

Research Article

Emotional Intelligence and Empathy and Their Associations with Socio-Demographic Characteristics among Nursing Undergraduates at General Sir John Kotelawala Defence University, Sri Lanka

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Abstract

Background: Emotional intelligence and empathy are essential competencies for nursing professionals in ensuring quality of patient care. However, limited research has explored their relationship among nursing undergraduates in Sri Lanka. This study was conducted to assess emotional intelligence, empathy, their correlation, and their associations with socio-demographic characteristics among nursing undergraduates in General Sir John Kotelawala Defence University, Sri Lanka.

Methods: A descriptive cross-sectional study was conducted among all nursing undergraduates enrolled on the BSc Nursing Degree Programme (n=224) at General Sir John Kotelawala Defence University, Sri Lanka: 197 nursing undergraduates responded. Emotional intelligence and empathy were measured using the locally validated Schutte Self-Report Emotional Intelligence Test (SSEIT) (Min-Max score: 33–165) and the Toronto Empathy Questionnaire (TEQ) (possible score range: 0–64), respectively. Data were analysed using SPSS version 25, and non-parametric tests (Mann–Whitney U, Kruskal–Wallis, and Spearman’s correlation) were applied.

Results: The mean ($\pm$ SD) age of the participants was 22.95 ($\pm$ 2.80) years. The mean emotional intelligence score was 126.72 $\pm$ 22.35, while the mean empathy score was 42.83 $\pm$ 7.38. Emotional intelligence differed significantly according to year of study ($p = 0.042$), interest in nursing ($p = 0.031$), satisfaction with undergraduate life ($p = 0.001$), and reason for selecting nursing ($p = 0.009$). Empathy showed significant differences by gender ($p = 0.003$), year of study ($p < 0.001$), interest in nursing ($p = 0.025$), satisfaction with undergraduate life ($p = 0.006$), and reason for selecting nursing ($p = 0.004$). Emotional intelligence showed a moderate positive correlation with the empathy ($r = 0.602$, $p < 0.001$).

Conclusions: Nursing undergraduates demonstrated favourable levels of emotional intelligence and empathy, with a significant positive correlation between the two constructs. Strengthening emotional competencies within undergraduate nursing education may contribute to the development of empathetic and emotionally competent healthcare professionals.

Keywords: *Emotional Intelligence, Empathy, Nursing Undergraduates, Sri Lanka*

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Introduction

Nursing is a profession that requires not only clinical knowledge and technical skills but also strong interpersonal and emotional competencies to provide holistic, patient-centred care. Nurses frequently interact with patients who experience physical illness, emotional distress, and psychological vulnerability (Moudatsou et al., 2020). Therefore, effective nursing care highly relies on the capacity of nurses to identify and handle emotions effectively both in themselves and those under their care. Emotional intelligence together with empathy are widely recognized as important competencies that support therapeutic communication and improve the quality of healthcare delivery (Moudatsou et al., 2020; Salovey & Mayer, 1990).

Emotional intelligence is the ability to perceive, interpret, regulate, and use emotional data in oneself and during the relationship with other people in a proper manner (Salovey & Mayer, 1990). In the case of nurses, the skill is relevant in learning how to perceive feelings in the clinical setting, managing stress in the workplace, and having positive relationships with patients and colleagues in healthcare facilities (Sutil-Rodríguez et al., 2024). According to Goleman and co-authors, emotional intelligence encompasses four domains namely the ability to be aware of their own and others' emotions, the ability to control the emotional reactions, the ability to comprehend the emotions of others and the potential to sustain positive interpersonal

relationships (Goleman et al., 2002). These are the elements that make the

communication, teamwork and effective decision-making in healthcare settings successful. Previous studies have shown that nursing students with greater emotional intelligence tend to exhibit a better academic performance, better stress minimization, and professional competence (Ruiz-Ortega et al., 2024; Shubayr & Dailah, 2025).

Furthermore, recent data indicates that emotional intelligence is an important factor in achieving psychological wellness and professional growth in nursing students (Sutil-Rodríguez et al., 2024).

Empathy is another essential component of professional nursing practice. Empathy can be defined as the ability to understand and share the emotional experiences of others. In nursing care, empathy allows healthcare providers to recognize patients' feelings, perspectives, and emotional needs. Empathetic communication is fundamental to developing therapeutic nurse-patient relationships and delivering patient-centred care (Yu & Kirk, 2008). Studies have demonstrated that empathy improves patient satisfaction, enhances treatment adherence, and contributes to better health outcomes.

