Journal Of Nursing Practice
https://thejnp.org/
ISSN: 2614-3488 (print); 2614-3496 (online) Vol.9 No.1. October 2025. Page.117-125

Correlation between Stress Levels and Self-Harm Behavior among College Students in Surabaya: Cross-Sectional

Andikawati Fitriasari[1*], Dyah Ika Krisnawati[2], Chilyatiz Zahroh[3], Firdaus[4], Ragil Putri Fitriyanti[5]
[1,2,3,4,5] *Department of Nursing, Faculty of Nursing and Midwifery, Universitas Nahdlatul Ulama Surabaya, Indonesia*
**Corresponding author: andikawati_f@unusa.ac.id*

ABSTRACT

Background: Nursing students experience high stress levels because of the high demands, expectations and activities during their study. Therefore some students struggle to adapt to their college life, eventually resorting to dangerous behaviors such as self-harm, which they perceive as a coping mechanism to relieve stress.

Purpose: This study aims to analyze the relationship between stress levels and self-harm incidents among active students at Universitas Nahdlatul Ulama Surabaya.

Methods: This research design uses descriptive correlational with cross-sectional approach. This study involved 293 students from Universitas Nahdlatul Ulama Surabaya, with purposive sampling technique. The dependent variable in this study is self-harm behavior, while the independent variable is the level of stress. The instrument tools used are the Perceived Stress Scale (PSS) questionnaire and DSHI (Deliberate Self Harm Inventory).

Results: A total of 293 students were sampled in this study. The majority of stress levels were experienced by women, with 135 respondents experiencing moderate stress levels and 118 students having engaged in mild self-harm behavior. The results of the Spearman's rank statistical test showed a significant correlation between stress levels and self-harm behavior (p-value = 0.004), indicating that higher levels of perceived stress are associated with a greater tendency toward self-harm

Conclusion: This study concluded that the majority of students were under stress, with most perceiving themselves to be experiencing moderate stress. There is an urgent need to identify the underlying causes and implement effective management and preventive measures to mitigate the long-term negative effects of stress on students' careers and well-being.

Keywords: nursing student, self-harm behaviour, stress

Received August 10, 2025; Revised September 12, 2025; Accepted October 3, 2025
DOI: https://doi.org/10.30994/jnp.v9i1.919

ISSN: 2614-3488 (print); 2614-3496 (online) Vol.9 No.1. October 2025. Page.117-125

BACKGROUND

The college years are a crucial period of development for students, as they transition from late adolescence to early adulthood while facing various pressures from academic assignments, family expectations, competition in the academic environment, and the process of social adjustment, all of which can trigger high levels of stress. According to a WHO report (2022), the prevalence of mild to moderate mental disorders has significantly increased among university students worldwide, with stress being one of the primary factors (Osborn et al., 2022). A study of students in Sialkot, Pakistan, found that 84.4% experienced stress, with mild stress (33.8%), moderate stress (35.4%), severe stress (13.2%), and very severe stress (2.8%) (Asif et al., 2020). Among Indonesian students, 25% were identified as having clinically relevant depressive symptoms, 51% had anxiety symptoms, and 24% had stress levels (Setyanto, 2023). Research by (Rahmadina & Eka Putri, 2023) shows that over 60% of students in Indonesia experience stress at various levels of severity, which impacts their psychological well-being. The stress experienced by students has long-term effects both physically and emotionally.

Emotional stress such as procrastination, perfectionism, low self-confidence, exam anxiety, and mental pressure are conditions commonly experienced by students. Self-harm behavior, or harming oneself without suicidal intent, is one form of escape or negative coping mechanism that individuals use to alleviate emotional stress. Self-harm behavior is actually a failure to cope with stress (Amelia Azzahra a, Sri Wahyuni b & A, 2023). Research conducted by Oktaviani and Hadi (2020) found that students with moderate to high stress levels are more likely to engage in self-harm compared to those with low stress levels. This is supported by the findings of Zhang et al. (2023), who confirmed that poor emotional regulation, combined with academic pressure, significantly increases the risk of self-harming behavior among students.

