

ACADEMIC MOTIVATION AMONG NURSING STUDENTS AT THE UNIVERSITY OF MEDICINE AND PHARMACY AT HO CHI MINH CITY AND RELATED FACTORS

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ABSTRACT

Background: Academic motivation is a crucial process that initiates learning effectiveness and impacts students' educational performance. It is also one of the most difficult challenges confronting instructors in nursing education. This study aims to investigate the academic motivation levels among Vietnamese nursing students. and related factors influencing their motivation.

Methods: 331 nursing students from year 1 to year 4 at the University of Medicine and Pharmacy at Ho Chi Minh city, participated in a descriptive cross-sectional study through an online survey method. Data was collected, including a demographic questionnaire, Academic Motivational Scale (AMS-28), and The Dundee Ready Educational Environment Measure (DREEM) questionnaire. This research employed a convenient sampling technique. T-test, Pearson correlation, ANOVA, Kruskal Wallis test and multiple regression model were undertaken.

Results: The research findings showed that the mean scores of academic motivation among students were as follows: autonomous motivation (4.93 ± 1.29), controlled motivation (5.04 ± 1.18), amotivation (2.27 ± 1.75), and overall motivation (self-determination index - SDI) (5.38 ± 4.41). It was observed that motivation tends to decrease as students progress through their academic years, although the statistical differences have not been confirmed yet. Factors that independently predict academic motivation include (1) lecturer, (2) learning environment, and (3) level of interest in learning, $F(4, 326) = 46.94$, $p < 0.001$, adj. $R^2 = 0.358$.

Conclusions: The study found that nursing students displayed good academic motivation. It also provides insight into the motivational processes of Vietnamese nursing students in a university environment and offers ways to enhance motivation levels through teachers' didactic and andragogy skills.

Keywords: Academic motivation, learning environment, self-determination theory, nursing students.

I. INTRODUCTION

Academic motivation (AM) refers to an internal psychological process influenced by internal and external factors such as personal, social, educational, and career factors that drive and direct students' learning efforts and performance to achieve better results in learning and education. It is a dynamic concept divided into three different states: intrinsic motivation, extrinsic motivation, and amotivation [1]. Intrinsically motivated students tend to learn to fulfil their passions and desires to understand and acquire knowledge. Conversely, extrinsically

motivated students often strive to satisfy other things, such as parental satisfaction [2].

Several studies on nursing students' academic motivation have indicated that students with higher motivation tend to exhibit better learning quality [3], increased satisfaction with their studies [4], greater persistence, lower likelihood of experiencing depression, and higher self-confidence [5]. On the contrary, a lack of motivation leads to a decline in academic performance [6]. Nursing students' learning motivation also changes throughout their academic program. These changes can be attributed

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to clinical experiences and professional challenges faced during different stages of their education. Studies have shown that while nursing students typically start their program with high motivation, their motivation tends to decline over time [7].

A review study by Rafi, Saeedi, and Parviz (2019) [2] identified four groups of factors that influence nursing students' motivation: personal factors, social factors, educational factors, and characteristics of the nursing profession. This is consistent with Ryan and Deci's Self-Determination Theory [1], which categorises motivation-influencing factors into personal and environmental categories, with social, educational, and nursing profession characteristics falling under environmental factors.

Despite the increasing attention to research on nursing students' motivation, studies are predominantly qualitative or focused on specific academic years. Research on nursing students in Vietnam is limited, particularly in the health sector. Therefore, we conducted a study to assess the level of motivation among nursing students at University of Medicine and Pharmacy at Ho Chi Minh city identify factors related to students' motivation. The study aims to assess motivation levels among students in different years of study, helping educators and schools understand changes in motivation at each stage and provide necessary support and interventions to improve teaching and learning quality by maximising students' motivation.

II. MATERIALS AND METHODS

2.1. Participants

This study employed a descriptive cross-sectional design via an online survey with a convenient sampling technique. Nursing students across all four academic years at the University of Medicine and Pharmacy at Ho Chi Minh City were involved in the study. Students on leave or who discontinued their studies during the data collecting time frame between April and May 2022 were excluded.

Sample size: $n=329$ participants.

