



Evaluation of Professional Self-Concept and its Relationship Factors: A Study among Nursing Students in Mashhad University of Medical Sciences, Iran

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Abstract

Background: Professional self-concept (PSC) is an important issue concerning the nursing profession and is reflected as the key concept in nursing professionalism. Although previous studies investigated this concept and its related factors among nursing students, their results showed no consensus.

Objectives: This study aimed to assess PSCs among senior nursing students and examine their relationship with gender and Grade Point Average (GPA).

Methods: This cross-sectional study included 157 nursing students selected by a convenience sampling among senior nursing students in the seventh semester in January 2020 at Mashhad University of Medical Sciences, Mashhad, Iran. The data were collected using Cowin's 36-item Nursing Professional Self-Concept questionnaire, which measures nursing self-concept in six dimensions.

Results: Undergraduate nursing students were 22-24 years old (22.58±98). Moreover, two-thirds of the students were female (66%) and married (71%). The nursing students reported a total mean score of PSC to be 161.1±3.27. The highest mean score of the PSC dimensions belonged to communication (27.7±1.17), and the lowest mean score was observed for self-esteem (25.52±1.06). In addition, there was no significant difference among gender, total PSC, and its dimensions, and there was no relationship with GPA, except for the staff relations ($r=-0.198$, $P<0.05$) and leadership ($r=-0.210$, $P<0.05$), which showed a negative and significant correlation; however, the correlation coefficients were not strong ($P<0.3$).

Conclusion: Due to a moderate level of total PSC and the lowest dimensions in self-esteem among nursing students, it is recommended that nursing students' PSC and its dimensions, specifically in self-esteem, be taken into account, which can boost their nursing professionalism.

Keywords: Iran, Nursing students, Professional self-concept

1. Background

Nursing is the largest profession within the healthcare system. A nurse's professional self-concept (PSC) is an important issue concerning the nursing system and one of the strong factors influencing to leave the profession and affecting the nursing shortage (1). The PSC that refers to an individual's perception of self as a professional person affects his/her way of thinking, role evolution, professional behavior and performance, as well as self-confidence (2). Scholars determined that the most important reason nurses left the profession was the lack of professional self among nurses (3). Nurses derive their self-concept and professional identity from their public image, work environment, work values, education, as well as traditional social and cultural values. It is believed that the transition from a student to a graduate nurse forms a critical point in a nursing career (4). This is a period when a novice finds out whether their chosen occupation is

congruent with his/her self-concept (1). Therefore, PSC is considered the main concept in nursing education during professional clinical practice among nursing students (5). Accordingly, the model of professional nurse self-concept was developed by Cowin et al. (2008), (6). According to the multidimensional self-concept theory of Cowin's model that consists of six dimensions, a nurse's general self-concept or self-esteem means an overall sense of self-esteem evolving from a sense that one belongs in the nursing profession. Furthermore, it encompasses caring/affectionate and empathetic support given to another. Communication is defined as effectively sharing information and ideas in a circular nature with patients, families, communities, and other health care workers. Moreover, knowledge is possessing and confidently using nursing skills and theories. Staff relations, characterized by collegial relationships and leadership, are described as the ability to confidently direct the activities of the healthcare team (4). Therefore, PSC is defined as

professional knowledge, skills, attitudes, values, and beliefs shared in a professional team and are internalized based on their beliefs which affect different aspects of professional performance, personal characteristics, and working conditions (7).

Previous studies in Iran showed that PSC among nurses and nursing students was poor to moderate; however, it was lower than the results of other countries (5, 8-10). On the other hand, few reports on nurses' PSC contribute to an image as a non-caring profession, and the attitude of nursing students is highly influenced by the image of nursing in society, which makes them have an insufficient PSC (1). Nurses with low PSC have fewer professional clinical competencies, lower occupational satisfaction, and a higher intention of turnover (1, 9). According to Cowin et al. (2008), strong self-concept contributed to the positive development of the professional self and determined that professional training and personal self-concept affected the development of PSC. A professional nurse must exhibit a PSC that has been developed during the professional education program (4). The improvement of nursing students' PSC will improve their nursing performance and competence (9). However, there is no consensus regarding the afforded review about PSC levels in nursing, including their attributes.