Self-harm behaviors among college students need to be taken seriously, not only by healthcare professionals but also by the students themselves and their communities. Previous studies have extensively examined the relationship between stress and self-harm behaviors, but most of these studies have been descriptive in nature and conducted outside the cultural context of Indonesia. This study adds scientific value by focusing on the characteristics of students in a local environment with unique cultural backgrounds and social pressures. Using a quantitative correlational approach, this study aims to provide a deeper understanding of the relationship between stress levels and self-harm behavior among students, as well as to facilitate more contextual and targeted psychological interventions. By understanding the correlation between stress and self-harm, it is hoped that more effective prevention strategies can be designed, such as stress management programs, psychological counseling, and improved mental health literacy. The results of this study are expected to serve as an important reference in the development of holistic and sustainable psychological interventions.

OBJECTIVE

This study aims to analyze the relationship between the level of stress experienced by students and self-harm behavior that emerges as a maladaptive response to psychological pressure, with a focus on the student population in Surabaya.

METHODS

Study Design and Sampling Criteria

This simple descriptive analytical study used a cross-sectional approach at Universitas Nahdlatul Ulama Surabaya conducted from April to June 2024. The sampling technique in this study used non-probability sampling, namely purposive sampling. The respondents consisted

ISSN: 2614-3488 (print); 2614-3496 (online) Vol.9 No.1. October 2025. Page.117-125

of undergraduate and diploma students from various study programs who were selected based on their status as active students during the study period. A total of 293 participants were included to ensure adequate representation of the student population across different academic levels and departments.

Instrument Research and Data Collection

Data collection for this study was conducted by distributing questionnaires to respondents. The instrument used in this study was a questionnaire about respondent characteristics, including name (initials), gender, semester, and faculty. The questionnaire on self-harm behavior tendencies used the DSHI (Deliberate Self-Harm Inventory) instrument described by (Kusumadewi et al., 2019). This instrument produces a score range of 0-22, derived from 22 ordinal statement items answered with "ever" (score 1) and "never" (score 0). The measurement of self-harm behavior has a cutoff of >5, meaning that an DSHI score >5 indicates mild self-harm behavior, while a score <5 indicates no tendency. A cutoff of >5 indicates mild self-harm, and a cutoff of >11 indicates severe self-harm (psychopathology). Meanwhile, the instrument used to measure stress levels is the PSS (Perceived Stress Scale). This instrument has a score range of 1-40, derived from 10 questions answered with "never" (score 0), "almost never" (score 1), 'sometimes' (score 2), "almost always" (score 3), and "very often" (score 4).

Data Analysis and Ethical Consideration

The analysis used in this study was univariate and bivariate analysis using the Spearman's rank correlation test with a significance value (p=0.005). This study has obtained an ethical approval letter from the Health Research Ethics Committee of Universitas Nahdlatul Ulama Surabaya with ethical approval number 0232/EC/KEPK/UNUSA/2024 on May 26, 2024.

RESULTS

Characteristics respondents consists of sociodemographic (age, gender, semester and faculty), stress level and self-harm behavior can seen in the table as following :

1. Sociodemographic in students

Table 1. Distribution frequency sociodemographic in students

Variables	(n)	(%)
Age (Years)		
17 – 25 tahun	**267**	**91.1**
26 – 35 tahun	**26**	**8.9**
Gender		
Male	58	19.7
Female	235	80.3
Grade		
Semester 2	75	25.6
Semester 4	86	29.4
Semester 6	85	29
Semester 8	47	16
Faculty		
Faculty Medical	11	3.7

Faculty Nursing and Midwifery	136	46.4
Faculty Knowledge Health	57	19.4
Faculty Economy Digital Tech Business	68	23.2
Faculty Teaching Educational Science	21	7.1

Based on the distribution frequency of sociodemographic student (n=293), the scoring and categorization in Table 1 show that the majority of students are femaletotaling 235 (80.3) students and students age 17 – 25 years old totaling 267(91.1) students. The majority are in their fourth semester, totaling 86(29.4) students, and sixth semester, totaling 85(29) students. The majority are from the Faculty of Nursing and Midwifery, totaling 136(46.4) students.

