

Original Article

## Social Media Use and Anxiety Levels Among Nursing Students in Indonesia: A Cross-Sectional Study



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### ABSTRACT

**Background:** The widespread use of social media among students is associated with increased anxiety levels. In Indonesia, high social media use combined with limited institutional support may heighten students' vulnerability. Although some studies report benefits such as social support and stress relief, evidence suggests negative impacts are more common. Therefore, this study examines the relationship between social media use and anxiety among nursing students.

**Methods:** This study used a cross-sectional correlational design. A purposive sampling method was applied to select active students who use social media for at least three hours per day and were willing to participate, resulting in 57 respondents. Data were collected through an online questionnaire covering social media usage duration, platform types, and content types. Anxiety levels were measured using the validated Generalized Anxiety Disorder-7 (GAD-7) instrument and categorized into low ( $\leq 9$ ) and high ( $\geq 10$ ) anxiety. Data were analyzed using the Chi-Square test with Odds Ratios (OR) and 95% Confidence Intervals (CI) at a significance level of  $p < 0.05$ .

**Results:** A significant relationship was found between social media usage duration and anxiety levels ( $p = 0.022$ ). Students who utilized social media for less than three hours per day had a lower likelihood of experiencing high anxiety (OR = 0.254; 95% CI: 0.08–0.79). The type of platform was also significantly associated with anxiety ( $p = 0.038$ ), where Instagram and WhatsApp users exhibited a greater proportion of high anxiety compared to TikTok users. Content type further demonstrated a meaningful relationship ( $p = 0.032$ ); educational content was associated with a higher proportion of low anxiety compared to entertainment and informational content.

**Conclusion:** The use of social media among nursing students is related to anxiety dynamics influenced by usage duration, platform characteristics, and content types. These findings underscore the importance of a promotive approach based on digital capabilities and anxiety level screening within higher education settings to support students' psychological well-being.

**Keywords:** Social Media; Anxiety Level; Nursing Student; Cross-Sectional Studies; Education

## Implications for Practice:

- Educational institutions should develop evidence-based guidelines on healthy social media use, including recommendations to limit usage to less than three hours per day, and integrate these guidelines into student orientation and health promotion programs to strengthen adaptive digital competencies.
- Universities should implement periodic screening for digital-related anxiety using validated tools such as the GAD-7, combined with assessment of social media usage patterns to identify early risk indicators and support responsive campus counselling services.
- Contextual educational interventions focusing on self-regulation, screen time management, and critical engagement with digital content should be delivered through workshops, digital wellness campaigns, and peer support programs that are feasible within the resource constraints of educational institutions in Indonesia.

## Introduction

The advancement of technology has eliminated the internet access barriers previously experienced by students, thereby enabling them to connect with the outside world more easily. In many universities, free Wi-Fi facilities have now become commonplace, allowing students to access information at any time. Consequently, the ease of access to various social media platforms is highly beneficial, such as Instagram, which facilitates the sharing of photos and videos for self-expression. Therefore, social media serves not only as a communication tool but also as a means of demonstrating individual identity.

In recent years, the use of social media among Indonesian students has seen a significant increase. According to data from the [Digital 2023 Global Overview Report](#), the global population of social media users has reached 59.4%, while in Indonesia, more than 60.4% of the population engages with these platforms, with Instagram, Facebook, and TikTok being the most

popular. This is supported by a survey from the Indonesian Internet Service Providers Association ([APIII, 2024](#)), which indicates that approximately 95% of active students utilize these platforms. This increase is evident in the frequency and duration of use—averaging 3-4 hours per day—alongside technological advancements. In Indonesia, classified as a Lower-Middle Income Country (LMIC), the impact of social media usage on anxiety presents additional complexities compared to High-Income Countries (HIC). The primary difference lies in the readiness of support systems. Developed nations typically possess more stable digital infrastructure, the integration of digital competencies in their education systems, and more structured campus mental health services. Conversely, in developing countries or Low- and Middle-Income Countries (LMICs), including Indonesia, high social media penetration does not always correlate with adequate mental health service readiness ([Patel et al., 2018](#)). Access to anxiety-related services in higher education institutions remains limited, psychological screening is not systematic, and anxiety literacy is unevenly distributed, compounded by pressures stemming from low socio-economic backgrounds, inadequate school preparation, and the high stakes of failure that have economic and social repercussions for students and their families ([Evans-Lacko & Thornicroft, 2019](#)). Consequently, intensive social media usage may exacerbate existing academic and social pressures, rendering social media a stress amplification factor while simultaneously hindering the disclosure of anxiety issues due to a lack of confidential support.

