

Professional Responsibility and Its Related Factors among Bachelor Degree Nursing Students in Iran: A Cross-Sectional Study

Abstract

Background: Professional responsibility is important for bachelor degree nursing students, but it has not been measured specifically among these students and findings of the studies on its related factors are inconsistent. This study aimed to determine the level of professional responsibility and its related factors among bachelor degree nursing students in selected public nursing schools in Iran. **Materials and Methods:** For this cross-sectional study, 388 bachelor degree nursing students from 8 selected public nursing schools in Iran were selected through convenience sampling (2018–2019). The participants completed the demographic questionnaire and Responsibility among Bachelor Degree Nursing Students Scale (RABDNSS). This valid and reliable scale consists of 45 items that determine professional responsibility and its 5 subscales. Data were analyzed using descriptive and inferential methods in SPSS software. **Results:** The mean (SD) total score of professional responsibility was 175.26 (23.58), indicating a high level of responsibility. The highest and lowest mean (SD) scores were obtained in the subscales of situational self-mandatory 4.20 (0.52) and positive professional attitude 3.71 (0.82), respectively. Students' educational grade average and level of interest in nursing were significantly correlated with professional responsibility and its subscales ($p < 0.05$). **Conclusions:** The relationship of students' interest in nursing and students' educational grade average with professional responsibility can be useful for planning admission policies and evaluating and promoting professional responsibility related behaviors among nursing students. However, further research in these areas is recommended.

Keywords: Cross-sectional studies, Iran, students, nursing, responsibility

Saeed Ghasemi¹,
Batool Nehrir²,
Leila Karimi³

¹Ph.D. of Nursing, Community Health Nursing Department, Nursing Faculty, Baqiyatallah University of Medical Sciences, Tehran, Iran, ²Assistant Professor, Nursing Ph.D. Health Management Research Center, Baqiyatallah University of Medical Sciences, Tehran, Iran, ³Assistant Professor, Ph.D. of Reproductive Health, Behavioral Sciences Research Center, Life Style Institute, Nursing Faculty, Baqiyatallah University of Medical Sciences, Tehran, Iran

Introduction

Despite the changes in society and methods of education and learning, undoubtedly nursing is still based on key values and beliefs,^[1] responsibility being one of the most important of these values.^[2] Responsibility is an important component of the professional values and core competencies for bachelor degree nursing students, this concept facilitates the learning and education process, ensures nursing profession life, and promotes the health level of clients and the community.^[3] Moreover, irresponsible behaviors are a serious and common problem for nursing students and have negative impact on the learning processes.^[4,5] Ibrahim and Qalawa reported that 60.2% of the nursing students have irresponsible behaviors^[5] and Krueger reported that the majority of nursing students engaged in some form of academic dishonesty or irresponsible behavior in

the classroom setting (64.7%) and in the clinical setting (54%).^[6] Knowing the level of professional values, including responsibility, in nursing students, as members of health care teams, is important for the future of the nursing profession.^[7,8]

Given the significance of the concept of professional responsibility among nursing students and in the nursing profession, and effects of this concept upon all aspects of nursing students, its specific measurement seems necessary. However, with a more accurate evaluation of previous studies, it can be concluded that this concept has not been specifically measured in nursing discipline, but has been measured specifically in other disciplines such as medicine.^[9] Nevertheless, some nursing studies have provided general measures of responsibility within a broader scope of values and competencies,^[10] and some have addressed concepts close to responsibility

Address for correspondence:

Dr. Leila Karimi,
South Sheikh Baha'i St.,
Baqiyatallah University of
Medical Sciences, Tehran, Iran.
E-mail: Leilakarimi1487@
gmail.com

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such as accountability.^[11] Responsibility among bachelor degree nursing students is a procedural, spectral, dynamic, and complex concept and has attributes such as smart thinking, appropriate managerial behaviors, appropriate communicational behaviors, and situational self-mandatory and task-orientation behaviors.^[3] Thus, a specialized scale needs to be employed to measure this concept in these students.