Furthermore, many factors are related to PSC improvement during professional clinical practice among nursing students. These factors are not only demographical characteristics, such as age, gender, ethnicity, level of education, and experiences but also academic achievement, including Grade Point Average (GPA) (3, 11). Nevertheless, a literature review in other countries indicated that important factors related to PSC, such as gender and academic achievement, have indicated different outcomes among nursing studies (3, 12). The results of a study among nursing students in Turkey for the relationship between gender and PSC dimensions revealed that female students received a higher score than male ones (3). One recent study conducted by Farčić et al. (2020) concluded that male nurses' were more motivated than female nurses to leave nursing. Therefore, nurse managers should mainly concentrate on male nurses' professional self-development (13). Meanwhile, few studies in Iran investigated the association of gender with PSC among nursing students (14, 15). Their findings revealed a significant gender difference between male and female students concerning their PSC. The female students had an improved nursing PSC. A significantly few research examined GPA and reported no significant relationship between PSC and GPA (1, 15). According to one integrative review conducted in the area of nursing among Iran and other developing countries, gender socialization could restrain nurses from developing PSC. Since

most nurses are female, many have been taught to be docile, passive, and gentle, following social expectations. However, the current movement toward professionalization in nursing has encouraged nursing students to be assertive, independent, and strong (16). In Iran, similar to other developing countries, nursing is a mainly female occupation and is apparent as a profession for womankind. Males' entering the nursing profession has been a wonder during the last decades, and the number of male nurses is still not enough. Moreover, there is an absence of male role models in nursing education and learning backgrounds. These details may posture a barrier to males' obligation to the nursing occupation and the growth of their professional character (16). Meanwhile, the results of two studies in Iran proved no significant difference between males and females regarding PSC among nursing students (14, 15).

In summary, the review of the studies as mentioned above indicated different results in these important areas among senior nursing students. On the other hand, given the scarcity of research investigating the level of PSC and association with gender difference and GPA, their results showed no consensus regarding the level of PSC among nursing students, including their attributes in Iran. The strengthening of the professional members is possible only through the development of nursing students' PSC from the beginning of nursing education in professional internship clinical (11). Therefore, research in the assessment of PSC level as one of the outcomes of nursing professionalism and the associated factors among senior nursing students is necessary.

2. Objectives

This study aimed to assess PSC and its dimensions among senior nursing students, examine its relationship with gender and GPA, and assess PSC dimensions levels, such as self-esteem, communication, caring, knowledge, staff relations, leadership, and important related factors to improve professionalism nursing.

3. Methods

3.1. Study Design

This cross-sectional study was conducted in February 2020.

3.2. Setting and Participants

This cross-sectional study was conducted on 157 nursing students selected by a convenience sampling method among senior nursing students recruited from Mashhad University of Medical Sciences (MUMS), Mashhad, Iran, in January 2020. The calculation of the sample size (n=160) was based on the effect sizes of a

similar study by Barry et al. (2019) (17). Moreover, the minimum sample size was calculated from the effect size formula, and the results were 124 cases considering an attrition rate of 20%. The adjusted total sample size was obtained at 160 cases. The recruitment process of participants began after the permission and the ethical approval were granted. The inclusion criteria were being in the seventh semester of nursing, not having a previous history of psychiatric disorder or currently on psychiatric medication treatment, and willingness to participate in the study. The exclusion criteria were a history of practice in other internship courses or educational background in other subjects of paramedical sciences, except for nursing before entering this study.

