

The Relationship between Personality Dimensions, Spirituality, Coping Strategies and Clinical Clerkship Satisfaction among Intern Nursing Students: A Cross-sectional Study

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Abstract

Background: The clinical clerkship is a crucial stage in nursing training and dissatisfaction at this stage may cause a nurse quit in future. This study aimed to evaluate the relationship among personality dimensions, spirituality, coping strategies and clinical clerkship satisfaction in intern nursing students.

Methods: This was a correlational, cross-sectional study. A total of 293 participants were selected using cluster random sampling. All participants were provided with standard questionnaires including personality dimensions (NEO_FFI), spirituality, coping strategies (WoCQ), and satisfaction with clinical clerkship. Data analyzed using Pearson correlation and hierarchical multiple regression.

Results: The results showed that spirituality, problem-focused coping and extraversion (of personality dimensions) played a significant role in predicting clinical clerkship satisfaction among intern nursing students ($p < .01$). Regression analysis showed openness, extraversion, and spirituality could significantly predict problem-focused coping style in intern nursing students ($p < .05$). However, personality dimensions and spirituality were not good predictors for emotion-focused coping among intern nursing students.

Conclusion: Personality dimensions, coping strategies and, in particular, spirituality are good predictors of clinical clerkship satisfaction among intern nursing students.

Background

Clinical clerkship is an essential part of nursing education preparing the students with opportunities to work with real patients. Clinical experiences play a key role in forming professional identity of nursing students, and the quality of clinical clerkship is a significant factor in determining the efficacy of nursing education [1]. The gap between theory and practice is one of the major problems for nursing students during clinical clerkship [2]. This phenomenon is more evident among the students who have just entered into the clinical setting. In particular, the problem is observed when there is a transition from the academic environment into the clinical practice setting and nursing students deal with so-called "reality shock" [3]. Reality shock is defined as a contradiction that nurses encounter when they enter into the clinical setting; this contradiction raised when intern nursing students faced with a mismatch between the principles and ideals they have acquired at the university and the situations that they experienced in reality in clinical setting. This might cause a feeling of incompetency or competency lack in students when they deal with real patients and reduce their satisfaction with the clinical clerkship [4].

Satisfaction with clinical clerkship

Nursing education programs in Iran consisted of a 4-year undergraduate education and then, students are certified with bachelor degree. The last year of course is exclusively allocated to clinical clerkship delivered in hospitals affiliated to universities. In doing so, students are provided with opportunities to deal with health-care environment in most wards including intensive care and specialist wards. Students

are under the direct guidance of nursing supervisors for the first three years of education followed by acquiring clinical skills in the last year [5].

Satisfaction with clinical clerkship, in the future, plays an important role in deciding to stay in the nursing profession [6]. Therefore, to prevent nursing student from leaving and to help them become more interested in nursing, evaluating clinical clerkship satisfaction in nursing students who just have entered into clinical setting seems necessary [7].

However, the evidence suggests that if there are underlying factors, satisfaction with the clinical clerkship can encourage nursing students to stay in the nursing profession [8]. Thus, evaluating the factors impressing clinical clerkship satisfaction in the nursing students, during a period they have just entered into the clinical setting, can be beneficial to their properly transition from this stage.

Personality dimensions

Evidence show there is a relationship between personality and nurses' choice of nursing as a profession [9]. Personality characteristics are predictor of burnout and program completion in intern nursing students [10]. Furthermore, previous studies showed clinical performance of students is associated with their personality characteristics [11, 12]. Herein, for evaluating personality dimensions of student nurses, Costa and McCrae's "Big-Five-factor" theory of personality was employed. In "Five-Factor" model, personality dimensions were divided into five distinct categories as follows: neuroticism, extraversion, openness, agreeableness, and conscientiousness [13]. Neuroticism is defined as emotional instability and tendency to experience negative emotions, such as anger, anxiety, or depression. Extraversion is defined as the desire to have high social relationships, to communicate with others, and to express thoughts and feelings. Openness refers to the desire to gain new and unfamiliar experiences. These people are aware of their feelings and thoughts and are curious about new art, beauty, and emotions. Agreement means getting along with others and their different attitudes, being in harmony with the community, accepting others and being kind to people. Finally, conscientiousness refers to striving for success, accepting responsibility for things, controlling impulses, and planning in life [13]. Evidence show neuroticism positively and extraversion, openness, agreeableness, and conscientiousness negatively correlated with nurses' burnout [14] and compassion fatigue [15].

