

CORRELATION BETWEEN SOCIAL MEDIA USAGE FOR ACADEMIC PURPOSES AND CRITICAL THINKING ABILITY AMONG UNDERGRADUATE NURSING STUDENTS

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Abstract

Background: The higher education landscape has changed with the introduction of social media, and nursing education has been at the forefront as a result. Students do employ platforms like WhatsApp, YouTube, and Facebook to engage in academic activities. As a profession, critical thinking is a central skill within the nursing practice, which is necessary in clinical decision-making and patient care. Nevertheless, the connection between academic social media use and critical thinking formation is understudied, especially in low- and middle-income states such as Pakistan.

Aim: This study aimed to examine the correlation between social media usage for academic purposes and critical thinking ability among undergraduate nursing students in Swat, Pakistan.

Methods: A descriptive correlational research, 217 nursing students were taken in 2nd, 3rd, and 4th Year of BSN programs in different nursing colleges of Swat. Stratified random sampling was used. The evaluation of academic use of social media and critical thinking were assessed using a structured questionnaire and a California Critical Thinking Skills Test (CCTST), respectively. Data were analyzed using SPSS version 27. They were calculated using descriptive statistics and Pearson correlation with the significance being at $p < 0.05$.

Results: The most commonly used platforms for academic purposes were WhatsApp (94.5%) and YouTube (82.9%). The majority of students demonstrated moderate levels of critical thinking (60.8%). A statistically significant positive correlation was found between academic social media use and critical thinking scores ($r = 0.312$, $p = 0.002$).

Conclusion: Academic use of social media positively influences the critical thinking abilities of nursing students. Educators should integrate these platforms strategically to enhance cognitive skill development.

INTRODUCTION

Social media can be defined as online community hubs like Facebook, YouTube, WhatsApp, X

(formerly Twitter), or Instagram where people interact, share and collaborate (Kaur & Gurnani,

2022). In an academic context, these platforms can facilitate learning through enabling students to gain access to study material, to participate in discussions and to collaborate on assignments (Eden et al., 2024). Critical thinking has been described as an analytical thinking skill that objectively examines information, weighs evidence, and makes rational arguments. Critical thinking is a component of nursing education to make clinical decisions and ensure patient safety (Jamil et al., 2024). The concept of undergraduate nursing students refers to any person in a course of study, commonly known as the Bachelor of Science in Nursing (BSN), who is academically and clinically training to become a professional nurse. The idea of how social media use in academic practice reflects on their critical thinking is critical as it relates to the optimization of teaching and learning strategies in contemporary nursing education (Allen et al., 2022).

Social media is a critical aspect that has been incorporated into the lives of undergraduate students; research indicates that more than 90 % of university students regularly use at least one social media platform. WhatsApp, YouTube, and Facebook are all common academic tools in Pakistan and other developing nations, where students view lecture videos, talk about assignments, and create study groups (Cheng et al., 2024). The use of social media to educate nursing students is increasingly common among students due to the increased prevalence of remote and blended learning modes following the COVID-19 pandemic. Nonetheless, it is unclear how far this usage relates to fundamental thinking skills, including critical thinking. This demands empirical research to determine the extent to which such tools promote or impair academic growth (Khan, 2021).

Critical thinking is a fundamental skill essential in nursing education that enhances safe and competent clinical practice. The dynamic nature of healthcare requires nurses able to evaluate the situation of the patient, priorities treatments, and make quality clinical decisions. Some education strategies to develop critical thinking include problem-based learning, case discussion, and reflective practice (Huber et al., 2021). The introduction of social media has seen students with easy access to information more than ever, which can change the

manner in which they embrace these learning activities (Shaban et al., 2024).

The social media can become an interactive and versatile educational resource, promoting collaborative learning and peer-to-peer education. Students studying nursing could enjoy common resources, professional communication, and access to international nursing networks. The fact that social media content is often informal and unregulated, however, causes concern regarding the quality and accuracy of information accessed (Pinto et al., 2024). The issue of whether these platforms aid or detract the development of critical thinking is under constant debate, especially in the academic environment where in-depth, critical learning is the objective (Hamarash et al., 2024).

