Vietnam Journal of Community Medicine, Vol. 66, English version, 114-119

STRESS ASSOCIATED NEGLECT AND NEGATIVE REACTIONS ON SOCIAL MEDIA AMONG FIRST-YEAR MEDICAL DOCTOR STUDENTS IN 2024

Bui Phuong Hoa[1], Nguyen Hoang Yen[1], Nguyen Thi Van Anh[1*], Trinh Viet Long[1], Nguyen Hoang Long[2], Hoang Thi Ngoc Anh[2]

[1]*Phenikaa University - Nguyen Trac Street, Yen Nghia Ward, Ha Dong Dist, Hanoi City, Vietnam*
[2]*Faculty of Public Health, Phenikaa University - Nguyen Trac Street, Yen Nghia Ward, Ha Dong Dist, Hanoi City, Vietnam*

Received: 16/04/2025
Revised: 15/05/2025; Accepted: 21/06/2025

ABSTRACT

Objective: To explore the social media-related stress levels and to analyze the associated factors among first-year medical students at Phenikaa University.

Methods: The cross-sectional study included 219 first-year students enrolled in a six-year program in Medicine, Dentistry, or Traditional Medicine at Phenikaa University, Hanoi, Vietnam. A structured questionnaire was used, covering three domains: socio-demographic information, health risk behaviors, and social media-related stress. Univariate and multivariate linear regression analyses were conducted to explore the associations between social media-related stress scores and covariates.

Results: The median stress score was 8 (interquartile range [IQR]: 4–12) for social media neglect and 12 (IQR: 6–13) for negative reactions on social media. Students who smoked had significantly higher scores of stress related to neglect (by 4.5 points) and stress related to negative reactions (by 4.7 points) compared to non-smoking students. Additionally, students who used social media for more than two hours before sleep reported higher stress scores, while those who studied for at least two hours per day had significantly lower stress scores from neglect.

Conclusions: Stress related to social media neglect and negative reactions was more prevalent among first-year medical students at Phenikaa University who smoked or spent over two hours on social media before bedtime. Conversely, students who dedicated more time to self-study experienced lower levels of stress from neglect. These findings highlight the importance of promoting healthier lifestyle choices and academic habits among first-year medical students.

Keywords: Social media, stress neglect, stress negative, undergraduate students, Phenikaa University .

1. INTRODUCTION

In 2025, about one-third of the global population engages with social networks, with the highest usage observed among young adults in Eastern Asia [1]. Social media-induced stress refers to the psychological distress caused by neglect or negative interactions on these platforms, potentially impacting overall well-being, academic performance, and interpersonal relationships.

Several factors have been identified to be associated with social media-induced stress, with the frequency and duration of social media use being the most prominent [2]. Individuals who spend excessive time on social media may develop a dependence on online validation, making them more susceptible to distress when they receive unfavorable reactions. Additionally, personal characteristics and lifestyle factors, including gender, smoking, and drinking, further exacerbate the impact of social media neglect and negative reactions [2].

Medical doctor students are susceptible to stress related to social media. A global meta-analysis of

*Corresponding author
Email: 22013837@st.phenikaa-uni.edu.vnm **Phone**: (+84) 944462607 **Https**://doi.org/10.52163/yhc.v66ienglish.2762

77 studies published in 2016 revealed that one in four medical students reported stress, with the prevalence peaking in the first year and gradually decreasing to the last year [3]. Despite extensive research on stress among medical students, the specific impact of social media-induced stress and its contributing factors, particularly among medical doctor students in Vietnam, remains underexplored. To address these gaps, this study aims to explore the factors associated with social media-related stress among first-year medical doctor students at Phenikaa University.

2. METHODS

2.1. Study design and participants

This cross-sectional study investigated factors associated with stress from neglect and negative reactions on social media among first-year doctoral students. The study population consisted of all first-year students enrolled in a 6-year doctoral program in medicine, dentistry, or traditional medicine at Phenikaa University, Hanoi, Vietnam. Eligibility criteria included voluntary agreement to participate, while students who had temporarily suspended their studies during the research period were excluded. The study spanned from September 2024 to April 2025, with data collection taking place between November 2024 and January 2025.

2.2. Sample size and sampling technique

The target population included 311 first-year medical students at Phenikaa University (academic year 2024-2025). Of these, 219 students participated, resulting in a response rate of 70.4%. All classes were visited to introduce the study and invite students to participate.