Social media provides opportunities for interaction, information sharing, and the building of broader social networks, thus becoming an integral part of students' daily lives that can influence various aspects,

including their levels of anxiety. Although it offers various advantages, social media also has a negative side, particularly regarding its impact on students' anxiety levels—an essential transitional phase from adolescence to adulthood. Optimal anxiety levels support quality of life and high productivity; however, many students experience anxiety and depression due to academic and social burdens. Research by [Budury et al.](#) (2019) indicates that approximately 30% of students exhibit significant depressive symptoms, adversely affecting academic performance and social relationships. Excessive social media usage often triggers this through social comparison, cyberbullying, and self-dissatisfaction, even though it can also provide emotional support. Studies by [Nayla](#) (2024) and [Fitria and Ratnawati](#) (2023) confirm both its positive and negative effects, wherein exposure to ideal content can create a cycle of pressure to appear perfect

This research encompasses various prior studies that demonstrate a significant relationship between social media usage and anxiety levels. Several studies indicate that increased time spent on social media may contribute to heightened anxiety and depression among users. Excessive social media usage can lead to anxiety and feelings of inadequacy. Students who frequently compare themselves to peers who appear more successful or happier on social media may feel dissatisfied with their own lives. This can create a negative cycle that pressures students to always present themselves perfectly to others. On the other hand, social media can serve as a means to gain social support and share experiences, which can enhance emotional well-being. However, excessive social media use can also result in detrimental social comparisons and self-dissatisfaction. By considering the various factors that influence this relationship, we can better

understand the positive and negative impacts of social media. It is hoped that the findings of this research will provide useful recommendations, such as guidelines for wise usage, for students and university authorities in utilizing social media. Through a more conscious and informed approach, students can leverage social media as a tool that supports their psychological well-being rather than a source of detrimental stress.

The use of social media (duration/platform/type of content) has become an inseparable part of students' lives. This medium plays a crucial role in identity formation, social interaction, and information access. While it offers benefits such as expanding social networks and emotional support, the increasing intensity of its use is also increasingly associated with anxiety issues, particularly anxiety. Most empirical evidence regarding this relationship originates from high-income countries, which possess relatively established anxiety support systems and digital capabilities. However, in the context of low- and middle-income countries like Indonesia, excessive social media use occurs amid limited anxiety resources—such as inadequate healthcare facilities and slow government responses—alongside high academic pressures ([Tarnoto et al.](#), 2023). As a result, the implications for student anxiety, particularly among nursing students, are potentially more complex, multifactorial, and require in-depth contextual study.

Theoretically, the relationship between social media use and anxiety can be explained through Social Comparison Theory. This theory posits that individuals evaluate themselves by comparing themselves to others, particularly in environments rich in ideal representations such as social media. Exposure to visual content depicting idealized lives can potentially trigger upward social

comparisons and increase vulnerability to anxiety ([Akbar & Hakim, 2024](#); [Sitanggang et al., 2025](#)). Additionally, the Stress-Coping Theory views social media as a psychosocial stressor. Here, the demands for rapid response, information overload, and pressures of digital interaction can elevate stress when an individual's coping capacity is limited ([Huang et al., 2022](#)). Both theoretical frameworks are relevant in explaining how the duration of use, platform characteristics, and types of social media content contribute to increased anxiety.

Empirically, research in Indonesia indicates that the relationship is not always linear; high intensity is associated with clinically higher anxiety, triggered by social comparison and inaccurate information. Nursing students are a particularly vulnerable group to these impacts. They are in the early adult transition phase, facing academic burdens, clinical practice demands, and high professional expectations. Although several studies in Indonesia have reported a relationship between social media use and student anxiety, most remain descriptive. These studies have yet to explicitly integrate psychosocial theoretical frameworks and rarely explore differences in social media use characteristics within vocational education contexts. Furthermore, empirical evidence linking findings to practical implications for nursing and promoting student anxiety remains limited. Therefore, this study aims to analyze the relationship between the duration of use, type of platform, and type of social media content with the anxiety levels of nursing students. The results are expected to serve as a foundation for developing contextual, measurable, and relevant digital competence-based anxiety interventions in the realities of higher education in Indonesia.

Moreover, empirical findings in Indonesia indicate that students with social media usage intensity of 2-4 hours per day are at a higher risk of experiencing anxiety disorders, such as anxiety, depression, and stress. This risk is often triggered by the habit of comparing oneself with other users' posts ([Sa'diyah et al., 2022](#)). This condition is exacerbated by exposure to inaccurate information, which can lead to confusion and increased psychological stress. As a counter-argument, some studies have found that the relationship is not always statistically significant. Although clinically, high-intensity groups show higher anxiety, social media use can also reduce anxiety through entertaining content such as videos on TikTok or YouTube that provide relief after studying ([Marhaen & Evi, 2023](#)).