2.2. Data collection procedure

After obtaining approval from the Research Ethics Committee of the University of Medicine and Pharmacy at Ho Chi Minh City, the main researcher emailed potential participants using their university

email addresses. The email contained comprehensive study information, a link to the consent form, and an online survey (Microsoft Forms). Participants were given 14 days to complete both the consent form and survey, with the option to extend the deadline until the desired sample size was achieved.

2.3. Variables and measurements

Participants' characteristics: Background information was collected including (1) General information: age, gender, main place of residence, (2) Family background: economic conditions, family educational background, (3) Social information: factors related to career choice and (4) Study information: year of study, level of interest in learning, self-assessment of the effectiveness of current learning strategies, academic performance (GPA) were recorded.

Academic motivation: Academic motivation was assessed using Vallerand's Academic Motivation Scale (AMS) [10]. The 28-item AMS uses a 7-point Likert scale from 1 (completely inaccurate) to 7 (completely accurate) and includes seven subscales measuring different types of motivation. These subscales assess intrinsic motivation through the motivation to know (IMK), to accomplish (IMA), and to experience stimulation (IMS). It also measures extrinsic motivation through external identification (EMID), introjected regulation (EMIN), and external regulation (EME), and includes a subscale for measuring amotivation (AM). Each subscale's score is calculated by averaging its four items, with a higher score indicating greater academic motivation. The overall academic motivation is evaluated using the Self-Determination Index (SDI), calculated with the formula:

$$SDI = 2 \times ((IMK + IMA + IMS) / 3) - EMID - ((EMIN + EME) / 2) - 2 \times AM$$

The SDI ranges from -18 to +18, classifying academic motivation into five levels: none ($-18.00 \leq SDI < -10.79$), very low ($-10.80 \leq SDI < -3.59$), low ($-3.60 \leq SDI < 3.59$), high ($3.60 \leq SDI < 10.79$), and very high ($10.80 \leq SDI \leq 18.00$).

Prior to the study, a rigorous process of translation-back translation was performed.

Testing of the Vietnamese-translated AMS found an excellent content validity index (S-CVI/Avg) and internal consistency reliability (0.98 and 0.95, respectively).

Educational environment: The educational environment was evaluated using the Vietnamese version of the Dundee Ready Education Environment Measure (V-DREEM) [11,12], which consists of 50 items across five domains. Each item is rated on a 5-point Likert scale ranging from 0 (completely disagree) to 4 (completely agree), and higher scores indicate greater student satisfaction. The questionnaire has been validated for the Vietnamese context achieving a Cronbach's alpha of 0.8 and for our study, we focus on three domains: Student Perceptions of Learning (SPL), Student Perceptions of Teaching (SPT), and Student Perceptions of Atmosphere (SPA).

2.4. Data analysis

Completed questionnaires were transferred from Microsoft Forms to Microsoft Excel for cleaning and coding. Data analysis was performed using SPSS 25.0 software, with a statistical significance level set at $p \leq 0.05$. Qualitative variables were represented by frequency and percentage, while

quantitative variables were described by either mean and standard deviation (for normal distribution) or median and interquartile range (for non-normal distribution). T-tests, ANOVA, and Pearson's correlation were used to explore the relationship between personal characteristics and satisfaction with the learning environment on students' academic motivation. Factors associated with academic motivation in bivariate analysis ($p < 0.05$) were included in a multiple linear regression model to identify predictors of change in academic motivation. Pearson's r and Spearman's correlation were used to determine the correlation between the total academic motivation score and cumulative grade point average (GPA).

2.5. Ethics

Ethical approval for the study was obtained from the Research Ethics Committee of the University of Medicine and Pharmacy at Ho Chi Minh City (Ethical approval No: 142/HĐĐĐ-ĐHYD).

III. RESULTS

3.1. Participants' characteristics

Most of them were female (85.49%), from other provinces and cities (76.43%), and started studying right after graduating (95.77%). The majority of their families did not have anyone working in the healthcare sector (88.82%) or the nursing profession (93.65%). 90.33% of students planned to pursue a career after graduation. 85.80% of students choose their current major willingly. However, nearly two-thirds of students plan to select another major or are uncertain about choosing nursing if given the opportunity. On a scale of 0 to 7, students rated their interest in their studies at 5.30 and their self-assessment of the effectiveness of their current learning strategies at 4.61. The students rated the university learning environment highly, with teaching scoring an average of 34.50 ± 6.21 , teachers at 29.25 ± 4.83 , and the learning atmosphere at 30.11 ± 6.05 . Detailed characteristics of participants are provided in Table 1.

