



# Correlation Between Satisfaction with the Field of Study and Clinical Competence in Nursing Students

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Received 2022 May 13; Revised 2022 June 27; Accepted 2022 June 28.

## Abstract

**Background:** Satisfaction with the field of study can affect the acquisition of knowledge and skills necessary for that profession.

**Objectives:** The aim of this study was to investigate the correlation between satisfaction with the field of study and clinical competence in nursing students.

**Methods:** This descriptive correlational study was performed on 167 nursing students in the seventh and eighth semesters in the School of Nursing and Midwifery of Islamic Azad University, Karaj Branch, Iran, from 2020 to 2021. Sampling was done by a purposeful sample method. Data collection tools were the demographic information form, the Satisfaction with the Field of Study Questionnaire, and Students' Clinical Competency Questionnaire, which were completed by the self-report method. Data were analyzed by SPSS software version 16 using Pearson correlation coefficient, chi-square test, and *t*-test and reported by descriptive statistics of mean, standard deviation, frequency, and percentage.

**Results:** The clinical competence of nursing students in the seventh and eighth semesters was moderate (53.3%), and 56.9% of them were very satisfied with their field of study. A weak positive and significant correlation was obtained between satisfaction with the field of study and the total score of clinical competence ( $P = 0.001$ ,  $r = 0.260$ ).

**Conclusions:** With increasing satisfaction with the field of study, the clinical competence of nursing students increased. This finding emphasizes the need to invest in strategies to promote increased satisfaction with the field of study to help develop the clinical competence of nursing students.

**Keywords:** Nursing, Students, Clinical, Competency, Field of Study

## 1. Background

Health managers and policymakers seek to attract nurses with clinical competency to meet the complex, diverse, and changing needs of health care, such as focusing on prevention and primary care, technology development, disease progression, and the rapid aging population associated with declining birth rates, climate change, and the spread of infectious diseases (1, 2).

Nurses' clinical competence is an important factor in the evaluation of nurses and the key to providing high-quality services and the moral and legal necessity to provide care services (3). Clinical competence refers to the core competencies required to play the role of a nurse (1), which includes a wide range of knowledge, practice, and abilities in various fields, such as clinical and communication skills, clinical reasoning, emotions, and values (4). The process of acquiring clinical nursing competencies begins with university education and learning in the clinical setting (5). Half of the bachelor's degree in nursing education is de-

voted to learning clinical skills (6), and an internship is the last opportunity to learn clinical skills in a bachelor's degree in nursing in Iran, which plays an important role in gaining clinical competencies (4). Contradictory evidence of clinical competence acquired by students has been reported. In the study by Esmaeili et al., the clinical performance of nursing students in the seventh and eighth semesters was reported to be moderate (7). Hakimzadeh et al. assessed students' clinical competence as above average in the emotional and psycho-motor domains and as moderate in the cognitive domain (8). Individual, environmental, professional, social, managerial, and cultural factors affect the acquisition of nurses' clinical competence (9).

Satisfaction with the field of study has an effective role in acquiring the necessary knowledge and skills of the profession (10), academic achievement, and future career success of learners (11). Choosing a job is a complex decision (12), which is influenced by the individual (knowing the profession and searching for information about the aca-

demographic field), professional (professional attractions that attract a person's attention to choose that profession, image of the field, and career future), and external (family and relatives, educational environment, peer groups, media, and economic and occupational fields) factors (13). Choosing nursing as the field of study requires higher sensitivity and accuracy due to its impact on the quality of care and human health (14). Some students do not have enough interest, insight, and knowledge about the field of nursing, which can lead to the intention to leave education (15), and low quantity and quality of nursing services (10). Factors, such as low wages, psychological stress in the workplace, and poor professional image are the reasons for the decrease in satisfaction with studying in the field of nursing (16). Haririan et al. showed that 30% of students had a positive view of their profession, and 57% tended to leave it. Also, 52% tended to change the field, and 48.5% tended to withdraw from the field (17). Nursing students today are the backbone of the nursing staff of the future (18). In order to support the growth, sustainability, and future of the nursing profession, it is necessary to attract and retain learners interested in this field (19). Despite the shortage of nursing staff following the retirement of older nurses, the need to provide health care due to increasing population age, infectious diseases, change and diversity in care needs (20), and dropout of nursing students, providing health services will face a serious challenge with a shortage of nurses (21).