3.3. Instruments

The data were collected using a professional nurse self-concept questionnaire and a five-item demographic characteristics form covering such information as age, gender, marital status, the experience of clinical student work, as well as interest in nursing and academic achievement in the form of GPA. This instrument developed by Cowin (2008) comprises 36 items related to six subscales of PSC, including self-esteem, caring, knowledge, leadership, staff relations, and communication (4). All items are expressed positively and scored based on a six-point Likert scale, and the score range of the tools is 36-216 (the range of score is 6-36 for each dimension), and a higher score shows an increased level of PSC. Cronbach's alpha was reported between 0.82 and 0.92 in the study conducted by Cowin in 2008. Moreover, Hensel and Stoelting-Gettelfinger indicated a study in 2010 and described a Cronbach's alpha in the range of 0.87-0.91 for its various dimensions (12). Previously, the reliability and validity of the Persian version of the Nursing Professional Self-Concept questionnaire instrument were assessed and reported to be acceptable in terms of reliability and validity in different studies (1, 14, 18). The permission to reuse the instruments was granted from the original authors. In addition, the internal consistency of the tool was re-evaluated to assess its reliability in this study. Therefore, the reliability alpha values of all students were found to be more significant than the standard of 0.70, indicating the acceptable level of reliability for this scale, and Cronbach's alpha was calculated to be 0.949 for the present study (19).

3.4. Data Collection

The entire senior nursing students at the nursing school of MUMS, Iran, in 2020, made up the study population. Firstly, the eligible nursing students were identified from the educational administrative department record in the nursing school. A list with the demographic characteristics of all senior students (n=160) under professional clinical practice in the two university hospitals at MUMS (Ghaem and Emam Reza

hospitals, Iran) was checked for the inclusion criteria. A total of 153 senior students were found to be qualified, and they were asked to contribute to this study through the invitation letter. The inclusion criteria were being in the seventh semester of nursing, not having a previous history of psychiatric disorder or currently on psychiatric medication treatment, and willingness to participate in the study. The exclusion criteria were a history of practice in other internship courses or educational background in other subjects of paramedical sciences, except for nursing before entering this investigation. Therefore, all 153 eligible participants out of 160 cases agreed to be included in the study. A written informed consent form was obtained from them to ensure human rights protection; moreover, they were informed that their participation was voluntary, and they could withdraw anytime with no coercion. Furthermore, there was no impact on their grade, and finally, data were kept anonymously and confidentially.

3.5. Data Analysis

Data were evaluated using the Statistical Package for Social Science Software (SPSS) (version 23.0; SPSS, Chicago, IL). Descriptive and inferential statistics were operated to respond to the research questions that guided the present study. Descriptive statistics, such as mean (M), standard deviation (SD), and range, were applied to calculate the patients' level of PSC. Pearson correlation coefficient and independent t-test were used to determine the relationship among the students' academic achievement (GPA, gender, and PSC) in undergraduate nursing students undertaking the professional clinical practice. A p-value less than 0.05 was considered statistically significant.

4. Results

4.1. Participants' Characteristics

Full demographic characteristics of 153 undergraduate nursing students who participated in the study are presented in Table 1.

Overall, two-thirds of the participants were female undergraduate nursing students (66%), and 71% of them were married. The age of participants varied from 22 to 24 years old (22.58±98). The majority of the participants (89.5%, n=137) had experience of clinical student work and high nursing interest (86.3%, n=132). However, only 10.5% of the cases had no clinical experience, and 13% (n=21) of the participants had a low nursing interest. In addition, the majority of the participants (94.8%, n=145) had GPA>=3, and only 5% (n=8) of them had GPA<3.00.

4.2. Study Findings

4.2.1. Professional Self-Concept

In this study, the total score of PSC and its subscales were categorized into low, moderate, and

Table 1. Demographic characteristics of the participants (n=153)

Variable	Level	n	%
Gender	Male	52	34.00
	Female	101	66.00
Marital status	Single	109	2.78
	Married	44	71.20
Experience of clinical student work	Yes	137	89.50
	No	16	10.50
Nursing interest	High	132	86.30
	Low	21	13.00
GPA	<3	8	5.00
	≥3	145	94.80
Age	Mean±SD	22.58±0.98	-

high levels based on the scoring of the questionnaire. According to Table 2, nursing students reported a total mean score of PSC to be 161.1±3.27 and was determined to be a moderate level of PSC. The highest mean score of the PSC dimensions belonged to communication (27.7±1.17), followed by caring (27.59±0.95), knowledge (27.51±1.3), staff relations (26.83±1.6), and leadership (26.43±1.06). Moreover, the lowest mean score was observed for self-esteem (25.52±1.06).