Table 1: Students' characteristics regarding family and social information (n=331)

Characteristic	Frequency (n)	Percentage (%)
Year in school		
Year 1	151	45.61
Year 2	73	22.05
Year 3	61	18.42
Year 4	46	13.89
Any family member with a university degree or equivalent		
No	185	55.89
Yes	146	44.11

Characteristic	Frequency (n)	Percentage (%)
Anyone in family works in healthcare or nursing		
No	294	88.82
Yes	37	11.18
Difficulty in covering study-related expenses		
Yes	165	49.84
No	166	50.16
Level of optimism about future career		
Very pessimistic/ Pessimistic	12	3.63
Not sure	88	26.59
Optimistic/very optimistic	231	69.78
Believe that the nursing profession plays an important role in society		
Yes	324	97.88
Not sure	7	2.12

2.2. Academic motivation among nursing students

The survey results showed that the average academic motivation (Self-determination Index - SDI) of nursing students in the study was 5.38 ± 4.41 . such as adherence to regulations (to be rewarded/avoid punishment) or to recognise one's self-worth, while the lowest was intrinsic academic motivation - to experience. The majority of students exhibited high or very high academic motivation, with a proportion of 61.70%. Only 3 cases (0.9%) of students demonstrated very low academic motivation. See Table 2 for details.

Table 2: Academic motivation among nursing students (n=331)

Academic motivation (1-7)	Mean	SD
Intrinsic Motivation		
To know	5.02	1.45
Toward Accomplishments	4.86	1.42
To experience stimulation	4.44	1.46
Extrinsic Motivation		
Identified regulation	5.43	1.30
Introjected regulation	4.46	1.47
External regulation	5.62	1.26
Amotivation	1.75 ^a	1 - 3.25 ^b
Autonomous motivation	4.93	1.29
Controlled motivation	5.04	1.18
SDI*	5.38	4.41

^a median, ^b interquartile range, *SDI: Self-Determination Index, ranges from -18 to 18

2.3. Factors associated with nursing students' academic motivation

The bivariate analysis results revealed statistically significant relationships between various factors such as having a family member with a college degree, being optimistic about the profession, planning to pursue graduate studies, working after graduation, interest in current studies, and students' self-assessment of the effectiveness of their learning strategies (Table 3). These factors were included in a multiple linear regression model to identify predictors of academic motivation. No relationship was found between the other characteristics (e.g., age, year of study, having a family member working in the healthcare or nursing sector, financial situation) and students' academic motivation, although the results showed a trend of decreasing academic motivation from Year 1 to Year 4 students.

Table 3: Factors associated with academic motivation of nursing students (n=331)

Factors	Mean±SD	F/T-test/r	p-value
Year in school			
Year 1	5.95 ± 4.06	0.63 ^a	0.59
Year 2	5.47 ± 4.48		
Year 3	5.29 ± 4.49		
Year 4	4.81 ± 4.42		
Family member with a university degree			
Yes	6.0 ± 4.42	2.31 ^b	0.02
No	4.88 ± 4.35		
Optimistic about future career			
Yes	6.27 ± 4.22	5.87 ^b	< 0.001
No	3.31 ± 4.15		
Level of interest in current studies		0.43 ^c	< 0.001
Perception toward teaching		0.52 ^c	< 0.001
Perception toward teachers		0.44 ^c	< 0.001
Perception toward learning atmosphere		0.51 ^c	< 0.001

^aANOVA, ^bT-test, ^cPearson correlation

The multiple regression model statistically significantly predicted academic motivation, $F(4, 326) = 46.942$, $p < 0.001$, adj. $R^2 = 0.358$. Compared to the bivariate analysis results, the multiple linear regression model identified only three variables statistically significant to the prediction, including teachers, learning atmosphere, and level of interest in current studies ($p < 0.05$). These factors explained 35.8% of the variance in nursing students' academic motivation. See Table 4 for details.

