

## The Comparison of Professional Confidence in Nursing Students and Clinical Nurses: A Cross-Sectional Study

### Abstract

**Background:** Achieving and improving professional confidence (PC) is an ongoing process from the studentship period to independent professional career. This study aimed to assess PC and compare it between nursing students (NS) and clinical nurses (CN). **Materials and Methods:** This cross-sectional study was conducted in a medical sciences university in an urban area of Iran in 2015. Nursing students (NS = 230) and clinical nurses (CN = 192) participated in this study. Data were collected through the nurses professional confidence scale (NPCS), consisting of 35 questions on PC. A six-point Likert scale was used for “never” to “always” corresponding to the score of 1–6. The analysis of variance, Pearson correlation, and Backward Multiple linear regressions were used for data analysis. **Results:** The mean (SD) standardized scores of PC in the NS and CN were 64.59 (11.06) and 73.63 (10.05). LSD test showed that the PC score of CN with work experience of 10–20 years was significantly higher than those with less than 10 years (mean difference = -4.25,  $p = 0.019$ ). Also, the mean scores of PC in the NS in the fourth and fifth academic semesters (mean difference = 12.25,  $p < 0.001$ ) were higher than that in the students in the third academic semester (mean difference = 10.09,  $p < 0.001$ ). **Conclusions:** CN experiences a higher level of PC during the middle years of work, and NS in their middle years of studying. Creating a supportive environment for learning and working can help them to maintain PC.

**Keywords:** Iran, nurses, professional confidence, students

### Introduction

Professional confidence (PC) can affect all aspects of healthcare providers' clinical performance including the relationship with clients, colleagues, and other healthcare team members, all of which influence the patient care quality.<sup>[1,2]</sup> PC is further defined as an inner sense of self-confidence, and calmness and being re-examined or certified by colleagues and patients.<sup>[3]</sup> Nurses, as an important group of healthcare providers, encounter patients and clients who experience pain, and physical, psychological, and social issues, which need to be identified and resolved.<sup>[4,5]</sup> The interaction between healthcare providers and patients is at the center of the treatment process. An effective interaction requires the confidence of healthcare professionals.<sup>[6]</sup> Achieving PC has no starting and ending point, rather it is a dynamic process which depends on circumstances, meaning that PC is achieved in the studentship area and is developed through working in

clinical practices.<sup>[7]</sup> Ideally, PC should be developed by the curriculum and during the professional life following graduation through clinical monitoring, peer education, and support.<sup>[1]</sup> In one study, novice nurses were shown to be unprepared for the transition from a student to a professional.<sup>[8]</sup> Della Ratta (2016) found that working with a lack of confidence in the first year of clinical practice creates this question in the minds of novice nurses as to whether or not they have the ability to become a nurse.<sup>[9]</sup> The lack of the required skills for nursing practice, an inadequate education in studentship period, and the condition of the workplace lead to stressful experiences among novice nurses.<sup>[10]</sup> Dyess and Parker (2012) used a management intervention on novice nurses and recommended that they need to be supported during the transition period.<sup>[11]</sup>

In explaining the career path of staff development and employee motivation, Hersey Blanchard's position leadership theory divides employees into four groups in

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terms of commitment and competence. At the beginning of professional activities, individuals more often than not have a commitment and want to deliver an optimal performance with low-to-moderate competence, categorized into two evolution category levels of one and two.<sup>[12,13]</sup> With the increase in competencies and work experience, employees with a moderate level of competency will increase; however, due to their managerial and organizational variables, their level of commitment to the profession fluctuates, which does not lead to proper professional performance in certain cases. Investigating variables such as motivation, work morale, professional commitment that are dynamic in different stages of professional activity conduces to identifying the fluctuations, developing these variables, and specifying the right route for adopting appropriate management measures for each one.

Achieving and improving PC is an ongoing process from the studentship period to independent professional career. There is limited evidence on the assessment of PC in nursing students (NS) and its comparison with clinical nurses (CN). Such a comparison provides evidence about the formation and development of PC from the studentship to professional practice period. The objective of this study was to assess and compare PC in NS and CN.

