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Association Between Empathy and Readiness to Deliver Psychological First Aid among Undergraduate Nursing Students in Iraq

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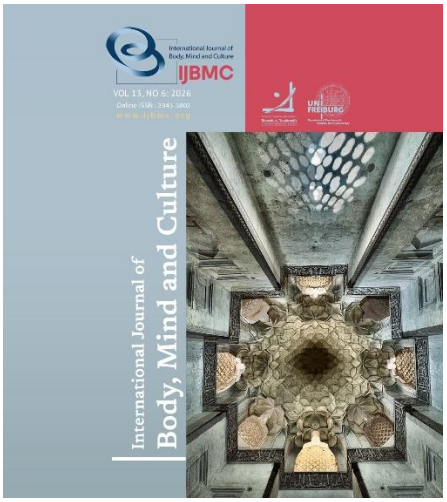

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ABSTRACT

Objective: This study aimed to assess empathy levels and readiness to deliver psychological first aid among undergraduate nursing students in Iraq, and to examine the association between empathy and readiness to deliver psychological first aid.

Methods and Materials: A descriptive correlational study was conducted among 637 third- and fourth-year nursing students from six public universities across northern, central, and southern Iraq. Stratified multistage cluster sampling was used. Data were collected using a demographic questionnaire, the Jefferson Scale of Empathy–Health Professions Student Version (20–140), and a PFA self-assessment questionnaire (20–100). Descriptive statistics, Spearman's rank correlation, and non-parametric tests (Mann–Whitney U and Kruskal–Wallis) were used. Significance was set at $p < 0.05$.

Findings: The mean age was 22 ± 2.5 years; 57.8% were female. Students' mean empathy score was 94.09 ± 16.81, reflecting moderate empathy; 38.8% scored high, 55.7% moderate. The mean PFA readiness score was 79.45 ± 12.51, reflecting high readiness; 76.1% scored high. A significant positive correlation was observed between empathy and PFA readiness ($r = .398$, $p < .001$). Empathy differed significantly by university ($p = .001$) and monthly income ($p = .042$). PFA readiness differed by university ($p = .004$), academic year ($p = .038$), and academic achievement ($p = .014$).

Conclusion: Empathy is positively associated with readiness to provide PFA. Nursing education should integrate structured PFA training to strengthen students' emotional competence and crisis-response preparedness.

Keywords: Empathy, Psychological First Aid, Nursing Students, Crisis Preparedness, Mental Health, Iraq.

Introduction

Empathy in nursing is considered fundamental for building a therapeutic relationship (McCabe, 2004). It enables nurses to recognize patients' needs and provide appropriate care (Doyle et al., 2014). Studies show that empathy improves both patient satisfaction and clinical outcomes (Derksen et al., 2012).

Empathy combines intellectual understanding and emotional sensitivity, enabling nurses to understand patients' perspectives of and respond appropriately to their emotions. Derksen and colleagues define empathy as "behavior, attitude, and ability" (Derksen et al., 2012). These three dimensions work together to promote a positive therapeutic relationship between the nurse and the patient, in which empathy can facilitate cooperation, well-being, and adherence to therapy (Dal Santo et al., 2014; Derksen et al., 2017).

The American Association for Medical Education (AAME) considers empathy to be an essential competency in medical education (Cunico et al., 2012). Although empathy varies in intensity among individuals, it can be developed through education and experience, and enhanced empathy enables nursing students to provide more effective and holistic mental and physical care (Dulay et al., 2018).

Psychological First Aid (PFA) complements empathy by providing a systematic approach to working with traumatized individuals. PFA aims to reduce their suffering and avoid maladaptive behaviors that are not conducive to their recovery (Nusbaum et al., 2007). The aims of understanding, emotional support, and resilience of PFA are similar to those of empathy. Although the effectiveness of PFA has been demonstrated, training in PFA is not normally provided in nursing programs (Kılıç & Şimşek, 2019). This has recently been shown to increase nursing students' resilience, self-efficacy, and empathy (Jawad & Mohammed, 2022; Noori, 2025).

Research on the development of empathy during vocational training yields inconsistent results, with some studies suggesting a decline over the course of training (Nazir et al., 2021). This decline is particularly concerning in Iraq, where nurses often care for traumatized individuals in resource-poor clinics (Younis, 2025). Recent local studies have also indicated a lack of knowledge in specialized clinical fields.