With the COVID-19 pandemic, clinical education and the process of acquiring clinical competencies in students faced problems, such as restrictions on attendance inwards, the need to remain in quarantine when the symptoms or high prevalence of the disease are observed in the community, reduced clinical cases, and reduced interaction with patients (22, 23). On the other hand, a new social image of the nurse was introduced, which affected the students' perception of their professional (24, 25). Despite the fact that one of the main challenges of the nursing education system is the training of nurses with good clinical competence to provide future health care, various other factors besides the education system affect the process of obtaining clinical competence. Individual factors, such as motivation and inner desire, can guide the student's efforts to acquire professional skills. The current generation of nursing students have different interests, needs, and values from the previous generation in their field of profession and future work. But in the COVID-19 pandemic, it is not clear how satisfied the current generation of nursing students is with their field of study and how much this factor has affected their level of professional competence. Therefore, the present study was conducted to determine the correlation between satisfaction with the field of study

and clinical competence in nursing students.

## 2. Objectives

The aim of this study was to determine the correlation between satisfaction with the field of study and clinical competence in nursing.

## 3. Methods

This was a descriptive correlation study conducted in 2020 - 2021. The study population was all undergraduate nursing students in the seventh and eighth semesters of the Faculty of Nursing and Midwifery, Islamic Azad University, Karaj Branch, Iran.

Exclusion criteria were dissatisfaction with participating in the study and incomplete completion of the questionnaire. The sampling method was purposeful. Brace et al. stated that the minimum sample size for correlation studies was 100 (26). In this study, all nursing students entered the study with inclusion criteria from three consecutive academic entries during three different semesters. 7th and 8th-semester nursing students from three different academic semesters were investigated. Each student completed the questionnaires only once.

Data were collected using a demographic information form, the Satisfaction with the Field of Study Questionnaire, and the Nursing Students' Clinical Competency Questionnaire.

Satisfaction with the Field of Study Questionnaire was designed by Anbari et al. in 2012. The questionnaire had 18 items scored on a five-point scale (very high, high, medium, low, and very low) from 1 to 5. Questions 1 and 18 had reverse scores. The total score of the questionnaire ranged from 18 to 90. Achieving a score of 18 - 32.4 indicated very low satisfaction, a score of 32.5 - 46.8 showed low satisfaction, 46.9 - 61.2 showed moderate satisfaction, 61.3 - 75.6 showed high satisfaction, and 75.7 - 90 expressed very high satisfaction. The validity and reliability of this tool were confirmed by Anbari et al. (27).

The Students' Clinical Competency Assessment Questionnaire had 31 items in three areas: cognitive, emotional, and psycho-motor. The cognitive domain had 12 items, the emotional domain had ten items, and the psycho-motor domain had nine items. The score of the questions was based on a 5-point Likert scale. Students evaluate their skills by choosing between very few (0 - 20%), low (21 - 40%), medium (41 - 60%), high (61 - 80%), and very high (81 - 100%) options. A score of 1 was given for a very low skill level, and a score of 5 was given for a very high skill level. The total score was between 31 and 155. Scores of 31 - 71 indicate low

clinical competency, 72 - 113 indicate moderate, and 114 - 155 indicate good clinical competence. In the cognitive range, the range of scores was 12 - 60 (12 - 28: low, 29 - 44: moderate, and 45 - 60: good), and the psycho-motor range was 9 - 45 (9 - 21: low, 22 - 33: moderate, and 34 - 45: good), and the emotional score range was 10 - 50 (10 - 23: low, 24 - 37: moderate, and 38 - 50: good). Hakimzadeh et al. confirmed the validity of this questionnaire through content validity, and reliability was reported by calculating the Cronbach's alpha coefficient of 0.94 (8).