## Materials and Methods

This cross-sectional study was conducted in a medical sciences university in an urban area of Iran in year 2015. The statistical population was NS of nursing and midwifery school and CN working in teaching hospitals affiliated with the medical sciences university (Ghaem, Emam Reza, Omolbanin, Hasheminezhad, Shariati). Samples were comprised of the third and higher educational semester (when clinical units started) and CN in the medical sciences university.

The minimum sample size was calculated using a formula for the statistical comparison between two groups, namely NS and CN. Further carried out was a pilot test with 15 subjects (5 NS and 10 CN) to compute the mean and standard deviation of the two groups. Meanwhile, the sample size was calculated using the 95% confidence interval and 90% statistical power. So, the minimum sample size required for this study was 155 people for each group. Given the focus of sampling which was on students in three educational levels and to reduce sampling bias, all NS in the medical sciences university were included in this study. Moreover, 192 CN were selected using the quota sampling method based on the proportion of employed nurses with bachelor's degree in any hospital to the entire population of nurses. The inclusion criteria for the NS were bachelor NS and being in the third and higher educational semester. Working in medical sciences universities was the main criterion for the selection of CN.

The researcher obtained the permission from educational authorities at the medical sciences university to enter the

research zone. After obtaining a list of NS' names, the researcher referred to the students in each classroom, described the aim and method of the study and invited them to take part in the study. Those willing to participate were asked to fill in the data collection forms. Seventh and eighth educational semester students were examined in classrooms and briefing sessions prior to entering the internship.

The demographic data form for the students consisted of questions about age, marital status, average scores of academic courses, student work experience, the reason for the selection of nursing in the entrance exam, interest in nursing, and decisions on changing the field of study. For the CN, the demographic data form was comprised of questions about age, marital status, average scores of academic courses in graduation, work experience, type of employment, type of university they graduated from (private and public), and intention to change the job in the next 5 years.

The Nurses Professional Confidence Scale (NPCS) consisted of 35 questions on PC with the domains of "believing in nursing profession values," "accomplishment in the profession," and "professional acceptance." Items 1, 2, 3, 4, 5, 6, 7, 11, 18, 25, 26, 29, 30, and 31 were for the domain of faith in professional values; items 10, 12, 13, 14, 15, 16, 19, 20, 22, 23, 24, 27, 28, and 32 were related to the domain of accomplishment in profession; and items 8, 9, 17, 21, 33, 34, and 35 were associated with the domain of professional acceptance. A six-point Likert scale was used for scoring from "never" to "always" corresponding to the score of 1–6. The minimum and maximum scores of the NPCS were 35 and 210, respectively. The validity and reliability of this scale were determined using the content and construct validity and intraclass reliability. The Cronbach's alpha coefficient was computed and reported to be 0.89 by Heshmati *et al.*<sup>[14]</sup>

Data were analyzed with Statistical Package for the Social Sciences (SPSS) software (version 14, SPSS Inc., Chicago, IL, USA). Given the normal distribution of the study variable in the groups, the independent *t*-test was used to compare PC between the students and CN. The analysis of variance (ANOVA) test was used to compare the scores of PC between the students in various academic semesters and the CN with various work experiences. Furthermore, the Pearson correlation was computed to investigate the relationship between demographic variables and the scores of professional confidence. Also, the Kruskal–Wallis test was used for the comparison of abnormal quantitative variables (age and the mean scores of academic courses) in the students with various academic semesters and CN. Backward multiple linear regressions were used to indicate the effect of confounding factors on PC. Moreover, qualitative variables such as marital status and student work experiences were compared using the Chi-squared test.  $p < 0.05$  was considered statistically significant.

## Ethical considerations

To recruit the CN, the permission to enter each hospital was obtained from clinical authorities. The probable participants were invited to take part in this study after providing the details of the study, the objectives and the method. Finally, a written informed consent form was filled out by those nurses who agreed to take part in the research. A written informed consent was also obtained from the NS. This study was derived from a research project and was approved by the Research Ethics Committee of Mashhad University of Medical Sciences (9026/8/93).

