

Article

Investigating the relationship between self-efficacy in clinical performance and psychological empowerment among nursing students

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Abstract

Background: Clinical self-efficacy and psychological empowerment are two key factors in clinical nursing education.**Objectives:** This study was conducted to investigate the relationship between clinical self-efficacy and psychological empowerment (PE) in nursing students.**Methods:** This descriptive correlational study was conducted on 198 nursing students of the Zanjan University of Medical Sciences in 1402. The students were selected by census sampling. Data collection instruments included a demographic information form, the self-efficacy in clinical performance (SECP) questionnaire (designed and validated psychometrically by Cheraghi et al.), and Spitzer's Psychological Empowerment Instrument (SPEI). The data were analyzed using the independent samples student t-test, Pearson's correlation, and ANOVA in SPSS v.22 software.**Results:** Among the nursing students, the mean (SD) of the total SECP score was 108.7 (15.03), and the mean (SD) of the total PE score was obtained at 37.3 (5.8). The results showed that all dimensions of SECP showed a statistically significant correlation with PE in nursing students ($P < 0.001$). Among demographic variables, SECP showed a statistically significant relationship with marital status and clinical experience. Also, PE showed a statistically significant relationship with the academic semester ($P < 0.05$).**Conclusion:** Considering the direct correlation between SECP and PE among nursing students, as well as the importance of these parameters in achieving goals, managing stressors, and providing safe and quality care, nursing education program managers can adopt appropriate approaches to enhance the sense of independence and the ability to make correct independent decisions of nursing students in the clinical setting and during theoretical training courses, thereby increasing these students' clinical competency and enabling them to deliver quality clinical care and upgrade their clinical self-efficacy.

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Implications of this paper in nursing and midwifery preventive care:

- In order to train professional human resources capable of providing quality nursing care, it is necessary to pay special attention to the PE of nursing students and their self-efficacy in applying nursing procedures in the clinical setting, which demands merging knowledge, attitudes, values, and psychomotor skills. The first step to achieving this goal is to determine the level of self-efficacy and competency, which can provide an appropriate guide for nursing education planners and clinical educators

Introduction

Self-efficacy refers to a person's perception or judgment of his/her ability to accomplish a specific task and affects the thoughts, feelings, motivations, and performance of people [1]. Experts consider self-efficacy as a strong predictor and determinant of the success of educational programs and achieving goals, shaping people's behaviors, perseverance, and quality of performance [2]. Self-efficacy in the academic environment refers to the student's trust in his/her ability to fulfill the assigned academic duties. In the nursing profession, clinical self-efficacy denotes the judgment of nursing students

about their ability to independently organize and manage nursing care activities in accordance with clinical nursing procedures [3]. High self-efficacy helps students achieve higher levels of efficacy and set higher goals by improving their adaptability, self-confidence, and feeling of being competent. Also, clinical education, as a dynamic process with a decisive role in amalgamating theoretical knowledge with mental, psychological, and motor skills, helps students employ the concepts learned in interaction with the instructor in the clinical environment and at the patient's bedside [4].

Self-efficacy in the clinical environment profoundly influences the quality of the care provided by nursing students. In the nursing profession, high clinical self-efficacy helps set more sophisticated goals and manage work environment stressors. Clinical self-efficacy is also a strong predictor of the deliverance of safe and quality care [5]. Studies show that clinical self-efficacy has a positive relationship with creativity, a sense of belonging in the clinical environment, and clinical competency [6-8]. High self-efficacy fosters the student's faith in his/her competency for accepting challenging roles and more vigorously trying to accomplish them independently [9]. The results of a study by Portimore et al. showed that nursing students with higher self-efficacy had more effective professional relationships with nurses and better attachment to the clinical environment, and this fruitful interaction could improve their clinical performance and offer them more learning opportunities and better clinical experiences [7]. Clinical self-efficacy boosts nursing students' ability to cope with stressful situations. The higher students' trust in their abilities to accomplish clinical duties, the more they become motivated to continue the path of success [3]. Clinical tasks need a combination of knowledge, psychomotor skills, and problem-solving ability, and nursing students are expected to learn these skills so that they can acquire adequate independence in providing patient care. Clinical self-efficacy can be a strong predictor and assessor of the acquisition of these skills by nursing students [10]. Some studies have reported moderate levels of clinical self-efficacy among nursing students [7,11]. Another study showed that most nursing students had moderate to high clinical self-efficacy, elucidating a positive relationship between clinical self-efficacy and creativity among these students [6].