## Methods

### Study Design

This study employs a correlational analytical approach with a cross-sectional research design to evaluate the impact of social media usage on the anxiety levels of students at Faletihan University. This approach has been selected as it provides a clear and measurable understanding of the phenomenon under investigation. In this research, the variables measured include the frequency of social media use (hours per day), the types of social media utilized (Instagram, TikTok, WhatsApp), the purposes of social media use (communication, entertainment, information, etc.), and the perceived impact on students' anxiety levels.

### Participants

This research was conducted in Indonesia, targeting the entire population of active students enrolled in the D3 Nursing Study Program at Faletihan University, located in the Banten Province of Indonesia, for the academic year 2023–2025. According to official data from the

University's Student Affairs Bureau, the accessible population consists of 224 students.

The sample determination was carried out using purposive sampling techniques, taking into account the analytical objectives of the study as well as operational constraints in the field. Inclusion criteria encompassed active students who utilize social media for a minimum of three hours per day and who are willing to participate voluntarily in this research. Exclusion criteria included respondents who did not complete the questionnaire in its entirety. Based on these criteria, a total sample of 57 respondents was obtained who met the requirements and were subsequently analyzed further. From the total population invited, 57 students returned the completed questionnaire, resulting in an effective response rate of 25.4%. There was no attrition or data loss during the analysis phase, as only data from respondents with fully completed questionnaires were included in the statistical analysis process.

### Instruments

The instrument utilized in this research for data collection is a questionnaire. This questionnaire is designed with both closed and open-ended questions aimed at measuring the variables of social media usage and the level of anxiety among students. The first section of the questionnaire encompasses demographic questions, such as age, gender, and field of study. Meanwhile, the second section focuses on the frequency of social media usage (hours per day), types of social media employed (Instagram, TikTok, WhatsApp), purposes of social media usage (communication, entertainment, information, etc.), as well as the perceived impact on students' anxiety levels. The data collection procedure is carried out through several steps, wherein the researcher seeks permission from the university authorities

to conduct the research within the campus environment. Upon obtaining permission, the researcher will conduct an orientation for students regarding the research objectives and the importance of their participation. Subsequently, the researcher will distribute the questionnaire online via survey platforms, such as Google Forms, to facilitate respondents in completing the questionnaire. Data collection will occur over a two-week period in December 2024, and the researcher will monitor incoming responses to ensure the anticipated number of respondents is achieved.

The research instrument comprises two main parts, namely the social media usage characteristics questionnaire and the anxiety measurement instrument. Anxiety levels are assessed using the Generalized Anxiety Disorder-7 (GAD-7), which is a widely validated anxiety screening tool frequently employed in student populations ([Hammad & Awed, 2023](#); [Spitzer et al., 2006](#)). This scale consists of seven items with response options based on a four-point Likert scale (0 = not at all, 1 = several days, 2 = more than half the days, 3 = nearly every day), with a total score range of 0–21. Anxiety level categories are established based on standard cut-off points: scores of 0–4 (none/normal), 5–9 (mild anxiety), 10–14 (moderate anxiety), and 15–21 (severe anxiety). In this study, for bivariate analysis, anxiety scores are subsequently categorized into two groups, namely low anxiety (score  $\leq 9$ ) and high anxiety (score  $\geq 10$ ).

The internal reliability test indicates a satisfactory Cronbach's alpha value ( $>0.80$ ), signifying good internal consistency of the instrument within the research population. The validity and reliability of the instrument have been tested before the main analysis and are supported by the validity-reliability data processing file. In addition to the GAD-7, the social media usage questionnaire has been systematically developed to measure usage duration (hours per day), the

dominant platforms used, and the types of content most frequently accessed. All instruments are collected through an online questionnaire (Google Forms) that respondents fill out independently after providing informed consent. The online administration mode is selected to enhance accessibility, maintain respondent anonymity, and minimize social bias, in accordance with the reporting recommendations for observational studies outlined in the STROBE guidelines. Data is analyzed using the Chi-Square hypothesis test and is deemed significant at a p-value of  $<0.05$ . All data is collected via Google Forms, which is then transferred and processed using SPSS Software. The prevalence ratio is calculated using Microsoft Excel.