## Results

The participants of this study consisted of 230 (54.50%) NS and 192 (45.50%) CN. Also, 144 students (62.20%) were female and 40 (17.40%) students intended to change their study discipline. It was reported that 152 nurses (81.30%) were female, and 101 (57.70%) of the nurses had a nonpermanent employment condition. Work experience of 70.50% of the CN was <10 years (124 people), 22.70% between 10 and 20 years (40 people), and 6.8% had > 20 years of working experience (12 people). About 22.40% (39 people) of the CN intended to change

occupation. The demographic characteristics of the samples are presented in Table 1.

The mean standardized scores (SD) of PC in the NS and CN were 64.59 (11.06) and 73.63 (10.05). The means and standard deviations of PC are shown in Table 2. Based on Mann–Whitney test, there were statistically significant differences between NS and CN regarding the scores of believing in nursing profession values ( $z = -4.84$ ,  $p < 0.001$ ), accomplishment in the profession ( $z = -8.32$ ,  $p < 0.001$ ), and professional acceptance ( $z = -8.94$ ,  $p < 0.001$ ).

In terms of PC scores, there was a statistically significant difference between the students from the third to eighth academic semesters and CN. According to the LSD test, the mean scores of PC in the NS in the fourth and fifth academic semesters were higher than that in the students in the third academic semester. Moreover, the mean scores of PC in the CN was significantly higher compared with that in the students in the third, fifth, sixth, seventh, and eighth academic semesters [Table 3].

The ANOVA test revealed no significant difference among the three groups concerning the standardized scores of professional nurses' confidence ( $F = 2.85$ ,  $p = 0.061$ ).

**Table 1: The demographic characteristics of the participant (95% CI)**

Variable	Students $n=230$	Clinical nurses $n=192$	The comparison of the variables between the groups
Age (year), mean (SD)	21.52 (1.73)	32.81 (6.75)	$t=-21.92$ $p<0.001^*$
The mean scores of academic courses, mean (SD)	16.22 (1.47)	16.18 (1.48)	$t=0.29$ $p=0.770^*$
Marital status, $n$ (%)			$\chi^2=118.68$
Single	181 (80.10)	50 (27.30)	$df=2$
Married	45 (19.90)	137 (72.70)	$p<0.001^{**}$
Student work experience, $n$ (%)			
Yes	42 (18.40)	—	
No	184 (81.60)	—	
Interest in nursing (the score out of 10), mean (SD)	6.37 (2.28)	7.01 (1.57)	$t=-3.21$ $p=0.001^*$

\* $t$ -independent test \*\*Chi-squared test

**Table 2: The comparison of the mean (SD) of professional confidence in the students and clinical nurses (95% CI)**

The domains of professional confidence	Groups	Mean (SD)	Mann-Whitney test, $P$
Believing in nursing profession values	Students	64.98 (12.83)	$z=-4.84$
	Clinical nurses	71.29 (13.65)	$p<0.001$
Accomplishment in the profession	Students	67.34 (13.72)	$z=-8.32$
	Clinical nurses	78.28 (10.40)	$p<0.001$
Professional acceptance	Students	57.69 (6.91)	$z=-8.94$
	Clinical nurses	68.99 (15.63)	$p<0.001$
Total	Students	64.59 (11.06)	$t=-8.70$
	Clinical nurses	73.63 (10.05)	$p<0.001$

CI: Lower: -11.07  
Upper: -6.99

However, LSD *post hoc* test showed that the average standardized score of PC of CN with a work experience of 10–20 years was significantly higher than the work experience of < 10 years (mean difference = -4.25,  $p = 0.019$ ). There was no significant difference between the work experience of 10–20 years and > 20 years (mean difference = 2.13,  $p = 0.514$ ).