2. Stress levels in students

Table 2. Distribution frequency level stress in students

Variables	Frequency (n)	Stres Low	Stres Moderate	Stres High
Age (Years)				
17 – 25	267 (91.1)	83 (31)	177 (66.3)	7 (2.6)
26 – 35	26 (8.9)	10 (38.4)	13 (50)	3 (11.5)
Total	293 (100)	93(31.7)	190 (64.8)	10(3.4)
Gender				
Male	58 (19.7)	13 (22.4)	37 (63,7)	8 (13,9)
Female	235 (80.3)	70 (29,7)	135 (57,4)	30 (12,7)
Total	293 (100)	83(28.3)	172(58.7)	38(12.9)
Grade				
Semester 2	75 (25.6)	25 (33.3)	42 (56)	8 (10.7)
Semester 4	86 (29.4)	18 (20.9)	54 (62.7)	14 (16,2)
Semester 6	85 (29.0)	30 (35.2)	48 (56.4)	7 (8.4)
Semester 8	47 (16.0)	10 (21.2)	28 (59.6)	9 (19.2)
Total	293 (100)	83(28.3)	172(58.7)	38(12.9)
Faculty				
Faculty Medical	11 (3.7)	1 (9)	9 (81.8)	1(9)
Faculty Nursing and Midwifery	136 (46.4)	40 (29.4)	78 (57,3)	18 (13,2)
Faculty Knowledge Health	57 (19,4)	14 (24.5)	33 (57.8)	10 (17.5)
Faculty Economy Digital Tech Business	68 (23.2)	23 (33.8)	38 (55.8)	7 (10.2)
Faculty Teaching Educational Science	21 (7.1)	5 (23.8)	14 (66.6)	2 (9.5)
Total	293 (100)	83(28.3)	172(58.7)	38(12.9)

Table 2 presents the distribution of stress levels among 293 students based on age, gender, academic grade and faculty. The findings indicate that majority of respondents were aged 17 – 25 years (91.1%) experienced moderate stress, with 66.3% and a smaller propotion of students in both age categories experienced high stress. Regarding gender, the majority of respondents were female (80.3%) tenden to report a slightly higher proportion of moderate stress (57.4%) while low stress was more common among male students (22,4%). Based on academic grade, across all grades, the moderate stress level was the most frequently observed

ISSN: 2614-3488 (print); 2614-3496 (online) Vol.9 No.1. October 2025. Page.117-125

category, ranging between 56% and 62.7%. Only a small number of students in each grade reported high stress. When viewed by faculty, the Faculty of Nursing and Midwifery showed the highest number of students with moderate stress (57,3%) while high stress was relatively rare across faculties (ranging between 9-17,5%).

2. Self-harm behavior in students

Table 2. Distribution frequency self-harm behavior in students

Variables	Frequency (%)	No Self-harm	Self-Harm Low	Self-Harm High
Age (Years)				
17 – 25	267 (91.1)	184(68.9)	80(29.9)	3(1.1)
26 – 35	26 (8.9)	19(73)	6(23)	1(0)
Total	293 (100)	203(69,2)	86(29.3)	4(0,01)
Gender				
Male	58 (19.7)	29(50)	24(41.3)	5(0.08)
Woman	235 (80.3)	90(38.2)	118(50)	27(11.4)
Total	293 (100)	119(40,6)	142(48.4)	32(10.9)
Grade				
Semester 2	75 (25.6)	33 (44)	32 (42.6)	10 (13.3)
Semester 4	86 (29.4)	35 (40.6)	42 (48.8)	9 (10.4)
Semester 6	85 (29.0)	33 (38.8)	43 (50.5)	9 (10.5)
Semester 8	47 (16.0)	18 (38.2)	25 (53.1)	4 (8.5)
Total	293 (100)	119(40.6)	142(48.4)	32(10.9)
Faculty				
Faculty Medical	11 (3.7)	1 (9)	7 (63.6)	3 (27.2)
Faculty Nursing and Midwifery	136 (46.4)	60 (44.1)	66 (48.5)	10 (7.35)
Faculty Knowledge Health	57 (19.4)	25 (43.8)	26 (45.6)	6 (10.5)
Faculty Economy Digital Tech	68 (23.2)	26 (38.2)	31 (45.5)	11 (16.1)
Business	21 (7.1)	7 (33.3)	12 (57.1)	2 (9.5)
Faculty Teaching Educational Science	293 (100)	119(40.6)	142(48.4)	32(10.9)
Total				