According to studies, nursing students are more likely to face stressful situations due to the nature of their profession, predisposing them to mental health dysfunction. Therefore, experts deem it necessary for nursing students to become empowered to cope with these stressors. An important dimension in this field is psychological empowerment, which includes four domains: meaningfulness (the compatibility of the role and job with personal beliefs, values, and behaviors),

competency (a person's trust in his/her ability and capacity to accomplish professional duties), autonomy (feeling of having the right to choose and controlling in performing tasks), and being influential (perceiving one's ability to influence and execute professional strategies and their outcomes).

Psychological empowerment (PE) increases the flexibility and responsiveness of healthcare workers in stressful and challenging situations [12]. Nursing students may face negative clinical experiences due to reasons such as unfamiliar environments, lack of self-confidence, insufficient patient care knowledge, feeling of not being worthy learners, and receiving insufficient support from the instructor. Competency or lack of competency can affect the academic satisfaction of nursing students. Psychological empowerment reflects the feelings of power and self-confidence, as well as the ability to control the work environment. In the last decade, the concept of empowerment has grown extensively in the fields of midwifery and nursing. According to studies, PE can reduce job burnout and augment organizational commitment, job satisfaction, and work participation among nurses. Also, PE plays an important role in enhancing cognitive skills, stress-coping abilities, communication skills, spiritual intelligence, and job commitment in the work environment [13]. Zhao et al. identified self-efficacy as one of the main factors in selecting appropriate stress-coping and problem-solving strategies and declared that students with higher self-efficacy exhibited more positive adaptive behaviors when facing stressful clinical situations, suggesting that self-efficacy improvement was indispensable for nursing students to feel lower levels of stress and adopt positive coping strategies [10].

In order to increase the PE of nursing students, they need to be provided with the necessary platforms for the development of "independence" and "feeling of self-worth" [14], and high self-efficacy in clinical performance (SECP) seems to be one of the requisites for this purpose. Therefore, it is important to be informed of the level of self-efficacy and PE among nursing students. Since we found no study on the relationship between these two parameters, this study was conducted to investigate the correlation

between SECP and PE among nursing students in the Nursing and Midwifery School of Zanjan.

Methods

Participants

The present research employed a descriptive correlational design. The study population included all undergraduate nursing students studying in the academic semesters of 4th to 8th at the Zanjan University of Medical Sciences. The participants were selected by the census from April to July 2023. A total of 198 students participated in the study.

Data Collection Tools

Data collection tools included a demographic information checklist, the self-efficacy in clinical performance (SECP) questionnaire (designed and validated psychometrically by Cheraghi et al.), and Spitzer's Psychological Empowerment Instrument (SPEI). The demographic information checklist included parameters such as age, gender, marital status, student work experience, academic semester, grade point average, place of residence, and interest in the field.

The clinical self-efficacy questionnaire was developed and psychometrically validated by Cheraghi et al. This instrument included 34 phrases organized in 4 dimensions, including patient evaluation (12 items), nursing diagnosis (7 items), planning and implementation (10 items), and care plan assessment (5 items) (15). These items were responded to on a 4-point Likert scale from "not sure at all" to "fairly sure" with respective scores from 1 to 4. The minimum and maximum total scores were 34 and 136, respectively, and the total score was classified into three levels: low (34 to 68), average (68.1 to 102), and high (102.1 to 136). Cheraghi et al. verified the reliability of this questionnaire using both the internal consistency method, reporting Cronbach's alpha coefficient of 0.9, and the test-retest method, announcing a correlation coefficient of 0.9. The tool's content validity was assessed by delivering the questionnaire to five faculty members of the Nursing and Midwifery School of Zanjan. The corrections requested by these experts were applied to refine the questionnaire. The tool's internal consistency was approved by Cronbach's alpha coefficient of 0.8. The Persian version of Spitzer's Psychological Empowerment Instrument was indigenized to be

used for Iranian nurses by Eskandari et al., who reported a content validity index of 0.92 and Cronbach's alpha coefficient of 0.86 [16]. This questionnaire contained 12 items organized in four dimensions: meaningfulness, feeling of competency, independence, and self-worth. Each dimension was assessed by three questions scored on a 4-point Likert scale from 1 to 4. The minimum and maximum total scores were 12 and 48, respectively, and the total score was divided into three levels: low (12-24 points), average (25-36), and high (37-48). Azizi et al. verified the reliability of the Persian version of this questionnaire, reporting Cronbach's alpha coefficient of 0.9 [17]. The instrument's content validity was assessed by handing the tool to the faculty members of the Nursing and Midwifery School of Zanjan, whose comments were analyzed and implemented. The reliability of the questionnaire was confirmed using the internal consistency method, retrieving Cronbach's alpha coefficient of 0.83. The questionnaires were distributed among nursing students until all eligible individuals were included.

