



THE RELATIONSHIP BETWEEN SELF-EFFICACY AND ANXIETY AMONG FIRST-YEAR NURSING STUDENTS

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ABSTRACT

First-year nursing students are prone to experiencing anxiety during the transition to university due to increased academic demands and the adaptation process. Self-efficacy is considered an important factor in helping students cope with these challenges. To analyse the relationship between self-efficacy and anxiety levels among first-year students in the Bachelor of Nursing programme at Muhammadiyah University of Surakarta. This study employed a quantitative analytical design with a cross-sectional approach. The study involved 140 first-year students who were selected using proportional random sampling. Self-efficacy was evaluated using the adopted General Self-Efficacy Scale (GSE) questionnaire with validity test results of $r_{\text{table}} (0.361) < r_{\text{count}} (0.539) < 0.733$ and reliability test result of 0.847, while anxiety was evaluated using the adopted State Anxiety Inventory (STAI-S) questionnaire with established construct validity and reliability test results of 0.86--0.95, which means that both questionnaires are proven to be valid and reliable. Data were analysed using Spearman's rank correlation test. The mean self-efficacy score was 40.89 ± 5.743 , while the mean anxiety score was 38.09 ± 9.382 . A significant negative correlation was found between self-efficacy and anxiety levels ($r_s = -0.399$; $p < 0.001$). Higher self-efficacy was associated with lower anxiety levels among first-year nursing students.

Keywords: academic adaptation; anxiety; first-year students; nursing; self-efficacy

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INTRODUCTION

The transition from secondary education to higher education is a complex period, as students must adapt to various academic, social and psychological demands simultaneously. A more independent learning system, an increased academic workload and adjustment to a new environment require strong adaptive skills. An inability to cope with these demands can trigger anxiety, particularly among first-year students who are still in the early stages of adjusting to university life (Purwanti et al., 2020; Wingfield & Tracy-Bronson, 2024). Anxiety that is not managed effectively can disrupt the adaptation process, reduce self-confidence, hinder concentration on studies, and impact students' academic performance. Therefore, identifying the factors that play a role in reducing anxiety among first-year students is important as a basis for developing promotive and preventative measures within the university environment. Anxiety amongst students is one of the most commonly reported mental health issues across various countries. A systematic review indicates that the prevalence of anxiety amongst university students stands at around 41 % globally (Liyanage et al., 2022). Another study reports that nearly 75 % of first-year students experience anxiety during their transition to higher education (Haruna et al., 2025). In Indonesia, as many as 69.74 % of students are also reported to experience anxiety to varying degrees (Rosita & Dharma, 2021). These findings indicate that anxiety amongst students remains a mental health issue requiring attention, as it has the potential to hinder successful academic adaptation during the transition to higher education. Nursing students are a group vulnerable to anxiety because, in addition to being required to master academic competencies, they must also prepare themselves for practical training that demands clinical skills, professional responsibility and emotional readiness (Efstathiou et al., 2025).

The complexity of these demands has the potential to reduce students' motivation to learn, their concentration and their readiness to develop clinical competencies, thereby affecting the success of the learning process. It is therefore important to understand the elements that help students cope with academic demands whilst maintaining their psychological well-being during this transitional period.

One psychological element that plays a significant role in managing academic stress is self-efficacy. Bandura & Watts (1997) explains that self-efficacy is an individual's belief in their ability to plan and carry out the steps necessary to achieve a specific goal. Individuals with high self-efficacy tend to have greater confidence in overcoming challenges, employ adaptive coping strategies, and are able to regulate their emotional responses when facing stressful situations (Bandura & Watts, 1997; Cao & Han, 2024; Sabrina et al., 2024). Various studies indicate that self-efficacy is associated with anxiety levels amongst university students. Students with high self-efficacy tend to be better able to cope with academic demands, employ adaptive coping strategies, and maintain psychological well-being compared to students with low self-efficacy (Anicama et al., 2025; Purwanti et al., 2020). These findings are also consistent amongst nursing students, where self-efficacy is associated with levels of anxiety, academic stress, and psychological well-being (Meiliana et al., 2024; Sanger et al., 2024; Shehadeh et al., 2020; Xu et al., 2023). Furthermore, social support has been reported to reinforce the role of self-efficacy in helping students cope with academic pressure (Kristensen et al., 2023; Laksmiwati & Tondok, 2023). Although the relationship between self-efficacy and anxiety has been widely reported, the majority of studies have been conducted on students who have entered the clinical practice stage, professional students, or final-year students. Therefore, empirical evidence regarding the relationship between self-efficacy and anxiety levels among first-year nursing students undergoing the initial phase of academic adaptation remains limited, particularly at Muhammadiyah University of Surakarta. Based on the above, this study aims to analyse the relationship between self-efficacy and anxiety levels among first-year nursing students in the Nursing Science Programme at Muhammadiyah University of Surakarta.