In Iraq, psychological stress is increasing due to health and political issues (Hassan et al., 2016; Mesk et al., 2025). Although PFA training has proven effective in improving nurses' competencies, its impact on empathy remains inconsistent. Recent studies show an increase in competencies but only minor improvements in empathy. This suggests that the influence of initial empathy on PFA readiness or whether the competencies acquired in training are the decisive factor has not yet been sufficiently investigated (Gebbie & Turnock, 2006).

This study aims to assess these students' empathy and psychological first aid skills, examine the correlation between them, and determine whether demographic factors (year of study, gender, place of residence, pre-existing mental health conditions, etc.) influence this relationship. We hypothesized that higher levels of empathy would be positively associated with greater readiness to deliver PFA.

Methods and Materials

Study Design

A descriptive-correlational design was employed to measure levels of empathy and readiness to deliver Psychological First Aid (PFA) and to examine the relationship between these variables among nursing students. The study was carried out from November 23, 2025, to January 10, 2026. The study was conducted in six public universities chosen to represent the three geographical regions of Iraq: The Northern region (Universities of Tel Afer and Tikrit), the Central region (Universities of Baghdad and Babylon), and the Southern region (Universities of Thi-Qar and Basra).

Participants and Sampling Procedure

The target population was undergraduate nursing students in their third and fourth year of study (N = 7150). A stratified multistage cluster sampling technique was used to represent the whole country and to increase the heterogeneity of the sample.

The sampling procedure involved three stages: Stratification by region, in which two colleges were randomly selected from each of the three geographical regions. Selection of clusters, where class sections in the chosen colleges were randomly selected—a cluster census, where all students in the selected classes were invited to participate.

The sample size was calculated for a population of 7150 at a 95% confidence level, yielding a required sample size of 364. which was increased to 600 students to account for the design effect of cluster sampling, based on power analysis and population size. The inclusion criteria were official registration in the third or fourth year of the B.Sc. Nursing program and giving their informed consent. Incomplete questionnaires were not included in the data analysis.

Instruments

Data was collected using a self-report questionnaire consisting of three parts:

Demographic Data: This part included seven questions: age, gender, marital status, educational level, GPA, residence, and perceived socioeconomic status.

Jefferson Scale of Empathy-Student Version (JSE-HPS): This is a 20-item scale designed to measure empathy among health professions students. The scale comprises three factors: understanding the other person's point of view, compassionate care, and empathy for the patient. Items are scored using a 7-point Likert scale (Ward et al., 2009). The scores were categorized as low (20-60), moderate (61-100), and high (101-140). Higher total scores represent higher levels of empathy. The scale was calculated for the current sample to assess internal consistency, and it showed good reliability ($\alpha = 0.78$).

Psychological First Aid (PFA) Self-Assessment: This part evaluated knowledge, attitudes, and readiness to provide PFA in accordance with WHO guidelines. It includes items rated on a 5-point Likert scale. Total scores range from 20 to 100, with 75–100 indicating high readiness, 50–74 indicating moderate readiness, and 20–49 indicating low readiness (Findley et al., 2016).

Validity and Reliability

The tools were translated using standard front-to-back translation procedures by academics. The content validity of the instrument was assessed by a panel of 10 experts from nursing faculties at various Iraqi universities. Some minor adjustments were made according to their suggestions. The internal consistency of the instrument was checked using Cronbach's alpha coefficient, which showed acceptable internal consistency for the study scales.

Data Collection

Permission was sought from the Ministry of Planning and from the respective universities. Data collection was arranged in collaboration with the offices of academic affairs to gain access to college students. The questionnaire was distributed using paper-based forms in the classroom or through secure online platforms (Google Forms), depending on feasibility. Each participant was given a unique code to avoid duplication.

Ethical Considerations

The research protocol was approved by the Research Ethics Committee of the College of Nursing, University of Baghdad, on November 9th, 2025. Written informed consent was obtained from all participants after they were informed of the study's purpose. The confidentiality of the information and also their right to withdraw from the study.

Data Analysis

Data were analyzed using IBM SPSS Statistics for Windows, Version 26.0. Descriptive statistics (frequencies, percentages, means, and standard deviations) were used to summarize demographic characteristics. The data were not normally distributed in this study, so a nonparametric test was used ($p > .05$). Inferential statistics, including Spearman's Rank Correlation and the Kruskal-Wallis test, were employed to examine the associations and differences between variables. Statistical significance was set at ($p < 0.05$).