Studying the dimensions of PC, significant differences were seen among the three groups of nurses in terms of believing in nursing profession values ( $F = 3.50$ ,  $p = 0.032$ ), [see Table 4]. The LSD test showed that the faith in the professional values in CN with a work experience between 10 and 20 years was significantly higher comparisons with those with were < 10 years of experience (mean difference = 5.09,  $p = 0.015$ ).

Spearman correlation test between the mean standardized score of PC and the demographic data in NS showed a statistically significant negative relationship between the score of PC and the selection of nursing in the national entrance exam ( $r = -0.16$ ,  $p = 0.014$ ). Further observed was a statistically significant positive relationship between PC and interest in nursing ( $r = 0.34$ ,  $p < 0.001$ ).

Multiple regression analysis was used to eliminate the confounding effects of individual variables (sex, marital status, age, the mean scores of academic courses, work experience, and interest in nursing) and calculate the real correlation between two variables. Sex, marital status, age, and work experience were not statistically significant in the model, so they were controlled [Table 5]. After controlling these variables, it was found that the mean scores of

**Table 3: The comparison of the mean scores of professional confidence between the students and the clinical (The LSD test)**

Group	n	Mean (SD)	The LSD test (p)						Clinical nurses
			The third academic semester	The fourth academic semester	The fifth academic semester	The sixth academic semester	The seventh academic semester	The eighth academic semester	
The third academic semester	42	58.57 (8.57)	—	0.001	0.001	0.002	0.028	0.891	0.001
The fourth academic semester	40	70.82 (11.96)	0.001	—	0.335	0.034	0.001	0.001	0.111
The fifth academic semester	42	68.66 (10.72)	0.001	0.335	—	0.221	0.018	0.001	0.004
The sixth academic semester	35	65.82 (9.96)	0.002	0.034	0.221	—	0.298	0.007	0.001
The seventh academic semester	43	63.42 (10.90)	0.028	0.001	0.018	0.298	—	0.067	0.001
The eighth academic semester	28	58.91 (7.64)	0.891	0.001	0.001	0.007	0.067	—	0.001
Clinical nurses	192	73.63 (10.05)	0.001	0.111	0.004	0.001	0.001	0.001	—
ANOVA test	$F=75.72$ , df (between group) = 6, df (within group) = 415, $p=0.001$								

ANOVA: Analysis of variance

**Table 4: The comparison of the mean (SD) of professional confidence in the clinical nurses based on work experience (95% CI)**

The domains of professional confidence	Work experience (year)	Mean (SD)	p (ANOVA)
Believing in nursing profession values	<10	58.05 (11.49)	$F=3.51$
	10-20	63.15 (11.44)	df* (between group)=2, df (within group)=173 $p=0.032$
	> 20	62.58 (9.36)	
Accomplishment in the profession	<10	64.80 (8.52)	$F=1.18$
	10-20	67.15 (9.30)	df (between group)=2, df (within group)=173 $p=0.307$
	>20	64.25 (8.59)	
Professional acceptance	<10	28.51 (6.42)	$F=0.78$
	10-20	30.02 (6.56)	df (between group)=2, df (within group)=173 $p=0.459$
	>20	29.00 (8.93)	
Total (PC)	<10	72.08 (9.82)	$F=2.85$
	10-20	76.34 (10.39)	df (between group)=2, df (within group)=173 $p=0.061$
	More than 20	(9.36)	

df: Degrees of freedom; ANOVA: Analysis of variance; PC: Professional confidence

**Table 5: Correlation between professional confidence and individual variables**

variable	sex	Marital status	Age	The mean scores of academic courses	Work experience	Interest in nursing
professional confidence	$r=-0.06$ $p=0.214$	$r=0.02$ $p=0.386$	$r=0.10$ $p=0.104$	$r=-0.19$ $p=0.010$	$r=0.12$ $p=0.074$	$r=0.16$ $p=0.022$

academic courses and interest in nursing had a significant correlation with the mean score of PC [Table 6].

## Discussion

The aim of this study was to assess PC and compare it between NS and CN in an urban area of Iran. In the nursing staff, the mean of PC scores in the middle years of employment was significantly higher than the first and last 10 years.

