Original Article

The relationship between social intelligence, moral courage, and resilience in nurses: a cross-sectional correlational study

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Abstract

This cross-sectional correlational study was conducted with 479 nurses working at educational and medical centers affiliated with Tabriz University of Medical Sciences in 2022–2023 to examine the relationships among social intelligence, moral courage, and resilience. Participants were selected using a multistage sampling method. Data were collected using validated Persian versions of the TSIS Social Intelligence Scale, Sekerka's Moral Courage Scale, and the CD-RISC Resilience Scale, with Cronbach's alpha coefficients of 0.75, 0.85, and 0.94, respectively. Data were analyzed using SPSS version 19. The findings showed that nurses had moderate social intelligence scores (94.98 ± 14.55) and relatively high moral courage (78.99 ± 17.98), while their resilience level was moderate to high (65.77 ± 15.56). A positive and statistically significant relationship was found between resilience and both social intelligence and moral courage ($P < 0.001$). Given the importance of resilience in stressful nursing environments and the positive influence of social intelligence and moral courage on resilience, educational interventions focusing on these characteristics may help improve nurses' resilience.

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Introduction

Today, nurses are recognized as the largest group within the healthcare workforce and play a vital role in providing care to patients, families, and communities. However, the demanding nature of the profession exposes them to persistent physical and psychological stressors, which may lead to adverse outcomes, including burnout, reduced job satisfaction, and decreased productivity (1–3). Therefore, addressing the challenges of clinical practice is essential, and resilience has been identified as a key factor in promoting nurses' professional effectiveness (4). Resilience is generally defined as the ability to adapt positively to adversity and maintain psychological balance in stressful situations. It is a dynamic and multifaceted process shaped by the interaction of individual and environmental factors, enabling individuals not only to cope with challenges but also to achieve personal growth (5–7). In nursing contexts, resilience is associated with reduced occupational stress and enhanced well-being and performance (8–10). Research indicates that resilience can be strengthened through both individual traits and learnable skills, such as maintaining work–life balance, cognitive reframing, social support, and positive interpersonal relationships (11–15). Additionally, key protective factors—such as positive emotions, perceived tolerance, meaning in life, social support, and active coping strategies—have been identified as central to strengthening psychological resilience and mitigating the negative effects of workplace stressors, particularly among healthcare professionals (16,17).

Exposure to ethical challenges represents a significant contextual factor influencing resilience in clinical settings. Nurses frequently face complex situations requiring ethical decision-making under pressure. In such contexts, moral courage—defined as the ability to act in accordance with ethical principles despite potential risks—plays a crucial role (18–21). Moral courage supports nurses in managing ethical dilemmas, reducing psychological distress, and preserving professional integrity. Moreover, it has been linked to positive outcomes such as psychological empowerment, which may further reinforce resilience (22–24).

In addition, individual differences in social functioning, often described as social intelligence, influence how nurses respond to workplace challenges. Social intelligence is the capacity to navigate and manage interpersonal interactions effectively, based on social information processing, social skills, and social awareness (25–27). In clinical environments, these abilities facilitate better interpretation of complex situations, improved adaptability, and more effective conflict resolution (28). Studies have shown that higher social intelligence is associated with improved job performance and greater adaptation to working conditions, and it may enhance resilience by enabling more effective stress management (29–31).

Despite the recognized importance of resilience in nursing, existing studies have primarily examined its relationship with isolated psychological or organizational factors, and there is a lack of comprehensive evidence on how moral courage and social intelligence simultaneously contribute to resilience in clinical settings. Moreover, limited research has explored these associations within real-world nursing environments, particularly in high-stress contexts. Addressing this gap is essential, as understanding the combined role of these factors may inform targeted interventions to strengthen nurses' resilience and ultimately improve patient care outcomes. Therefore, this study aimed to examine the relationship between social intelligence, moral courage, and resilience among nurses at educational and medical centers of Tabriz University of Medical Sciences between 2022 and 2023.