Table 3 indicates the frequency distribution of PSC and its dimensions among nursing students. The total score of PSC and its dimensions were categorized into low, moderate, and high levels based on the scoring of the questionnaire. Results of the frequency distribution for these three categories for total PSC and its dimensions among 153 nursing students showed that for total PSC, the majority of them (92.8%) had moderate and only 7.2% of the cases had a high sense of PSC. In addition, the majority of nursing students had moderate levels of PSC dimensions for self-esteem (88.2%), staff relations (90.2%), leadership (95.5%), and knowledge (97.4%), and the rest of the students were in a low level of PSC. Meanwhile, 99% of the nursing students had a moderate level of caring dimension. Nevertheless, in terms of the communication

dimension, 94.8% of the students had a moderate level, and 5.2% of them had a high level of PSC (Table 3, Figure 1).

4.2.2. Differences among Gender, total PSC, and its Dimensions

In order to assess the difference in the level of total PSC and its dimensions between males and females, the independent t-test was used, and the results are indicated in Table 4. Moreover, there was no significant difference between males and females in terms of total PSC, as well as its dimensions among nursing students.

4.2.3. Relationships of GPA with PSC and its Dimensions

In this study, in order to evaluate the relationships between the students' GPAs and total PSC, its dimensions were investigated using Pearson and Spearman correlation coefficients. The results of this analysis are presented in Table 5. In addition, there was no significant relationship among GPA, total PSC, and its dimensions, except for the staff relations ($r=-0.198$, $P<0.05$) and leadership ($r=-0.210$, $P<0.05$), which was negative and significantly correlated; however, the correlation coefficients were not strong ($P<0.3$).

Table 2. Descriptive statistics of the total PSC and its dimensions

Variable	Minimum	Maximum	Mean	SD
Self-esteem	23.00	29.00	25.53	1.20
Caring	26.00	29.00	27.10	0.96
Staff relations	23.00	29.00	26.83	1.62
Communication	25.00	31.00	27.77	1.17
Knowledge	23.00	29.00	27.52	1.31
Leadership	24.00	29.00	26.43	1.06
Total PSC	152.00	170.00	162.1	3.36

Table 3. Frequency distribution of total PSC and its dimensions among nursing students

Professional Self-Concept	Low n (%)	Moderate n (%)	High n (%)
Self-esteem	18 (11.8)	135 (88.2)	0 (0)
Caring	4 (1.7)	150 (98.3)	0 (0)
Staff relations	15 (9.8)	138 (90.2)	0 (0)
Communication	0 (0)	45 (94.8)	8 (5.2)
Knowledge	4 (2.6)	49 (97.4)	0 (0)
Leadership	7 (4.6)	146 (95.4)	0 (0)
Total PSC	0 (0)	42 (92.8)	11 (7.2)