Spirituality

Spirituality is a personal attempt to find meaning and purpose of life, to answer questions about existence, and to understand our relationship to the sacred or transcendent. Spirituality may (or may not) arise from religion and, however, it is the abandonment of material values and the pursuit of transcendent values [16]. Although the role of spirituality and spiritual care in nursing has been explored, the role of spirituality in students' satisfaction with clinical clerkships could be a matter for speculation [17]. For those exposed to stressful situations like nurses, religion and spirituality seems beneficial to overcome the barriers. While a large body of evidence is available on spirituality and spiritual care of patients, a couple of studies have been done on the spirituality of nurses and their spiritual needs [18]. Nurses'

understanding of spirituality is not confined to religion and their sense of spirituality was felt beyond being religious [19]. However, it can be stated that spirituality is a multidimensional concept, and various definitions have been put forward for it. Recent studies revealed that spirituality is related to stress alleviation in nursing students [20] and nurses need to be provided with spiritual nourishment in their work environment [18]. Spirituality can lead or guide nurses to consider serving patients glorified as a sacred job and a way to meet their spiritual goals; therefore, spirituality can increase nurses job satisfaction [21]. The findings of a study showed spirituality reduces the clinical practice stress in nursing students because it causes students face stress with a transcendent attitude and find meaning in clinical practice [22].

Coping strategies

Coping refers to one's attempt to manage own thoughts and behaviors to manage stressful situations and reduce or tolerate stress and conflict. There are two general coping strategies: problem-focused coping such as planful problem solving, connotating trying to find the cause of a problem by gathering information, concentration, and decision making; emotion-focused coping such as escape-avoidance, connotating the regulation of aroused emotions to alleviate distress [23]. Although the general perception is that only problem-oriented coping style associated with reduced stress, in fact, the consequence use of styles depends on the type of stressful situation; for example, emotion-focused coping can be useful for stressors that seem uncontrollable such as terminal illness diagnosis or grief [24, 25]. When entering into clinical clerkship, students encounter many problems and stresses. These stresses can spring out of a gap between theory and practice, dealing with dying patients, sensing uncertainty about clinical ability, inter-personal problems with patients, and overload of daily work [26, 27]. Recent studies indicated effective coping with stress during clinical clerkship is largely associated with their clinical performance [28]. Although studies show students are more likely to use problem-oriented coping, especially as they approach the end of the clinical clerkship [8, 27], but the use of both types of coping styles is seen during the clinical clerkship [28].

Methods

A correlational, cross-sectional study design was used to evaluate the relationship among personality dimensions, spirituality, coping strategies and clinical clerkship satisfaction in intern nursing students. On the other hand, this study is correlational study because it evaluates the relationship between variables and is a cross-sectional because analysis of the data occurs at a specific point in time. Firstly, clinical clerkship satisfaction was considered as a criterion variable and personality dimensions, coping strategies and spirituality were used as predictors. Secondly, coping strategies was considered as a criterion variable and personality dimensions and spirituality were used as predictors. Therefore, Hypotheses were as follows:

1. Personality dimensions, spirituality, and coping strategies can significantly predict clinical clerkship satisfaction among intern nursing students.

2. Personality dimensions and spirituality can significantly predict problem-focused coping strategy among intern nursing students.
3. Personality dimensions and spirituality can significantly predict emotion-focused coping strategy among intern nursing students.

Participants and data collection

Research sample consisted of the undergraduate intern nursing students who were fulfilling their clinical clerkship at university-affiliated hospitals. A cluster sampling method was employed; among all the universities admitting nursing students in Tehran, Iran, five universities were randomly selected. Amongst intern nursing students in these universities, students were ascertained eligible if they wereThe total number of eligible students was 2100. The sample size according to Krejcie & Morgan formula [29] was 324. Therefore, considering the number of students in each university was almost the same, 65 students should have been selected from each university. Considering the university permission, the list of students was provided by the education office. The list was numbered and a random selection was made according to numbers. If a person did not want to participate and did not complete the consent form, he or she would be withdrawn and replaced by another student. The consent form was signed by all participants. From 325 distributed questionnaires, 32 questionnaires were incomplete and 293 were valid and could be analyzed (90.1%). It seemed that the high number of incomplete questionnaires was due to the large number of items, which caused some of the items not to be or randomly answered. Along with the questionnaires, demographic information such as age, gender, hours of clerkship per week, residence status, using university fund were asked. The questionnaires would take approximately 25 minutes to complete

Instruments

NEO five factor inventory (NEO-FFI-S)

Short form of NEO five factor inventory (NEO-FFI-S) is a 60-item questionnaire measuring five dimensions of the typical personality: Neuroticism (N), Extraversion (E), Openness (O), Agreeableness (A), and Conscientiousness (C) [30]. Respondents indicated their level of agreement with each item on a five-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). In this study, the authorized Persian translation of the NEO-FFI-S [31] was used. Validity and reliability of the Persian version of NEO-FFI-S was approved [31]. In the present study, Cronbach's alpha for N, E, O, A and C were .92, .90, .86, .88 and .88, respectively.