Other research indicates that social media facilitates reflective learning and sharing of knowledge; these are core aspects of developing critical thinking. As an example, commenting, questioning, and debating platforms can develop analytical skills (Spaska et al., 2021). Some claim that excessive reliance on summarized content, memes, or superficial interaction may lead to less critical thought. The educational value of social media combined with the detrimental effect as a distraction makes it an interesting topic of research within the field of nursing education (Gamage et al., 2022).

Although digital learning tools have become a topic of increasing interest, limited research considers the direct relationship between academic application of social media use and critical thinking skills among nursing students. The current evidence base lacks studies that look beyond general academic performance or engagement, and considers cognitive skills, such as analysis, synthesis and evaluation. Evidence-based knowledge is lacking regarding the linking of particular social media behaviors to measurable educational outcomes in both clinical and theoretical fields of nursing (Saleh & AlAli, 2022).

In this study, the researcher intends to address this gap by examining the relationship between the use of social media to promote academic activities with the critical thinking capacity of undergraduate nursing students. Determining the presence of a positive, negative, or neutral relationship will also offer good insights to both the nursing educators and

curriculum developers, as well as the students themselves. These results may guide the incorporation of digital forms into the nursing educative process and contribute to the enhancement of approaches that promote critical cognitive skills required in contemporary healthcare delivery.

Methodology

The correlation between the use of social media in academic endeavors and critical thinking capacity of undergraduate nursing students was explored using a descriptive correlational study design. This research was carried out in one or more nursing colleges in Swat, Pakistan.

Target population consisted of the undergraduate nursing students in 2nd, 3rd, and 4th year of Bachelor of Science in Nursing (BSN). The size of a sample, 95% confidence level, and 5% margin of error, was determined to 217 with stratified random sampling, by the Raosoft sample size calculator ensuring each college and academic year were represented.

Data Collection Procedure:

Data were collected using two structured and validated tools. The first tool measured the frequency, nature, and academic intention of using social media. The second tool was the California Critical Thinking Skills Test (CCTST) that gauged the critical thinking skills of the students with their

abilities to interpret, analyze, infer and evaluate. Both of these instruments were tested as to their reliability and clarity by a pilot test before full administration.

Study objectives were explained to the participants, and written consent was obtained. The distribution of the questionnaires was done in dedicated classes during the chosen colleges, and the classes were supervised by the administrators working in groups to achieve consistency and therefore minimize peer pressure.

Data Analysis Procedure:

Data were entered and analyzed using SPSS version 27. Demographic variables and patterns of social media use were summarized using descriptive statistics (frequencies, percentages, means, and standard deviations). Pearson correlation was used to establish the correlation between both academic use of social media and critical thinking scores. The level of significance was less than 0.05.

Results and Analysis

Demographic Characteristics of Nursing Students

The majority of participants were female (68.7%), with males comprising 31.3% of the sample. Most students were in their 4th year (34.6%), followed closely by the 2nd and 3rd years. The predominant age group was 21–23 years (56.2%), while 22.1% were aged 18–20, and 21.7% were 24 years or older. This reflects a balanced distribution across academic years and age groups [Table 1].

Table 1: Demographic Characteristics of Nursing Students (N = 217)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	68	31.3%
	Female	149	68.7%
Academic Year	2nd Year	72	33.2%
	3rd Year	70	32.3%
	4th Year	75	34.6%
Age Group	18–20 years	48	22.1%
	21–23 years	122	56.2%
	24+ years	47	21.7%

Figure 1: Patterns of Social Media Use for Academic Purposes (N = 217)

