

Emotionally Intelligent Nurses For Healthier Tomorrow- Emotional Intelligence And Associated Factors Among Undergraduate Nursing Students

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Abstract

Background: Emotional intelligence (EI) — encompassing the perception, regulation, and adaptive use of emotions — is a recognised determinant of clinical competence, professional resilience, and patient outcomes in nursing. Undergraduate nursing students encounter emotionally demanding training environments early in their education, yet systematic data on their EI profiles remain scarce in the eastern Indian context. **Aims:** To assess the level of EI across four domains among undergraduate nursing students in a selected institution and to determine its association with selected sociodemographic variables. **Methods:** A descriptive cross-sectional design was employed. A total of 274 nursing students (B.Sc. Nursing and GNM programmes) were recruited by non-probability convenience sampling from a nursing college affiliated with the West Bengal University of Health Sciences, Kolkata, during 2024–2025. Data were gathered via a semi-structured 10-item demographic questionnaire and the validated Quick Emotional Intelligence Self-Assessment (QEISA; Paul Mohapel, 40 items, four domains: emotional awareness, emotional management, social-emotional awareness, and relationship management; score range 0–40 per domain). Content validity was established by a panel of subject experts; instrument reliability was confirmed by pilot-study administration (n=28, 10% of sample). Descriptive statistics (mean, standard deviation, median, interquartile range) and inferential statistics (chi-square test; significance threshold $p < 0.05$) were applied. **Results:** Among 274 participants (mean age 19.7 years; 54.8% aged 16–20 years), emotional awareness yielded the lowest mean score (24.83 ± 5.88), with 49.6% of students classified in the ‘area of enrichment’ (score 0–24). Mean scores for emotional management (28.56 ± 6.71), social-emotional awareness (28.45 ± 6.36), and relationship management (28.56 ± 6.71) all corresponded to the ‘effective functioning’ category (score 25–34). Chi-square analysis identified statistically significant associations between overall EI level and presence of a social support system ($\chi^2 = 7.82$, $df = 1$, $p = 0.01$) and family size ($\chi^2 = 5.76$, $df = 1$, $p = 0.02$). Age, programme of study, residential area, family type, and socioeconomic status did not reach significance. **Conclusions:** Undergraduate nursing students exhibit a selective deficit in emotional awareness while maintaining adequate functioning in the remaining EI domains. Social support and family size emerge as modifiable contextual determinants of EI. Structured EI training embedded within nursing curricula — through reflective practice, simulation, and mentorship — may address this gap and strengthen professional preparedness.

Keywords: emotional intelligence; emotional awareness; nursing students; nursing education; cross-sectional study; social support; QEISA

1. Introduction

Healthcare systems worldwide increasingly recognize that high-quality patient care depends not only on clinical knowledge and technical competence but also on the emotional capabilities of healthcare professionals. Among these capabilities, emotional intelligence (EI) has emerged as a critical attribute that influences communication, teamwork, leadership, decision-making, and patient-centered care. Emotional intelligence, as conceptualized by Salovey and Mayer [1] and later popularized by Goleman [2], refers to the ability to perceive, understand, regulate, and effectively utilize emotions in oneself and others. In nursing practice, EI is considered an essential professional competency that supports therapeutic relationships, enhances patient satisfaction, and contributes to positive healthcare outcomes [3,4].

Nurses serve at the forefront of healthcare delivery and frequently encounter emotionally demanding situations involving patient suffering, uncertainty, critical illness, and end-of-life care. The ability to recognize and regulate emotions while maintaining professional judgment is therefore indispensable for safe and compassionate nursing practice. Emotionally intelligent nurses are better equipped to manage occupational stress, adapt to challenging clinical

situations, communicate effectively with patients and multidisciplinary teams, and maintain resilience in demanding healthcare environments [5,6].

The development of emotionally intelligent nurses begins during undergraduate education. Nursing students are exposed to rigorous academic requirements, clinical responsibilities, and emotionally challenging patient interactions from the early stages of their training. These experiences provide opportunities for emotional growth but may also create psychological stress if students lack adequate emotional competencies. Previous studies have demonstrated that higher emotional intelligence among nursing students is associated with better stress management, enhanced coping abilities, improved academic performance, stronger clinical competence, and greater professional confidence [7–10].