Moreover, various factors effective on the development and occurrence of the concept of responsibility among bachelor degree nursing students^[3] and other educational disciplines such as medicine have been mentioned,^[12] some of these factors include cultural background and interest,^[3,13] religion and worldview,^[12] personal characteristics, personal and family socioeconomic factors,^[3] educational discipline,^[14] gender and economic status,^[15] and education.^[8] Few of these factors were investigated in each study and findings about the association between these factors and the concept of responsibility were inconsistent, for example, some studies reported a gender difference in professional value scores,^[15,16] and other studies reported the opposite.^[17] For other possible related factors such as years of education, religion, employment, and socioeconomic factors, findings are similar to that on gender.

Because of the importance of specifically determining the concept of professional responsibility among bachelor degree nursing students, as well as the discrepancy in the factors related with this concept, this study intended to determine the level of professional responsibility and its related factors among bachelor degree nursing students in selected public nursing schools in Iran.

Materials and Methods

The present study was conducted as part of a research project approved and funded by Baqiyatallah University of Medical Sciences, Iran. The study population of the present cross-sectional study consisted of nursing students of 8 selected public nursing schools in Iran. The inclusion criteria were being a nursing student (2nd–8th semesters), having passed at least 1 course of clinical education as a student, and willing to complete the study questionnaire and scale. The exclusion criteria were distorted and incomplete questionnaire and scale. Based on the relationship between student's educational grade average and professional responsibility that was one of the most objective of the study, total sample size was 347 nursing students ($\alpha = 0.05$; the standard normal deviate for $\beta = Z\beta = 0.84$, $C = 0.15$; power = 80%). To guarantee sufficient power for statistical analysis in subgroups and considering attrition, sample size was increased by approximately 10%. Thus, 388 bachelor degree nursing students from 8 public nursing schools (Tehran University of Medical Sciences, Shahid Beheshti University of Medical Sciences, Baqiyatallah University of Medical Sciences, Shahed University, Qazvin University of

Medical Sciences, Kurdistan University of Medical Sciences, Kashan University of Medical Sciences, and Torbat Heydarieh University of Medical Sciences) in Iran were selected through convenience sampling (2018–2019). After acquisition of the necessary authorization and coordination with educational executives or instructors, the researcher or co-researcher referred to the nursing schools or educational clinical environment, and distributed the demographic questionnaire and Responsibility among Bachelor Degree Nursing Students Scale (RABDNSS) among the students for completion. The students returned the questionnaires at the appropriate time after completion without any disruption in their education or rest, or time pressure. An informed consent form was placed at the beginning of the demographic questionnaire to be signed by the students. In this form, the students were assured of the voluntary nature of the study and the anonymity and confidentiality of their information.

The demographic questionnaire included items about age, gender, marital status, number of children, place of living, religion, semester of education, student's educational grade average, history of courses failed, employment, household income, and the participant's interest in nursing. The RABDNSS is a 45-items scale comprising 5 subscales that specifically measures professional responsibility among bachelor degree nursing students. This standard scale was developed and validated based on the literature and context analysis by Ghasemi *et al.* in Tarbiat Modares University, Iran.^[18] All the items had a suitable Content Validity Index (CVI) and Content Validity Ratio (CVR); its scale-level CVI (S-CVI) was 0.9. The Cronbach's alpha and Intraclass Correlation Coefficient (ICC) of the scale were reported to be 0.95 and 0.97, respectively.^[18]

The scale measures professional responsibility among bachelor degree nursing students across the 5 subscales of appropriate managerial behaviors (items 1–8; scoring: 8–40) (e.g., I schedule for doing class assignments), situational self-mandatory (items 9–18; scoring: 10–50) (e.g., I respect academic laws and regulations), appropriate communicational behaviors (items 19–25; scoring: 7–35) (e.g., I strive to resolve my conflicts arising in educational environment), task-orientation behaviors (items 26–40; scoring: 15–75) (e.g., I try to do my class assignments and duties as perfect as possible), and positive professional attitude (items 41–45; scoring: 5–25) (e.g., I am interested in the nursing discipline and profession).^[18] All the items of the scale are positive and are rated on a 5-point Likert scale (always = 5, most of the time = 4, sometimes = 3, rarely = 2, and never = 1). The total score on the scale ranges from 45 to 225, with a score of 45–90 indicating a low level of professional responsibility (weak), 91–135 an intermediate level of professional responsibility (intermediate), 136–180 a high level of professional responsibility (good), and 181–225 a very high level of professional responsibility (excellent).^[18]