2.3. Measurements and instruments

Our questionnaire includes (1) demographic information, (2) health risk behaviors, and (3) stress related to neglect and adverse reactions from online peers.

The primary outcomes were (1) stress related to neglect and (2) stress related to negative reactions on social media, both assessed using a validated scale previously applied in Vietnam (1). This scale comprised eight items divided into two subscales: neglect by other users (4 items) and negative reactions from other users (4 items). Each item was scored on a 5-point Likert scale (1 = "strongly disagree," 5 = "strongly agree"), with higher scores indicating greater perceived neglect or negative reactions.

Other covariates included age, gender (male/female), residence (housing/on-campus/off-campus), smoking status (yes/no), alcohol consumption (yes/no), daily time of using social media, daily time of using social media before sleep, and daily time of self-study.

2.4. Data Analysis

Data were cleaned and analyzed using STATA version 17. Frequencies and percentages were used to summarize demographic and health risk behaviors. Due to the non-normal distribution of stress scores, medians and interquartile ranges (IQR) were calculated. We used univariate and multivariable linear regression to explore associations between stress scores and demographic and health risk behavior variables.

2.5. Ethical approval and consent to participate

The study protocol received approval from the Research Ethics Committee of Phenikaa University (Approval No. 024-03/ĐHP-HĐĐĐ). All participants provided informed consent before they participated in the study.

3. RESULTS

Table 1 presents the median stress scores related to social media neglect and negative reactions, stratified by participant characteristics. The median stress scores were 8 (IQR: 4–12) for social media neglect and 12 (IQR: 6–13) for social media negative reactions. Stress scores were significantly elevated among students who smoked and those who engaged in prolonged social media use before sleep. In contrast, students who devoted more time to self-study reported lower stress scores.

Over half of the participants were male (60.3%) and resided in their own houses (50.2%). There were no significant differences in stress scores related to neglect or negative reactions between male and female participants. Likewise, stress scores did not differ significantly across residence types (i.e., housing, on-campus, and off-campus).

Participants who smoked reported a median stress score of 12 (IQR: 12-16) for social media neglect, significantly higher than the median score of 8 (IQR: 4–12) reported by non-smokers ($p = 0.003$). Similarly, smokers reported a median stress score of 14 (IQR: 12–16) for negative reactions, compared to 11 (IQR: 6–12) among non-smokers ($p = 0.001$). In contrast, stress scores did not vary significantly according to alcohol consumption.

The time of using social media before sleep was significantly associated with stress scores. Participants engaging in social media for at least two hours before sleep reported elevated stress scores from neglect (median [IQR]: 12 [8–13])

compared to those using it for less than one hour (8 [4–12], p = 0.033). A similar pattern emerged for negative reactions, with a median stress score of 12 (IQR: 8–12) among those who used social media for two or more hours, compared to 10 (IQR: 4–12) for those who used it for less than one hour (p = 0.015). Furthermore, the time of self-study was significantly associated with stress from neglect (p = 0.021). Participants who studied for less than one hour per day reported higher stress scores (median [IQR]: 10 [4–12]) than those who studied for at least one hour (median [IQR]: 8 [4–12]).

Table 1. Median Stress Scores associated with Social Media Neglect and Negative Reactions by participant characteristics