Table 4: Multiple linear regression results for academic motivation of nursing students (n=331)

SDI	B	95% CI		β	p
		LL	UL		
Constant	13.05	10.14	15.96		
Having a family member with University degree or equivalent	0.68	-0.97	1.45	0.08	0.09

SDI	B	95% CI		β	p
		LL	UL		
Teachers	0.12	0.03	0.22	0.17	0.01*
Learning atmosphere	0.21	0.11	0.30	0.31	< 0.001***
Interest in current learning	1.18	0.72	1.63	0.26	< 0.001***

Model: Backward method in SPSS analysis; B: Unstandardized beta coefficient; β : Standardized beta coefficient; LL: Lower limit; UL: Upper limit; Dependent variable: Academic motivation (SDI)

$R^2 = 0.365$, Adjusted $R^2 = 0.358^{***}$

* $p < 0.05$, *** $p < 0.001$

IV. DISCUSSION

4.1. Academic motivation among nursing students

The study revealed that nursing students at the University of Medicine and Pharmacy at Ho Chi Minh city have a high level of motivation for learning. The average overall academic motivation score (self-determination index - SDI) is 5.38 ± 4.41 , which is higher compared to previous studies on nursing students at Hai Phong University of Medicine and Pharmacy and Can Tho University of Medicine and Pharmacy (with an SDI score of 5.08 and 4.66, respectively). This motivation level is especially higher than that of students in non-healthcare fields [13]. The differences in learning motivation between the studies can be partly explained by the characteristics of the nursing profession, admission scores between universities, and the learning environment. The University of Medicine and Pharmacy at Ho Chi Minh City has high admission scores, requiring significant student effort to succeed. Additionally, the altruistic nature of healthcare professions contributes to the high level of motivation compared to other fields of study. Many students in these fields are motivated by a desire to help others and positively impact individuals and communities. According to Koekemoer [14], the motivation to pursue a career centered on helping others is a powerful driving force, surpassing motivations found in other fields of study.

4.2. Factors associated with academic motivation among nursing students

Our study found that the majority of nursing students have a good level of learning motivation.

However, there is a slight tendency for learning motivation to decline from year one to year four, although this was not statistically significant. This trend has also been reported in previous studies by Tran Thi Thuy Duong (2019) [8], Hakim [7], Shakurina et al [4]. The decrease in learning motivation among students over the course of their studies is believed to be influenced by factors such as the education system, the clinical learning environment, academic pressure, and changes in career expectations.

Nishimura and Sakurai (2017) [15] highlighted the link between the decline in learning motivation and cultural influences within the education system in Asian countries. They noted a shift from intrinsic to extrinsic motivation among students, which can lead to a drop in learning motivation due to high-pressure testing environments and societal expectations that prioritise achievement over learning. Recognising these cultural aspects is crucial for nursing educators to develop effective motivational strategies that sustain or enhance students' intrinsic motivation.

In addition to cultural factors, the rising demands of academic and clinical practice significantly affect student motivation. Dogham et al. [16] suggested that the stress associated with escalating academic requirements can lead to decreased focus and academic performance, which can, in turn, lessen students' motivation. This is concerning as learning motivation plays a key role in students' ability to apply their learned skills in clinical settings effectively.

Koekemoer [14] also identified the educational environment as a significant factor. While this study's

results showed that students rated their learning environment highly, the survey questionnaire primarily evaluated teaching, instructors, and the learning atmosphere, not the clinical learning environment. Therefore, the explanation for the decrease in learning motivation among third- and fourth-year students is limited. However, Tran Thi Huyen (2019) [17] suggested that interpersonal relationships within the clinical learning environment pose a challenge for students during practice. This may partly explain the change in learning motivation among third- and fourth-year students. Further enhancing the support of instructors during clinical practice and the relationship with stakeholders plays an important role in promoting students' learning motivation during clinical practice [17].