Spirituality scale

Spirituality was measured utilizing a researcher-made questionnaire. This scale is composed of 15 items. The items of the scale were designed based on the definition of spirituality [16] and it is composed of ultimate questions about life and meaning of existence and relationship with the sacred or transcendent issues. Examples are: "I am more satisfied when helping the one in need of help although being myself in

need of help" and "I have no doubt that the universe has a destination". Score is assigned to each item based on 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). Content and construct validity of the scale were confirmed by a pilot study. The Kaiser–Meyer–Olkin (KMO) was .84, Bartlett's test of sphericity was $\chi^2 = 4316.36$ ($p < .001$) and a total of 62.5% variance explained by one-factor structure of the scale. There was a positive relationship between this scale and spirituality and spiritual care scale in nurses [32, 33]. In the present study, Cronbach's alpha of this scale was 0.92.

Ways of Coping Questionnaire (WoCQ)

Persian version of Folkman and Lazarus' ways of coping questionnaire (WoCQ) [34] was used to measure coping styles of the participants. This is a 67-items instrument scoring on a four-point Likert scale from 'not used' (1) to 'used a great deal' (4). The coping strategies were grouped into two styles of coping: problem-focused and emotion-focused coping styles. For example, "I made a plan of action and followed it" was an item of problem-focused style and "I tried to forget the whole thing" or "I slept more than usual" were items of emotion-focused style. Problem-focused coping style including cognitive and behavioral efforts is based on problem solving and helps to change or control the stressful situation. On the other side, emotion-focused coping style including cognitive and behavioral efforts that help to reduce or manage the stressful situation but they don't directly focus on the problem solving. The Persian translation of the WoCQ has demonstrated good internal consistency as well as high test–retest reliability [35]. In the present study, Cronbach's alpha for problem-focused style was 0.86 and for emotion-focused style was 0.82.

Satisfaction with Clinical Clerkships Questionnaire (SCCQ)

Satisfaction with clinical clerkships was measured utilizing a research-made questionnaire [36]. Items of this questionnaire were designed according to the Herzberg's two factor theory of job satisfaction (motivational and hygienic factors) [37]. This is a 36-items instrument scoring on a seven-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Some examples were "The clinical clerkship made me confident in my decision to choose nursing as a job", "I have a good clinical clerkship period" and "During my clinical clerkship, I enjoyed working with other students and my instructors". The Total score obtaining from sum of the scores of all Items showing the general satisfaction with clinical clerkships. Content and construct validity of this questionnaire were verified and Cronbach's alpha coefficient was reported as 0.96 [36]. In present study, Cronbach's alpha of this questionnaire was 0.92.

Data Analysis

Statistical analyses were performed using SPSS version 16.0. Continuous variables are presented as mean \pm standard error, and categorical variables as proportions. Participants' response to items of the same domain in the scale was used to replace missing values. Pearson correlation was used to explore the relationship between variables. Hierarchical multiple regression was performed to assess the ability

of measures from personality dimensions, spirituality, and coping strategy to predict satisfaction with clinical clerkship. Preliminary analyses were conducted to ensure no violation of the assumption of normality, linearity, multicollinearity and homoscedasticity.

Results

A total of 293 participants included females (172) and males (121) comprised 61% and 39 %, respectively. The mean age and mean hours of clerkship per week were $21.2 \pm .79$ and 17.8 ± 1.87 , respectively. Mean and standard deviation of the variables, as well as their correlation with clinical clerkship satisfaction among intern nursing students are presented in Table 1.

Table 1: Mean and standard deviation scores for studied variables and their relationship with students' satisfaction with clinical clerkship

Variables	Mean	SD	Correlation
Neuroticism	34.59	7.22	-.24***
Extraversion	40.88	6.37	.43***
Openness	38.39	3.72	.10*
Agreeable	41.13	5.73	.39***
Consciousness	43.73	6.23	.40***
Spirituality	51.17	6.79	.53***
Problem-focused coping	55.37	9.60	.48***
Emotion-focused coping	58.61	8.48	.16**
Satisfaction with clinical experiences	155.52	35.42	1

* $p < 0.05$

** $p < 0.01$

*** $p < 0.001$

Given the maximum score that could be obtained in SCCQ was 252, the mean score of 155 in SCCQ shows participants are more satisfied than the average that can be obtained. Results of Pearson correlation indicated there is a significant relationship between the independent variables (personality dimensions, spirituality, and coping strategies) and clinical clerkship satisfaction among intern nursing students ($p < .05$). While neuroticism (of personality dimensions) is negatively correlated with dependent variable (satisfaction with clinical clerkship), all other variables found to be positively associated with clinical clerkship satisfaction. A hierarchical multiple regression ascertained how much variance in clinical clerkship satisfaction could be accounted for by personality dimensions, spirituality and coping strategies (table 2).