### Data Collection

Data collection was conducted using a highly systematic and standardized approach, adhering to the STROBE guidelines to minimize information bias and ensure optimal data quality. Before the commencement of data collection, the principal investigator provided comprehensive technical training to the enumerators. This training encompassed various critical aspects, such as the research objectives, ethical procedures, inclusion and exclusion criteria, as well as the protocols for the distribution and supervision of the online questionnaire completion. This training aimed to ensure procedural uniformity, reduce variability among enumerators, and enhance reliability in the data collection process. Data were collected using an online questionnaire based on Google Forms through a self-administered questionnaire method during the period of December 2024.

As part of the data quality assurance efforts, the instruments underwent a series of rigorous validity and reliability tests before their utilization. All primary items within the questionnaire were configured

with mandatory response features to prevent incomplete submissions. Throughout the data collection period, the researchers actively monitored responses to identify potential filling errors, inconsistencies in answers, and response duplications. Upon the completion of the data collection process, systematic data cleaning was conducted, which included checks for data completeness, range value appropriateness, and logical consistency among variables.

Strategies for handling incomplete data were established from the planning stage of the research. Responses with incomplete questionnaire submissions were automatically excluded from the final analysis in accordance with the predetermined exclusion criteria. By implementing this mechanism, no missing data were identified in the final dataset that was analyzed. All data analyzed originated from respondents who provided complete and valid submissions, thereby ensuring the accuracy of statistical inferences and transparency in the reporting of research findings.

### Data Analysis

Data analysis was conducted using software, specifically the Statistical Package for the Social Sciences (SPSS) version 26.0. In this study, descriptive analysis was meticulously applied to illustrate the characteristics of respondents through a comprehensive distribution of frequency and percentage for all relevant categorical variables. Before engaging in inferential analysis, the dataset underwent a stringent data quality checking process, encompassing a thorough evaluation of data completeness, the appropriateness of value ranges, consistency of variable categorization, as well as the identification of potential input errors or response duplications that could compromise the results of the analysis.

The relationship between the variables of social media usage—including duration of use, type of platform, and type of content—was analyzed using the Chi-Square test. This test was selected due to the categorical nature of all the variables under investigation. Before the execution of the test, statistical assumptions were carefully examined, including the independence of observations and the adequacy of expected frequencies (expected count  $\geq 5$  in at least 80% of the cells in the contingency table). In instances where there were violations of these assumptions, particularly in cells with an expected count  $< 5$ , the analysis would be supplemented with Fisher's Exact Test to ensure that the statistical inferences drawn remained valid and reliable.

The magnitude of association between the variables was calculated using the Odds Ratio (OR) with a 95% Confidence Interval (CI). The OR was computed based on a  $2 \times 2$  contingency table to compare the likelihood of experiencing high anxiety in the exposed group against the reference group. Interpretation of the OR values was conducted with care: an OR  $> 1$  indicates an increased risk (risk factor), an OR  $< 1$  suggests a protective effect, while an OR = 1 denotes the absence of a significant association. A 95% confidence interval was employed to assess the precision of the obtained estimates; if the 95% CI did not cross the value of 1, the association was deemed statistically significant. The significance level was set at  $p < 0.05$  with a confidence level of 95%. The results of this analysis are anticipated to provide a clear depiction of the extent to which social media usage influences the anxiety levels of students at Faletehan University.

### Ethical Considerations

This research has received valid ethical approval from the Research Ethics Committee of Faletehan University, as indicated by the issuance of the Ethical

Worthiness Letter (EWL) digiTEPP with the number 002458/Faletehan University/2025. All research procedures were conducted rigorously in accordance with the ethical principles of research as stipulated in the Declaration of Helsinki (World Medical Association), which encompasses respect for individual autonomy, the principle of beneficence, non-maleficence, and justice.

Before completing the questionnaire, each prospective respondent was provided with an explanatory sheet regarding the research in digital format. This document included the research objectives, participation procedures, potential risks and benefits, assurances of data confidentiality, as well as the respondents' rights to decline or withdraw their participation at any time without any academic consequences. The consent process was conducted through an electronic informed consent mechanism, whereby respondents were actively requested to tick a statement of agreement before proceeding to complete the questionnaire. Participation in this study was entirely voluntary and was systematically recorded within the online survey system.

It is important to note that this research does not collect personally identifiable information; the data obtained is anonymous. All data is stored in a cloud storage system protected by a password and two-factor authentication, with access strictly limited to the principal researcher. The data collected is used solely for scientific purposes and will not be shared with any third parties. This procedure has been meticulously designed to ensure maximum protection of the privacy and rights of participants, in accordance with applicable research ethical standards.