Table 3 presents the distribution of self-harm behavior among 293 students based on age, gender, academic grade and faculty. Most students in both age categories reported no self-harm behavior, accounting for 68,9% among those aged 17-25 years and 73% among those aged 26 – 35 years. Only a small proportion of respondents in each age group reported high self-harm behavior (1.1% and 0% respectively). In terms of gender, the data showed that 50% of female students reported low self-harm behavior, compared to 41.3% of males, while only 11.4% of femles and 8% of males reported high self-harm tendencies. Across academic grades, majority of students across all grades exhibited low self-harm behavior, ranging from 42,6% to 53.1%, while high self-harm behavior was less prevalent (8.5 – 13.3%). When analyzed by faculty, the highest proportion of low self-harm behavior was observed among students in Faculty of Nursing and Midwifery(48.5%), while high self-harm behavior was relatively

ISSN: 2614-3488 (print); 2614-3496 (online) Vol.9 No.1. October 2025. Page.117-125

uncommon across all faculties, ranging between 7.3% to 16.1%.

3. Correlation level stress with self-harm behavior in students

Table 3. correlation level stress and tendencies behavior *self-harm* in students

***Stress* Level**	**Incident *Self-harm***						**Total**	**P**
	No *Self-harm*		***Self-harm* Light**		***Self-harm* Heavy**			
	N	%	N	%	N	%	N	%
Low *stress*	56	67.5	16	19.2	11	13.3	83	100
Moderate *stress*	41	23.9	115	67.3	15	8.8	171	100
High *Stress*	22	56.4	11	28.2	6	15.4	39	100
Total	119	40.6	142	48.4	32	11	293	100
								ρ = 0.004
								rho = 0.167

From the results of Table 3, the correlation between stress levels and self-harm tendencies using the Spearman's rank correlation test yielded a p-value of 0.004 (<0.05), indicating a correlation between stress levels and self-harm behavior among students.

DISCUSSION

Regarding gender, the majority of respondents were female (80.3%) tenden to report a slightly higher proportion of moderate stress (57.4%) while low stress was more common among male students (22,4%). The dominance of female students in this study is also consistent with the findings that higher stress levels in female than in male can be explained by the higher number of women in our sample; however an alternative explanation is that male express their emotions and concerns less openly than women are more vulnerable in terms of psychological distress (Cuijpers et al., 2021). Based on academic grade, across all grades, the moderate stress level was the most frequently observed category, ranging between 56% and 62.7%. Only a small number of students in each grade reported high stress. According to research conducted by (Krismonica et al., 2024), academic tasks are one of the primary causes of student stress. Fourth-semester nursing students at the Faculty of Nursing and Midwifery at UNUSA take courses that focus purely on nursing science, totaling 24 credits in one semester. Assignments in the fourth semester are primarily focused on developing nursing care plans for each course, with deadlines set by the instructors.

Meanwhile, sixth-semester students are required to complete research proposals, which can be overwhelming for them. This adds to the stressors faced by students. Students experience tension, feelings of pressure, and discomfort in their efforts to achieve the best possible results. This aligns with research by (Bayantari et al., 2022), which states that 69.5% of students feel burdened by their studies due to the excessive number of assignments assigned by instructors. At moderate stress levels, students feel pressured, but this stress can still be managed with appropriate stress management strategies. At this stage, the body continues to produce stress hormones, leading to increased cortisol levels, which can affect behavior, emotions, and feelings of frustration. Physiological symptoms such as fatigue and excessive sweating reflect academic stressors like assignment loads and fear of failure (Nappoe & Triwahyuni, 2025).