Furthermore, empathy has been identified as a critical professional competency that supports caring behaviours and compassionate care among nurses (Moudatsou et al., 2020). Research conducted among nursing students has also shown that empathy contributes to effective

communication skills and improved patient care practices (Altwalbeh et al., 2019; Liang et al., 2022).

Emotional intelligence and empathy are conceptually interconnected emotional competencies. Emotional intelligence provides the ability to recognize and interpret emotional signals, whereas empathy enables individuals to respond appropriately to the emotional experiences of others. Previous research has demonstrated a positive relationship between emotional intelligence and empathy among healthcare students (Hajibabaei et al., 2018; Kang & Choi, 2020) and professionals (Beauvais et al., 2017; Fernández-Abascal & Martín-Díaz, 2015). Recent studies have further indicated that emotional intelligence may influence empathetic behaviour and caring ability among nursing students (Lina et al., 2022; Yang & Wang, 2024). These results indicate the possible significance of emotional intelligence in developing empathy in healthcare.

Nursing education in Sri Lanka has advanced considerably, creating a growing need for graduates who can provide safe, evidence-based, and person-centered care. In addition to theoretical knowledge and clinical competence, modern healthcare settings require nurses to possess strong emotional intelligence and empathy to ensure effective communication and compassionate patient care. Nursing undergraduates are frequently exposed to emotionally challenging experiences such as patient suffering, death, demanding clinical environments, and academic pressures. Developing emotional

intelligence and empathy is therefore essential to help students cope with these challenges and enhance their professional performance.

This study is particularly significant as it focuses on nursing undergraduates studying at the General Sir John Kotelawala Defence University, Sri Lanka, where the discipline-oriented environment of a defence university may influence students' interpersonal and emotional competencies. Assessing emotional intelligence and empathy can provide valuable insights for nursing educators to design evidence-based educational interventions that promote emotional competency, professional development, nurse-patient relationships, and quality patient outcomes.

Although emotional competencies are recognized as important in nursing education globally, limited evidence exists regarding the relationship between emotional intelligence and empathy among Sri Lankan nursing undergraduates. Therefore, this study aimed to assess emotional intelligence and empathy, and their associations with socio-demographic characteristics, among nursing undergraduates at General Sir John Kotelawala Defence University, Sri Lanka.

Methods

Study design and setting

This is a descriptive cross-sectional study done among undergraduate nursing students of the General Sir John Kotelawala Defence University, Sri Lanka.

Study population and participants

The population of the study included nursing undergraduates who were taking the Bachelor of Science (Hons) Nursing programme in the Faculty of Allied Health Sciences, General Sir John Kotelawala Defence University, Sri Lanka. All the students of all four academic years (first year to fourth year) were requested to participate in the study. The inclusion criteria were undergraduates in nursing and could read and comprehend English or Sinhalese and were voluntarily willing to participate in the study. Students who declined to give the consent were not included in the study.

Sample size

The study period was all eligible nursing undergraduates who were enrolled in the programme. Add the year Two hundred and twenty-four students were invited, and 197 students returned the questionnaire, for a response rate of 87.9%.

Data collection instrument

Data were collected using a pre-tested self-administered questionnaire consisting of three sections.

The first section was a researcher-developed demographic questionnaire administered in Sinhala and collected socio-demographic and academic information including gender, ethnicity, religion, marital status, year of study, previous experience as a nurse, interest in the nursing profession, satisfaction with undergraduate nursing life, participation in programmes related to emotional intelligence, and the main reason for selecting the nursing profession.

Emotional intelligence was measured using the Sinhala version of the Schutte Self-Report Emotional Intelligence Test (SSEIT), originally developed by Schutte et al. (Schutte et al., 1998). The SSEIT consists of 33 items rated on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Three items (5, 28, and 33) are negatively worded and were reverse-scored prior to analysis. The total emotional intelligence score was calculated by summing the scores of all 33 items after reverse scoring. The overall score ranges from 33 to 165, with higher scores indicating greater emotional intelligence.

The Sinhala version of the SSEIT was previously translated, cross-culturally adapted, and validated by the authors for use among Sri Lankan nursing students following a standardized five-stage cross-cultural adaptation process, including forward translation, synthesis, back translation, expert committee review, and pre-testing. The instrument demonstrated excellent content validity (I-CVI = 1.0, S-CVI/UA = 1.0, S-CVI/Ave = 1.0) and excellent internal consistency reliability (Cronbach's α = 0.963) (Weerasinghe et al., 2023).