Characteristics	n (%)	Stress from neglect, median (IQR1)	p-value2	Stress from negative reactions, median (IQR)	p-value2
Total	219	8 (4 - 12)		12 (6 - 13)	
Sex					
Male	132 (60.3)	8 (4 - 12)	0.158	11 (5 - 12)	0.133
Female	87 (39.7)	8 (6 - 12)		12 (8 - 14)	
Residence					
Housing	110 (50.2)	8 (4 - 12)	0.835	12 (6 - 13)	0.836
In campus	47 (21.5)	8 (4 - 12)		12 (6 - 13)	
Off campus	62 (28.3)	8.5 (4 - 12)		10.5 (6 - 12)	
Smoking					
No	210 (95.9)	8 (4 - 12)	0.003	11 (6 - 12)	0.001
Yes	9 (4.1)	12 (12 - 16)		14 (12 - 16)	
Drinking					
No	174 (79.5)	8 (4 - 12)	0.269	11.5 (6 - 13)	0.225
Yes	45 (20.5)	9 (5 - 12)		12 (9 - 12)	
Duration of social media use per day					
< 1 hour	44 (20.1)	8 (4 - 12)	0.230	9 (4 - 12)	0.102
1 to <2 hours	64 (29.2)	8 (4 - 12)		11.5 (7-12)	
≥2 hours	111 (50.7)	9 (4 - 12)		12 (8 – 14)	
Duration of social media use before sleep					
< 1 hour	143 (65.3)	8 (4 - 12)	0.033	10 (4 – 12)	0.015
1 to <2 hours	42 (19.2)	8.5 (4 - 12)		12 (9 – 15)	
≥2 hours	34 (15.5)	12 (8 - 13)		12 (8 – 12)	
Self-study duration					
< 1 hour	66 (30.1)	10 (4 - 12)	0.021	12 (7 – 14)	0.631
1 to <2 hours	66 (30.1)	8 (4 - 12)		12 (8 – 13)	
≥2 hours	87 (39.7)	8 (4 - 12)		10 (4 – 12)	

[1] IQR: Interquartile range;
[2] p-values were calculated from the Wilcoxon Rank-Sum test (for two groups) or the Kruskal-Wallis test (for three groups)

Table 2 illustrates the factors associated with stress from social media neglect and negative reactions, as determined by multivariable linear regression. Smoking, time spent on social media before sleep, and time of self-study were significantly associated with stress scores.

Smoking students had significantly higher stress scores compared to non-smokers (coefficient: 4.5, 95% confidence interval [CI]: 1.6–7.4 for stress from neglect and 4.7, 1.7–7.7 for stress from negative reactions). Students who used social media for two or more hours before sleep had a higher likelihood of increased stress scores compared to those using it for less than one hour (coefficient: 1.9, 95% CI: 0.1-3.7). Students who used social media before sleep for at least 1 hour also had a higher likelihood of increased stress scores than those who used it for less than one hour (Coefficient: 1.8, 95% CI: 0.2-3.4).

Students who engaged in self-study for at least one hour per day exhibited lower chances of stress from neglect compared to those studying for less than one hour.

Table 2. Factors Related to Stress Associated with Social Media Neglect and Negative Reactions

Characteristics	Stress from neglect, Coefficients (95%CI1)	p-value	Stress from negative reactions, Coefficients (95%CI)	p-value
Sex (ref: male)				
Female	0.8 (-0.3, 2)	0.148	0.8 (-0.4, 2)	0.190
Residence (ref: housing)				
In campus	0 (-1.4, 1.4)	0.984	-0.1 (-1.6, 1.3)	0.846
Off campus	-0.3 (-1.6, 1)	0.630	-0.7 (-2, 0.7)	0.328
Smoking (ref: no)				
Yes	4.5 (1.6, 7.4)	0.002	4.7 (1.7, 7.7)	0.002
Drinking (ref: no)				
Yes	0.1 (-1.3, 1.5)	0.868	0.2 (-1.2, 1.7)	0.740
Duration of social media use per day (ref: <1 hour)				
1 to <2 hours	0 (-1.6, 1.6)	0.982	0.9 (-0.8, 2.5)	0.312
≥2 hours	0.3 (-1.3, 1.9)	0.722	0.9 (-0.8, 2.6)	0.275
Duration of social media use before sleep (ref: <1 hour)				
1 to <2 hours	0.7 (-0.8, 2.3)	0.368	1.8 (0.2, 3.4)	0.031
≥2 hours	1.9 (0.1, 3.7)	0.038	0.5 (-1.4, 2.3)	0.619
Self-study duration (ref: <1 hour)				
1 to <2 hours	-1 (-2.4, 0.5)	0.185	-0.7 (-2.2, 0.8)	0.361
≥2 hours	-2.1 (-3.4, -0.7)	0.002	-0.9 (-2.3, 0.5)	0.189

[1] 95% confidence intervals

4. DISCUSSION

Our study shows that stress levels caused by neglect and negative reactions on social media are closely related to students' lifestyle habits, including social media usage, smoking, and time spent on self-study. Specifically, students who habitually use social media and smoke before going to bed tend to experience higher levels of stress, while those who spend more time on self-study report lower stress levels.