Methods

Study Design and Population

The present research was a quantitative, cross-sectional correlational study conducted in collaboration with nurses employed at the educational and medical centers of Tabriz in 2022–2023. The 13 selected centers were educational and medical settings in Tabriz, a city in the northwest of Iran that provided a broad range of clinical services. Participants were recruited using multistage sampling with proportional allocation based on the ratio of nurses per center. Nurses were selected from different wards, including medical, surgical, intensive care, emergency, pediatric, and obstetrics and gynecology units, to ensure a diverse range of clinical exposure. Nurses with a minimum of two months of clinical experience and a willingness to participate were included.

The sample size was determined at 436 nurses, calculated using STATA 14 software, Fisher's z statistical test (study parameters: alpha = 0.0500, power = 0.8000, delta = 0.1000, r0 = 0.4560, ra = 0.5560) for comparing a sample correlation against a reference value, and based on a similar study (Özdemir and Adıgüzel) (32). Considering a 10% attrition rate for incomplete or unreturned questionnaires, the final sample was estimated at approximately 479 participants. After obtaining permission and coordinating, participants were randomly selected in each hospital ward using a simple random (lot-drawing) method, according to the monthly shift schedule and the number of departments in each center. Although a 10% attrition rate was initially considered in the sample size estimation, all 479 participants fully completed and returned the questionnaires, with no attrition or missing data recorded. To ensure data quality, all questionnaires were reviewed immediately upon collection, and any missing responses were completed then.

Study Instruments

Data were collected after explaining the study objectives and obtaining informed consent, through four questionnaires:

1. The Demographic Questionnaire

This form included questions about age, gender, education level, marital status, work experience, current position, and employment status.

2. The Tromso Social Intelligence Scale (TSIS, 2001)

The TSIS consists of 21 items, covering three subscales: 1) Social Information Processing, 2) Social Skills, and 3) Social Awareness. Each item is rated on a 7-point Likert scale (1 = Describes me extremely poorly, 2 = Describes me very poorly, 3 = Describes me poorly, 4 = Describes me neither poorly nor well, 5 = Describes me well, 6 = Describes me very well, and 7 = Describes me extremely well), yielding total scores from 21 to 147 (21–63: low, 64–105: moderate, and 106–147: high). Reported Cronbach’s alpha coefficients were 0.81, 0.86, and 0.79 for the three subscales (27). For use in this study, the validated Persian versions were employed. The translation and cultural adaptation had been previously performed, and the psychometric properties of the Persian versions had been confirmed in prior studies. In a study by Rezaei, reliability was assessed using test-retest and internal consistency (Cronbach’s alpha), yielding 0.75 for the total scale and 0.73, 0.66, and 0.64 for the subscales, respectively (33).

3. The Professional Moral Courage Questionnaire (Sekerka et al. 2009)

This 15-item instrument includes five dimensions: 1) Moral Agency (3 items), 2) Multiple Values (3 items), 3) Endurance of Threat (3 items), 4) Going beyond Compliance (3 items), and 5) Moral Goals (3 items). Each statement is scored on a 7-point Likert scale (from 1 = never true to 7 = always true). Scores for each dimension ranged from 3 to 21, and the total score ranged between 15 and 105 (15–45: low, 46–75: moderate, and 76–105: high). The mean score of each dimension and the total score represent professional moral courage (34). The study utilized the Persian version of the questionnaire, which had been translated, culturally adapted, and validated in prior research, and its psychometric properties had been confirmed by Mohammadi et al. through the forward-backward translation method. Its content validity was examined by 10 experts in bioethics, yielding a CVI of 0.81, and its reliability was assessed by a Cronbach's alpha of 0.85 by Mohammadi et al. (35), and 0.75 by Hassanzadeh Naeini1et al. (36).

4. The Connor-Davidson Resilience Scale (CD-RISC, 2003)

This instrument contains 25 items covering five dimensions: 1) Personal Competence, 2) Trust in One's Instincts and Tolerance of Negative Affect, 3) Positive Acceptance of Change and Secure Relationships, 4) Control, and 5) Spiritual Influences. It uses a 5-point Likert scale (0 = completely false to 4 = always true), yielding a total score of 0 to 100. Higher scores indicate greater resilience (8). Connor and Davidson reported a Cronbach's alpha of 0.89 and test-retest reliability of 0.87 over four weeks (6). In this study, previously validated Persian versions of the instrument were used. These versions had undergone translation and cultural adaptation, and their psychometric properties had been established in earlier studies. Samani et al. reported a Cronbach's alpha of 0.87 for the Persian version (37). Also, in another study, 10 faculty members evaluated content validity and confirmed that all items had acceptable CVR (≥ 0.62) and CVI (0.84), and reliability was assessed using Cronbach's alpha (0.94) (8).