Empathy was measured using the Sinhala version of the Toronto Empathy Questionnaire (TEQ), originally developed by (Spreng et al., 2009)). The TEQ consists of 16 items rated on a five-point Likert scale ranging from 0 (never) to 4 (always). Eight items (2, 4, 7, 10, 11, 12, 14, and 15) are negatively worded and require reverse scoring. The total empathy score was calculated by summing the scores of all 16 items after reverse scoring. The overall score

ranges from 0 to 64, with higher scores indicating greater empathy. The Sinhala version of the TEQ was previously translated, cross-culturally adapted, and validated by the authors for use among Sri Lankan nursing students using a standardized five-stage cross-cultural adaptation process. The instrument demonstrated excellent content validity (I-CVI = 1.0, S-CVI/UA = 1.0, S-CVI/Ave = 1.0) and acceptable internal consistency reliability (Cronbach's α = 0.732) (Weerasinghe et al., 2023).

Pre-testing of the questionnaire

Prior to data collection, the researcher-developed demographic questionnaire and the overall questionnaire administration procedure were pre-tested among 15 nursing students of General Sir John Kotelawala Defence University who had completed their academic programme and were awaiting convocation. These individuals were not part of the study population. The pre-test was conducted to assess the clarity, comprehensibility, and feasibility of the questionnaire administration process. As the Sinhala versions of the SSEIT and TEQ had previously undergone cross-cultural adaptation and validation among Sri Lankan nursing students, the pre-test was not intended to re-evaluate their validity or reliability. Minor modifications were made to the demographic questionnaire based on participant feedback.

Data collection procedure

Data collection was conducted from July 2021 to September 2021 using an online self-administered questionnaire. The study

objectives and significance were explained to participants prior to data collection. Participation was voluntary, and informed consent was obtained from all respondents prior to completing the questionnaire. The study ensured that confidentiality and anonymity of the participants were guaranteed.

Statistical analysis

The socio-demographic characteristics and scale scores were summarized with the help of descriptive statistics, such as frequencies, percentages, means, and standard deviations. For the SSEIT, item scores were summed after reverse-scoring items 5, 28, and 33 to obtain a total score ranging from 33 to 165. For the TEQ, item scores were summed after reverse-scoring negatively worded items to obtain a total score ranging from 0 to 64. Higher scores indicated greater emotional intelligence and empathy, respectively.

Prior to inferential analysis, the normality of emotional intelligence and empathy scores was assessed using the Shapiro–Wilk test, together with visual inspection of histograms and Q–Q plots. The Shapiro–Wilk test indicated that emotional intelligence ($p < 0.001$) and empathy ($p = 0.006$) scores significantly deviated from normality. Therefore, non-parametric statistical tests were employed for all subsequent analyses. Emotional intelligence and empathy differences were analyzed by the Mann-Whitney U test and Kruskal-Wallis test based on the socio-demographic variables. The relationship between emotional intelligence and empathy was determined using Spearman rank correlation coefficient.

The analysis of data was done using the Statistical Package of the Social Sciences (SPSS) version 25. A p-value of <0.05 was considered statistically significant.

Ethical considerations

Ethical approval was obtained from the Research Ethics Committee (REC) of the Faculty of Medicine, General Sir John Kotelawala Defence University, Sri Lanka (RP/S/2021/22). Institutional permission to conduct the study was obtained from the Vice Chancellor, the Dean of the Faculty of Allied Health Sciences, and the Head of the Department of Nursing and Midwifery prior to data collection. Participation was voluntary and informed consent was obtained from all participants. Confidentiality of the collected data was strictly maintained by assigning unique identification numbers instead of participant names, storing completed questionnaires in a secure location, restricting data access to the research team, and reporting findings only in aggregate form.

Results

Socio-demographic characteristics of the participants

Of the 224 eligible nursing undergraduates, 197 participated in the study, yielding a response rate of 87.95%. The participants mean (SD) age was 22.95 ± 2.80 years (range: 20–39 years). The majority were female, Sinhalese, Buddhist, and unmarried. Most participants reported having an interest in the nursing profession and were satisfied with their undergraduate nursing life (Table 1).

Emotional intelligence and empathy among nursing undergraduates

The mean emotional intelligence score among the participants was 126.72 ± 22.35 (possible range: 33–165), while the mean empathy score was 42.83 ± 7.38 (possible range: 0–64). These findings suggest that the nursing undergraduates demonstrated favourable levels of emotional intelligence and empathy within the theoretical ranges of the respective instruments.

Association between emotional intelligence and socio-demographic characteristics

Statistically significant differences in emotional intelligence scores were observed according to year of study, interest in nursing, satisfaction with undergraduate nursing life, and the main reason for selecting the nursing profession ($p < 0.05$) (Table 2).

