Male	75	21.7682	17.23098	148	7.032	<.001
	Female	75	34.8790	21.09752			
Anxiety	Male	75	23.7823	11.34645	148	9.021	<.001
	Female	75	29.0783	13.76530			
Stress	Male	75	31.0432	13.59012	148	6.904	<.001
	Female	75	43.8941	19.36451			
Sleep Quality	Male	75	28.8961	12.80932	148	7.021	<.001
	Female	75	18.0954	14.36492			

Table 2 describes the comparison of use of social media, depression, and anxiety, stress and sleep quality. Findings of the study reveal that there is statistically significant mean score difference was found between male and female college students on use of social media, depression, and anxiety, stress and sleep quality.

5. Discussion

High levels of anxiety and depression have been linked in previous research to social networking site use in general (Ivie et al., 2020). As with many of the recent studies, the nature of this link is still being determined. Social media use among teenagers who experience anxiety may increase (Hani et al., 2021). Depressed teenagers may use social media more to control their negative mood, much as how children and adults use watching TV to control their emotions (Van Der Goot et al., 2012). In this study, a substantial and positive association is indicated between social media use and Depression, anxiety, stress level respectively ($r = .781^{**}$, $.693^{**}$, $.817^{**}$, $p = .000$). In addition, there is negative correlation between use of social media and sleep quality ($(r = -.751^{**}$, $p = .000$). Instead of using personal communication networks for the purpose of learning, students spend a lot of time online during the day and night shopping, gaming, and resting. These behaviors prohibit students from participating in academic events, limit their opportunities to study, and distract them from learning, which results in certain understudies' academic performances declining

(Ashraf Iqbal & Hussain, 2024). According to the most recent studies on sleep quality, students' emotional connections to specific websites and their use of social media during specific times are more significant than their usage's frequency or duration. This may imply that a strong emotional tie to social networking sites affects sleep quality by raising worry, which is known to decrease sleep (Qiu et al., 2023). According to findings from a prior study of Martinsson and Thomee (2024), young adults said they feel a lot of stress to constantly be available and reply to communications immediately away. Because they worry they won't see any new posts, students who are deeply involved in social media platforms may find it difficult relax before night. The association between emotional investment and poorer sleep quality was statistically significant if depression, anxiety, and poor mental health were added as predictors. According to Jackson et al. (2014), teens' late-night social media use causes later bedtimes and less restful sleep, which in turn impacts their capacity to handle melancholy and anxiety. The compelling connections between midnight social media use, subpar sleep, anxiety, and depression support this claim. Although the precise link between online social networking use and depression or anxiety is still unclear, the available data clearly suggests that this interaction involves sleep quality. Similar to adults, anxious students may use online platforms more at night when they can't sleep because concern is known to interfere with sleep (Albrecht-Bisset, 2022). It is necessary to do more research to ascertain the direction of this association and the part disturbed sleep plays in linking online social networking use with anxiety and depression.

6. Conclusion

Poor sleep quality is a problem for all students, regardless of their age, gender, or subject of study. The causes of poor sleep quality have not been definitively identified. Smoking, physical activity, or stimulant-containing beverages did not appear to affect how well people slept. Poor sleepers, on the other hand, missed more morning courses and experienced higher levels of anxiety throughout the day. Academic advisors and the students themselves might utilize the findings to help them improve their daily activities and sleep patterns. Additional investigation could be done to determine how lifestyle and behavioral factors, in particular, affect sleep quality. The quality of sleep is unaffected by SM consumption alone. Instead, the amount of time spent using smartphones during the day or night, as well as their mode and purpose, have an impact on how well you sleep. Complications from excessive SM use, including mental health conditions and inactivity, may also have an impact on sleep quality.

7. Contributions of the Study

Awareness of Social Media's Impact: The study can raise awareness among college students about how their social media usage influences their mental health. For example, it can help students understand the potential for increased feelings of anxiety, depression, or loneliness linked to overuse or unhealthy engagement with social media platforms.

Guidance for Healthy Usage: The research could provide actionable guidelines for managing social media use in a way that minimizes negative mental health impacts. This could include recommendations for time limits, types of content to avoid, or strategies for cultivating a more positive online environment.

Recommendations for Colleges: Colleges could use the findings to design programs and workshops aimed at educating students about the importance of a healthy digital lifestyle. Universities might incorporate mental health screenings, online wellness programs, or resources to help students navigate their online presence with mindfulness.

Policy Development for Social Media Platforms: The study could influence social media companies to introduce features aimed at promoting mental well-being. For instance, platforms like Instagram and TikTok might develop tools to alert users when they've spent excessive time on the app or introduce content moderation practices to reduce harmful or triggering content.

Promotion of Mental Health Support: Findings may encourage the creation or strengthening of mental health support services specifically targeting issues that arise from social media use. This can include campus counseling services, peer support groups, and virtual therapy options to help students manage issues like body image, cyberbullying, or social comparison.

Parental and Faculty Guidance: The study could provide valuable insights for parents and faculty, helping them understand the role social media plays in students' emotional and mental well-being. They might be better equipped to provide advice and support to students struggling with social media-related mental health issues.

Encouragement of Digital Detox Practices: The research may highlight the benefits of regular breaks from social media and encourage students to engage in digital detox practices. This can lead to a healthier balance between online and offline activities, fostering better mental health.

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