Data were analyzed using descriptive and inferential methods in SPSS software (version 22, IBM Corporation, Armonk, NY, USA). To compare the mean total professional responsibility score and its subscales among 3 or more than 3 different student groups such as semester groups (2nd–8th semesters) and between 2 groups, one-way analysis of variance (ANOVA) and independent *t*-test was used, respectively. To explore the frequency distribution of categories of professional responsibility (weak, intermediate, good, and excellent) between different students groups in terms of gender and religions, Chi-square test and Fisher's exact test were used. Moreover, simple linear regression was used to determine the correlation of the variable of interest in nursing profession with professional responsibility and its subscales. Pearson's correlation coefficient was used to determine the correlation between mean total professional responsibility and its subscales, and student's educational grade average. Statistical significance was considered as $p \leq 0.05$.

Ethical considerations

The present research project was approved by the Ethics Committee of Baqiyatallah University of Medical Sciences with the code IR.BMSU.REC.1397.309. Consent forms were obtained from all nursing students, the principles of voluntary participation, anonymity, and confidentiality for the students, and accuracy and bailment for the texts were respected throughout the study.

Results

The mean (SD) of student's educational grade average was 16.22 (1.26) (out of 20), and the mean (SD) of their age was 21.84(2.87) years. A majority of the students (59.80%) were of middle-income class. Table 1 summarizes the demographic characteristics of the students.

The results of ANOVA revealed no significant statistical difference in the mean total score of professional responsibility among students in different semesters (2nd–8th semesters) ($F_6 = 1.50, p = 0.17$). Therefore, students in different semesters were similar to each other in terms of the mean total score of professional responsibility. In addition, there was no significant statistical difference in the mean total score of professional responsibility among students classified by marital status (single, married, or divorced) ($F_2 = 2.31, p > 0.99$), number of children (no children, 1 child, or 2 children) ($F_2 = 0.43, p = 0.64$), place of living (living with family, in the dormitory, alone, or with friends) ($F_3 = 1.51, p = 0.21$), employment (employed, unemployed, or unanswerd) ($F_2 = 0.48, p = 0.61$), and monthly family income (very low, low, middle, high, or unanswerd) ($F_4 = 0.66, p = 0.61$). Comparison of students who had failed in some courses and those who had passed all of their courses using independent *t*-test showed that the latter had significantly higher mean total scores of professional responsibility ($t_{386} = -3.40, p = 0.001$).

Table 1: Demographic characteristics of nursing students ($n=388$)

Variable		n (%)
Gender	Female	203 (52.30)
	Male	185 (47.70)
Marital status	Single	337 (86.90)
	Married	49 (12.60)
	Divorced	2 (0.50)
Number of children	No Child	378 (97.40)
	1 Child	5 (1.30)
	2 Children	5 (1.30)
Place of living	Living with family	194 (50.00)
	Living in the dormitory	183 (47.20)
	Living alone	7 (1.80)
	Living with friends	4 (1.00)
Religion	Muslim	383 (98.70)
	Other	5 (1.30)
Semester of education	2	34 (8.80)
	3	54 (13.90)
	4	78 (20.10)
	5	61 (15.70)
	6	45 (11.60)
	7	74 (19.10)
	8	42 (10.80)
	History of courses failed	No
Yes	112 (28.90)	
Employment	Employed	111 (28.60)
	Unemployed	271 (69.85)
	Unanswerd	6 (1.55)
Participants' interest in nursing	Very high	29 (7.50)
	High	109 (28.10)
	Intermediate	187 (48.20)
	Low	37 (9.50)
	Very low	26 (6.70)

Table 2 presents the scores of the participants on the subscales of professional responsibility. The highest and lowest mean scores were obtained in the subscales of situational self-mandatory and positive professional attitude, respectively. The mean (SD) of the total professional responsibility score was 175.26 (23.58), that indicates a high level of responsibility among the participants [Table 2]. Furthermore, there was no significant statistical difference in the subscales of professional responsibility among students classified by number of children (no children, 1 child, or 2 children), employment (employed, unemployed, or unanswerd), and monthly family income (very low, low, middle, high, or unanswerd) ($p > 0.05$). The comparison of students who had failed in some courses and those who had passed all of their courses using independent *t*-test showed that the latter had scored significantly higher on all subscales of professional responsibility ($p < 0.05$) except the positive professional attitude subscale, which was not significant ($t_{386} = -0.66, p = 0.50$).