Data Analysis

After coding, the data were entered into SPSS 19. Analyses employed descriptive statistics, Pearson's correlation, and independent t-tests, and the results were organized in statistical tables.

Results

Demographic Findings

Demographic characteristics of the 479 nurses are presented in Table 1 below.

Table 1. Demographic characteristics of nurses participating in the study

Variable	Category/Index	N (%)	Mean ± SD
Age (years)	Min	22	**34.38 ± 8.27**
	Max	55	
Gender	Female	432 (90.2 %)	
	Male	47 (9.8 %)	
Marital Status	Single	194 (40.5%)	
	Married	285 (59.5 %)	
Education	Graduate	425 (88.7 %)	
	Post graduate	54 (11.3%)	
Position	Nurse practitioner	437 (91.2 %)	
	Other	42 (8.8%)	
Employment Status	Permanent staff	271 (56.6%)	
	Casual staff	208 (43.4%)	
Experience (years)	Min	0.3	**10.2 ± 7.5**
	Max	30	
Total		**479 (100%)**	

Variable Scores

Findings showed above-average resilience, high social intelligence, and relatively high moral courage scores among nurses. Scores for resilience (0–100), social intelligence (21–147), and moral courage (15–105) are shown in Table 2.

Table 2. Scores of the resilience, social intelligence, and moral courage questionnaires

Variable	Mean Square ± SD	Minimum	Maximum
Total Resilience	**65.77 ± 15.56**	**12.00**	**100.00**
- **Personal Competence**	21.23 ± 5.92	0.00	32.00
- **Trust in One's Instincts and Tolerance of Negative Affect**	17.12 ± 4.84	3.00	28.00
- **Positive Acceptance of Change and Secure Relationships**	13.75 ± 2.99	3.00	20.00
- **Control**	8.14 ± 2.29	0.00	12.00
- **Spiritual Influences**	5.52 ± 1.77	0.00	8.00
Total Social Intelligence	**94.98 ± 14.55**	**63.00**	**135.00**
- **Social Information Processing (SP)**	38.93 ± 8.60	8.00	56.00
- **Social Skills (SS)**	28.89 ± 7.85	7.00	49.00
- **Social Awareness (SA)**	27.16 ± 6.21	9.00	42.00
Total Professional Moral Courage	**78.99 ± 17.98**	**15.00**	**105.00**
- **Moral Agency**	16.32 ± 3.97	3.00	21.00
- **Multiple Values**	15.48 ± 4.01	3.00	21.00
- **Endurance of Threat**	15.58 ± 4.32	3.00	21.00
- **Going beyond Compliance**	15.70 ± 4.31	3.00	21.00
- **Moral Goals**	15.90 ± 3.93	3.00	21.00

Correlation between the Study Variables

The correlation analysis showed significant positive relationships between resilience and both social intelligence and moral courage (Table 3).

Table 3. *Relationship between social intelligence, moral courage, and resilience in nurses*

		Total. Resilience	Total. Social Intelligence	Total. Moral Courage
Total. Resilience	Pearson Correlation	1	0.341**	0.163**
	Sig. (2-tailed)		0.000	0.000
Total. Social Intelligence	Pearson Correlation	0.341**	1	0.361**
	Sig. (2-tailed)	0.000		.000
Total. Moral Courage	Pearson Correlation	0.163**	0.361**	1
	Sig. (2-tailed)	0.000	0.000	
** Correlation is significant at the 0.01 level.				

A linear regression analysis confirmed the significant predictive effects of social intelligence and moral courage on resilience in nurses (Table 4).

Table 4. *Linear regression analysis of the relationship between social intelligence and moral courage with resilience*

ANOVA*						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
	Regression	13639.025	2	6819.513	31.802	**.000****
	Residual	102072.624	476	214.438		
	Total	115711.649	478			
*. Dependent Variable: Total. Resilience **. Predictors: (Constant), Total. Moral Courage, Total. Social Intelligence						

Correlation between the Study Variables and Demographic Characteristics

Table 5 presents the associations between demographic characteristics and study variables, revealing that resilience and social intelligence were significantly associated with education level and position, and that moral courage was significantly associated with age, position, marital status, and experience.