In the present study, in order to determine the reliability of the two questionnaires, the test-retest method was used. For this purpose, the questionnaires were provided to ten nursing students in two stages with an interval of ten days, and the reliability of the student clinical competency assessment questionnaire (0.78) and satisfaction with the field of study questionnaire (0.78) was estimated. These ten students were excluded from the study.

In order to conduct the research, after obtaining permission from the Vice-Chancellor for Research of the Islamic Azad University, Karaj Branch, and introducing it to the Faculty of Nursing and Midwifery, the questionnaires were provided to students after introducing the purpose of the research and obtaining written consent. The method of collecting data was self-report. Completed questionnaires were collected within one to two days to provide enough time to complete the questionnaire and answer their ambiguities and questions.

In this research, ethical considerations according to the criteria of the Helsinki Convention, such as obtaining permission from university officials to conduct research, obtaining the ethical code (IR.IAU.K.REC.139401), explaining the goals of the study, obtaining written consent to participate in the research, and reassuring students and officials to announce the results of the research if desired, were considered.

The collected data were analyzed using SPSS software version 16. In order to investigate the relationship between the independent variable and the dependent variable, first, the Kolmogorov-Smirnov test was performed, and the normality of the data was investigated. Based on the results of this test, the total score of satisfaction with the field of study and the total score of clinical competence had a normal distribution ( $P = 0.200$ ). Therefore, the Pearson correlation coefficient parametric test was used to investigate the relationship between the two variables. Data were described by frequency distribution tables, mean and standard deviation and Pearson correlation coefficient, *t*-test for independent groups, and one-way analysis of variance were used in data analysis. In the present study, the Pearson correlation coefficient was defined as follows: Between zero and 0.3: Weak, between 0.3 and 0.6: Moderate, and

more than 0.6: Strong. The significant level was considered less than 0.05.

#### 4. Results

Most of the students participating in the study (82%) were female, and 74.3% were single. Most students (69.5%) were in the 7th semester. Other demographic characteristics are reported in [Table 1](#).

**Table 1.** Demographic Characteristics of Nursing Students in the Seventh and Eighth Semesters Participating in the Study

Variables	No. (%)
<b>Gender</b>	
Male	30 (18)
Female	137 (82)
<b>Marital status</b>	
Single	124 (74.3)
Married	43 (25.7)
<b>Semester</b>	
7	116 (69.5)
8	51 (30.5)
<b>Work experience</b>	
Yes	65 (38.9)
No	102 (61.1)

The mean age of students was  $22.18 \pm 0.96$  years, ranging from 24 to 21 years, and the mean grade point average was  $16.86 \pm 1.16$ , with a range of 19.96 to 14. The average duration of student work was  $5 \pm 8.1$  years with a range of zero to 36 months.

The mean and standard deviation of the total score of clinical competence of nursing students was  $109.5 \pm 22.28$ , and satisfaction with the field of nursing was  $63.8 \pm 99.15$ . Mean and standard deviation of different dimensions of clinical competence are reported in [Table 2](#). Regarding satisfaction with the field of nursing items, the tendency to drop out and change the field of study was low. Adequate career, income and economic status, increasing interest in entering the field, and serving the people were the most common reasons for interest in nursing.

Based on the cut-off points, most nursing students rated their overall level of clinical competency as moderate (53.3%). Regarding the three dimensions of clinical competence, the findings showed that most nursing students had moderate clinical competence in the cognitive (57.5), emotional (47.9), and motor (50.3) dimensions. Also, 56.9% had a high level of satisfaction with the field of nursing.