Table 2: results of multiple Hierarchical regression analysis for prediction of satisfaction with clinical clerkship in nursing students

	variables	B	S.E.	β	T	R	R ²	ΔR^2
Step 1	Personality dimensions							
	Neuroticism	.45	.27	.09	1.70	.53	.28**	--
	Extraversion	1.22	.31	.22	3.96**			
	Openness	-.86	.45	-.09	-1.89			
	Agreeable	.27	.39	.04	.69			
	Consciousness	.43	.34	.08	1.27			
Step 2	Spirituality	1.30	.27	.32	4.87**	.59	.35**	.07**
Step 3	Coping strategies							
	Problem-focused	.97	.22	.26	4.44**	.65	.42**	.07**
	Emotion-focused	.18	.22	.04	.82			
	Constant	-45.64	28.28		-1.61			

*p<0.01

**p<0.001

Personality dimensions were entered in first step, spirituality was entered in second step and coping strategies were entered in third step. Regarding clinical clerkship satisfaction, 28 percent of variances were accounted for in step 1 (p<.001). An additional 7 percent of the variance in clinical clerkship satisfaction was explained by the addition of the spirituality in step 2 (p<.001). Finally, an additional variance in clinical clerkship satisfaction accounted for by addition of coping strategies in step 3 was 7% (p<.001). On the other hand, the full regression model explained 42% of the total variance in clinical clerkship satisfaction by personality dimensions, spirituality and coping strategies (p<.001). As shown, amongst subscale of the personality questionnaire, only extraversion significantly predicted dependent variable ($\beta=0.22$, p<0.001). In addition, the same significant predictive ability of spirituality ($\beta=0.32$, p<0.001) and problem-focused coping style for clinical clerkship satisfaction was found ($\beta=0.26$, p<0.001).

Table 3: results of multiple Hierarchical regression analysis for prediction of problem-focused coping in nursing students

	variables	B	S.E.	β	T	R	R ²	ΔR^2
Step 1	Personality dimensions							
	Neuroticism	.02	.08	.01	.25	.43	.18**	--
	Extraversion	.25	.10	.16	2.58*			
	Openness	.36	.14	.14	2.53*			
	Agreeable	.05	.12	.03	.39			
	Consciousness	.13	.11	.08	1.23			
Step 2	Spirituality	.25	.08	.23	3.09**	.46	.21**	.03*
	Constant	8.78	8.30		1.06			

*p<0.01 **p<0.001

Two separate hierarchical regression analyses were conducted to determine how much variance in problem-focused and emotion-focused coping strategies could be explained by personality dimensions and spirituality. The results showed 21 percent of variance in problem-focused coping was explained by personality dimensions and spirituality (table 3). The proportion of variance of marital satisfaction accounted for by personality dimensions in first step were 18% (p<.001) and by spirituality in second step was 3% (p<.01). The beta coefficients revealed openness ($\beta=0.14$, p<0.01), extraversion ($\beta=0.16$, p<0.01), and spirituality ($\beta=0.23$, p<0.001) could significantly predict problem-focused coping style in intern

nursing students. Hierarchical regression analyses for emotion-focused as a dependent variable showed personality dimensions and spirituality were not able to predict significant any portion of the variance changes. The full regression model explained 16% of the total variance in emotion-focused coping by personality dimensions and spirituality which was not significant ($p>.05$).

Discussion

As noted in the findings section, the mean score of the participants in the SCCQ was higher than the achievable average. It is possible that the proper use of coping styles, the adaptation of clinical environment characteristics with personality traits, and the spiritual view of serving patients have increased the readiness of students to enter the clinical clerkship. Although it is impossible to draw causal conclusions from a correlational study, the evidence suggests having the characteristics that prepare a student to deal with the problems of the clinical clerkship can reduce the "reality shock" and increase the clinical clerkship satisfaction [38].

All the variables presented in the study were positively correlated with the students' clinical clerkship satisfaction; while, neurosis (of personality dimensions) was negatively correlated. Findings are in concert with previous studies [8, 11, 39].

According to previous studies and the logical exception, all the correlations with students' clinical clerkship satisfaction were sensibly assumed, except positive correlation of emotion-focus coping considering the previous literature, it was presumed to be negative [40, 41]. However, the use of emotion-focused coping strategies does not always have a negative consequence such as increasing stress; for example, in uncontrollable situations, this coping style can be helpful [24]. Due to the low experience of nursing students in the first entering the clinical clerkship, they are likely to face many uncontrollable situations that require the use of emotion-focused coping strategy [8, 25]. Temporary use of emotion-focused coping, in situations which are not controllable, like experiencing a heart attack or waiting to undergo a surgery, can be beneficial but the case is different with long-run use of it as a special coping style [24]. As a result, a negative correlation between using emotion-focused coping style in students and satisfaction with their clinical clerkship cannot be taken granted and the obtained results might be due to the situations in which the participants in the present study faced them.