Table 5. *Relationship between demographic characteristics, social intelligence, moral courage, and resilience*

P-Value (Sig)	Age	Employment Status	Position	Education	Marital Status	Gender	Work Experience
Total Resilience	0.421	0.401	**0.003**	**0.019**	0.377	0.733	0.453
Total Social Intelligence	0.225	0.098	**0.011**	**0.011**	0.545	0.809	0.150
Total Professional Moral Courage	**0.000**	0.590	**0.001**	0.054	**0.007**	0.057	**0.000**

Discussion

This study aimed to determine the relationships among social intelligence, moral courage, and resilience among nurses at the educational and medical centers of Tabriz University of Medical Sciences in 2022–2023.

Results revealed that nurses demonstrated above-average resilience, moderate social intelligence, and relatively high moral courage. Recent evidence indicates that resilience mitigates negative occupational stressors, is associated with improved patient outcomes, and correlates with lower psychological distress and higher levels of well-being (17,38). Findings regarding nurses' resilience levels have been inconsistent across studies: some report high (39), others above-average (40), and still others average levels (22). These discrepancies are likely attributable to a range of internal and external factors that influence the complex and dynamic nature of resilience (38).

The social intelligence score of nurses in this study was moderate. In contrast, some studies have reported above-average levels (41), while others have found average scores (42, 43). Social intelligence is a vital attribute for nurses, as it is widely applied in clinical practice and exerts significant direct and indirect effects on the quality of care. Accordingly, a high level of social intelligence is essential for effective treatment, proper care delivery, and positive patient outcomes (40,44).

Nurses in the present study exhibited relatively high levels of moral courage, consistent with findings from several previous studies (22,45). Similarly, a meta-analysis found that the mean moral courage score among nurses is comparable to that observed in our study (46). However, other studies have reported moderate or lower levels of moral courage (47,48). Such variability may be attributed to differences in research instruments and to contextual factors, including

organizational ethical climate, leadership support, cultural influences, and levels of acceptance (49). Previous studies indicate that nurses who possess stronger moral courage tend to report less moral distress and exhibit higher levels of professional competence. Such individuals are generally better able to manage complex clinical situations while maintaining professional and ethical standards. In addition, moral courage empowers nurses to address unethical actions more confidently, advocate for patients' rights, and make appropriate clinical judgments. Conversely, insufficient moral courage can negatively affect commitment to ethical principles, intensify experiences of moral distress, reduce the quality of patient care, and potentially lead to unethical practices (47,50).

Our findings demonstrated that both social intelligence and moral courage were positively correlated with resilience, suggesting that increases in these attributes enhance nurses' capacity to cope with professional challenges. The presence of a statistically significant relationship among resilience, social intelligence, and moral courage indicates that nurses with higher levels of social intelligence and moral courage exhibit greater resilience when confronting the hardships of the profession. This finding is consistent with previous studies examining the association between resilience and social intelligence (51,52). Consequently, nurses with higher social intelligence are better able to manage various stressors, demonstrate increased resilience in the face of environmental pressures and workplace conditions, and are less susceptible to burnout (53,54). Likewise, one previous study has identified a significant association between resilience and moral courage among nurses (55). In addition, Ebrahimi Ghasemi et al. found a positive, statistically significant correlation between resilience and moral courage among nursing students (56).

The literature consistently identifies moral courage as a crucial component of ethical nursing care and a necessary attribute for nurses. It is regarded as a constructive and empowering means of addressing moral distress and an essential element of overall ethical competence (18,57). Furthermore, moral courage in nursing is strongly associated with patient safety and quality of care (58) and is considered vital across all levels of the profession (59). Therefore, a high level of moral courage is necessary for nurses to strengthen their resilience (22).