According to the results of the Chi-square test, the frequency distribution of categories of professional

responsibility (weak, intermediate, good, and excellent) did not significantly differ male and female students ($\chi^2 = 4.33$, $df = 2$, $p = 0.11$). Furthermore, Fisher's exact test showed no significant difference in the frequency distribution of categories of professional responsibility (weak, intermediate, good, and excellent) between students classified by religion (Muslim, Christian, Jew, Zoroastrian, and other) (F -exact = 10.67, $p = 0.10$).

Simple linear regression analysis revealed a positive correlation between interest in the nursing profession and professional responsibility and its subscales in nursing students ($p < 0.05$). Correlational analysis revealed a correlation between the student's educational grade average and scores of professional responsibility and its subscales. Scores of the subscales of professional responsibility were also correlated with each other and with the mean total professional responsibility score [Table 3].

Discussion

The findings of the present study generally indicate that a majority of the students were sophomore, female, single, without child, Muslim, and unemployed, lived with their family, and had no history of courses failed. The level of interest of most of the students in nursing was intermediate. The findings of this study also indicated a high level of professional responsibility among bachelor degree nursing students in selected public nursing schools in Iran. The highest mean score was obtained in the situational self-mandatory subscale (feeling legal or moral obligation to fulfill one's duties, loyalty and trust-building, helping others out, accountability, and following conscience), and the lowest score was obtained in the positive professional

attitude subscale (participants' interest in nursing, the importance of the nursing profession for students, plans and goals for advancement in the nursing profession). Moreover, mean total score of professional responsibility and all the subscales of professional responsibility were correlated with each other, and with student's educational grade average and interest in nursing profession.

Hoseini *et al.* evaluated the perspective of undergraduate nursing students toward professional values and reported similar findings in regards to total professional responsibility to those of the present study.^[15] Jafari *et al.* stated that a majority of the nursing and midwifery students have a positive attitude toward ethics.^[19] Yousefzadeh *et al.* stated that the attitudes of midwifery students towards ethical and legal standards regarding patients' rights was good.^[20] The findings of the study by Haghghat *et al.* showed that the score of professional identity in Iranian nursing students was lower than the maximum score and that professional identity is one of the most important challenges of nursing education.^[21] Moreover, a study in Hong Kong found that baccalaureate nursing students tended to perceive "provide safe and competent nursing care," "maintain the agreed standard of practice," and "practice in accordance with the laws of Hong Kong relevant to the area of nursing practice" to be the most important aspects of professional values, while only a small percent of students perceived "upholding the image of nursing" as the most important value.^[22] Interestingly, this findings are similar to our findings in terms of the highest and lowest scores being obtained in the subscales of situational self-mandatory and positive professional attitude, respectively. This may be due to rules and regulations of the universities or conscience of the nursing students.

Table 2: The nursing students' scores on the subscales of professional responsibility (n=388)

Subscales	Number of items	Minimum	Maximum	Mean (SD)
Situational self-mandatory (items 9-18)	10 items	25	50	4.20 (0.52)
Appropriate managerial behaviours (items 1-8)	8 items	16	40	3.87 (0.61)
Task-orientation behaviours (items 26-40)	15 items	24	75	3.80 (0.60)
Appropriate communicational behaviours (items 19-25)	7 items	10	35	3.77 (0.63)
Positive professional attitude (items 41-45)	5 items	5	25	3.71 (0.82)

Table 3: Pearson's correlation coefficients of professional responsibility, its subscales, and nursing students' educational grade average