**Table 2.** Mean and Standard Deviation of Clinical Competence and Satisfaction with the Field of Study in Nursing Students in the Seventh and Eighth Semesters

Variables	Mean $\pm$ SD	Minimum Score	Maximum Score
<b>Clinical competence</b>			
Cognitive	41.36 $\pm$ 8.81	19	60
Emotional	35.99 $\pm$ 7.79	13	50
Psycho-motor	32.17 $\pm$ 6.64	15	44
Total score	109.5 $\pm$ 22.28	50	149
<b>Satisfaction with the field of study items</b>			
1- Have you ever thought about dropping out of school?	4.36 $\pm$ 1.12 <sup>a</sup>	1	5
2- To what extent has the encouragement of those around you (parents, relatives, friends, etc.) been effective in choosing your field?	3.6 $\pm$ 1.31	1	5
3- If you participate in the entrance exam again, do you want to choose this field?	3.35 $\pm$ 1.29	1	5
4- Has your interest in this field of study increased after entering university?	3.74 $\pm$ 1.10	1	5
5- To what extent have the existing problems affected your interest in your field of study?	3.05 $\pm$ 1.20	1	5
6- To what extent is this field of study appropriate for your personal talents and characteristics?	3.66 $\pm$ 0.87	1	5
7- To what extent has a suitable career been influential in choosing this field?	4.01 $\pm$ 0.97	1	5
8- To what extent has the appropriate social situation been influential in choosing this field?	3.69 $\pm$ 0.98	1	5
9- To what extent has the amount of income and economic status been influential in choosing this field?	3.75 $\pm$ 1.01	1	5
10- To what extent has the possibility of serving the people and society been effective in choosing this field?	3.71 $\pm$ 1.05	1	5
11- To what extent has your field of study been effective in satisfying your inner motivations?	3.55 $\pm$ 1.09	1	5
12- To what extent has the method of education been effective in your satisfaction with your field of study?	3.35 $\pm$ 1	1	5
13- To what extent has the academic level of the professors been effective in your satisfaction with your field of study?	3.59 $\pm$ 1.07	1	5
14- To what extent have the personal and personality characteristics of the professors influenced your satisfaction with your field of study?	3.67 $\pm$ 1	1	5
15- To what extent has your knowledge of this field been effective in choosing it?	3.31 $\pm$ 0.95	1	5
16- How much was your interest in this field before choosing it?	3.23 $\pm$ 1.12	1	5
17- To what extent has the interest in specialized courses in high school been effective in choosing this field?	3.32 $\pm$ 1.23	1	5
18- To what extent is your desire to change your field?	3.58 $\pm$ 1.31 <sup>a</sup>	1	5
Total score	63.8 $\pm$ 99.15	40	87

<sup>a</sup> Scoring is inverse.

A positive, weak, and significant correlation was observed between the total score of satisfaction with the field of nursing and the total score of clinical competence, as well as between the total score of satisfaction with the field of nursing and cognitive, emotional, and psycho-motor dimensions of nursing students ( $P < 0.05$ ) (Table 3).

The total score of clinical competence did not show a statistically significant correlation with age ( $r = 0.028$ ;  $P = 0.717$ ), grade point average ( $r = 0.093$ ;  $P = 0.233$ ), and duration of student work ( $r = -0.055$ ;  $P = 0.484$ ). The independent  $t$ -test did not show a statistically significant difference in the mean of the total score of clinical competence by

gender, semesters, marital status, and student work ( $P > 0.05$ ) (Table 4).

The total score of nursing satisfaction with the field of nursing with age ( $r = 0.002$ ;  $P = 0.984$ ), grade point average ( $r = 0.113$ ;  $P = 0.146$ ), and duration of student work ( $r = -0.043$ ;  $P = 0.582$ ) did not show a statistically significant correlation ( $P > 0.05$ ). The independent  $t$ -test did not show a statistically significant difference in the mean of the total score of satisfaction with the field of nursing in terms of gender, semesters, marital status, and student work ( $P > 0.05$ ) (Table 4).