## Results

**Table 1.** Distribution of Respondent Characteristics

Characteristic	Category	n(%)
Gender	Men	21 (42,9%)
	Women	36 (57,1%)
Age	18	3 (5%)
	20	34 (60%)
	21	14 (25%)
	22	6 (10%)
Duration	< 3 hours	26 (45,6%)
	> 3 hours	31 (54,4%)
Social media	Instagram	39 (68,4%)
	Tiktok	15 (26,3%)
	Whatsapp	3 (5,3%)
Content types	Entertainment	20 (35,1%)
	Information	31 (54,4%)
	Education	6 (10,5%)
Total		57(100)

This research involved a total of 57 students, with the majority of respondents being female and aged 20 years. More than half of the respondents spend over three hours per day using social media. Instagram emerged as the most dominant platform in terms of usage, whilst informational content was the type of content most frequently accessed (**Table 1**).

The demographic data provides a comprehensive overview of the respondents' characteristics. This comparison indicates that the level of social media usage is higher among female students compared to their male counterparts, which aligns with the findings of [Oktavilia and Marahayu \(2021\)](#), who stated that women tend to be more active in sharing emotions and experiences through social media. These findings confirm that

the research targets a younger generation that intensively engages with social media, consistent with the studies by [Deprizon et al. \(2024\)](#), which assert that students within this age range exhibit a high frequency of social media use, particularly for social interaction and learning purposes.

Furthermore, the analysis of the duration of social media usage not only reflects habitual patterns but also the mechanisms by which individuals connect with the outside world through various types of content. The spending of over three hours may be influenced by factors such as the need for interaction with friends and family, access to current information, and the pursuit of entertainment.

The dominance of Instagram as the primary platform reflects a preference for visual content and dynamic interaction. Features such as Stories, IGTV, and Reels facilitate the sharing of daily moments in an engaging and easily digestible format. Meanwhile, TikTok, despite its lower usage, stands out with entertaining short video content, allowing for creative expression through musical elements and innovative visual effects.

Overall, the preference for types of content illustrates users' tendencies to seek relevant and up-to-date information. Amidst the ease of access to information today, content that provides new insights predominates, although entertainment content continues to play a significant role. This phenomenon indicates a pattern of social media usage that is increasingly critical and selective.

**Table 2.** The relationship between exposure variables and anxiety levels

Variable	Anxiety Level	n (%)	Total (n)	OR	95% CI	P-value			
<b>Duration</b>									
< 3 hours	Low	5 (19,2%)	26	0.254	0.08-0.79	0.022			
	High	21 (80,8%)							
> 3 hours	Low	15 (48,4%)	31						
	High	16 (51,6%)							
<b>Social Media</b>									
Instagram	Low	11 (28,2%)	39						
	High	28 (71,8%)							
TikTok	Low	9 (60%)	15	-	-	0.038			
	High	6 (40%)							
Whatsapp	Low	0 (0%)	3						
	High	3 (100%)							
<b>Content types</b>									
Entertainment	Low	6 (30%)	20						
	High	14 (70%)							
Information	Low	9 (29%)	31	-	-	0.032			
	High	22 (71%)							
Education	Low	5 (83,3%)	6						
	High	1 (16,7%)							

Bivariate analysis indicates a significant association between the duration of social media usage and levels of anxiety. Students who engage in social media for less than three hours per day exhibit an odds ratio of experiencing high anxiety of 0.254 times compared to those who use it for more than three hours daily. This odds ratio, being below 1, reflects a protective effect, with a reduction in odds of 74.6%. Given that the 95% confidence interval does not cross the value of 1, this relationship is statistically significant and possesses adequate estimation (**Table 2**).

In addition to duration, the type of social media platform also demonstrates a significant correlation with anxiety levels. The highest proportion of high anxiety is found among users of Instagram and WhatsApp, while TikTok users exhibit a lower proportion. These findings illustrate that Instagram, with its often unrealized visual representations of an idealized life, has the potential to exacerbate dissatisfaction and social comparison. Conversely, TikTok, with its entertaining short video format, tends to have a more positive impact on anxiety levels compared

to Instagram. Although the majority of TikTok users experience low anxiety, the proportion of those with high anxiety remains significant. Users of WhatsApp, on the other hand, all display high anxiety, likely due to the platform's more personal and direct nature, which may exacerbate emotional stress.

Furthermore, the type of content consumed is also meaningfully related to anxiety levels. Respondents who access entertainment and information content exhibit a higher proportion of high anxiety compared to those consuming educational content, where 83.3% of respondents fall within the low anxiety category. Entertainment content can trigger anxiety through self-comparison mechanisms, while information content—particularly negative news or heavy social issues—often induces concern. In contrast, educational content that is constructive and informative tends to exert a positive influence on anxiety levels.