Variables	Appropriate managerial behaviours (r)	Situational self-mandatory (r)	Appropriate communicational behaviours (r)	Task-orientation behaviours (r)	Positive professional attitude (r)	Mean total score of professional responsibility (r)
Situational self-mandatory	0.69*					
Appropriate communicational behaviours	0.63*	0.57*				
Task-orientation behaviours	0.71*	0.65*	0.69*			
Positive professional attitude	0.52*	0.49*	0.50*	0.60*		
Mean total score of professional responsibility	0.85*	0.81*	0.80*	0.92*	0.72*	
Students' educational grade average	0.30*	0.20*	0.24*	0.30*	0.10**	0.29*

* $p < 0.001$, ** $p = 0.04$

The findings of the current study showed no significant statistical difference in the mean total score of professional responsibility among students in various semesters and the students were similar to each other in this aspect. In line with this finding, professional values were not correlated with academic year in a study in Korean undergraduate nursing students.^[17] However, in contrast to our findings, Lin *et al.* reported significant increases in professional value scores of students over time, from entrance to undergraduate program to graduation from the program.^[8] The observed inconsistency may be due to the type of study design; Lin *et al.* used a study design to track the changes in professional values in the same sample of nursing students, and these improvements could reflect the effect of learning and experience over time.^[8] Professional responsibility is associated with many factors such as personal, educational, and professional factors the effects of which have not been determined.

In the present study, mean total score of professional responsibility was similar in different groups of nursing students in terms of gender, religion, marital status, and number of children, place of living, employment, and family income. Hoseini *et al.* stated that responsibility was among the professional values of the nursing students and there is no relationship between different ethnicities in Iran. They also reported an association between students' attitudes toward professional values and gender and economic status. However, their findings regarding employment and marital status were consistent with our findings.^[15] A study in Western Turkey among nursing students, who were studying in a nursing faculty, reported a gender difference in professional value scores, favoring female students.^[16] However, Bang *et al.* observed no association between gender and professional value scores.^[17] Given the multitude of antecedents of the concept of responsibility in nursing students^[3] and in students of other disciplines, such as medicine,^[12] it seems more reasonable to look at the relationship of responsibility with educational and professional factors rather than with personality traits and personal characteristics such as age and gender. Personality and personal characteristics are not amenable to change at the time when the students enter the university and they were found not to be correlated with responsibility in the present study, and professional responsibility is associated with many factors the effects of which have not been determined; thus, further research in these areas is recommended.

Interest in nursing had a significant positive correlation with professional responsibility and its subscales in this study. This is consistent with the findings of some studies regarding professional values.^[16,17] Naturally, students who choose a program based on their interests tend to have a better understanding of the program's requirements, and thus, put more effort into fulfilling these requirements. This underscores the role of nursing schools in motivating

students and stirring up interest in nursing, as interest is significantly related with students' sense of responsibility and professional values. Another finding of the present study was that students who had passed all courses had higher scores in professional responsibility and its subscales compared with those who had a history of failing a course. Responsibility can lead to health promotion, learning promotion, more desirable student performance, appropriate perception of the environment, facilitation of communication with others, and student empowerment and development.^[3] These consequences of responsibility can improve students' grades in academic courses.

Some other factors possibly related to professional responsibility were not investigated in the present study and this may be one limitation of the study. Another limitation was students' carelessness in completing the questionnaires.

Conclusion

In the present study, professional responsibility, its subscales, and its related factors were evaluated among bachelor degree nursing students. Students' interest in nursing and their educational grade average were correlated with professional responsibility. Furthermore, the subscales of professional responsibility were correlated with each other in these students. Considering these correlations and given that the lowest subscale score was obtained in positive professional attitude, it is suggested that, in order to reinforce students admission policies and plan for the promotion of professional responsibility related behaviors in nursing students, emphasis be placed on interest in the discipline and profession of nursing rather than individual characteristics and demographic factors, because nursing students' interest in nursing is a very important factor in responsibility and can be changed through interventions. Moreover, students' interest in the nursing discipline and their educational grade average may be better predictors of professional responsibility, and possibly other professional values among nursing students. Knowing this point can lead to a reduction in the need for the use of different scales for evaluating professional responsibility and other professional values; thus, further research in these areas is recommended.

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Conflicts of interest

Nothing to declare.