Statistical Methods

The normal distribution of the data was assessed by checking skewness and kurtosis, showing values between -2 and +2 for all variables, and verifying their normal distribution. Data were displayed using descriptive statistics (prevalence, percentage, mean, and standard deviation) and analyzed using inferential statistics (Pearson's correlation, independent student t-test, and one-way analysis of variance). The statistical significance level was designated at $P < 0.05$, and SPSS v.22 software was utilized for performing analyses.

Results

In this study, all undergraduate nursing students studying in the academic semesters of 4th to 8th (n=198 people) were enrolled. The age range of the participants was 19-39 years, with a mean (SD) of 22.7 (2.4). Around half (51%) of the participants were female, and 49% of them were male. Most of the students (n=171, 86.4%) were single, and 83 (41.9%) of them had student work experience. Also, 81 (40.9%) students had a GPA above 17, and 126 of them (63.6%) had an interest in the field. Ninety-five (48%) of the students lived in a dormitory; 86 (43.4%) lived in

their parents' home, and the rest lived in a private residence.

The results showed that the mean (SD) of the total SECP score was 108.7 (15.03), with the highest and lowest scores belonging to the dimensions of patient evaluation and care plan assessment,

respectively. The mean (SD) of the total PE score in the students was 37.3 (5.8), with the highest and lowest scores being related to the dimensions of meaningfulness and independence, respectively (Table 1).

Table 1: Mean scores of clinical self-efficacy and psychological empowerment and relevant dimensions

Self-efficacy in clinical performance dimensions	Mean (SD)
Patient evaluation	37.7(6.2)
Nursing diagnosis and planning	21.5(3.7)
Implementation of care plans	32.5(4.4)
Care plan assessment	15.8(2.7)
Total score	108.7(15.03)
Psychological empowerment	Mean (SD)
Meaningfulness	9.9(1.8)
Competency	9.4(1.6)
Independence	7.6(1.8)
Being influential	8.9(1.8)
Total score	37.3(5.8)

According to our findings, 73.7% of the students had high self-efficacy, 24% of them had average self-efficacy, and the rest showed low self-efficacy. Regarding PE, 56.5% of the nursing students participating in this study displayed high

levels of PE; 40.4% revealed average PE levels, and the remaining students exhibited low PE.

Pearson's correlation showed that there was a direct and significant correlation between all dimensions of SECP and PE among nursing students ($p < 0.001$, Table 2).

Table 2: The link between self-efficacy in clinical performance and psychological empowerment

Self-efficacy dimensions	Correlation coefficient	P-value
Patient evaluation	$r = 0.7$	$p < 0.001$
Nursing diagnosis and planning	$r = 0.6$	$p < 0.001$
Implementation of care plans	$r = 0.6$	$p < 0.001$
Care plan assessment	$r = 0.6$	$p < 0.001$

The mean score of SECP was observed to be significantly associated with student work experience ($p = 0.04$) and marital status ($p = 0.02$), and the mean score of PE was significantly

associated with the academic semester ($p = 0.04$). None of the other demographic variables showed a significant relationship with SECP or PE (Table 3).

Table 3: The relationship of self-efficacy in clinical performance and psychological empowerment with nursing students' demographic and academic variables