METHOD

This study employed a quantitative analytical design with a correlational approach and a cross-sectional design to analyse the relationship between self-efficacy and anxiety levels among first-year students of the Bachelor of Science in Nursing programme at the Faculty of Health Sciences, Muhammadiyah University of Surakarta. The study was conducted at the Bachelor of Science in Nursing programme, Muhammadiyah University of Surakarta, between March and April 2026. The study population comprised all first-year students of the Bachelor of Nursing programme at the Faculty of Health Sciences, Muhammadiyah University of Surakarta, for the 2025/2026 academic year, totalling 194 students, comprising 187 students in the regular stream and 7 students in the international stream. Based on sample size calculations, the minimum required sample size was 131 respondents. However, during the study, 140 respondents who met the inclusion criteria were identified, and all data were analysed in this study. Sampling was carried out using proportional random sampling, ensuring that each class received a number of respondents proportional to the size of its population. The inclusion criteria comprised first-year students who were willing to act as respondents and to sign an informed consent form. The exclusion criteria comprised students who were on academic leave, inactive in academic activities, or who did not complete the questionnaire. Self-efficacy was measured using the Indonesian version of the General Self-Efficacy Scale (GSE), which consists of 10 items on a five-point Likert scale.

Anxiety levels were measured using the State Anxiety Inventory (STAI-S), which is the state anxiety subscale of the State-Trait Anxiety Inventory Form Y (STAI-Y), comprising 20 items on a four-point Likert scale. Both instruments have demonstrated good validity and reliability in previous studies; therefore, this study utilised these instruments without conducting further validity and reliability tests. Univariate analysis was used to describe the characteristics of the respondents

and the distribution of each research variable. The normality of the data was tested using the Kolmogorov–Smirnov test. Bivariate analysis was performed using Spearman’s rank correlation test, as the research data did not meet the assumption of a normal distribution. All statistical tests were conducted at a 95% confidence level, and the significance threshold was set at $p < 0.05$. This study received ethical approval from the Health Research Ethics Committee of the Faculty of Medicine, Muhammadiyah University of Surakarta, under number 6221/B.1/KEPK-FKUMS/II/2026. All respondents provided written informed consent prior to participating in the study.

RESULT

This study involved 140 first-year students on the Bachelor of Nursing programme at the Faculty of Health Sciences, Muhammadiyah University of Surakarta, for the 2025/2026 academic year, who met the study’s inclusion criteria. The characteristics of the respondents based on age, gender, year of study, and parental or personal income are presented in Table 1.

Table 1.

Respondent characteristics (n= 140)

Respondent characteristics	Category	f	%
Gender	Male	30	21.4
	Female	110	78.6
Class	Regular A	35	25
	Regular B	35	25
	Regular C	29	20.7
	Regular D	35	25
	International	6	4.3
Age	17 years	1	0.7
	18 years	49	35
	19 years	79	56.4
	20 years	11	7.9
Income	Low Income (<Rp.1.500.000)	2	1.4
	Medium Income (Rp. 1.500.000 - Rp. 2.500.000)	27	19.3
	High Income (Rp. 2.500.000 - Rp. 3.500.000)	40	28.6
	Very High Income (>Rp. 3.500.000)	71	50.7

Table 1, the majority of respondents were female, totalling 110 respondents (78.6%), 79 respondents (56.4 %) were aged 19, 35 respondents (25.0 %) each were from Regular Classes A, B and D, and 71 respondents (50.7 %) had a very high income.

Table 2.

Distribution of Self-Efficacy Scores and Anxiety Levels

Variabel	Mean $\pm$ SD	Median	Min -Max
Self-Efficacy	40,89 $\pm$ 5,743	42	26 - 50
Anxiety Level	38,09 $\pm$ 9,382	37	20 - 66

Table 2, the self-efficacy variable had a mean value of 40.89 ± 5.743 , with a median of 42 and a score range of 26–50. Meanwhile, the anxiety level variable had a mean value of 38.09 ± 9.382 , with a median of 37 and a score range of 20–66.

Table 3.

Results of the Spearman’s Rank Correlation Test between Self-Efficacy and Anxiety Level

Independent Variabel	Dependent Variable	R_s	N	p-value
Self-Efficacy	Anxiety Level	-0.399	140	0.001

Based on the results of the Spearman’s rank correlation test in Table 3, a correlation coefficient of $r_s = -0.399$ was obtained, with $p < 0.001$. These results indicate a significant negative relationship between self-efficacy and anxiety levels amongst first-year students on the Bachelor of Nursing programme at the Faculty of Health Sciences, Muhammadiyah University of Surakarta. The correlation coefficient indicates a moderate strength of relationship.