Our results align with Suluhan's study [18], which found that students who initially chose nursing may have been motivated by an idealistic perception of the profession. However, the disparity between expectations and reality can cause a significant decrease in motivation. This is clearly reflected in our study's findings, which showed a statistically significant difference in the proportion of career optimists and students intending to change their major between student groups. Specifically, the proportion of career optimists among first- and second-year students (83.6% and 77.5%) was higher than that among third- and fourth-year students (56.2% and 57.4%). Conversely, the proportion of students intending to change their major was higher among third- and fourth-year students (52.1% and 45.9%) than first- and second-year students (23.9% and 27.2%).

Our current study used a cross-sectional design, but learning motivation is a dynamic concept that changes over time. Therefore, while the results were measured on multiple groups of students in different years, certain differences in demographic characteristics are inevitable, and the results may not fully reflect the true differences compared to a longitudinal study. This also points to the need for future longitudinal studies.

This study reveals a trend in nursing students' learning motivation: the greater influence of extrinsic motivation over intrinsic motivation. This aligns with the findings of most previous studies [8, 19]. The trend can be attributed to several factors

unique to the nursing profession. As Kusrkar et al. [20] suggest, medical students, including nursing students, are often driven by extrinsic motivators like the pursuit of high grades, job prospects, future earnings, and societal and familial expectations. Furthermore, Pelaccia and Viau [21] argue that the pressure of continuous testing and evaluation can lead students to prioritize academic performance. This is partially due to the current education system, which emphasises grades and academic achievement, causing students to study for high marks rather than a love for the subject. A competitive learning environment and societal pressures can also encourage students to focus on obtaining results instead of personal growth. Moreover, high expectations from family and society can lead to students studying to meet these expectations rather than fostering a passion for the subject.

Multiple linear regression analysis revealed that teachers, learning atmosphere, and engagement in learning could explain 35.8% of the variability in nursing students' learning motivation. These findings align with previous studies by Huynh Thi Ngoc My and colleagues at Can Tho University of Medicine and Pharmacy [22]. Our research, however, offers a more detailed evaluation of the learning environment, specifically teachers, teaching and learning atmosphere aspects by V-DREEM. This provides a more accurate and comprehensive understanding of student motivation influences compared to isolated question assessments. Yet, our study did not evaluate students' clinical learning environment, a crucial factor affecting motivation. This omission suggests a direction for future research.

Teachers play an essential role in enhancing student learning motivation. Enthusiastic, knowledgeable, and supportive instructors can inspire students and deepen their learning engagement. The relationship between student motivation and teacher attributes is well - documented in educational research. Studies have shown that teachers' teaching styles and interaction behaviors directly influence intrinsic motivation and student satisfaction [23]. Effective communication and the ability to present lecture content in an understandable, engaging manner are key teacher traits that boost student motivation.

Apart from teachers' influence, the learning atmosphere significantly contributes to creating an environment conducive to active, motivated learning. Both the physical and psychological elements of the learning environment boost student motivation. A supportive educational environment includes well-equipped physical resources, access to learning materials, and a psychological climate that fosters mental well-being and intellectual growth. According to Vallerand et al. [24], an encouraging environment provides clear guidance, feedback, and recognition of student efforts and achievements, enhancing intrinsic motivation and learning engagement.

Interest in learning is closely tied to student motivation. When students are passionate about a subject, they engage more actively and persistently in learning, leading to better educational outcomes. As proposed by Deci and Ryan in their Self-Determination Theory [1], when students perceive their learning activities as aligning with their personal interests and values, they achieve greater satisfaction and motivation. Consequently, curricula should connect course content with students' interests and career goals to boost student motivation significantly.

In conclusion, this study offers valuable insights into the factors influencing nursing students' learning motivation. Understanding these factors can assist educational institutions and instructors in developing strategies to support students in optimizing their motivation and academic performance.

V. CONCLUSIONS

Nursing students at the University of Medicine and Pharmacy at Ho Chi Minh city have high levels of academic motivation, with an average SDI score of 5.38 ± 4.41 . Of these, 61.7% of students have high or very high academic motivation. The predictors of academic motivation of nursing students are: (1) teachers, (2) learning atmosphere, and (3) level of interest in current studies.

Disclosure

The authors report no other conflicts of interest in this work.

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Academic motivation among nursing students at the University of Medicine...

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