Findings and Results

Participant Characteristics

A total of 637 undergraduate nursing students participated in the study. As shown in Table 1, the mean age of the participants was 22 ± 2.5 years, with the majority (65.8%) aged between 20 and 22 years. Females accounted for 57.8% of participants. In terms of academic level, 59% of the participants were in their fourth year, and the largest proportion (40.7%) had a "Good" GPA.

Table 1

Sociodemographic and Academic Characteristics of Nursing Students (N= 637)

Variables	Categories	(f)	(%)
Age (Years)	≤19	35	5.5
(*M*= 22, *SD*= 2.5)	20 – 22	419	65.8
	23 – 25	126	19.8
	≥26	57	8.9
Gender	Male	269	42.2
	Female	369	57.8
Marital Status	Single	549	86.2
	Married	81	12.7
	Divorced / Widowed	7	1.1
Monthly Income	Low	59	9.3
(Perceived)	Moderate	409	64.2
	High	169	26.5
	Urban	466	73.2
Residency	Rural	171	26.8
Academic Year	Third Year	261	41.0
	Fourth Year	376	59.0
Academic Achievement	Accepted	54	8.5
	Moderate	201	31.6
	Good	259	40.7
	Very Good	92	14.4
	Excellent	31	4.9

Table 2 presents the descriptive analysis of the empathy scale. The highest mean scores were obtained for items related to understanding emotional states (M = 5.81) and the importance of nonverbal communication (M = 5.25). The lowest mean score was observed for item 20, addressing the role of emotion in treating physical illness (M = 3.62). Overall, 38.8% of participants demonstrated high empathy, while 55.7% showed moderate empathy.

Regarding Psychological First Aid (PFA) in Table 2, the findings show a high level of readiness. The highest scores were recorded for understanding the goals of PFA (M = 4.47, SD = 0.73) and its core objectives (M = 4.32, SD = 0.81). The lowest scores, although still within the high range, were related to linking individuals to social networks (M = 3.70, SD = 1.08). Overall, 76.1% of the students demonstrated high readiness to provide PFA with a total mean score of 79.45 ± 12.51 (range: 20–100).

Table 2

Descriptive Statistics of Empathy and PFA Readiness (N= 637)

Variable / Items	Mean	SD	Assessment
Empathy (Total)	94.09	16.81	Moderate
Level Distribution: Low (5.5%), Moderate (55.7%), High (38.8%)			
Top 3 Highest Scoring Items			
1. Understanding emotional state is essential	5.81	1.40	High
2. Patients feel better when understood	5.39	1.49	High
3. Empathy is an important therapeutic factor	5.29	1.58	High
Lowest Scoring Item			
20. Emotion has no place in physical treatment	3.62	1.91	Moderate
PFA Readiness (Total)	79.45	12.51	High
Level Distribution: Low (2.4%), Moderate (21.5%), High (76.1%)			
Top 3 Highest Scoring Items			
1. Understand PFA aims	4.47	0.73	High
2. Aware of core objectives	4.32	0.81	High
3. Culturally appropriate PFA	4.15	0.99	High
Lowest Scoring Item			

10. Help someone reconnect with social networks	3.70	1.09	High

PFA = Psychological First Aid. Assessment scale based on scale cut-off points.

Table 3

Correlation between Empathy and PFA Readiness

Variables	Spearman's rho (r)	p-value
Empathy \ PFA Readiness	.398**	.000

A Spearman's rank correlation indicated a significant positive relationship between Empathy and PFA Readiness (r = .398; p < .001), as shown in Table 3.

Table 4

Summary of Significant Differences in Empathy and PFA Readiness by Demographic Variables.

Variable	Empathy Level (p-value)	PFA Readiness (p-value)	Direction of Difference
University	**.001***	**.004***	Dhi Qar (Highest Empathy); Tal Afar (Highest PFA)
Age	.827	.673	No significant difference
Gender	.733	.839	No significant difference
Marital Status	.211	.334	No significant difference
Monthly Income	**.042***	.777	The low-income group showed higher Empathy
Residency	.176	.740	No significant difference
Academic Year	.924	**.038***	4th-year students showed higher PFA Readiness
Achievement	.616	**.014***	Excellent students showed higher PFA Readiness

*Statistical significance determined using the Mann-Whitney U test and the Kruskal-Wallis test. *Significant at p ≤ .05*

Table 4 summarizes the significant differences found using non-parametric tests regarding demographic factors. Empathy scores varied significantly by university (p=.001) and income (p=.042). PFA Readiness was significantly associated with university and both Academic Grade and Achievement (p=.004, .038, and .014, respectively).