In terms of gender, the data showed that 50% of female students reported low self-harm behavior, compared to 41.3% of males, while only 11.4% of females and 8% of males reported high self-harm tendencies. Across academic grades, majority of students across all grades exhibited low self-harm behavior, ranging from 42,6% to 53.1%, while high self-harm behavior was less prevalent (8.5 – 13.3%). In this context, female students are more likely to engage in self-harm behavior, consistent with the findings of Flett et al. (2020), who stated that women are more vulnerable to emotional stress and tend to express it through internal means such as self-harm. This aligns with research showing that women tend to respond to stress emotionally, making them more prone to feelings of sadness, disappointment, and anxiety compared to men (Pilar Matud et al., 2020). Maladaptive coping mechanisms such as self-harm become a choice because individuals are unable to manage stress constructively. According to Mullis and Chapman (2000), factors that can cause someone to engage in self-harm behavior are emotion-focused coping (Saridewi Mutiara Insani, 2022). This can be interpreted to mean that female students tend to resolve problems by reducing the stress they feel in order to achieve a sense of comfort through self-harm or self-injury. (Osborn et al., 2022) state that the majority of young individuals engage in self-harm not to end their lives, but rather to cope with their emotions and are seen as a way to stay alive.

The majority of respondents or students reported having engaged in self-harm behavior, either NSSI (general self-harm) or SSI (attempts, threats, or thoughts of suicide). The correlation between stress levels and self-harm behavior also indicates that students with high stress levels are proportionally more likely to exhibit severe self-harm behavior compared to those with mild or moderate stress levels. This indicates a significant relationship between increased stress levels and the severity of self-harm. Research supports this, finding that students who lack adequate social support and experience prolonged stress are more vulnerable to engaging in self-harm as a form of regulating negative emotions (Asif et al., 2020). Additionally, the imbalance between academic demands and an individual's adaptive capacity is the primary trigger. The main reason students engage in self-harm is to release emotional pressure and cope with stress. Students tend to use emotion-focused coping mechanisms, which involve trying to alleviate their feelings and avoid certain events, such as engaging in dangerous self-harming behaviors. Students who engage in self-harm tend to be closed off about their condition and afraid to tell others (Shafira & Hargiana, 2022). The absence of warm relationships with peers and parents contributes to self-isolation and self-harm. Students tend to be more closed off or rarely communicate with their parents because they believe they do not want to disappoint them. By harming themselves, adolescents channel their feelings of guilt toward themselves.

Clinically, the results of this study have important implications for the field of mental health nursing, particularly in the development of mental health promotion programs in higher education institutions. Nurses, as part of the campus health services team, play a strategic role in conducting initial screenings of students' stress levels and identifying self-harm behaviors at an early stage. As a result, preventive and promotional interventions such as group counseling, stress management training, and the enhancement of adaptive coping skills can be designed in a more targeted and data-driven manner. Despite these limitations, this study is cross-sectional, causality cannot be inferred. Although female students showed a higher proportion of moderate stress and self-harm risk, it is not possible to determine whether gender differences cause these outcomes (e.g coping strategies, social support, cultural norms). The study did not comprehensively asses differences in emotional expression or coping style by gender. If coping style could be explained, the prevalence of self-harm would be reduced considerably. This study also underscores the urgency of providing easily accessible psychological services for students as a response to the increasing prevalence of self-harm among academic populations.

CONCLUSION

This study concluded that the majority students were under stress; the majority perceived themselves to be moderate stress. Female students had higher scores on PSS and DSHI inventory as compared to male. There is an urgent need to study the causes and devise effective management and preventive measures to avoid the harmful longterm effects of stress on their careers and wellbeing. These insights can inform future research aimed at refining prevention strategies by highlighting the importance of targeting emotional well-being and strengthening resilience in student population.

ACKNOWLEDGMENTS

The author would like to express appreciation and gratitude to the Lembaga Penelitian dan Pengabdian Masyarakat (LPPM) Universitas Nahdlatul Ulama Surabaya for its support, guidance, and facilitation in every stage of this research, from the planning process to its completion. The support provided has contributed significantly to the smooth running and success of this research. Special thanks are also extended to all respondents, students at Universitas Nahdlatul Ulama Surabaya who willingly participated and provided valuable information that made this study possible.