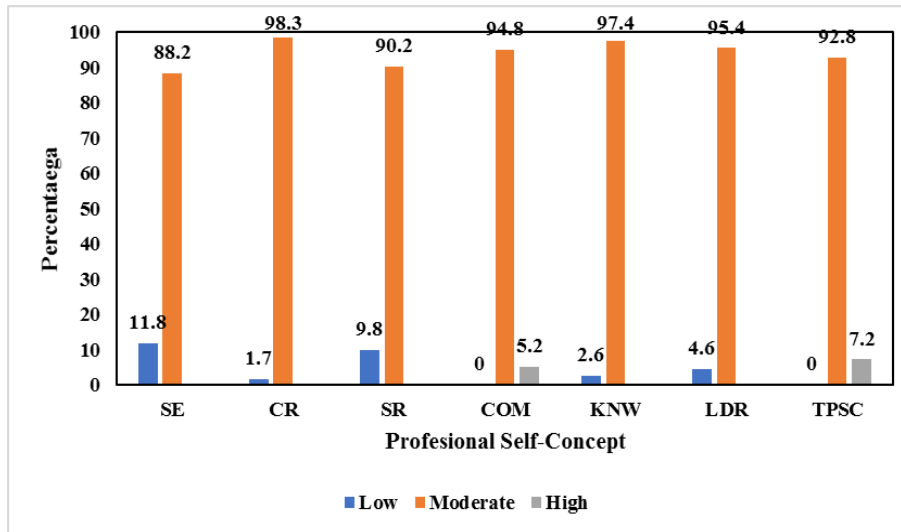


Figure 1. Level of total PSC and its dimensions

Table 4. Differences among gender, total PSC, and its subscales

PSC Dimensions	Gender	Mean	SD	T-value	P-value
Self-esteem	Male	28.61	3.23	-0.194	0.847
	Female	28.72	3.25		
Caring	Male	29.36	2.30	-0.541	0.590
	Female	29.58	2.40		
Staff relations	Male	30.03	2.89	0.985	0.326
	Female	29.54	2.95		
Communication	Male	30.38	2.22	0.368	0.713
	Female	30.23	2.39		
Knowledge	Male	30.21	2.09	-0.212	0.832
	Female	30.29	2.48		
Leadership	Male	29.13	2.72	0.625	0.533
	Female	28.85	2.62		
Total PSC	Male	177.90	13.92	0.224	0.823
	Female	177.37	13.74		

Table 5. Pearson correlation coefficients (r) among GPA, total PSC, and its subscales

Skills Dimensions	r (Correlation Coefficient)	P-value
Self-esteem	-0.094	0.250
Caring	-0.122	0.133
Staff relations	-0.198*	0.014
Communication	-0.099	0.221
Knowledge	-0.092	0.256
Leadership	-0.210**	0.009
Total PSC	-0.140	0.084

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

5. Discussion

The present study assessed the level of PSC and its dimensions, as well as their associated factors of gender and academic achievement in the form of GPA among undergraduate internship nursing students from one of the nursing schools of top Medical Sciences Universities (MUMS) in Iran. Previous

research for the assessment of PSC level and related factors was mostly performed on nurses, and only a few studies have been conducted among internship nursing students, even though their studies focused on nursing students in different academic semesters. According to the results of the present investigation, nursing students had a moderate level of total PSC. In the majority of the studies conducted in Iran and

other developed countries, students' PSC was low to moderate. In addition, the findings of this study were consistent with the results of some previous investigations (20, 21). Moreover, other studies revealed that the nursing students had a low level of total PSC (1, 14, 17, 22).

The findings were congruent, probably because of the similarity of the respondent characteristics. The majority of the respondents in these studies were senior nursing students. The reason for similar results may be that students have been exposed to the PSC during their educational program at academic stages for six semesters. Therefore, the students had recognized, internalized, and acquired PSC during their academic stages; however, it was not improved well. Nevertheless, these results were lower than the grades by the studies conducted by Hensel et al. (2011) and Cowin et al. (2006) (6, 14). Compared to students in other countries, the lower total PSC of the students in the present study may arise from the learning system, which has not been up to play the main part in the growth of the students' PSC. Moreover, the PSC of senior nursing students in this study had not developed entirely. They were in the first step of professional practice and had just started practicing in the clinical setting by commencing the professional stage of the program. Therefore, they have not interacted independently with patients, nurses, and professional teams in the professional stage and have not practiced PSC well in this stage of their educational program.

The PSC consists of six dimensions of PSCs, including self-esteem, caring, knowledge, leadership, staff relations, and communication (6). In this study, the communication dimension was found to have the highest mean scores of PSC among nursing students, followed by caring, knowledge, staff relations, and leadership in descending order, and the least PSC dimension score obtained by the students was related to the self-esteem subscale. The findings were congruent with the results of other studies in Iran and most other countries. Investigations performed by Badiyepyma et al. (2014) and Barry et al. (2019) in Iran presented that the lowest and highest grades of nursing students were related to self-esteem and communication dimensions, respectively (1, 17) and previous studies conducted in other countries by Cowin, Hensel, and Stoelting Gettel finger (6, 12). However, some studies conducted in Turkey and South Korea also revealed that the nurses' PSC was calculated as high, and an important positive connection was established between the nurses' professional self and self-esteem scores (3, 23).