Demographic and academic variables		Clinical Self-efficacy		Psychological Empowerment	
		Mean (SD)	Statistic	Mean (SD)	Statistic
Gender	Female	(14.8)108.11	P=0.8	(5.7)36.80	P=0.4
	Male	(15.3)109.35	t=-0.5	(6.03)37.9	t= -1.38
Marital status	Single	(14.6)104.5	P=0.02	(5.6)37.32	P=0.2
	Married	(17.3)110	t=-0.4	(7.4)37.43	t= -0.07
Academic semester	4	(13.4)108.11		(3.9)37.40	
	5	(12.4)104.61		(5.7)35.83	
	6	(19.17)109.52	P=0.4	(6.5)36.70	P=0.04
	7	(15.20)111	F=0.9	(4.8)37.90	F= 0.7
	8	(14.31)109.50		(7.8)37.71	
Student work experience	Yes	(15.4)109.31	P=0.04	(6.5)37.11	P=0.9
	No	(13.5)105.82	t=-0.6	(5.6)36.60	t= - 0.5
Residency	Dormitory	(13.7)110.30		(5.6)38.01	
	Parents' home	(16.5)107.42	P=0.3	(6.06)37.02	P=0.2
	Personal home	(14.02)106.35	F=1.05	(5.9)35.8	F=1.25
Grade point average	>17	(15.9)111.5	P=0.07	(5.9)38.03	p=0.08
	<17	(14.07)108.76	t=-2.2	(5.7)36.90	t= -1.2
Interest in the nursing field	Yes	(13.3)110.2	P=0.09	(4.6)38.4	P=0.06
	No	(17.1)105.1	t=2.2	(7.1)35.3	t= 3.6

Tests; * independent t-test
One-way analysis of variance

Discussion

The aim of the present study was to investigate the levels of SECP and PE and the correlation between these parameters among nursing students. Our findings showed that most of the nursing students participating in this study attained average to high levels of clinical self-efficacy. The highest SECP score was related to the patient evaluation dimension, and the lowest score belonged to the area of care plan assessment. In a study by Miao et al. in China on undergraduate nursing students, most of the students reported average to high levels of self-efficacy [10]. Consistently, the results of a study by Pourteimoor *et al.* in Urmia showed that nursing students had average self-efficacy, with the highest and lowest scores belonging to the patient evaluation and care plan assessment dimensions, respectively [7]. Motahari et al., in a study in the Guilan province of Iran, declared that most nursing students had a high level of self-efficacy, and the highest and lowest scores belonged to the implementation and evaluation dimensions, respectively [3]. In another study in Kerman, Iran, Sadat Bahador noted that about half of the students enrolled had average to high self-

efficacy levels, noting that the maximum and minimum scores were related to the dimensions of patient evaluation and care plan assessment, respectively [6]. Likewise, Khosravi et al., in their study in Arak, reported that the highest score was related to the care plan implementation area, while the lowest score was recorded for the dimension of care plan assessment [18]. The differences observed in students' perspectives on various clinical self-efficacy domains may be related to variabilities in the teaching methods employed, instructors' personal characteristics and educational styles, and the duration of attending clinical environments. These studies underscore the instructor's behavior and clinical performance as one of the most important determinants of effective clinical education [5,9]. In the present study, in line with most of the above-mentioned studies, the care plan assessment dimension of clinical self-efficacy acquired the lowest score. These results indicate that nursing students are adequately trained in the first steps of nursing education, especially the patient evaluation section. However, the evaluation of the effectiveness of the patient care measures taken (i.e., care plan assessment) is

often overlooked. Care plan assessment is an integral part of the nursing process, and without the implementation of appropriate assessment, one cannot guarantee the implementation of high-quality, safe care. Clinical instructors are required to establish correct educational strategies to boost clinical self-efficacy in nursing students. Another possible reason justifying these perspectives of nursing students can be related to inadequate attendance at the patient's bedside, short internship periods, and, therefore, the lack of sufficient time for care plan assessment. It seems that setting specific clinical goals and focusing on the nursing process when formulating care programs can be beneficial in improving students' perspectives regarding the implementation and assessment of nursing care plans.

In the present study, none of the demographic variables assessed showed a significant relationship with clinical self-efficacy except for student work experience and marital status. However, in a study by Salimi et al., clinical self-efficacy was noted to be significantly associated with GPA and academic semester. Moreover, consistent with our observation, the recent study showed that the mean score of self-efficacy was higher in students who had student work experience [11]. It seems that working in the clinical environment and becoming competent in clinical skills can boost nursing students' self-confidence and self-efficacy. In accordance, Pourteimoor et al. reported a significant relationship between clinical work experience and self-efficacy among nursing students. Learning in the clinical environment can substantially help nursing students expand their nursing skills, professional identity, self-confidence, and preparedness for accepting more responsibilities [7].

In the present study, more than half of the students showed high levels of PE, while less than half of them had average levels of PE. Also, the highest and lowest scores were related to the meaningfulness and independence dimensions, respectively. In a study by Beigi and Khademi, who investigated PE and spiritual health in nursing students of the Qom University of Medical Sciences, half of the students had high PE. Moreover, the lowest mean score was related to the phrase No.9 of the independence dimension (I have enough time to do my work independently

and freely), and the highest mean score belonged to the phrase No.3 of the meaningfulness dimension (My job means a lot to me personally) [14].