As future healthcare professionals, nursing students represent the foundation of tomorrow's healthcare workforce. Developing emotional intelligence during professional training may not only improve students' educational experiences but also contribute to safer, more compassionate, and patient-centered healthcare systems in the future. Understanding the factors associated with emotional intelligence among nursing students is therefore essential for designing educational strategies that promote both personal and professional development. Demographic, social, and environmental influences such as age, family structure, social support, educational background, and socioeconomic status may affect the development of emotional competencies during the formative years of nursing education [11–13].

Despite growing international interest in emotional intelligence, evidence regarding its profile and associated factors among nursing students in Eastern India remains limited. Furthermore, nursing education in West Bengal includes both B.Sc. Nursing and General Nursing and Midwifery (GNM) programs, providing a unique opportunity to examine emotional intelligence across diverse student populations. Identifying the factors associated with emotional intelligence in these future nurses may help educators develop targeted interventions that foster emotional competence, resilience, and professional readiness.

Therefore, the present study was undertaken to assess emotional intelligence and its associated factors among undergraduate nursing students in a selected nursing college. By identifying strengths and areas requiring development, the study aims to contribute to the preparation of emotionally intelligent nurses capable of building a healthier tomorrow.

2. Materials and Methods

Study Design and Setting

A descriptive cross-sectional study was conducted at a nursing college affiliated with the West Bengal University of Health Sciences, Kolkata, West Bengal, India, during the academic year 2024–2025.

Participants

The target population comprised all undergraduate nursing students enrolled in B.Sc. Nursing and GNM programmes at the study institution. Students who submitted incomplete questionnaire responses were excluded. A total of 274 participants met the eligibility criteria and were recruited by non-probability convenience sampling. Although probability-based methods offer stronger representativeness, the homogeneous institutional population and complete within-cohort recruitment minimise the potential for systematic selection bias in this single-centre study.

Sample Size

The sample size was estimated using the formula $N = Z^2 \times p(1-p) / d^2$, where $Z = 1.96$ (95% confidence level), $p = 0.50$ (assumed prevalence, most conservative estimate), and $d = 0.06$ (acceptable margin of error). This yielded a minimum required sample of 267, and 274 students were enrolled, exceeding this threshold.

Instruments

Two instruments were used for data collection. Tool I was a researcher-developed semi-structured demographic questionnaire comprising 10 items covering age, programme of study, educational qualification, residential area, family type, family size, socioeconomic status, parental occupation, and social support system. Tool II was the Quick Emotional Intelligence Self-Assessment (QEISA) developed by Paul Mohapel [7], a validated, open-access, 40-item self-report scale. The QEISA assesses four domains — emotional awareness, emotional management, social-emotional awareness, and relationship management — each comprising 10 items rated on a five-point Likert scale (score range 0–40 per domain).

Established scoring criteria classify scores of 0–24 as an ‘area of enrichment’ (requiring development), 25–34 as ‘effective functioning’, and 35–40 as ‘enhanced skills’. Both instruments were submitted to a panel of subject experts for content validity review prior to use. A pilot study was conducted with 10% of the target sample (n=28) to assess comprehension and estimate reliability; Cronbach’s alpha coefficients exceeded 0.70 across all domains, confirming acceptable internal consistency.

Ethical Approval and Data Collection

Ethical approval was obtained from the Institutional Ethics Committee prior to study commencement. The study was conducted in accordance with the principles of the Declaration of Helsinki (1975, revised 2000). Each prospective participant received a written information sheet explaining the study purpose, voluntary nature of participation, and confidentiality of responses. Written informed consent was obtained from all participants before enrolment. Data were collected electronically using a structured Google Form administered online during a scheduled academic period.