It was found that the mean scores of PC in the CN in all domains were significantly higher compared with the students in all academic semesters. Moreover, the mean PC scores of the NS in the third and eighth academic semesters had no statistically significant differences. The mean scores of PC in the students in the fourth and fifth academic semesters were higher than other students, and the mean scores of PC in the students in the sixth academic semester were lower compared with the students in the fourth and fifth academic semesters. This variable was also lower in the students in the eighth academic semester compared with the students in the sixth academic semester and had no statistically significant difference with the students in the third academic semester. In the study by Ortiz *et al.* (2016), PC was described as a dynamic process with variations,<sup>[8]</sup> hence the possibility of variations in PC in NS and CN. The study by Crooks *et al.* (2005) showed that the development of PC is comprised of two stages: “becoming informed” and “finding a voice of one’s own.” The former involves the acquisition of knowledge and theories and scientific and evidence-based critical thinking to express scientific opinions rather than conjecture and personal opinions.<sup>[15]</sup> It can be argued that, in the first year of clinical placement, NS acquire the basic knowledge and gain a higher level of confidence. Our findings showed that the mean scores of the students’ PC in the higher academic semesters were lower compared with the students in the lower academic semesters. According to “finding a voice of one’s own,” students should be able to find their place in the clinical setting and have the opportunity to express themselves in the clinical situations,<sup>[15]</sup> make professional communications with colleagues,<sup>[6]</sup> and receive support and feedback from peers and colleagues.<sup>[15]</sup> The achievement of educational goals is not entirely possible in a university setting. The beginning of practice in a clinical setting can be the start of finding a place for oneself in the clinical environment. The study of Ortiz *et al.* (2016) showed that in the first year of clinical practice, PC can be improved through communication with other healthcare team members, receiving positive feedbacks from the preceptor and patient.<sup>[8]</sup>

**Table 6: Prediction of professional confidence based on individual variables**

Variable	R <sup>2</sup>	Adj R <sup>2</sup>	β	t	p
Constant	0.11		69.37	11.04	<0.001
Mean scores of academic courses		0.10	-0.10	-2.14	0.033
Interest in nursing			0.32	6.83	<0.001

Other reasons for the low scores of PC in the students in the higher academic semester were a lack of support from clinical educators, heavy workload, assuming more responsibility for patient care,<sup>[16]</sup> difficulty in organizing activities,<sup>[16]</sup> providing independent and professional care, and exposure to real work situations<sup>[10]</sup> at the beginning of clinical placement. Necessity enhancing PC are having a professional relationship based on respect and mutual acceptance by teachers, friends, and colleagues, and role model and clinical mentorship.<sup>[6]</sup> The atmosphere of clinical education is somehow nonsupportive. Among other reasons for the reduction in student motivation for learning is the lack of equipment, environmental factors and cooperating healthcare staff in healthcare settings.<sup>[17-19]</sup>

Another reason for the low level of PC in the final year students is the difference between what they have been taught and what they actually see in clinical settings. Such a difference between theory practice leads to reality shock during graduation.<sup>[15-20]</sup> If the shock is not relieved, the situational stress can lead to job dissatisfaction, resigning, and decrease in the quality of performance in clinical settings.<sup>[20,21]</sup>

In our study, nurses had less PC in the first 10 years of employment than any other nurses, a reason for which is the difference between theory and practice, ultimately leading to reality shock. In addition, nurses at the end of their courses entered clinics with the same status as CN. With the increase in academic education, the students’ level of theoretical knowledge and clinical skills are improved. Therefore, any failure in the clinical environment leads to the students’ inability to put their knowledge into practice.