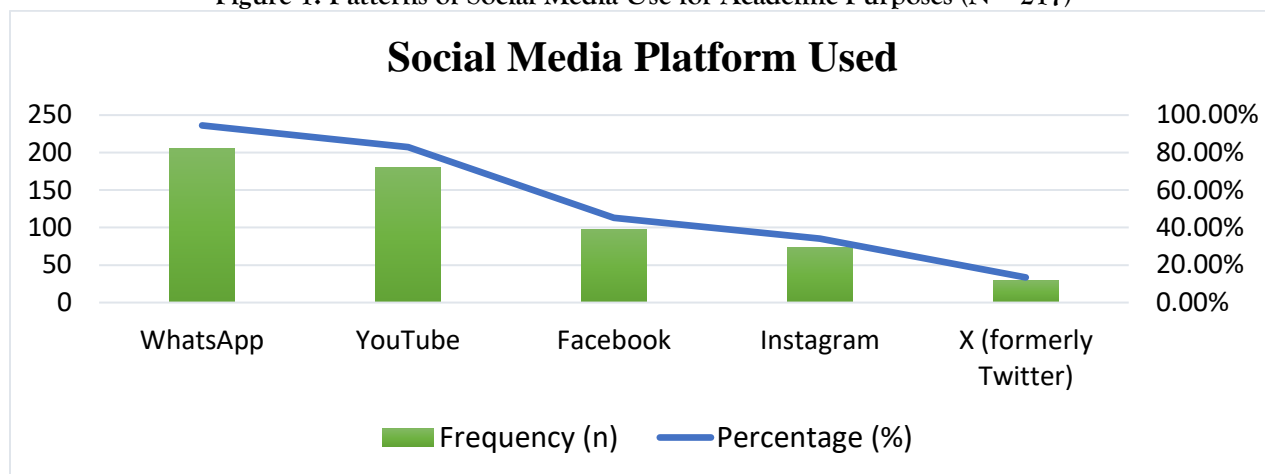


Figure 1 shows that WhatsApp and YouTube were the most preferred platforms for academic use, indicating a strong student preference for messaging and video-sharing tools in learning activities.

Distribution of Critical Thinking Scores (CCTST) Among Students

The majority of nursing students (60.8%) demonstrated a moderate level of critical thinking,

with scores ranging from 15 to 24. High critical thinking ability (scores 25–34) was observed in 21.2% of participants, while 18.0% scored in the low range (0–14). This suggests that most students possess a fair level of critical thinking, though a notable portion still falls below the desired competency [Table 2].

Table 2: Distribution of Critical Thinking Scores (CCTST) Among Students

Critical Thinking Level	Score Range	Frequency (n)	Percentage (%)
Low	0–14	39	18.0%
Moderate	15–24	132	60.8%
High	25–34	46	21.2%

| Mean Score: 20.7 Standard Deviation (SD): 5.4 |

Correlation Between Academic Social Media Use and Critical Thinking Scores

A Pearson correlation analysis revealed a statistically significant positive relationship between academic social media use and critical thinking ability, with a

correlation coefficient of $r = 0.312$ and a p -value of 0.002. This indicates that increased academic use of social media is moderately associated with higher critical thinking scores among undergraduate nursing students [Table 3].

Table 4: Correlation Between Academic Social Media Use and Critical Thinking Scores

Variables	Pearson Correlation (r)	p-value
Academic Social Media Use × CCTST Score	0.312	0.002

Discussion

The current research was conducted to understand the relationship between social media academic application and critical thinking skills among undergraduate nursing students in Swat, Pakistan. The results indicate a moderate positive relationship implying that students who used social media more

frequently and in a meaningful way, relating to academic activities at high frequency and with significant purpose, had higher critical thinking scores. This finding is in line with the emerging literature that defines social media as an aid in developing critical thinking skills in higher education institutions (Alqahtani et al., 2022)

Findings in this study find resonance in those of O'Riordan et al (2021), who found that students who using Twitter to discuss academic materials were more engaged and their critical thinking higher than those who did not. Likewise, Tlili et al (2023), discovered that structured appropriation of WhatsApp in the setting of nursing education enhanced team learning and triggered critical thinking. Social media served as a living, communicative space that prompted students to challenge, cogitate and to express thoughts in both studies and these are fundamental components of critical thinking.