The results of hierarchical regression analysis showed personality dimensions which were entered in first step for predicting of clinical clerkship satisfaction in nursing students had a significant role; among five factors of personality, only extraversion predicted satisfaction with clinical clerkship of intern nursing students. Considering the definition of extraversion [13], students who were sociable, others lover and enjoyed talking to patients and also, those who had a tendency to acquire various experiences from their clinical practice, were more satisfied with their clinical clerkship [42, 43]. Nurses who are more extroverted are more likely to participate in teamwork and solve problems with the help of their colleagues which leads to increased clinical performance [44] and then satisfaction with the clinical course. However, as the length of the clinical clerkship increases, students become more skilled at communicating with

patients, other nurses and their supervisors, and as a result become more extroverted which giving them better performance [8].

The results of regression analysis showed spirituality predicts satisfaction with clinical clerkship among intern nursing students. In the other words, considering the definition of spirituality, the students who found nursing as a meaningful and sacred career were more satisfied with their clinical clerkship. These findings are consistent with previous studies [22, 45, 46]. One study found Iranian nurses consider helping patients as an act of worshiping and believe that this contribution brings them spiritual rewards [21]. Evaluation of job values and job satisfaction among neophyte nurses [7], revealed "philanthropic" values play an important role in nurses' job satisfaction and nurses who look at their job as an opportunity to help other people have more satisfaction with their job. It seems among Iranian students of nursing, some spiritual values are assimilated into job values and cause an increase in their satisfaction with clinical practice [46]. Although this finding was expected, it cannot be declared spirituality is always associated with positive outcomes in caregivers [47, 48] and cannot necessarily predict their satisfaction [48].

Finally, the results showed problem-focused coping can predict satisfaction with clinical clerkship and emotion-focused coping had no role to play here, which is consistent with available evidence [40, 49]. According the definition of problem-focused coping, the students who try to encounter reality shock and the factors producing stress in clinical settings and find a way around are more satisfied with their clinical clerkship comparing with those are motivated by excitation of stressful events. Students who are able to deal with the problems of the clinical clerkship and use planful problem-solving strategies outperform than those who engage in dependent behaviors such as indisputable agreement with the decision made by others. They use knowledge and experience to identify or manage patient care problems, do not expect the supervisor to solve their clinical problems, and therefore they have better evaluation about their clinical performance [50]. However, it seems as the length of the clinical clerkship increases, students gain more professional competencies and use more problem-oriented coping [8, 28].

The hierarchical regression analysis showed personality dimensions and spirituality can significantly predict problem-focused coping of intern nursing students. Among personality dimensions, extraversion and openness could predict problem-focused coping. The findings are consistent with previous studies [51, 52]. Extraversion, as a general tendency to be assertive, is defined as being active and doing gregarious practice. These individuals tend to be cheerful and therefore, it is logical to have good relation with others [13] and seeking social support as a subpart of problem-focused coping style [24]. Openness (to clerkship experiences), also, is defined as the tendency to ponder novel ideas, unconventional values, and divergent thinking [13]. Therefore, it can be assumed individuals with high score in openness are flexible, creative, and capable of exploiting a number of more efficient coping strategies to deal with distressing situations [24]. In general, extraversion increase the openness to new experiences in clinical settings by improving the students' communications with patients, other students and supervisors and so allows students to cope with clinical problems by considering new experiences and in a problem-focused manner [51].

It was also found that spirituality predicted problem-focused coping. In other words, students who were able to find meaning and sanctity in their clinical clerkship were more likely to use problem-oriented coping. A few studies have been carried out on the relationship between spirituality and general coping strategies, most of these studies refer to the role of spirituality as a way to cope with stress as "spiritual coping" [53, 54]. Spirituality can help gather or focus resources on problem solving and so it is expected spiritual coping have more closely relationship with problem- focused coping [55].

In coping with stress, three roles are considered for spirituality: 1) providing a meaning for life, 2) helping people to have a sense of control in various situations, and 3) improving self-esteem in coping with stressful situations [56]. The role of spirituality in predicting problem-focused coping style in nursing students can be justified by the fact that spirituality gives students a sense of control and confidence in working with real patients so that they seek to find solutions to problems. In other words, spirituality includes wide range of personal, spiritual and existential beliefs that may be utilized in dealing with stress lead a person to use problem-oriented coping; therefore, spirituality can improve life satisfaction by increasing the use of problem-focused coping styles or problem-focused coping strategies can play a mediating role in the relationship between spirituality and life satisfaction [57].

Finally, the results of regression analyses showed personality dimensions and spirituality were not able to significantly predict emotion-focused coping in nursing students. The findings are inconsistent with previous studies [36, 51]. This finding can be attributed to students' low use of emotion-oriented coping strategies. Evidence suggests nursing students tend to use more problem-oriented coping strategies in clinical situations than emotion-focused [28, 49]. Consequently, regardless of personality traits or spirituality, students may not have been tendency to use emotion-oriented coping strategies. On the other way, duration of the clinical clerkship in this study was not controlled; while, students with more clinical experience than those with low experience may be more likely to use problem-oriented coping situations than emotion-focused [8].