In addition to the formal sources of education in clinical settings, values and issues are understood informally through an interaction with healthcare staff, called hidden curricula, which may negatively affect students’ professional confidence. In this respect, physicians and some healthcare provider’s disagreements with the presence of students or their participation in clinical settings need further consideration.<sup>[19]</sup>

Clinical studies on clinical education in Iran show that clinical education encounters a number of challenges. Based on students and clinical teachers' perspectives, these challenges are having no objective for clinical placement, the lack of coordination between theoretical and practical education and lack of appropriate evaluation methods.<sup>[22]</sup> Other barriers to clinical education are the lack of objectives and job descriptions for students, lack of students' independence for practice, delegation of low level activities to students, giving no feedbacks to students, inappropriate behaviors of personnel, and clinical educators' insufficient attention to the educational needs of students in practice.<sup>[23,24]</sup> These problems during clinical education, which hinder students' independence in practice, can justify the low levels of PC among students.

Effective education in clinical settings depends on different factors including the educational atmosphere.<sup>[18]</sup> An environment that provides opportunities for professional practice and improvement in clinical skills,<sup>[21]</sup> and teaching and assessment strategies that increase students' confidence, can enhance the professional confidence. In the study by Ratta (2012), role playing, classroom and blackboard discussion and attendance/conversation were used for evaluating novice nurse leadership institute with the aim of improving PC in novice nurses.<sup>[9]</sup>

In our study, the average of PC scores in the second 10 years of work was higher than the first and last 10 years. By comparing these results with the development process of competency and professional commitment in the Hersey Blanchard theory, this finding can be elucidated in the beginning years of work. This is based on the theory of low-to-high competence, and high-to-moderate commitment, where subjects earned lower PC, but during the next 10 years of work, with the increase in commitment and competency to moderate to high levels, PC was significantly higher than other groups. However, over the last 10 years of work life, based on Hersey Blanchard's theory, work commitment is based on organizational and managerial variables that should be controlled by the organization. In the Takase study (2013), conducted to determine the competency of nurses with a work experience, it was found that the process of qualification was curved, where in the early years, nurses worked more quickly; after this period, the speed of obtaining a lower qualification becomes stable.<sup>[25]</sup> The findings of this study, also in line with our study, suggest that appropriate management interventions are needed to control volatility in the acquisition of professional qualifications, PC, and other important variables in the middle and end years of employment.

Starting work as a professional person and gaining professional autonomy in clinical settings compared with the academic settings, increases PC in CN. In the study by Ratta (2016), the success or failure of novice nurses in

clinical decision-making affected their prospective nurses as well as the transition from studentship to clinical roles.<sup>[9]</sup> The quantitative findings of Pfaff *et al.* (2014) suggest that several factors have a positive relation with new graduate nurse confidence in interprofessional collaboration: availability and accessibility of manager and educator, number of different disciplines worked with daily, number of team strategies, and satisfaction with the team. The qualitative phase indicated factors which facilitated and challenged new graduate nurse confidence when engaging in interprofessional collaboration. The facilitators were experience, knowledge, respect, supportive relationships, and collaboration opportunities.<sup>[26]</sup>

Previous experiences, personal characteristics such as self-esteem, job satisfaction, and regulations could affect the CN' PC, not investigated in this study. Therefore, it is suggested that future studies focus on factors affecting the PC of NS and nurses. The nature of the study (cross-sectional) might curb the application of the findings to other cultures and contexts, hence the necessity of a more precise investigation of PC in the educational and clinical settings in a longitudinal study. Although our study design was suited to our purpose, sampling a larger number of nurses and controlling personal characteristics such as self-esteem, job satisfaction, work experience, and regulations can improve the results. Also, given the process of formatting professional confidence, it is better to study the cohort on static participants, which was not possible in the present research because of the time limitation. Another limitation of the study is the uncontrollable nature of mental, physical, and personal differences between the participants.

## Conclusion

A major result of this study is that nurses experience a higher level of confidence during the middle years of employment and NS in their middle years of study; creating a supportive environment for learning, and working can help them to maintain PC. More studies are required on the extension and impact of professional relationship based on respect, trust, acceptance, and supportive learning environment in clinical settings on students' professional confidence. More studies using process or panel method are also needed to investigate the development of PC.

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## Conflicts of interest

Nothing to declare.

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