Discussion and Conclusion

The participants were a young, predominantly female group, consistent with global and regional nursing education trends (Ghazwani et al., 2023). The mean age was 22 years, which reflects a group entering the profession with limited life experience but significant potential for professional development. Although nursing continues to show a pattern of feminization, the relatively high proportion of male students (42.2%) compared to global averages suggests evolving societal attitudes toward nursing in Iraq (Raja & Sajit, 2018; Xu et al., 2023).

Most students reported that their socioeconomic status was moderate to high, which may enable greater focus on developing empathy and interpersonal skills by reducing the impact of financial stress and the "scarcity mindset" (Abdown & Hussein, 2022; Aslam et al., 2025).

A notable finding was the gap between empathy as a value and its application in clinical practice. While

students scored highly on abstract aspects of empathy, such as emotional understanding and non-verbal communication, they demonstrated only moderate recognition of the role of emotions in physical health outcomes. That suggests that although students value empathy, they may not yet fully appreciate its therapeutic significance in clinical care (Cao et al., 2021; Hamaideh et al., 2024).

Readiness to deliver PFA was high, despite reports of limited formal training in similar settings (Schoultz et al., 2022). This may reflect the lived experiences of Iraqi students who have grown up amid recurrent crises, fostering informal resilience and preparedness. However, lower scores in referral skills indicate a need for structured technical training to strengthen this intuitive readiness.

The study demonstrated a significant positive correlation between empathy and readiness to provide PFA ($r = .398$, $p < .001$). This finding supports the view that empathy is not merely a soft skill, but it is closely related to aspects of perceived preparedness for disaster response. The ability to empathize may be related to the communication phase of the PFA program, as students who scored higher in empathy also reported greater readiness in the interpersonal aspects of the PFA program. such as referral and linkage to services (Hamaideh et al., 2024).

Also, Significant differences were observed between universities, with higher scores among students from Dhi Qar and Tikrit than from Baghdad. These variations may be related to differences in curricula, faculty engagement, or regional experiences of conflict and community cohesion (Bas-Sarmiento et al., 2019; Saddik, 2018).

Additionally, students from lower-income backgrounds reported higher levels of empathy, supporting the concept of social empathy, which suggests that individuals who have experienced hardship develop greater sensitivity to others' suffering (Bas-Sarmiento et al., 2020). In contrast, our study did not find a significant difference by sex, which is consistent with recent multinational research indicating that empathy competence among nursing students is determined by other factors, such as age and academic level (Edoho Samson-Akpan et al., 2022; Hassan et al., 2020). However, this contradicts the findings of a recent study by Noori (2025) at the University of Baghdad, which indicated sex differences in health protection attitudes, suggesting that the effect of sex may vary depending on the specific measure of efficiency used.

This study has limitations: the cross-sectional design precludes causal inference; reliance on self-report measures may introduce social desirability bias; effect sizes were not calculated, limiting assessment of the practical magnitude of the differences.

Recommendations

Iraqi universities should include psychological first aid training as an essential component of nursing programs, emphasizing simulation-based learning that links empathy to clinical outcomes. The Ministry of Higher Education should develop national guidelines to standardize first-aid training across all governorates and reduce disparities among universities. Educational programs should promote referral and system-linking skills and address areas in which students have shown relative weakness. Longitudinal studies are recommended to examine how empathy and readiness for psychological first aid develop as students transition into clinical practice.

Conclusion

The results indicate that Iraqi nursing students possess a strong foundation of empathy and a high level of readiness for psychological crisis intervention. This predisposition showed stronger correlations with academic context variables compared to most of the demographic characteristics measured in this study. The positive association between empathy and PFA readiness underscores emotional competence as an important correlate of perceived crisis-response readiness. The limited recognition of empathy's clinical impact suggests that current curricula may emphasize its humanitarian value more than its therapeutic role.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Declaration of Helsinki, which provides guidelines for ethical research involving human participants. Ethical considerations in this study were that participation was entirely optional.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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Authors' Contributions

All authors equally contribute to this study.

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