The level of self-esteem plays a role in the development of self-control and adoption of preventive behaviors (24) self-efficacy (25), flourishing promotion (26), self-mangement, mental wellbeing and the professional self as well (6, 25-

28). The lowest mean score for the self-esteem dimension might be because nursing students entering professional clinical practice recognized that clinical settings are strongly physician-centered and may restrict the nurses. Therefore, nursing students sense they could not apply their capacities, may only implement the physicians' orders, and could not do a nursing intervention independently. This culture may lead to low self-esteem in nursing students as a hidden curriculum. However, a study in the United Arab Emirates by Edwin et al. (2018) discovered that all PSC scores of dimensions were high except for the leadership (29). The result of the present study in some dimensions is consistent with a study conducted by Edwin, in which communication, knowledge, and caring were high, compared to staff relations, leadership, and self-esteem, which were low in terms of PSC scores.

It is believed that during the professional clinical practice, the development of PSC would be facilitated by the integration among students and nurses in clinical practice (30). However, the quality of nursing education has contributed to ensuring academic atmosphere through academic and clinical educators, assessment methods, and clinical learning environment (31). The PSC of nursing students is an important factor in their professional and academic development. A higher PSC can help nursing students use their learning experience optimally and deal effectively with the problems and pressures of professional practice (15). In addition, PSC affects the retention and turnover of new graduate nurses (32) and nurses' burnout (33). This finding can pave the way for health authorities of the country, especially the nursing organization, to overcome the shortcomings and improve the situation of the nurses' community by promoting their PSC through implementing educational intervention programs.

Furthermore, the results of assessing the differences among students' gender, PSC, and its dimensions indicated no significant discrepancy between males and females for PSC and its dimensions. The results of the current study are consistent with those reported by other investigations among nursing students in Iran (14, 15) which could be due to the differences between personal and professional self-concept. The self-concept is the whole set of attitudes, opinions, and cognitions that a person feels about himself/herself. Therefore, this difference may be that the senior nursing students entering the professional internship practice were not exposed to a stressful situation; accordingly, there was no significant difference between female and male students in the present study. Nevertheless, those results were in contrast with the findings of studies that reported a significant relationship between gender and PSC (1, 17). However, another study reported that female nurses' overall mean PSC scores were significantly higher than those in male nurses

(3). This difference in results, compared to other countries, might be due to differences in the work environment and cultural issues, as research in other settings may consist of different nationalities, cultures, religions, and languages.

Moreover, the results of the evaluation of the relationships between PSC and academic achievement in the form of students' GPA showed no significant relationship among GPA, total PSC, and its dimensions, except for the staff relations and leadership, which was negative and significantly correlated; however, the correlation coefficients were not strong. A reason might be that senior students in the present study were in their first experiences in working independently in professional clinical practice; therefore, the students with low academic achievement in an academic career compensate for their academic problems by uplifting their staff relations and leadership score during clinical practice to develop their abilities. The results were in line with the findings of two studies among nursing students in Iran, which showed no significant relationship between PSC and GPA (1, 15).

Furthermore, this study has some strengths and limitations. It is realized that self-report questionnaires could lead to introducing bias to the results of the study, as it might not describe a true condition of the participation; they might rate higher or lower than the true condition. However, the use of a self-reported questionnaire in this study provides a basis for PSC among Iranian undergraduate nursing students. Another significant limitation of this research is that only senior student nurses were evaluated; therefore, the results can be generalized to senior students. Generalization to other students would need broader research involving other nursing student groups and different parts of the country. In addition, this study has provided useful data for future research to compare the results from the Iranian nursing student sample to other nursing groups. It would be ideal for future studies to add some qualitative data to compare contrasts and enrich the results. Therefore, a large international comparative study using PSC would be conducted by creating more sample sizes with nursing students at different universities.

6. Conclusion

The results of the present study described a moderate level of PSC among undergraduate nursing students from one of the top Universities of Medical Sciences (MUMS) in Iran. Furthermore, there was no connection among results, gender, and GPA. In addition, this study revealed the student's gender, marital status, the experience of clinical student work, interests in nursing, and age. An interventional study using various professional development

learning strategies is needed to observe how nursing students deal with their PSC issues during professional clinical practice.

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Footnotes

Author's contribution: SM: Methodology, data collection, data analysis and interpretation, drafting the article, and revising.

TLY, CMC, MD, and SRM: Methodology and final approval of the manuscript.

NB: Critical review of the manuscript. All authors contributed substantially to the manuscript revision, and TLY and SM: Take the accountability for the paper together.

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