We found that students who smoke are more likely to experience stress related to neglect and stress due to negative reactions on social media. This finding is also supported by another cross-sectional study in over 1000 undergraduate students using the Depression, Anxiety, and Stress Scale (DASS-21), which indicated that those who smoked had higher odds of stress compared to non-smokers [4].

Our study results indicate that social media use before bedtime can relate to stress, especially when the usage exceeds one hour before sleeping. Using social media before sleep reduces sleep quality and increases stress levels the following day [5]. Furthermore, exposure to information on social media, particularly when comparing oneself to others, can lead to dissatisfaction and anxiety, resulting in heightened stress. Excessive time spent on social media can create a sense of pressure and distraction, increasing stress levels. Previous research also suggests that reducing social media use and engaging in positive activities can help reduce stress.

Our study also reveals that students who spend more time on self-study experience lower levels of stress compared to those who study for less than two hours per day. This finding aligns with current evidence that self-study helps students develop time management skills and provides a sense of control, thereby reducing stress [6]. Reducing social media use and increasing self-study time can lower stress and improve students' mental health [7].

We acknowledge some limitations. Our study design is a cross-sectional study, collecting data from only one semester of students. Therefore, it cannot determine causal relationships but can only highlight correlations between factors and stress levels [8]. Although the study considers factors such as self-study time and residence, the learning environment and support from teachers or peers, which could influence stress levels, were not adequately considered. The study focuses solely on social media use before sleep. It does not examine other forms of social media use (such as the purpose of use), which may limit the understanding of the overall impact of social media on stress. Furthermore, factors such as smoking, social media use, and self-study time may interact and influence each other, but the study does not explore these complex relationships. Data collected from self-reported questionnaires may be biased, as participants may not be truthful or accurate when recalling their stress levels, or there may be bias in self-assessing their condition.

5. CONCLUSION

This study found that among first-year medical students, stress from social media neglect and negative reactions was more likely in those who smoked or used social media for over two hours before sleep. In contrast, over two hours of self-study reduced this stress. The findings underscore the importance of first-year students improving their lifestyle and academic habits. Limiting social media use, especially before sleep, may enhance sleep quality and reduce stress. Strengthening health education on smoking is also recommended to help students eliminate harmful behaviors linked to social media-induced stress.

6. DECLARATION OF COMPETING INTEREST

The authors declare that they have no competing interests

Acknowledgements

REFERENCES

[1] Statista [Internet]. [cited 2025 Apr 9]. Internet and social media users in the world 2025. Available from: https://www.statista.com/statistics/617136/digital-population-worldwide/

[2] Dam VAT, Dao NG, Nguyen DC, Vu TMT, Boyer L, Auquier P, et al. Quality of life and mental health of adolescents: Relationships with social media addiction, Fear of Missing out, and stress associated with neglect and negative reactions by online peers. PLOS ONE. 2023 Jun 7;18(6):e0286766.

[3] Rotenstein LS, Ramos MA, Torre M, Segal JB, Peluso MJ, Guille C, et al. Prevalence of Depression, Depressive Symptoms, and Suicidal Ideation Among Medical Students. JAMA. 2016 Dec 6;316(21):2214–36.

[4] Ramón-Arbués E, Gea-Caballero V, Granada-López JM, Juárez-Vela R, Pellicer-García B, Antón-Solanas I. The Prevalence of Depression, Anxiety, and Stress and Their Associated Factors in College Students. Int J Environ Res Public Health. 2020 Oct;17(19):7001.

[5] Ahmed O, Walsh EI, Dawel A, Alateeq K, Es-

pinoza Oyarce DA, Cherbuin N. Social media use, mental health and sleep: A systematic review with meta-analyses. J Affect Disord. 2024 Dec 15;367:701–12.

[6] Lourenço A, Paiva MO. Self-Regulation in Academic Success: Exploring the Impact of Volitional Control Strategies, Time Management Planning, and Procrastination. Int J Chang Educ. 2024 Aug 27;1:113–22.

[7] Media multitasking. In: Wikipedia [Internet]. 2025 [cited 2025 Mar 30]. Available from: https://en.wikipedia.org/w/index.php?title=-Media_multitasking&oldid=1276303440

[8] Shensa A, Sidani JE, Lin L Yi, Bowman ND, Primack BA. Social Media Use and Perceived Emotional Support Among US Young Adults. J Community Health. 2016 Jun 1;41(3):541–