**Table 3.** Correlation Between Satisfaction with the Field of Study and Clinical Competence in Nursing Students in the Seventh and Eighth Semesters

	Clinical Competence							
	Cognitive		Emotional		Psycho-Motor		Total Score of Clinical Competence	
	r	P	r	P	r	P	r	P
Satisfaction with the field of study	0.228	0.003	0.275	< 0.001	0.243	0.002	0.260	0.001

**Table 4.** Comparison of the Mean of Clinical Competence and Satisfaction with the Field of Study Based on Demographic Characteristics

Variables	Clinical Competence	Satisfaction with the Field of Study
<b>Gender</b>		
Male	113.16 ± 25.25	61.73 ± 8.07
Female	108.8 ± 21.55	64.48 ± 8.55
t-test	t = 0.973; P = 0.332	t = -0.614; P = 0.109
<b>Marital status</b>		
Single	109.58 ± 22.48	63.25 ± 8.07
Married	109.58 ± 21.79	66.11 ± 9.45
t-test	t = 0.002; P = 0.999	t = -1.192; P = 0.058
<b>Semester</b>		
7	109.67 ± 22.73	64.63 ± 8.20
8	109.39 ± 21.30	62.52 ± 9.08
t-test	t = -0.075; P = 0.940	t = 1.480; P = 0.141
<b>Work experience</b>		
Yes	109.72 ± 20.32	63.53 ± 7.46
No	109 ± 23.48	64.28 ± 9.14
t-test	t = -0.063; P = 0.950	t = -0.551; P = 0.582

## 5. Discussion

In the present study, students who were more satisfied with the field of nursing had higher clinical competence. This finding was consistent with the results of Lee who showed that students interested in nursing had higher clinical competence (28). Shehadeh et al. reported that nursing students with higher academic satisfaction had higher academic self-efficacy (29). Edraki et al.'s study declared that nursing students with higher academic satisfaction had better academic achievement (30). Students who are interested in the field have a stronger academic motivation, accept more educational activities, do more homework, and, as a result, achieve more success (14). This finding showed that with increased satisfaction with the field of study, the clinical competencies acquired by nursing students increase. Therefore, in order to have highly qualified nurses, attention to interest and motivation to study in this field should be considered as a criterion for

selecting students for study and entrance exams.

In the present study, students assessed their clinical competence in the areas of moderate cognitive, emotional, and psycho-motor skills. Angasu et al. reported that 59.9% of students acknowledged the negative impact of the COVID-19 pandemic on learning clinical skills (22). Hakimzadeh et al. showed that the clinical competence of nursing students in both emotional and psycho-motor domains was slightly higher than average and in the cognitive domain was at the intermediate level, and students rated their overall clinical competence above average (8). However, this finding was not in line with the results of Eivvand Tahmasebi et al. who showed that 72.3% of nursing students were at a high level in terms of clinical competence (31). Notarnicola et al. reported that 87.27% of nursing students rated their competency level as "good" (32). Having clinical competence is a requirement for providing quality care, and an internship in the field is the last golden opportunity to transfer from an educational environment to a clinical work environment to provide the role of a novice nurse. This study showed that students' clinical competence a year after graduation was not satisfactory. One of the reasons for this was the limited attendance at the wards and the limited clinical contact of the students in the COVID-19 pandemic. The clinical competence of nursing students will affect future health care. It seems that nursing education planners and nursing managers should consider strategies to fill the gap in the clinical competence of nursing students before graduation and employment.

In the present study, more than half of the nursing students had high satisfaction with the field of study. Nie et al. showed that during the COVID-19 pandemic, nursing students became more interested in nursing and the conditions of the COVID-19 pandemic had no effect on their satisfaction with the field of nursing (25). Shehadeh et al. reported that most Jordanian nursing students had moderate to low satisfaction levels with the field of nursing (29). According to Hakim (33), most nursing students had a low level of satisfaction with their field of study. Edraki et al. showed that 56.4% of nursing students had moderate academic satisfaction (30). Understanding job expectations and factors affecting nursing satisfaction in stu-



dents is one of the important components of nurses' maintenance strategies in future health systems (19) because satisfaction with the field of study affects the motivation, retention, and academic achievement of learners (34). It seems that individual factors, learning environment, training conditions and clinical learning environment, critical conditions of COVID-19 pandemic, occupational job attractiveness, such as income, working hours, and social image are some of the factors affecting the level of satisfaction of nursing students.