Overall, the duration of social media usage exhibits the strongest association with anxiety, as evidenced by the odds ratio effect size and the 95% confidence interval.

The details of the relationship between exposure variables and anxiety levels are presented in **Table 2**.

## Discussion

### *The Use of Social Media Based on Gender and Age*

The dominance of female respondents in this study provides profound insights into the dynamics of social media usage within the context of nursing. This reflects the demographic composition of the D3 Nursing Study Program and indicates a pattern whereby women are more active in utilizing social media for social and emotional purposes compared to men. Research by [Hilty et al. \(2023\)](#) underscores that women tend to use digital platforms to share experiences and seek support. The findings of this study align with previous research regarding demographic characteristics and the psychological impacts of social media on students. The greater ratio of females mirrors similar patterns in other studies, where female dominance ranges from 67.8% to 74.4%. This suggests that women in academic environments tend to exhibit higher social media engagement, which correlates with the use of digital platforms for sharing emotions and seeking social support.

The heterogeneity of age within the sample, peaking at 20 years (60%), indicates that respondents are in a productive phase characterized by high activity levels. [Sa'diyah et al. \(2022\)](#) assert that a more intensive pattern of social media usage correlates with a significant level of anxiety. The study reveals that 65.4% of students with high social media usage experience anxiety. The age range of 18–24 years, which dominates the sample, represents a critical transitional period from late adolescence to early adulthood. [Mukaromah et al. \(2022\)](#) elucidate that during this phase, individuals seek self-identity and construct social identities

through digital interactions. This underscores the importance of this age group, as individuals tend to explore various aspects of their lives online.

Furthermore, the age distribution of respondents, predominantly comprising young adults, reflects the demographic characteristics of students in Indonesia. The 21-year age group constitutes the largest cohort of social media users, as they are in a productive age bracket with high activity levels. The intensive use of social media among students, particularly within this age group, poses a potential increase in anxiety risk. This indicates that young adults, who are constructing their identities through digital interactions, may be exposed to negative psychological impacts.

Gender differences in social media usage and their effects on anxiety levels have been extensively documented. A review indicates that the association between screen time and indicators of anxiety levels, such as depression and anxiety, is stronger among females than males. This reinforces the notion that females are more inclined to utilize social media for social and emotional purposes, whereas males predominantly use it for informational objectives. This research provides a clear insight into the significance of understanding gender differences within the context of social media usage and its impact on students' anxiety levels.

### *The Use of Social Media Based on Duration*

The intensive use of social media can disrupt daily routines, such as sleep quality and direct social interactions. Consequently, students who spend excessive time in front of screens miss opportunities to engage in activities that could alleviate anxiety, such as exercising or socializing with friends. Furthermore, the inundation of information from social media often leads to mental strain, while algorithms prioritizing sensational content exacerbate the

situation by repeatedly showcasing negative news. The findings of this research indicate that the duration of social media use has the strongest association with anxiety levels among nursing students. Theoretically, this relationship can be explained through Social Comparison Theory, in which individuals evaluate themselves through social comparisons, particularly in a digital environment that presents curated and idealized representations of life (Zhao & Bai, 2024).

Research by [Hasbi Adityaputra and Salma](#) (2022) reinforces these findings, demonstrating that psychology students who spend more time on social media tend to experience higher levels of anxiety symptoms and lower life satisfaction. This excessive use also disrupts sleep patterns, leading to fatigue, decreased concentration, and increased anxiety. Their analysis reveals a significant positive correlation between the frequency of social media use and anxiety levels.

Visual-based platforms such as Instagram reinforce the mechanism of upward social comparison, which can potentially heighten self-dissatisfaction and anxiety, particularly among students in the phase of professional identity formation. This social comparison mechanism is exacerbated by the need for external validation through digital interactions, contributing to increased anxiety levels. Additionally, the pressure to project an ideal self-image online and psychological dependence on social media access have also been identified as significant triggers of anxiety symptoms ([Sitanggang et al.](#), 2025).

Social comparison serves as an important mediator in the relationship between social networking behavior and the onset of anxiety, where passive social media use more strongly predicts increased anxiety compared to active use. This passive engagement encourages individuals to continuously monitor and compare

themselves with the achievements of others without any real interaction, thereby triggering feelings of inadequacy and social anxiety ([Akbar & Hakim](#), 2024). The psychological consequences of this social comparison are complex and often negative, as frequent comparisons with others have been linked to heightened feelings of envy, low self-esteem, and anxiety.