DISCUSSION

This study demonstrates that self-efficacy is associated with anxiety levels among first-year students on the Bachelor of Nursing programme at the Faculty of Health Sciences, Muhammadiyah University of Surakarta. These findings suggest that self-efficacy is one of the psychological factors related to students' ability to cope with academic demands and the adaptation process during the early stages of their studies. The negative relationship found suggests that students with greater confidence in their own abilities tend to experience lower levels of anxiety when facing various academic challenges. The relationship between self-efficacy and anxiety can be explained through Bandura's theory of self-efficacy. Self-efficacy is an individual's belief in their ability to manage and carry out the steps necessary to achieve a specific goal. This belief plays a role in determining how an individual perceives a situation, chooses strategies to deal with problems, and persists in their efforts when encountering obstacles. People with strong self-efficacy typically view demands as challenges that can be overcome, whilst those with low self-efficacy are more likely to perceive situations as threats, making them more prone to anxiety.

For first-year nursing students, the relationship between self-efficacy and anxiety is particularly important, as the transition to university is a period marked by various changes. Students need to adapt to a different learning system, an increased academic workload, the demands of achieving nursing competencies, and a new social environment. These changes can be a source of psychological stress if students feel unable to cope with the demands placed upon them. Conversely, students with high self-efficacy tend to believe that they are capable of completing academic tasks, overcoming obstacles, and adapting to the university environment. The findings of this study are consistent with Anshori (2023) which indicates a correlation between self-confidence and anxiety levels amongst first-year nursing students. The results of this study show that students with stronger self-confidence tend to be better able to cope with academic demands and the process of adapting to the university environment (Anshori, 2023). These findings are also supported by studies Alemany-Arrebola et al. (2020) and Meng et al. (2020) which show that self-efficacy is related to students' psychological well-being, including anxiety when facing academic pressure. Furthermore, these findings align with recent empirical studies by Namina & Mediawati (2025) and Mengesha et al. (2025) which reinforce that self-efficacy plays a crucial role in reducing anxiety levels among nursing students facing academic stress. High self-efficacy helps individuals develop better self-regulation, enabling them to manage negative thoughts and emotional responses more effectively when facing stressful situations. Conversely, individuals with low self-efficacy tend to view academic demands as a threat more readily and are therefore more prone to experiencing anxiety.

Nevertheless, the moderate-strength relationship observed in this study suggests that first-year students' anxiety levels are not solely linked to self-efficacy but are also influenced by a number of additional factors. Anxiety is a mental state with multiple causes and can be influenced by various factors, both internal and external, such as social support, coping strategies, resilience, the academic environment, family circumstances, and an individual's experience of the adaptation process. This is consistent with the findings of Li & Zheng (2025) which indicate that anxiety among students is influenced by the interaction of various psychological and environmental factors, consequently, enhancing self-efficacy is one aspect that requires attention, but it is not the sole factor in anxiety management (Mengesha et al., 2025; Yang et al., 2025). The implications of this study highlight the importance of efforts to enhance self-efficacy among first-year students as part of a promotive and preventive strategy to support the psychological well-being of nursing students. This is consistent with the concept of mental health promotion, which emphasises the importance of individuals' ability to adapt to life's pressures and demands in order to maintain psychological well-being and optimal functioning (Widodo, 2021). Educational institutions can develop support programmes for first-year students through academic orientation activities, mentoring, peer support, and counselling services to help students recognise their own abilities and cope with academic demands in a more

adaptive manner. In addition, previous studies have reported that psychological and relaxation-based approaches may contribute to reducing anxiety and improving psychological comfort when individuals face stressful conditions (Mardiah et al., 2022). It is hoped that such an approach will not only help to reduce anxiety but also support students' adaptation process whilst undertaking their nursing education. This study has several limitations. The cross-sectional design used means that the relationship between variables cannot be interpreted as a cause-and-effect relationship. Furthermore, the study was conducted at a single educational institution; therefore, the generalisation of the findings must be approached with caution. Future research may consider a longitudinal design and explore other factors that may be associated with anxiety among first-year students, such as coping mechanisms, social support, resilience, and the academic environment.

CONCLUSION

This study demonstrates that there is a significant negative relationship between self-efficacy and anxiety levels among first-year students on the Bachelor of Nursing programme at the Faculty of Health Sciences, Muhammadiyah University of Surakarta. These findings support the study's objective that self-efficacy is one of the psychological factors playing a role in the academic adaptation process of first-year students, whereby higher self-efficacy is associated with lower levels of anxiety. This study adds to the empirical evidence regarding the relationship between self-efficacy and anxiety among first-year nursing students who are in the early stages of transition to higher education a group that has been relatively under-researched compared to clinical placement students or final-year students. These findings support the importance of developing programmes to enhance self-efficacy through academic orientation, mentoring, peer support and counselling services as promotive and preventive measures to support the psychological well-being of first-year nursing students. Nevertheless, the use of a cross-sectional design and the fact that the study was conducted at a single institution limit the generalisability of the findings.

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