Regarding nursing satisfaction items, there was a very low tendency to drop out of school and a low tendency to change the study field. Kim reported that 17.6% of nursing students (18) and in Kandil et al. declared that more than half of nursing students intended to leave the nursing profession (21). Also, 70% of nursing students were not interested in the nursing profession (21). Deciding to leave the profession is a multistep process that ranges from a mere desire to serious thought to actual decision-making and planning (18). In this study, students in the last two semesters of nursing were evaluated for whom the opportunity to cancel or change the study field was limited. However, due to the desire of some students to drop out or change their study field, in order to maintain and help nursing students stay in the profession, it seems necessary to adopt supportive strategies to retain and create a desire for nursing.

The professional future, income, and economic status, increased interest in entering the field, and serving the people were the most common reasons for satisfaction with the field of nursing. Kolar et al. declared that 46.2% of students chose nursing because of their desire for care and human ethics and 30.8% for financial reasons, such as financial stability and the high chance of finding a job, and in 88% of students, nursing was the first choice of study field (35). According to Mooney et al., the main reasons for choosing nursing were job security, fixed income, and easy to access to various job opportunities (36). Marcinowicz et al. reported that the reasons for choosing a nursing job were the desire to help others, family tradition, desire for skills and work abroad, and failure to enter another field (16). It seems that in the present study, securing a job after graduation, the possibility of having a better income, and the economic situation by migrating to work in other countries were important reasons for students' interest in nursing. To enhance the attractiveness of this profession and the permanence and commitment of learners to serve our country, paying attention to the income, salaries, and benefits of the nursing profession, creating various job opportunities and benefits, such as flexible work plans, cafeteria plans, study opportunities, social networks and creating a work environment, providing an attractive environ-

ment for learning, integrating technology, innovation in clinical learning, and emphasizing professional values are recommended.

### 5.1. Limitations

One of the limitations of the present study was the collection of information from a research environment and the use of a non-random sampling method, which reduced the generalizability of the data. Therefore, it is suggested that other studies be conducted in a multi-center manner using random sampling methods to increase the generalizability of the data.

### 5.2. Conclusions

The present study showed that nursing students who were more satisfied in the field of study in nursing had higher clinical competencies. Selecting students who enter the field of study with interest on the one hand, and using evidence-based strategies to create the attractiveness of the nursing profession, especially in the economic dimension and diversification into various aspects of the profession, can increase students' satisfaction with their field and consequently, help to achieve better clinical competence. It is suggested that a study be conducted on the relationship between satisfaction in the field of study and the quality of care and clinical competence in nurses.

### Acknowledgments

We would like to thank the nursing and midwifery students who participated in this research project and the Vice-Chancellor for Research and Technology of the Islamic Azad University, Karaj Branch, for approving and financially supporting the project.

### Footnotes

**Authors' Contribution:** Study conceptualization and design: S. Z. M. and N. H. K.; analysis and interpretation of data: S. Z. M.; drafting of the manuscript: S. Z. M.; critical revision of the manuscript: S. Z. M. and N. H. K.

**Conflict of Interests:** Participation in this study was voluntary. There was no charge for study participants. The Vice-Chancellor for Research and Technology of the Islamic Azad University, Karaj Branch, provided financial support for the project. The invention was not made by the authors. The authors did not receive royalties for this project. The benefit of doing this research is the development of background knowledge, and there are no product development benefits for authors as a result of the work. The authors are not members of the editorial board of this journal. The

authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

**Ethical Approval:** The present study was extracted from the research design of the Islamic Azad University, Karaj Branch (ethics code: IR.IAU.K.REC.139401).

**Funding/Support:** The Vice-Chancellor for Research and Technology of the Islamic Azad University, Karaj Branch, supported this study. The grant number was 152036.

**Informed Consent:** Informed consent was obtained from all the participants of the study.

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