Additionally, according to the Stress-Coping Model, exposure to repeated notifications, demands for rapid responses, and information overload can become chronic psychosocial stressors when an individual's coping capacity is limited, as the coping process relies on adaptive appraisal influenced by internal factors such as problem-solving skills and external factors like stressor uncertainty ([Fachrunisa & Saptandari](#), 2023). These findings not only demonstrate statistical associations but also reveal the underlying psychological mechanisms, wherein continuous appraisal-reappraisal determines effective coping strategies.

Therefore, students must manage their social media usage more effectively, for instance, by setting time limits through tracking applications and break reminders. They are also encouraged to engage more in offline activities such as sports or hobbies to enhance their mental well-being. Research by [Awalia et al.](#) (2022) emphasizes the role of self-regulation, including emotional and behavioral control, in reducing social media addiction. Students with good self-regulation are likely to avoid negative impacts such as mental strain and anxiety. Social support from peers or sharing positive experiences also fosters a sense of belonging. Thus, education on wise social media usage and the recognition of bullying signs is essential to promote the mental well-being of students.

*The Use of Social Media Based on the Type of Social Media Utilized*

The analysis conducted based on social media platforms reveals striking differences in the levels of anxiety experienced by users of Instagram, TikTok, and WhatsApp. These findings align with the research conducted by [Ramdhany and Hakim \(2024\)](#), indicating that visually-focused social media interfaces, such as Instagram, can exacerbate social anxiety and foster negative body image. This platform frequently showcases a meticulously curated idealized life, triggering social comparisons wherein users feel discontented when juxtaposing themselves against such images—for instance, viewing a friend's luxurious holiday photo can evoke feelings of inadequacy. The differing characteristics among these platforms underscore that social media is not a homogeneous entity. Consistent empirical evidence suggests that Instagram reinforces social evaluation through public validation and emotional contagion, whereas TikTok provides short-term adaptive distraction via its addictive rapid content algorithms.

Nevertheless, the study by [Fachrunisa and Saptandari \(2023\)](#), posits that these effects are not invariably negative: emotional contagion on Instagram can disseminate positive support, and TikTok's algorithms may enhance well-being through light-hearted entertainment for users with adequate coping capacities. This data further emphasizes that Instagram, with its unrealistic visualizations, has the potential to disrupt long-term mental well-being, particularly among vulnerable youth. Conversely, the research by [Marhaen and Evi \(2023\)](#), indicates that exposure to relaxing short TikTok videos tends to reduce anxiety, although high usage intensity remains a risk for certain users. A stark contrast is evident in WhatsApp, where all respondents reported high levels of anxiety due to the pressures of real-time communication and the expectation of

instant responses. The phenomenon of fear of missing out exacerbates this, leading to mental fatigue as users feel compelled to remain perpetually connected. The psychological differences between Instagram and TikTok illustrate the role of algorithms in user experience. Instagram is often critiqued for promoting upward social comparisons, whereas TikTok, with its entertaining content, fosters a distinct sense of community. Although TikTok also harbors addiction risks, its dynamic format may engender a greater sense of engagement and enjoyment among users. Overall, these psychological dynamics highlight the roles of algorithms and content types: Instagram promotes upward social comparison, while TikTok cultivates a communal feeling through dynamic entertainment. The discrepancies in these findings, including the unique contrast of WhatsApp with its pressurizing personal communication, align with contemporary academic discourse regarding the impact of platform characteristics on mental well-being ([Özer & Guzel, 2023](#)). Therefore, users and policymakers must comprehend these differences to manage digital experiences better, create a healthy online environment, and prioritize awareness of the potential negative impacts of social media on anxiety levels.

#### *The Use of Social Media Based on Social Media Content*

While social media serves as a means of communication, it can also become a source of mental and social pressure. Social media, despite offering convenience, often acts as a platform for individuals to compare themselves with others. For instance, students who view images of their friends' luxurious holidays may experience anxiety and dissatisfaction with their own lives. Research conducted by [Budury et al. \(2020\)](#) revealed that during the COVID-19 pandemic, students experienced a

significant increase in anxiety, with approximately 40% of respondents reporting that interactions on social media exacerbated their mental health conditions. The visual content frequently presented on platforms such as Instagram and TikTok plays a crucial role, where students exposed to portrayals of an ideal life—such as extravagant holidays and academic achievements—feel pressured and compelled to compare themselves. This phenomenon of "social comparison" creates unrealistic standards that contribute to self-discontent. Research by [Nawafi et al. \(2024\)](#) and [Gunawan et al. \(2021\)](#) found that students who are more active on Instagram tend to experience anxiety disorders due to constant social comparison. [Akbar and Hakim \(2024\)](#) further added that social comparison on social media can lead to heightened social anxiety, where students feel inadequate compared to their peers who post happy moments.