In a study by Azizi et al. in Kermanshah province of Iran, nursing and midwifery students were reported to have average levels of PE. Students with higher PE levels represented better decisiveness and clinical decision-making [17]. In our study, the lowest mean score of PE was related to the dimension of independence and autonomy. This dimension refers to freedom of choice in the start and regulation of the necessary activities and behaviors of an individual. In this regard, studies note that by making students responsible for their activities and empowering their clinical judgment, it is possible to increase the self-worth and effectiveness of students in the clinical environment, which boosts their independence and self-efficacy in providing effective patient care [5,19]. These findings indicate that strategies should be adopted to bestow students with independence in decision-making, which enhances their self-efficacy in carefully examining patients' needs and designing care plans. Azizi et al., in a study on nursing students of the Kermanshah University of Medical Sciences, reported a significant positive correlation between decisiveness in decision-making and PE, arguing that high PE could have positive effects on independence in clinical decision-making and the achievement of care goals, helping nursing students attain flexibility and adaptability and effectively resolve conflicts and challenges arising in the clinical environment [17].

Based on the results of the present study, PE showed a strong correlation with all dimensions of SECP, indicating that higher levels of PE could augment the self-efficacy of nursing students in the clinical environment. Qomri Zare et al., in their study in Kerman, stated that nurses with higher PE displayed more competency in patient care and performed better professionally [20]. In line, Arkalid et al., in a study on nursing students in Oman, reported that students who had higher levels of PE in the fields of competency and meaningfulness employed more organized plans and set more specific goals relying on a detailed assessment of the patient's care needs [13]. Ahn & Choi assessed the factors affecting PE of

nursing students in South Korea and concluded that factors such as high self-efficacy and self-confidence, the ability to make clinical decisions, instructors' educational behaviors, and feeling of self-worth as a learner in the clinical environment were among the most important elements shaping PE in nursing students. Moreover, these researchers stated that seeing students as active and independent contributors to clinical affairs can increase their sense of self-worth and empowerment, encouraging them to advance their academic progress and achieve clinical self-efficacy [21]. In the present research, the students acquired a high mean score in the meaningfulness dimension, revealing a strong correlation between this component and clinical self-efficacy. This dimension reflects the value of professional goals and the inner enthusiasm of a person for a profession. According to studies, the value and meaningfulness of the nursing profession in the eye of the student would affect some important motivational aspects, such as choosing the type of activity, efforts, perseverance, and emotional reactions [2].

Among the limitations of this study are its cross-sectional design, the use of questionnaires for data collection, and restricting the participants to only one faculty. Therefore, it is suggested that more comprehensive studies on larger populations in this field be conducted. Also, future studies are suggested to employ qualitative methods to elucidate the strategies that can be employed to increase PE and SECP in nursing students.

Conclusion

Based on the results of this study, a significant correlation was observed between PE and SECP in undergraduate nursing students. Clinical self-efficacy has a substantial role in effectively promoting professional goals, managing occupational stressors, and providing safe and quality care. Also, PE (i.e., a person's seeing his/her occupation meaningful) can promote the competency and independence of nursing students. Therefore, managers and developers of nursing education programs are recommended to employ appropriate approaches in clinical and theoretical nursing courses to improve the sense of independence, the ability to make correct independent decisions, competency in providing

quality care, and clinical self-efficacy among nursing students.

Ethical Consideration

The present study was approved by the Research Deputy of Zanjan University of Medical Sciences and the institutional ethics committee under the ethics approval code of IR.ZUMS.REC.1402.047. After obtaining ethical approval, the researcher met with the students in person, introduced herself, and provided the necessary explanations about the objectives of the study and how to complete the questionnaire. Written informed consent was obtained from the students, and they were assured about the confidentiality of their information and their freedom to withdraw from the study at any stage.

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Conflict of interest

The authors declare no conflict of interest.

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Authors' contributions:

A. Vaezi: Concept and design of the study, obtaining approval for performing the study, analyzing the validity and reliability of data collection tools, sample recruitment, entering data into SPSS software, statistical analysis, and drafting the manuscript. F. Moradi: Sample recruitment, data analysis, and drafting of the manuscript. V. Karimi: Data analysis and drafting of the manuscript. All authors read and approved the final version of the manuscript

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