Association between empathy and socio-demographic characteristics

Empathy scores differed significantly according to gender, year of study, interest in the nursing profession, satisfaction with undergraduate nursing life, and the main reason for selecting the nursing profession (Table 3).

Correlation between Emotional Intelligence and Empathy

A moderate positive correlation was observed between emotional intelligence and empathy ($r = 0.602$, $p < 0.001$), indicating that participants with higher emotional intelligence scores tended to report higher empathy scores.

Table 1: Socio-demographic characteristics of participants (n = 197)

Characteristic	Category	Frequency	Percentage (%)
Gender	Female	160	81.2
	Male	37	18.8
Nationality	Sri Lankan	197	100
Ethnicity	Sinhalese	194	98.47
	Tamil	1	0.50
	Muslim	2	1.02
Religion	Buddhism	180	91.37
	Catholic	12	6.09
	Hindu	1	0.51
	Islam	2	1.02
	Other	2	1.02
Marital status	Unmarried	190	96.44
	Married	7	3.55
Year of study	First year	86	43.70
	Second year	41	20.80
	Third year	38	19.30
	Fourth year	32	16.20
Previous nursing experience	Yes	4	2.00
	No	193	98.00
Interest in nursing	Yes	162	82.20
	No	35	17.80
Satisfaction with undergraduate life	Yes	164	83.24
	No	33	16.75
Participation in EI-related programmes	Yes	38	19.28
	No	159	80.71
The main reason for selecting nursing	Help the sick and feeble	137	69.54
	Financial benefits	8	4.06
	Foreign opportunities	35	17.76
	Other reasons	17	8.62

Discussion

The present study assessed emotional intelligence and empathy, examined their relationship, and explored their associations with selected socio-demographic characteristics among nursing undergraduates at General Sir John

Kotelawala Defence University, Sri Lanka. Nursing undergraduates have generally demonstrated high levels of emotional intelligence and empathy while showing significant moderate positive correlation was observed between emotional intelligence and empathy, indicating that students with higher emotional intelligence tended to report higher

Table 2: Association between emotional intelligence and socio-demographic characteristics (n = 197)

Variable	Category	Mean rank	Test statistic	p value
Gender	Female	100.44	U = 2717.5	0.325
	Male	93.19		
Marital status	Unmarried	98.76	U = 612.0	0.481
	Married	112.29		
Year of study	First year	91.61	H = 8.211	0.042*
	Second year	105.62		
	Third year	103.36		
	Fourth year	115.47		
Previous nursing experience	Yes	104.88	U = 352.5	0.739
	No	98.88		
Interest in nursing	Yes	101.15	U = 2145.5	0.031*
	No	87.11		
Satisfaction with undergraduate life	Yes	104.33	U = 1712.0	0.001*
	No	70.94		
Attendance of Emotional Intelligence programmes	Yes	104.09	U = 2578.0	0.408
	No	97.75		
Reason for selecting nursing	Help sick and feeble	102.68	H = 11.456	0.009*
	Financial benefits	76.38		
	Foreign opportunities	88.34		
	Other reasons	94.47		

*U = Mann–Whitney U test; H = Kruskal–Wallis test; *Statistically significant*

levels of empathy. Both emotional intelligence and empathy were significantly associated with year of study, interest in nursing, satisfaction with undergraduate nursing life, and the main reason for selecting the nursing profession. In addition, emotional intelligence showed significant associations with year of study, interest in nursing, satisfaction with undergraduate nursing life, and the main reason for selecting the nursing profession, while empathy was significantly

associated with gender. These findings highlight the importance of emotional competencies in nursing undergraduates and their potential influence on professional development and patient-centred care.

Emotional intelligence among nursing undergraduates

The findings of the present study showed a mean emotional intelligence score of 126.72 ± 22.35 among nursing undergraduates.

Table 3: Association between empathy and socio-demographic characteristics (n = 197)

Variable	Category	Mean rank	Test statistic	p value
Gender	Female	102.83	U = 2287.0	0.003*
	Male	81.76		
Marital Status	Unmarried	99.25	U = 642.5	0.562
	Married	94.86		
Year of Study	First Year	87.54	H = 17.832	< 0.001*
	Second Year	101.63		
	Third Year	109.18		
	Fourth Year	119.72		
Previous Nursing Experience	Yes	95.38	U = 371.5	0.721
	No	99.16		
Interest in Nursing	Yes	101.21	U = 2224.5	0.025*
	No	88.43		
Satisfaction with Undergraduate Life	Yes	103.12	U = 1926.5	0.006*
	No	82.77		
Attendance of EI Programmes	Yes	101.55	U = 2524.0	0.337
	No	98.18		
Reason for Selecting Nursing	Help sick and feeble	103.44	H = 13.253	0.004*
	Financial benefits	80.13		
	Foreign opportunities	90.72		
	Other reasons	94.21		