Similarly, educational content demonstrates a far stronger protective tendency compared to entertainment and informational content, which can significantly increase emotional activation through mechanisms such as emotional contagion and information overload. Thus, there is a pressing need for targeted and platform-specific interventions to optimally mitigate risks. Conversely, counterarguments assert that entertainment content can serve as an effective distraction to alleviate acute stress temporarily, and information overload can be harnessed to build resilience if accompanied by strong digital skills—particularly in the context of developing countries like Indonesia, where socio-economic factors are more dominant ([Evans-Lacko & Thornicroft, 2019](#)). The importance of this approach is supported by the fact that unbalanced social media use significantly impacts well-being.

However, not all social media usage has negative effects; the purpose and manner of its use are pivotal in determining its impact on anxiety levels. A more in-depth study reveals that the motivations behind using dating applications on social media can contribute to students' anxiety levels. This research indicates that students who use these platforms to seek healthy relationships tend to have lower anxiety levels compared to those who use them to cope with emotional emptiness. For instance, a student who utilizes a dating application to find a partner aligned with their values and life goals feels more satisfied and happier. Conversely, those who seek merely entertainment or distraction from emotional issues often experience disappointment and frustration, which in turn exacerbates anxiety.

### **Implications and limitations**

Conceptually, this research reinforces the Social Comparison Theory and Stress-Coping Model by demonstrating that social media usage is related not only to the intensity of exposure but also to the characteristics of the platform and the type of content that shapes the psychological mechanisms of anxiety among nursing students. The primary theoretical contribution of this study lies in its integration of the context of lower-middle-income countries (LMIC), where limitations in anxiety services, academic pressure, and uneven digital competence can amplify the psychosocial impacts of social media. Thus, this study broadens the understanding of the dynamics of anxiety levels among students in the Indonesian higher education context, which faces structural challenges distinct from those in high-income countries.

However, this study possesses methodological limitations that warrant consideration. The cross-sectional design restricts causal interpretation, while the use

of self-reported instruments may introduce perception bias and social desirability bias. The sample drawn from a single educational institution also limits the generalizability of the findings to a broader student population. Additionally, external factors such as family support, socio-economic conditions, and previous levels of anxiety were not analyzed in depth, suggesting the possibility of confounding variables that have not been fully controlled.

### Relevance to Practice

The findings of this research underscore the necessity for systematic institutional responses to social media usage among nursing students. Educational institutions should integrate education on digital self-regulation into the curriculum, encompassing an understanding of social comparison mechanisms, management of usage duration, and adaptive content curation. Educators can incorporate reflective discussions regarding students' digital experiences into learning, enabling students to recognize the psychological impacts of social media usage critically. Furthermore, campuses are advised to develop student well-being screening systems that consider digital habits as early risk indicators, as well as to enhance counselling services that are sensitive to social pressures stemming from online media. Peer support program and internal campaigns regarding digital well-being could also serve as realistic preventive strategies within higher education environments. This approach positions educational institutions as active actors in fostering an academic environment that supports anxiety levels in the digital age.

### Conclusion

This research indicates that social media usage among nursing students is associated with anxiety dynamics through psychosocial mechanisms influenced by

usage duration, platform characteristics, and the type of content consumed. In the context of higher education in Indonesia, social media functions not merely as an individual habit but also as a digital social environment that can exacerbate social comparison and academic pressure, particularly amidst limitations in institutional anxiety support. Despite the existing methodological limitations, these findings provide significant conceptual contributions to the development of promotional strategies and the enhancement of student self-regulation. Future research with longitudinal designs and multi-institutional scopes is necessary to deepen the understanding of long-term dynamics, identify protective factors and adaptive mechanisms, and support the development of more contextual, preventive, and sustainable interventions in nursing education environments.

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### CrediT Authorship Contributions Statement

**Dwi Agung Riyanto:** Conceptualization, Methodology, Supervision, Writing - Original Draft

**Fifi Musfirowati:** Software, Validation, Formal Analysis, Writing - Review & Editing

**Ernawati:** Investigation, Resources, Data Curation, Project Administration, Funding Acquisition

**Rina Sumartini:** Writing - Original Draft, Review & Editing, Visualization, Funding Acquisition

**Mulyati:** Data Analysis, Visualization, Validation, Writing - Review and Editing

**Achmad Machron Ch:** Methodology Support, Data Interpretation, Literature Review, Writing - Review and Editing

## Conflicts of Interest

There is no conflict of interest.

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## Supplementary Materials

Supplementary File S1: Research Instrument contains the full questionnaire used for data collection.

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