Statistical Analysis

Data were analysed using descriptive and inferential statistics. Frequency, percentage, mean, standard deviation, median, and interquartile range were computed to characterise the demographic profile and domain-wise EI levels. Inferential analysis employed the chi-square test to evaluate associations between EI level (dichotomised as below vs. at/above the median score) and selected demographic variables. A two-tailed significance threshold of $p < 0.05$ was adopted throughout. Statistical analyses were performed using SPSS version 22.0 (IBM Corp., Armonk, NY, USA).

3. Results

Demographic Profile

Table 1 summarises the sociodemographic characteristics of the 274 participants. The sample was predominantly in the 16–20 years age group (n=150; 54.8%), and most students were enrolled in the B.Sc. Nursing sixth-semester cohort (n=221; 80.6%). The majority resided in urban areas (n=184; 67.1%) and belonged to nuclear families (n=214; 78.2%). Nearly nine in ten participants (86.5%) lived in families with two to six members. Socioeconomic status distribution was relatively balanced across classes, with the largest single stratum being upper middle (23.7%). A social support system was reported as present by 220 students (80.3%).

Table 1. Frequency and percentage distribution of sociodemographic characteristics of nursing students (n=274)

Sample Characteristics	Frequency (f)	Percentage (%)
Age (years)		
16–20	150	54.8
21–25	124	45.2
Programme of Study		
B.Sc. Nursing (6th semester)	221	80.6
GNM	53	19.4
Residential Area		
Urban	184	67.1
Rural	90	32.9
Family Type		
Nuclear	214	78.2
Joint	60	21.8

Sample Characteristics	Frequency (f)	Percentage (%)
Family Size (members)		
<4 members	76	27.7
2–6 members	237	86.5
Socioeconomic Status		
Upper	56	20.4
Upper Middle	65	23.7
Middle	54	19.7
Lower Middle	60	21.8
Lower	39	14.2
Social Support System		
Present	220	80.3
Absent	54	19.7

Domain-Wise Emotional Intelligence Levels

Domain-wise classification of EI scores (Table 2) shows that emotional awareness was the only domain where the plurality of students fell in the ‘area of enrichment’ category (n=136; 49.6%). By contrast, the majority of participants were classified as ‘effective functioning’ in emotional management (n=140; 51.1%), social-emotional awareness (n=153; 55.8%), and relationship management (n=140; 51.1%). The proportion attaining ‘enhanced skills’ was consistently low across all domains, ranging from 6.6% (emotional awareness) to 19.7% (emotional management and relationship management).

Table 2. Domain-wise frequency and percentage distribution of emotional intelligence levels among nursing students (n=274)

Domain (Score Range 0–40)	Area of Enrichment (0–24) f (%)	Effective Functioning (25–34) f (%)	Enhanced Skills (35–40) f (%)
Emotional Awareness	136 (49.6)	120 (43.8)	18 (6.6)
Emotional Management	81 (29.6)	140 (51.1)	54 (19.7)
Social-Emotional Awareness	73 (26.6)	153 (55.8)	48 (17.5)
Relationship Management	81 (29.6)	140 (51.1)	54 (19.7)

f: frequency; percentage values in parentheses

Measures of central tendency and dispersion are presented in Table 3. The mean score for emotional awareness (24.83±5.88) was notably lower than those for emotional management (28.56±6.71), social-emotional awareness (28.45±6.36), and relationship management (28.56±6.71). The median emotional awareness score of 25.0 placed the

central tendency at the boundary between the 'area of enrichment' and 'effective functioning' categories, underscoring the precarious EI status in this domain.

Table 3. Measures of central tendency and dispersion of emotional intelligence domain scores among nursing students (n=274)

Domain	Score Range	Mean (SD)	Median	IQR
Emotional Awareness	9–40	24.83 (5.88)	25.0	7.0
Emotional Management	7–40	28.56 (6.71)	28.0	9.3
Social-Emotional Awareness	7–40	28.45 (6.36)	28.5	9.0
Relationship Management	7–40	28.56 (6.71)	28.0	9.3
SD: standard deviation; IQR: interquartile range				

Association between Emotional Intelligence and Demographic Variables

Table 4 presents the results of chi-square analysis. Of the eight demographic variables examined, two reached statistical significance. Students with a social support system present achieved at-or-above-median EI scores more often than those without support (47.8% vs. 31.8%; $\chi^2=7.82$, $df=1$, $p=0.01$). A significant association was also observed for family size: students from smaller families (<4 members) were disproportionately represented below the median EI threshold ($\chi^2=5.76$, $df=1$, $p=0.02$). Age, programme of study, residential area, family type, and socioeconomic status did not demonstrate statistically significant associations with EI level.