Conclusion and Recommendation

Based on the findings, it can be concluded spirituality is an important factor in predicting clinical clerkships satisfaction and problem-focused coping in nursing students. Therefore, paying attention to spiritual needs in nursing students can be effective both in better coping with the stressful situations of clinical setting and in enhancing their satisfaction with clinical clerkships. Also, considering the role of problem-focused coping in predicting satisfaction with clinical clerkship, helping students to resolve their clinical problems rationally and enhancing their problem solving skills in dealing with clinical stresses can be associated with their clinical clerkship satisfaction. Considering the role of extraversion in predicting the satisfaction with clinical clerkship and problem-focused coping in nursing students, it can be concluded, probably, the training of social behaviors, communication skills and proper interaction with patients and hospital staffs (extraversion characteristics) can also help nursing students in effective coping with stressful work situations and also increase their clinical clerkship satisfaction.

Limitations

Considering the correlational design of the study, it is not possible to draw any causal conclusions from the findings. In order to be more confident in the findings of this study, especially regarding limited studies on the role of spirituality in clinical setting and the spiritual needs of nursing students, more similar studies should be conducted. Given spirituality [58] and coping strategies [59] are to some extent dependent on ethnicity, the generalizations of the research findings to other ethnic groups should be carried out with caution and it is suggested that similar studies are conducted in other ethnic groups. This cross-sectional study was conducted to assess the factors predicting clinical clerkship satisfaction, it is suggested further studies utilized longitudinal method to assess these factors.

Abbreviations

NEO_FFI: NEO five factor inventory; WoCQ: ways of coping questionnaire.

Declarations

Ethics approval and consent to participate

Approval for the original study was obtained through a researcher-made constant form for the guarantee of information confidentiality filled by any participant. Ethical consent was obtained from Ardakan University research committee (Approval number: 1397/12) and Shahid Sadoughi University of Medical sciences committee (Approval ID: IR.SSU.Rec.1398.054).

Consent for publication

All participants were informed and completed consent form.

Availability of data and materials

Data and materials are confidential but they will be available upon reasonable request

Competing interests

The authors have no conflicts of interest to state.

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Authors' contributions

Y R-M participated in study design, data collection, and data analysis. MA participated in data collection and data analysis. All authors read and approved the final manuscript.

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References

1. Maranon AA, Pera MP: Theory and practice in the construction of professional identity in nursing students: a qualitative study. *Nurse Educ Today* 2015, 35(7):859-863.
2. Monaghan T: A critical analysis of the literature and theoretical perspectives on theory-practice gap amongst newly qualified nurses within the United Kingdom. *Nurse Educ Toda* 2015, 35(8):e1-7.
3. Duchscher JE: Transition shock: the initial stage of role adaptation for newly graduated registered nurses. *J Adv Nurs* 2009, 65(5):1103-1113.
4. Beck CT: Nursing students' initial clinical experience: a phenomenological study. *Int J Nurs Stud* 1993, 30(6):489-497.
5. Peyrovi H, Yadavar-Nikravesh M, Oskouie SF, Bertero C: Iranian student nurses' experiences of clinical placement. *Int Nurs Rev* 2005, 52(2):134-141.
6. Lum L, Kervin J, Clark K, Reid F, Sirola W: Explaining nursing turnover intent: job satisfaction, pay satisfaction, or organizational commitment? *The International Journal of Industrial, Occupational and Organizational Psychology and Behavior* 1998, 19(3):305-320.
7. Yu M, Kang KJ: Factors Affecting Turnover Intention for New Graduate Nurses in Three Transition Periods for Job and Work Environment Satisfaction. *J ContinEduc Nurs* 2016, 47(3):120-131.
8. Fornés-Vives J, Garcia-Banda G, Frias-Navarro D, Rosales-Viladrich G: Coping, stress, and personality in Spanish nursing students: A longitudinal study. *Nurse Educ Today* 2016, 36:318-323.
9. Kennedy B, Curtis K, Waters D: Is there a relationship between personality and choice of nursing specialty: an integrative literature review. *BMC Nurs* 2014, 13(1):40.
10. Ang S, Dhaliwal S, Ayre T, Uthaman T, Fong K, Tien C, Zhou H, Della P: Demographics and Personality Factors Associated with Burnout among Nurses in a Singapore Tertiary Hospital. *BioMed Res Int* 2016, 2016:1-12.
11. Jeong Y-J, Koh C-K: Effects of personality and coping behavior on clinical practice stress among one college nursing students. *Korean J Stress Res* 2016, 24(4):296-302.
12. Majerníková L, Obročníková A: Personality predictors and their impact on coping with burnout among students preparing for the nursing and midwifery profession. *Kontakt* 2017, 19(2):e93-e98.
13. McCrae RR, Costa Jr PT: A Five-Factor theory of personality. In: *Handbook of personality: Theory and research, 2nd ed.* edn. New York, NY, US: Guilford Press; 1999: 139-153.
14. Molavynejad S, Babazadeh M, Bereihi F, Cheraghian B: Relationship between personality traits and burnout in oncology nurses. *J Family Med Prim* 2019, 8(9):2898-2902.
15. Chen Y-P, Tsai J-M, Lu M-H, Lin L-M, Lu C-H, Wang K-WK: The influence of personality traits and socio-demographic characteristics on paediatric nurses' compassion satisfaction and fatigue. *J Adv Nurs* 2018, 74(5):1180-1188.