CONFLICTS OF INTEREST

Researchers No own conflict interest in implementation research.

REFERENCES

Amelia Azzahra a, Sri Wahyuni b, A. c, & A. (2023). The Relationship between Academic and Non-Academic Stress and Self-Harm Behavior in Riau *Amelia University Students* . *6* (1), 1–12.

Asif, S., Mudassar, A., Shahzad, T. Z., Raouf, M., & Pervaiz, T. (2020). Frequency of depression, anxiety and stress among university students. *Pakistan Journal of Medical Sciences* , *36* (5), 971–976. https://doi.org/10.12669/pjms.36.5.1873.

Bayantari, NM, Indonesiani, SH, & Apsari, PIB (2022). Self-Regulation in Learning and Its Relationship with Academic Stress in First-Year Medical Students. *Scientific Journal of Education and Learning* , *6* (3), 609–618. https://doi.org/10.23887/jipp.v6i3.51175.

Cuijpers, P., Smit, F., Aalten, P., Batelaan, N., Klein, A., Salemink, E., Spinhoven, P., Struijs, S., Vonk, P., Wiers, R. W., de Wit, L., Gentili, C., Ebert, D. D., Bruffaerts, R., Kessler, R. C., & Karyotaki, E. (2021). The Associations of Common Psychological Problems With Mental Disorders Among College Students. *Frontiers in Psychiatry*, *12*(September), 1–9. https://doi.org/10.3389/fpsyt.2021.573637.

Krismonica, P., Palumpun, E., Lase, E., Paula, V., & Silitonga, E. (2024). Levels of Stress, Anxiety, and Depression in First-Year Nursing Students During Online Learning During the Covid-19 Pandemic. *MAHESA: Malahayati Health Student Journal* , *4* (1), 9–18. https://doi.org/10.33024/mahesa.v4i1.10836.

Kusumadewi, A. ., Yoga, BH, & Ismanto, S. (2019). Indonesian Version of Self-Harm Inventory (Shi) as an Early Detection Instrument for Self-Harm Behavior. *Surabaya Journal of Psychiatry* , *8* (1), 20–25.

Nappoe, BC, & Triwahyuni, P. (2025). Academic Stress Levels in First-Year Nursing Students. *Journal of Telenursing* , *7* (2), 342–349.

Osborn, T.L., Wasanga, C.M., & Ndetei, D.M. (2022). Transforming mental health for all. In *The BMJ* . https://doi.org/10.1136/bmj.o1593.

Pilar Matud, M., Díaz, A., Bethencourt, J.M., & Ibáñez, I. (2020). Stress and psychological

ISSN: 2614-3488 (print); 2614-3496 (online) Vol.9 No.1. October 2025. Page.117-125

distress in emerging adulthood: A gender analysis. *Journal of Clinical Medicine* , *9* (9), 1–11. https://doi.org/10.3390/jcm9092859.

Rahmadina, R., & Eka Putri, YS (2023). Differences in Academic Stress Levels in Final-Year Nursing Students During the Adaptation Period to the Covid-19 Endemic. *National Health Research Journal* , *7* (2), 91–97. https://doi.org/10.37294/jrkn.v7i2.489.

Saridewi Mutiara Insani. (2022). Case Study: Factors Causing Self-Harm Behavior in Adolescent Girls. *Journal of Psychological Research* , *10* (02), 439–454.

Setyanto, AT (2023). Early Detection of the Prevalence of Mental Health Disorders in College Students. *Discourse* , *15* (1), 66. https://doi.org/10.20961/wacana.v15i1.69548.

Shafira, AN, & Hargiana, G. (2022). Self-Harm Behavior among Nursing Students. *Jurnal Kesehatan* , *11* (2), 123–134. https://doi.org/10.46815/jk.v11i2.83.

Tang, F., Byrne, M., & Qin, P. (2018). Psychological distress and risk for suicidal behavior among university students in contemporary China. *Journal of Affective Disorders* , *228* (October 2017), 101–108. https://doi.org/10.1016/j.jad.2017.12.005

World Health Organization. (2022). *Mental health of higher education students*. https://www.who.int/publications/i/item/9789240062261.