Conversely, other studies also reveal the possible disadvantages of using social media too frequently. An example of this is the conclusion by Halubanza et al. (2023), that students who were heavy Facebook users performed less well in school and that distraction and time displacement were noteworthy issues. Suah (2023), Nevertheless, the present research was conducted only on intentional scholarly use (not recreational browsing), and it is the difference of such a selection that may have led to the divergence. Non-academic versus academic use seems to be an important factor affecting interaction between social media and cognitive skills

The theoretical framework of constructivist learning, according to which knowledge is constructed through interaction, discussion, and reflections, also receives supporting evidence. When purposefully used, social media allows peer-to-peer communication, presentation of various opinions, and engagement, which are all factors that facilitate critical thought development. These results align with the findings of Alismaiel et al. (2022), who stated that digital platforms promote the learning community, which improves nursing students giving them the ability to think reflectively.

It is also notable that WhatsApp and YouTube were the most common platforms facilitating the completion of the melody study since they are convenient and available, besides being regularly incorporated in the academic activities in Pakistani nursing colleges. These results line up with those of Wu et al. (2022), who found that WhatsApp gave the best results in facilitating academic collaboration among students of the health sciences in Malaysia. But although YouTube can help build concepts with

video models, on its own, it may not be interactive enough to help with higher-order thinking unless used with reflective or discussion-based activities.

Although a positive correlation was found between the variables in this research work, the findings further show that a substantial amount of the students did not advance beyond the moderate level of critical thinking (Lee, Chern, & Azmir, 2023). That indicates that although social media can be a helpful resource, it cannot replace systematic instructional strategies that are targeted specifically at critical thinking development, like case-based learning or clinical simulation. According to Zlamal et al. (2022), critical thinking development in nursing demands the confluence of both content knowledge and guided practice and reflection that cannot always be accomplished within social media contexts.

Finally, the results of this research would add to the knowledge of how nursing education could use academic social media to promote cognitive development. The fact that it is positively correlated with the scores associated with critical thinking is an indication of the potential of these platforms in contexts where they are used purposefully (Bielefeldt, 2025). However, instructors ought to be wary and adopt the idea of combining social media with pedagogical practices that foster analysis, reflection, and synthesis. Future research is recommended to focus on longitudinal or experimental formats to determine causality and estimate how platform-specific aspects determine different aspects of critical thinking.

Conclusion

The conclusion of this study revealed that there exists a positive relationship between the academic use of social media and the ability to think critically within undergraduate nursing students in Swat, Pakistan. Higher rates of critical thinking development were shown in students who utilized social media (WhatsApp and YouTube) regularly and intentionally with the purpose of learning. Such results indicate that social media could be a useful aid in the context of establishing the necessary cognitive abilities in nursing education when implemented strategically. However, the study also outlines that social media by itself cannot adequately

support high-level critical thinking; instead, the interaction with digital resources should be accompanied by planned instructional tactics and reflective learning techniques. As such, nursing instructors have been advised to combine the use of academic social media and formal instruction to achieve the optimum of educational value. Limited studies should be pursued to understand how causality works and how particular social media platforms can help improve different aspects of critical thinking.

Recommendations

Integrate Social Media into Teaching Strategies:

Preceptors in nursing can support the process of critical thinking by introducing courses on academic use of social media such as WhatsApp, YouTube, and educational forums during both classroom and clinical practice.

Provide Training on Purposeful Use of Social Media:

Students should be taken through workshops or orientation processes to help them learn how to appropriately use social media in academics and how to prevent reputation distractions associated with other non-academic use of these media.

Develop Platform-Specific Learning Activities:

Formalized discussions, journaling, and a case-based learning may be developed with apps like WhatsApp or Facebook group discussions to promote analytical and evaluative competencies.

Blend Social Media with Formal Critical Thinking Exercises:

The core pedagogical methods, including simulation, problem-based learning, and discussing clinical cases aimed at manipulating critical thinking, should not be substituted by social media, but rather complemented with them.

Monitor and Evaluate Engagement:

Instructors ought to watch the activity of students on academic social sites and assess the effects on the development of cognitive skills by giving relevant feedback and assistance.

Encourage Research and Feedback on Digital Learning Tools:

Institutions are advised to promote further research to determine the efficiency of various social media tools in nursing education and receive student feedback on a constant basis.

Implement Policies for Academic Use of Social Media:

College's ought to establish ethical, productive, and ethical procedures that encourage the use of social media in order to promote effective learning outcomes.

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