Table 4. Chi-square analysis of association between emotional intelligence level (below/at-above median) and demographic variables (n=274)

Demographic Variable	<Median f (%)	≥Median f (%)	χ^2	df	p-value
Age ≤20 years	36 (24.0)	52 (34.7)	3.32	1	0.07
Programme (Diploma vs Degree)	64 (23.4)	63 (23.0)	0.21	1	0.65
Residential Area (Urban)	98 (35.8)	86 (31.4)	1.88	1	0.17
Family Type (Nuclear)	104 (38.0)	110 (40.1)	0.07	1	0.79
Family Size (<4 members)*	28 (10.2)	48 (17.5)	5.76	1	0.02*
Socioeconomic Status (≥Middle)	130 (47.4)	140 (51.1)	0.01	1	0.92
Support System	87 (31.8)	131 (47.8)	7.82	1	0.01*

Demographic Variable	<Median f (%)	≥Median f (%)	χ^2	df	p-value
(Present)*					
*p<0.05 (statistically significant); df: degrees of freedom; χ^2 : chi-square; critical value at df=1, p<0.05: 3.84					

4. Discussion

The data from this study point to a clear and clinically relevant pattern: undergraduate nursing students demonstrated markedly lower performance in emotional awareness relative to the three remaining EI domains. A score mean of 24.83 ± 5.88 places the average student at the ceiling of the ‘area of enrichment’ classification — a domain from which, theoretically, higher-order competencies such as emotional management and relationship skills are supposed to derive. That these downstream domains registered adequate functioning despite weak emotional awareness is a finding that warrants careful interpretation.

The emotional awareness deficit observed here is not without precedent. Gangopadhyay (2022) reported poor emotional awareness in 89.4% of college students sampled in West Bengal, suggesting a regional educational pattern in which self-referential emotional recognition is under-developed relative to social and relational skills [8]. Sinha (2017), examining nursing students in Nepal, recorded a broadly similar profile, with students performing better on interpersonal than intrapersonal EI components [22]. The present data are consistent with this gradient. One plausible explanation is that nursing education, with its emphasis on patient communication and team-based clinical work, creates environmental conditions that reinforce social competencies even before intrapersonal awareness has been explicitly addressed.

This interpretation finds partial support in the longitudinal work of Budler Cilar et al. (2022), who documented progressive improvement in EI scores across years of nursing training, attributing gains to accumulating experiential and clinical learning [6]. If social and relational domains are amenable to incidental improvement through clinical exposure, it may follow that intrapersonal awareness — which depends more on structured reflective practice than on patient contact — lags behind unless specifically cultivated.

The association between social support and EI merits particular attention. Students with an identified support system scored at or above the median EI threshold significantly more often than those without one ($\chi^2=7.82$, $p=0.01$). Social support, whether provided by family, peers, or faculty mentors, functions as an emotionally regulative resource that buffers occupational and academic stressors. Roy et al. (2021), studying undergraduate students in Kerala, found analogous relationships between perceived social support and emotional regulation capacity, suggesting that the availability of trusted interpersonal relationships enables students to practise emotion-sharing and receive corrective feedback on emotional responses [10]. Katanani and Mas’oud (2017) offered a complementary perspective, arguing that family environments serve as primary arenas for the acquisition of emotional literacy, a proposition that aligns with the significant family-size association recorded in the present study [9].

