The Relationship Between Learning Motivation and Critical Thinking in Nursing Students

[1]Diwa Agus Sudrajat, [2]Della Marsela
[1]Sekolah Tinggi Ilmu Keperawatan PPNI Jawa Barat
[2]Student of Sekolah Tinggi Ilmu Keperawatan PPNI Jawa Barat

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Corresponding author
Diwa Agus Sudrajat*
Sekolah Tinggi Ilmu Keperawatan PPNI Jawa Barat, Bandung, Indonesia
Jl. Muhammad No 34 Bandung, Indonesia
Email: diwasudrajat75@gmail.com

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Abstract
Objective: This research was conducted to investigate how learning motivation influences the development of critical thinking skills among students enrolled in nursing education programs. By examining the interplay between these two variables, the study seeks to provide insights into how motivational factors may contribute to the enhancement of higher-order cognitive abilities within the context of nursing training.
Method: A quantitative correlational research design was adopted. The study population consisted of 118 nursing students from STIKep PPNI West Java, with a sample size of 95 respondents. Data were collected using validated questionnaires measuring Learning Motivation and Critical Thinking.
Results: The analysis revealed a statistically significant relationship between students' motivation to learn and their capacity for critical thinking. This association was supported by a p-value of 0.000, indicating a high level of significance as it falls well below the conventional threshold of 0.05. These findings suggest that higher levels of motivation are closely linked to enhanced critical thinking abilities among learners, highlighting the importance of fostering intrinsic motivation in educational settings to support cognitive development.
Conclusion: The study concluded that learning motivation has a positive and significant relationship with critical thinking in nursing students. These findings underscore the importance of promoting learning motivation among nursing students to enhance their critical thinking abilities, which are essential for their professional development.

Keywords: Critical Thinking, Nursing Students, Learning Motivation

INTRODUCTION

Critical thinking skills are essential for nursing students, as they significantly impact both academic performance and the quality of patient care. Critical thinking involves the ability to analyze problems independently and develop solutions using systematic methods. These skills are crucial not only in clinical settings but also in everyday life, where they help individuals tackle various challenges. Through critical thinking, individuals can organize, adapt, and transform their mindsets, enabling them to make informed decisions and take appropriate actions (Zanthy, 2016). For nursing students, these abilities are vital, as they will need to apply critical thinking consistently to deliver effective care once they enter the workforce as nurses (Anggraini, 2013). To become competent and professional nurses, students must demonstrate a strong passion for learning and solid critical thinking skills.

Learning motivation is widely recognized as a foundational element in cultivating students'

critical thinking abilities, particularly within the context of higher education. In the field of nursing education, where analytical thinking and clinical judgment are essential, the presence of strong internal motivation can substantially influence how students engage with learning tasks and process complex information. Sagala (2009) defines learning motivation as an internal psychological condition that stimulates, energizes, and guides students' actions toward achieving their academic objectives. This internal drive not only directs behavior but also maintains the intensity and persistence necessary for sustained learning efforts.

Motivation is more than just a catalyst for initiating study behaviors—it is an essential determinant of learning quality. When students are motivated, they are more likely to invest cognitive and emotional resources in learning activities, which in turn enhances comprehension and promotes deeper intellectual engagement. In contrast, low levels of motivation can lead to disengagement, diminished academic performance, and underutilization of learning strategies, regardless of how effective those strategies may be.

The motivational process often originates from a perceived personal or academic need, which then generates a desire to act, ultimately guiding the learner toward goal-directed behavior. This perspective aligns with Suryabrata (2014), who describes motivation as an inner condition that incites an individual to pursue specific goals through deliberate actions. Such theoretical insights underline the importance of addressing motivational dynamics in educational settings, especially in disciplines that demand high levels of critical reasoning and decision-making, such as nursing.

Empirical studies have consistently demonstrated a positive relationship between students' motivation to learn and their ability to think critically. For example, research conducted by Muwaffiq, Fatah, and Ibrahim (2022) identified a significant correlation between these two variables, suggesting that students who exhibit strong learning motivation tend to perform better in tasks requiring analytical reasoning. Similarly, Ambarwati et al. (2021) found that motivation had a direct and positive effect on the development of critical thinking competencies. Furthermore, Sulistianingsih (2016) highlighted the mediating role of emotional intelligence, arguing that affective factors, including motivation and emotional awareness, are instrumental in fostering students' capacity for critical thought.

Collectively, these findings reinforce the view that learning motivation is not merely a background factor, but a central psychological resource that enables students to engage in the kind of reflective, evaluative, and independent thinking that defines critical reasoning. As such, fostering a motivating educational environment may be a key strategy for enhancing the development of critical thinking skills in nursing and other professional education programs.