References

- Johnson M, Haigh C, Yates-Bolton N. Valuing of altruism and honesty in nursing students: A two-decade replication study. *J Adv Nurs* 2007;57:366-74.
- Shahriari M, Mohammadi E, Abbaszadeh A, Bahrani M. Nursing ethical values and definitions: A literature review. *Iran J Nurs Midwifery Res* 2013;18:1-8.
- Ghasemi S, Ahmadi F, Kazemnejad A. Responsibility among bachelor degree nursing students: A concept analysis. *Nurs Ethics* 2019;26:1398-409.
- Allen C, Stanley SH, Cascoe K, Stennett R. Academic dishonesty among bachelor degree nursing students. *Int Arch Nurs Health Care* 2017;3:074.
- Ibrahim SA, Qalawa SA. Factors affecting nursing students' incivility: As perceived by students and faculty staff. *Nurse Educ Today* 2016;36:118-23.
- Krueger L. Academic dishonesty among nursing students. *J Nurs Educ* 2014;53:77-87.
- Bulut HK, Erdol H, Calik KY, Aydin M, Yilmaz G. Evaluation of occupational professionalism of final year Nursing Students of a University. *Procedia Soc Behav Sci* 2015;186:445-50.
- Lin YH, Wang LS, Yarbrough S, Alfred D, Martin P. Changes in Taiwanese nursing student values during the educational experience. *Nurs Ethics* 2010;17:646-54.
- Asemani O, Iman MT, Khayyer M, Tabei SZ, Sharif F, Moattari M. Development and validation of a questionnaire to evaluate medical students' and residents' responsibility in clinical settings. *J Med Ethics Hist Med* 2015;7:17.
- Hsu LL, Hsieh SI. Development and psychometric evaluation of the competency inventory for nursing students: A learning outcome perspective. *Nurse Educ Today* 2013;33:492-7.
- Perng SJ, Watson R. Psychometric testing of an instrument measuring core competencies of nursing students: An application of Mokken scaling. *ANS Adv Nurs Sci* 2013;36:146-57.
- Asemani O, Iman MT, Moattari M, Tabei SZ, Sharif F, Khayyer M. An exploratory study on the elements that might affect medical students' and residents' responsibility during clinical training. *J Med Ethics Hist Med* 2015;7:8.
- Solbrekke TD, Englund T. Bringing professional responsibility back in. *Stud High Educ* 2011;36:847-61.
- Amini M, Rahimi H, Salehi M, Mousavi S. The assessment of students responsibility in University of Kashan. *Culture Islamic U* 2013;3:271-96.
- Hoseini FS, Parvan K, ZamanZadeh V. Professional values of the nursing students' perspective in type 1 universities of medical sciences. *Nursing Vision* 2012;1:69-82.
- Donmez RO, Ozsoy S. Factors influencing development of professional values among nursing students. *Pak J Med Sci* 2016;32:988-93.
- Bang KS, Kang JH, Jun MH, Kim HS, Son HM, Yu SJ, *et al.* Professional values in Korean undergraduate nursing students. *Nurse Educ Today* 2011;31:72-5.
- Ghasemi S. Development and validation of an instrument to measure the responsibility among bachelor degree nursing students. Ph.D thesis in Nursing. Tehran, Iran: Tarbiat Modares University; 2018.
- Jafari H, Khatony A, Abdi A, Jafari F. Nursing and midwifery students' attitudes towards principles of medical ethics in Kermanshah, Iran. *BMC Med Ethics* 2019;20:26.
- Yousefzadeh S, Zohani M, Mazlom SR, Feyzabadi MG. Knowledge and attitude of midwifery students towards observing the ethical and legal standards of patients' rights. *J Midwifery Reprod H* 2017;5:978-87.
- Haghighat S, Borhani F, Ranjbar H, Naseri P. Evaluating the formation of professional identity in Iranian nursing students after implementation of a new curriculum. *JNMS* 2019;6:138-43.
- Lui MH, Lam LW, Lee IF, Chien WT, Chau JP, Ip WY. Professional nursing values among baccalaureate nursing students in Hong Kong. *Nurse Educ Today* 2008;28:108-14.