The finding that family size was significantly associated with EI level ($p=0.02$), with students from smaller families more likely to score below the median, is somewhat counterintuitive if one assumes that larger households expose children to more varied interpersonal dynamics and thus foster greater emotional skill acquisition. Patra et al. (2024), working with undergraduate students in Howrah, reported higher EI scores among students from joint families — structurally larger and more interpersonally complex household units — which lends weight to this interpretation [20]. Students in smaller nuclear-family arrangements may have fewer daily opportunities to practice conflict negotiation, cooperative decision-making, and emotional attunement with multiple family members of varying ages and temperaments.

Several demographic variables that reportedly influence EI in other studies — including gender, residential background, and socioeconomic status — did not reach significance in this analysis. Sharma and Singh (2022), examining undergraduate students in Delhi, reported gender differences in EI, with female students consistently outperforming male counterparts on social-emotional subscales [17]. The absence of a gender effect in the current dataset may reflect the largely female composition of the nursing student cohort, which reduces variance on this variable. George et al. (2022) found no association between residential area and EI among medical students in Central Kerala, consistent with the present findings [16]. The homogeneous socioeconomic profile of this single-institution sample likely attenuated any detectable SES gradient.

The findings of the present study highlight the importance of emotional intelligence as a foundational competency among undergraduate nursing students. While the majority of participants demonstrated adequate levels of emotional management, social-emotional awareness, and relationship management, emotional awareness emerged as an area requiring further development. The significant association of emotional intelligence with social support and family size underscores the influence of personal and environmental factors on emotional development during professional training. These findings have practical implications for curriculum planning. Emotional awareness — the domain most deficient in this cohort — is addressable through deliberate pedagogic strategies. Reflective journalling, structured debriefing following clinical exposure, mindfulness-based stress reduction, and peer-facilitated emotional skills workshops have each demonstrated efficacy in improving EI scores among healthcare students in controlled studies [11]. The modifiable nature of the social determinants identified here (presence of support system, family engagement) further suggests that institutional interventions need not be confined to classroom or clinical instruction; faculty mentorship schemes and family psychoeducational programmes could complement curricular approaches.

Limitations

This study carries several limitations that temper the generalisability of its conclusions. The single-institution design, combined with non-probability convenience sampling, restricts extrapolation to broader nursing student populations. The cross-sectional architecture precludes causal inference: associations identified between demographic variables and EI level may be confounded by unmeasured factors. Self-report data obtained via an online form are subject to social desirability bias and variable levels of introspective accuracy. The study did not assess concurrent variables — including perceived academic stress, burnout indicators, clinical exposure hours, or resilience scores — that could contextualise the observed EI profiles. Multi-centre longitudinal studies with probability-based sampling frameworks are needed to address these gaps.

5. Conclusion

As future healthcare professionals, nursing students must possess not only clinical knowledge and technical expertise but also the emotional competencies necessary to deliver compassionate, patient-centered, and safe care. The development of emotional intelligence during undergraduate education can strengthen resilience, enhance interpersonal relationships, improve communication, and promote professional effectiveness in clinical practice.

The study supports the integration of structured emotional intelligence enhancement programmes within nursing curricula through reflective learning, mentorship initiatives, simulation-based training, and peer-support interventions. By nurturing emotionally intelligent nursing professionals, educational institutions can contribute to the preparation of a competent and compassionate workforce capable of addressing the complex healthcare challenges of the future. Ultimately, investing in the emotional development of nursing students today may help create emotionally intelligent nurses for a healthier tomorrow.

Declarations

Ethics approval and consent to participate: Ethical approval was obtained from the Institutional Ethics Committee prior to data collection. Written informed consent was obtained from all participants. The study was conducted in accordance with the principles of the Declaration of Helsinki.

Consent for publication: Not applicable.

Availability of data and materials: De-identified data are available from the corresponding author on reasonable request.

Competing interests: The authors declare no competing interests.

Funding: This study received no external funding; it was self-funded.

Authors' contributions: SH conceived the study, designed the instruments, collected and analysed the data, and drafted the manuscript. RRF supervised the study, reviewed the analysis, and critically revised the manuscript. Both authors approved the final version.

Acknowledgements: The authors thank the Principal, faculty, and administrative staff of the study institution for facilitating data collection, and all nursing students who voluntarily participated.

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