While previous studies have explored the link between learning motivation and critical thinking, most have focused on junior high and high school students. This study, however, examines nursing students at STIKep PPNI West Java. Investigating this relationship within the context of nursing education is crucial, as low motivation can hinder academic performance and reduce engagement with course material, making it difficult for students to fully grasp and master their subjects. By addressing these issues, this research aims to offer valuable insights into how learning motivation affects critical thinking among nursing students, ultimately contributing to the development of more effective strategies for fostering these essential skills.

METHODS

Design and Sampling

This study employs a quantitative research approach with a correlation research design. The purpose of a correlation research design is to investigate the relationship between two variables within a specific situation or group of subjects. This approach allows researchers to determine whether, and to what extent, one variable is associated with another

(Notoatmodjo, 2012). In this study, the focus is on exploring the relationship between learning motivation and critical thinking skills in nursing students. The findings are expected to provide insights into how learning motivation influences or correlates with the development of critical thinking abilities in this population.

The sampling for this study consisted of nursing students who met specific inclusion criteria. The inclusion criteria were as follows; students actively enrolled in a nursing program during the study period; students who had completed at least one semester of coursework, ensuring exposure to foundational nursing concepts and critical thinking development; students willing to participate in the study, as indicated by signing an informed consent form and students who were able to participate in all aspects of the research process, including completing questionnaires or assessments related to learning motivation and critical thinking. These criteria were designed to ensure that the sample included participants with relevant academic experience and motivation to provide meaningful data for analyzing the relationship between learning motivation and critical thinking.

Instruments

The instruments used in this study to measure learning motivation and critical thinking are as follows:

1. Learning Motivation Instrument:
   The researcher employed a standardized questionnaire designed to assess students' levels of motivation in learning. The instrument includes items related to intrinsic and extrinsic motivation, goal orientation, effort regulation, and self-efficacy. Each item was scored on a Likert scale ranging from strongly disagree to strongly agree, allowing for the quantification of motivation levels. The questionnaire's reliability and validity had been previously established in similar educational research contexts.
2. Critical Thinking Instrument:

The critical thinking skills of the respondents were measured using a validated critical thinking assessment tool. This instrument evaluates various dimensions of critical thinking, such as interpretation, analysis, evaluation, inference, explanation, and self-regulation. The tool includes scenario-based questions and multiple-choice items that challenge respondents to apply critical thinking in realistic nursing or academic situations. Scores were categorized to indicate low, moderate, or high levels of critical thinking ability.

Both instruments were tested for reliability and validity in a pilot study before being administered to the full sample to ensure accurate and consistent measurement of the variables.

Statistical Analysis

In this study, data analysis was conducted using both univariate and bivariate statistical methods. Univariate Analysis was performed to examine each variable individually. Descriptive statistics such as frequencies, percentages, means, and standard deviations were used to summarize the data on learning motivation and critical thinking. Meanwhile, bivariate analysis was used to assess the relationship between learning motivation and critical thinking among nursing students. The researcher applied correlation analysis, Spearman's rank correlation coefficient. This method helped identify if there was a statistically significant relationship between the two variables. The results from both analyses helped to conclude the relationship between learning motivation and critical thinking in nursing students. Statistical significance was determined using a p-value of less than 0.05.

Ethical Considerations

Data collection in this study began once ethical clearance was obtained from the Institutional Review Board (IRB), ensuring that the research adhered to ethical guidelines. The identities of participants were kept confidential to protect their privacy, and they were informed of their right to withdraw from the study at any time

without facing any consequences. This ethical approach ensured that participants' autonomy and well-being were prioritized throughout the research process.

RESULTS

The following section presents the findings of a study on the relationship between learning motivation and critical thinking in nursing students.

Table 1. Description of Learning Motivation among Nursing Students (N=95)

Variable	Category	Frequency	%
Motivation to learn	High	48	50.5
	Very high	47	49.5
Critical Thinking	High	40	42.1
	Very High	55	57.9

Table 1 presents the results of the assessment of learning motivation and critical thinking among nursing students. The data shows that, for learning motivation, 48 students (50.5%) fall into the high category, while 47 students (49.5%) are categorized in the very high category. Regarding critical thinking, 55 students (57.9%) are in the very high category, while 40 students (42.1%) fall into the high category. These findings suggest that most students demonstrate high levels of both learning motivation and critical thinking skills, with a slightly higher proportion of students displaying very high critical thinking skills compared to their motivation levels.

Table 2. Spearman's test for The Relationship Between Learning Motivation and Critical Thinking

Variables	Correlation Coefficient	P-value
Motivation to learn Critical Thinking	.844	.000*

*Significance <0.05

Based on the results in Table 2, the correlation coefficient is 0.844, indicating a very strong relationship between learning motivation and critical thinking among students. This unidirectional relationship suggests that as students' learning motivation increases, their critical thinking skills also improve. The p-value of 0.000 is less than the significance level of 0.05, indicating that the relationship is statistically significant. Therefore, it can be concluded that there is a very strong, positive, and significant relationship between learning motivation and critical thinking in nursing students.