The findings indicated that nurses with higher levels of education and those who were married

demonstrated greater resilience, whereas other demographic variables showed no statistically significant association with resilience. This finding is consistent with a study conducted in Turkey, which confirmed the positive effect of higher education on psychological resilience and its sub-dimensions (40). Similarly, a study by Leng et al. in China reported a significant relationship between educational level and psychological resilience (60), and Manomenidis et al. observed that nurses with higher resilience tended to have higher educational attainment (17). Furthermore, Ang et al. found that marital status, age, higher educational attainment, and job rank were all significantly associated with nurses' resilience levels, with the strongest association observed for educational attainment. They reported that nurses with a bachelor's or master's degree were approximately three times more likely to exhibit moderate to high resilience than those with only a general nursing certificate (53). In line with these findings, other studies have also documented higher resilience among nurses with greater work experience and higher levels of education (39,61). This is while in our study, no relationship was found between nurses' age, gender, experience, or marital status and their level of resilience. A study in New Zealand similarly showed that age does not affect psychological resilience (62). Additionally, In addition, we found that resilience in nurses is significantly related to their managerial positions, this finding is consistent with the results of Pallesen et al. study (63), which may reflect their greater professional experience and their engagement in learning and applying resilience-enhancing strategies.

Furthermore, in line with the resilience findings, the statistical analysis indicated that nurses with higher levels of education and those in managerial roles exhibited greater social intelligence. However, no significant relationships were identified between social intelligence and the other demographic variables. In contrast, the study by Tonguç and Karakaş reported that female nurses and those with more extensive professional experience demonstrated higher levels of social intelligence than their male counterparts, while no significant association was found between educational level and social intelligence (40).

In another study, no statistically significant association was reported between age and social intelligence, including its sub-dimensions (64). In a similar vein, Özdemir and Adıgüzel found no relationship between social intelligence levels

and gender; however, a significant association was identified between nurses' educational level and their social intelligence (32). Accordingly, given that social intelligence skills are amenable to development through education and training (65), nurses with higher levels of education—as well as nursing managers, who typically possess greater experience and receive more extensive training—are more likely to demonstrate elevated levels of social intelligence.

The findings of the present study further indicate that nurses' moral courage is significantly associated with age, work experience, marital status, and managerial position. Hakimi et al. also reported that gender, work experience, and age are significantly related to nurses' levels of moral courage (66). Similarly, Pajakoski et al. identified professional experience as the most influential individual factor associated with moral courage (58). In a study by Mahdaviseresht et al., variables such as age, nursing work experience, and employment type were also found to be significantly associated with moral courage (67). Other evidence likewise demonstrates a relationship between age, work experience, and moral courage (66). This pattern may be explained by the premise that individuals' knowledge and awareness tend to increase with age and accumulated professional experience, thereby enhancing their capacity to recognize appropriate and ethical behaviors. Consequently, older and more experienced nurses are generally better equipped to demonstrate moral courage, particularly in challenging and stressful situations.

In line with the identified gap in the literature regarding the limited evidence on the simultaneous contribution of social intelligence and moral courage to nurses' resilience in clinical settings, the present study attempted to address this issue by examining these factors together in a real nursing context. One of the strengths of this study was the inclusion of nurses from different centers and wards, which increased participant diversity and improved the generalizability of the findings. However, a limitation of this study is that the data were collected using self-report questionnaires, which may be subject to response bias and participants' subjective perceptions. Future studies are recommended to use a combination of self-report and objective assessment methods or multi-source data collection to reduce potential bias and improve the accuracy of the findings.

Conclusion

Based on the findings of the present study, resilience, as a core nursing attribute, plays a pivotal role in nursing practice, particularly within challenging, high-stress, and high-workload environments. The positive contributions of social intelligence and moral courage, as complementary professional attributes, appear to significantly enhance nurses' resilience. Given that social intelligence and moral courage are competencies that can be developed through education and training, their systematic integration into undergraduate nursing curricula and continuing professional development programs is strongly warranted. Furthermore, additional research is recommended to deepen understanding of social intelligence, moral courage, and related factors essential to fostering and strengthening resilience in nursing, as well as to identify the key determinants influencing these attributes.

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Ethical Considerations

This study was derived from an approved research project of the Student Research Committee, Tabriz University of Medical Sciences under ethics code IR.TBZMED.REC.1401.558. Written informed consent was obtained from participants after the study purpose was explained. Participation was voluntary, and confidentiality was maintained throughout the research process.

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Conflict of Interests

The authors declare no potential conflicts of interests regarding the research, authorship, or publication of this article.

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