16. Koenig HG, King D, Carson VB: Handbook of religion and health. New York: Oxford University Press; 2012.
17. Ross L, McSherry W, Giske T, van Leeuwen R, Schep-Akkerman A, Koslander T, Hall J, Steinfeldt VØ, Jarvis P: Nursing and midwifery students' perceptions of spirituality, spiritual care, and spiritual care competency: A prospective, longitudinal, correlational European study. *Nurse Educ Today* 2018, 67:64-71.
18. Pike J: Spirituality in nursing: a systematic review of the literature from 2006-10. *Br J Nurs* 2011, 20(12):743-749.
19. McSherry W, Cash K, Ross L: Meaning of spirituality: implications for nursing practice. *J Clin Nurs* 2004, 13(8):934-941.
20. Perera CK, Pandey R, Srivastava AKJPS: Role of Religion and Spirituality in Stress Management Among Nurses. *Psychol Stud* 2018, 63(2):187-199.
21. Ravari A, Vanaki Z, Houmann H, Kazemnejad A: Spiritual job satisfaction in an Iranian nursing context. *Nurs Ethics* 2009, 16(1):19-30.
22. Hsiao YC, Chien LY, Wu LY, Chiang CM, Huang SY: Spiritual health, clinical practice stress, depressive tendency and health-promoting behaviours among nursing students. *J Adv Nurs* 2010, 66(7):1612-1622.
23. Folkman S: Stress, coping, and hope. *Psycho Oncol* 2010, 19(9):901-908.
24. Lazarus RS: Coping theory and research: past, present, and future. *Psychosom Med* 1993, 55(3):234-247.
25. McCarthy B, Trace A, O'Donovan M, Brady-Nevin C, Murphy M, O'Shea M, O'Regan P: Nursing and midwifery students' stress and coping during their undergraduate education programmes: An integrative review. *Nurse Educ Today* 2018, 61:197-209.
26. Pulido-Martos M, Augusto-Landa JM, Lopez-Zafra E: Sources of stress in nursing students: a systematic review of quantitative studies. *Int Nurs Rev* 2012, 59(1):15-25.
27. Khater W, Akhu-Zaheya L, Shaban I: Sources of Stress and Coping Behaviours in Clinical Practice among Baccalaureate Nursing Students. *Int J Humanit Soc Sci* 2014, 4:194-202.
28. Bhurtun HD, Azimirad M, Saaranen T, Turunen H: Stress and coping among nursing students during clinical training: An integrative review. *J Nurs Educ* 2019, 58(5):266-272.
29. Krejcie RV, Morgan DW: Determining Sample Size for Research Activities. *Educ Psychol Meas* 1970, 30(3):607-610.
30. Costa PT, McCrae RR: Professional manual: revised NEO personality inventory (NEO-PI-R) and NEO five-factor inventory (NEO-FFI), vol. 61. Odessa, FL: Psychological Assessment Resources; 1992.
31. Anisi J, Majdian M, Joshanloo M, Gohari-Kamel Z: Validity and reliability of NEO Five-Factor Inventory (NEO-FFI) on university students. *J Behav Sci* 2012, 5(4):351-355.
32. Rezapour-Mirsaleh Y: Relationship between spirituality and spiritual care with job satisfaction of nurses. In: *The first conferences on educational sciences*. Sari, Iran: Ayandehsaz pub; 2013: 80-86.