DISCUSSION

This study aimed to investigate the relationship between gender, student learning motivation, and critical thinking abilities. The findings reveal key insights into these areas, in alignment with existing literature.

Student Learning Motivation

The study found that among nursing students at S1 PPNI STIKep West Java, 48 students (50.5%) exhibited high motivation, and 47 students (49.5%) displayed very high motivation, indicating that the overall learning motivation of the students was categorized as good. The high levels of motivation could be influenced by both internal and external factors, including the encouragement provided by teachers and peers. Motivation is central to the learning process, as it not only drives but also strengthens behavior, guiding students toward achieving their educational goals (Prayitno, 1989). This finding is supported by the research of (Nadiatul et al,

2021, Safitri et al 2021), which also reported high levels of motivation among students. Moreover, (Endah, 2021; Ismiati, 2021) found that 77.8% of students showed very high motivation, aligning with the positive learning motivation results observed in this study.

A literature review conducted across 14 studies showed that 10 studies identified a significant relationship between gender and student learning motivation. According to attribution theory, women tend to invest more effort in their academic endeavors, whereas men often attribute academic success to their abilities and luck (Yani & Aulia, 2020). This was supported by Ayu et al. (2018), who also found a significant relationship between gender and learning motivation, with a p-value of 0.000 ($p < 0.05$).

Critical Thinking

Regarding critical thinking, the study showed that 55 students (57.9%) were categorized as having very high critical thinking skills, while 40 students (42.1%) demonstrated high levels of critical thinking. Critical thinking, defined as rational and reflective thinking aimed at decision-making, is essential for nursing students as it prepares them to solve complex problems in their future practice (Anita, 2015). This study supports findings from Wahyuni et al. (2021), where students' critical thinking abilities were predominantly in the high category. Additionally, Samadya (2020) reported that 67.20% of students achieved a high score in critical thinking. Gender differences in critical thinking abilities were also explored in this study. Men were found to have a slight advantage over women in critical thinking, consistent with the findings of Hante et al. (2020), who also reported gender differences in critical thinking abilities, with men outperforming women in this domain.

Relationship Between Learning Motivation and Critical Thinking

The Spearman Rank Test results revealed a strong positive correlation ($r = 0.844$) between learning motivation and critical thinking, with a significant p-value of 0.000 ($p < 0.05$). This suggests that higher levels of learning motivation are associated with higher critical thinking abilities. The findings are consistent with previous research by Mulyana et al. (2015), who stated that critical thinking skills are both influenced by and contribute to the development of students' learning motivation. This is further supported by Baber (2020), who emphasized that students with higher motivation are more likely to engage in learning seriously and enthusiastically, which enhances their critical thinking. Zanthy (2016) also found that motivation plays a critical role in improving students' critical thinking skills. The motivation to learn encourages students to engage actively in the learning process, which in turn fosters the development of their critical thinking abilities. Cocea (2007) reinforced this by stating that motivation is vital to successful learning outcomes; without it, even the best-designed learning experiences will fail to achieve desired results.

Furthermore, the findings of this study are in line with research by Sucipta et al. (2018) and Nugraha et al. (2017), both of which concluded that students with higher learning motivation tend to possess stronger critical thinking skills. This correlation between motivation and critical thinking has also been observed by Hendriana (2018), highlighting the predictive relationship between these two factors.

In conclusion, this study confirms that gender influences student learning motivation and critical thinking skills. However, learning motivation plays a key role in enhancing critical thinking, suggesting that efforts to improve motivation among students could lead to improvements in their critical thinking abilities. Future research should continue exploring interventions that target both motivation and critical thinking to further enhance learning outcomes in nursing education (Yunita, 2018).

CONCLUSION

The findings of this study uncovered several important patterns related to nursing students' motivation to learn and their critical thinking capacities. Analysis showed that over half of the

participants (50.5%) exhibited a high level of motivation toward their academic pursuits. With regard to critical thinking, a larger proportion of students—57.9%—were identified as possessing very high critical thinking abilities. To explore the association between these two constructs, a Spearman rank-order correlation test was conducted. The statistical results revealed a highly significant relationship, with a p-value of 0.000, well below the standard alpha level of 0.05. Moreover, the strength of this association was underscored by a correlation coefficient of 0.844, suggesting a strong and positive linkage. These outcomes suggest that as motivation increases, students are more likely to demonstrate advanced levels of critical thinking, highlighting the interdependent nature of cognitive engagement and motivational factors in the learning process (Muwaffiq, Fatah, & Ibrahim, 2022; Ambarwati et al., 2021; Sulistianingsih, 2016; Deci & Ryan, 2000; Facione, 2011; Ten Dam & Volman, 2004).

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Conflict of interest

All authors declare no conflict of interest.

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