33. McSherry W, Draper P, Kendrick D: The construct validity of a rating scale designed to assess spirituality and spiritual care. *Int J Nurs Stud* 2002, 39(7):723-734.
34. Folkman S, Lazarus RS: Manual for the ways of coping questionnaire. Palo Alto, California: Consulting Psychologists Press; 1988.
35. Khodadadi M: Standardization of ways of coping questionnaire. Tehran: Islamic Azad University; 2004.
36. Mirsaleh YR, Rezai H, Kivi SR, Ghorbani R: The role of religiosity, coping strategies, self-efficacy and personality dimensions in the prediction of Iranian undergraduate rehabilitation interns' satisfaction with their clinical experience. *Clin Rehabil* 2010, 24(12):1136-1143.
37. Herzberg F: Work and the nature of man. Cleveland: World Pub. Co.; 1966.
38. Järvinen T, Eklöf N, Salminen L: Factors related to nursing students' readiness to enter working life – A scoping literature review. *Nurse Educ Pract* 2018, 29:191-199.
39. Gurkova E, Zelenikova R: Nursing students' perceived stress, coping strategies, health and supervisory approaches in clinical practice: A Slovak and Czech perspective. *Nurse Educ Today* 2018, 65:4-10.
40. Chang Y, Edwards JK: Examining the Relationships Among Self-Efficacy, Coping, and Job Satisfaction Using Social Career Cognitive Theory: An SEM Analysis. *J Career Assess* 2015, 23(1):35-47.
41. Deary IJ, Watson R, Hogston R: A longitudinal cohort study of burnout and attrition in nursing students. *J Adv Nurs* 2003, 43(1):71-81.
42. Bang M, Sim S: A Study on the Personality, Interpersonal Relations and Stress of Clinical Practice of Nursing Students. *Int Info Inst (Tokyo)* 2017, 20(8B):5949-5958.
43. Mount M, Ilies R, Johnson E: Relationship of personality traits and counterproductive work behaviors: The mediating effects of job satisfaction. *Pers Psychol* 2006, 59(3):591-622.
44. Ellershaw J, Fullarton C, Rodwell J, McWilliams J: Conscientiousness, openness to experience and extraversion as predictors of nursing work performance: a facet-level analysis. *J Nurs Manag* 2016, 24(2):244-252.
45. Babamohamadi H, Ahmadpanah M-S, Ghorbani R: Attitudes Toward Spirituality and Spiritual Care among Iranian Nurses and Nursing Students: A Cross-Sectional Study. *J Relig Health* 2018, 57(4):1304-1314.
46. Seylani K, Karlsson S, Mohammadi E, Negarandeh R: Spirituality among Iranian nursing students during undergraduate study. *Nurs Midwifery Stud* 2016, 5(3):e33044.
47. Robinson KM, Kaye J: The Relationship Between Spiritual Perspective, Social Support, and Depression in Caregiving and Noncaregiving Wives. *Scholarly Inq Nurs Pract* (4):375-389.
48. Rezapour Y, Rezai H, Hosseini SA, Mohseni Takalu MT: The Role of Faith in Work, Religious Beliefs, and Spirituality in the Prediction of Job Satisfaction Among Rehabilitation Experts. *Iranian Rehabil J* 2016, 14(4):217-222.

49. Al-Gamal E, Alhosain A, Alsunaye K: Stress and coping strategies among Saudi nursing students during clinical education. *Perspect Psychiatr Care* 2018, 54(2):198-205.
50. Chan CK, So WK, Fong DY: Hong Kong baccalaureate nursing students' stress and their coping strategies in clinical practice. *J Prof Nurs* 2009, 25(5):307-313.
51. Watson R, Deary I, Thompson D, Li G: A study of stress and burnout in nursing students in Hong Kong: A questionnaire survey. *Int J Nurs Stud* 2008, 45(10):1534-1542.
52. Burgess L, Irvine F, Wallymahmed A: Personality, stress and coping in intensive care nurses: a descriptive exploratory study. *Nurs Crit Care* 2010, 15(3):129-140.
53. Ekedahl MA, Wengstrom Y: Caritas, spirituality and religiosity in nurses' coping. *Eur J Cancer Care* 2010, 19(4):530-537.
54. Baldacchino D, Draper P: Spiritual coping strategies: a review of the nursing research literature. *J Adv Nurs* 2001, 34(6):833-841.
55. Krägeloh CU, Chai PPM, Shepherd D, Billington R: How Religious Coping is Used Relative to Other Coping Strategies Depends on the Individual's Level of Religiosity and Spirituality. *J Relig Health* 2012, 51(4):1137-1151.
56. Spilka B, Shaver P, A. Kirkpatrick L: A General Attribution Theory for the Psychology of Religion. *J Sci Study Relig* 1985, 24(1):1-20.
57. Bicchieri E, Roussiau N, Mambet-Doué C: Fibromyalgia, Spirituality, Coping and Quality of Life. *J Relig Health* 2016, 55(4):1189-1197.
58. Albertsen EJ, O'Connor LE, Berry JW: Religion and interpersonal guilt: Variations across ethnicity and spirituality. *Ment Health Relig Cult* 2006, 9(1):67-84.
59. Weiss NH, Johnson CD, Contractor A, Peasant C, Swan SC, Sullivan TP: Racial/ethnic differences moderate associations of coping strategies and posttraumatic stress disorder symptom clusters among women experiencing partner violence: a multigroup path analysis. *Anxiety Stress Coping* 2017, 30(3):347-363.

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