*U = Mann–Whitney U test; H = Kruskal–Walli’s test; *Statistically significant*

suggesting generally favourable emotional intelligence characteristics within the study population when considered in relation to the possible SSEIT score range of 33–165. Emotional intelligence is also a competency that healthcare professionals should possess since it helps them to become aware, perceive, and control emotions in themselves and others, thus promoting the process of effective interpersonal communication and professional relationships (Goleman et al., 2002; Salovey & Mayer, 1990).

As the SSEIT is interpreted as a continuous measure and does not provide validated cut-off values for categorizing emotional intelligence levels, the findings indicate that

the participants generally demonstrated satisfactory emotional intelligence attributes relevant to nursing practice. Similar results have been found among the nursing students in previous studies. For instance, a study among nursing students reported a mean emotional intelligence score of 143.1 ± 21.6 (Batan, 2024), while another study using the same instrument found a mean score of 151.3 ± 1.9 among fourth-year nursing students (Jawabreh, 2024). These findings indicate that emotional intelligence scores reported among nursing students vary across different educational contexts but generally fall within a comparable range.

Emotional intelligence has been linked with the enhanced coping, professional communication, and enhanced academic performance among nursing students (Shahin et al., 2024; Tarigan et al., 2025). It is also noted that emotional intelligence is a significant factor and contributes to professional competence and clinical performance in the case of nursing students (Budler et al., 2022). Also, recent systematic reviews indicated that emotional intelligence is important in enhancing academic achievement, academic stress management, and interpersonal relationship among nursing students (Kawashima et al., 2025; Sutil-Rodriguez et al., 2024).

Empathy among nursing undergraduates

Empathy is believed to be the building block of nursing care since it helps healthcare professionals to empathise with the patients to feel what they are feeling and offer them compassionate care. In the present study, the mean empathy score among nursing undergraduates was 42.83 ± 7.38 , which is comparable to findings reported in previous studies conducted in South Asia using the Toronto Empathy Questionnaire. For instance, a cross-sectional study conducted among medical students in Pakistan reported a mean TEQ score of 42.57 ± 7.51 (Riaz et al., 2020), while another study reported a mean score of 43.06 ± 7.16 among Indian medical students (Vetriselvan et al., 2025). These findings suggest that empathy scores observed in the present study are consistent with those reported in similar student populations.

Empathy is a widely acknowledged significant element of communication between therapists and patients and patient-centred nursing care. Empathic communication has been reported by previous researchers to result in better patient satisfaction, enhanced treatment adherence, and enhanced health outcomes (Moudatsou et al., 2020). Besides, empathy has been outlined as a vital professional skill that helps to build effective nurse-patient relationships (Babaii et al., 2021).

The relevance of empathy development in nursing students is also emphasised in the recent findings because empathy improves caring behaviours, communicative strategies, and patient-centred care practices in healthcare facilities (Liang et al., 2022). Such results underscore the need to instill empathetic skills in the process of nursing instruction.

Association between emotional intelligence and socio-demographic characteristics

This study revealed significant variations in emotional intelligence with respect to year of study, interest in nursing, satisfaction with undergraduate nursing life, and the primary reason for choosing nursing. These results indicate that individual motivation and the educational process can also be involved in the formation of emotional competencies among nursing students.

The significant association identified between emotional intelligence and academic year that was found during this study might be due to the fact that emotional

competencies are developed over the years of nursing education. The more students advance their academic programme, the more they become exposed to clinical settings and the interactions with patients, and these experiences might help them to become more emotionally aware and interpersonal.

Students expressing higher satisfaction with their undergraduate life were found to possess higher levels of emotional intelligence. This result suggests that emotional competencies can be developed among nursing students due to positive academic experiences and favourable learning settings. Other researchers have also demonstrated the relationships between emotive intelligence, academic satisfaction and professional progress among healthcare students (Chatzoglou et al., 2026; Hashmi et al., 2024; Jayangi et al., 2026).

Association between empathy and socio-demographic characteristics

The outcomes of this study also indicated that several variations in empathy based on gender, year of study, the interest in nursing profession, and satisfaction with undergraduate life, and the primary reason of choice of nursing.

The scores were higher in female students than the male students in empathy, which is in line with other studies that have been conducted. The literature on gender differences in empathy is extensive, the level of empathy is usually higher among female students of healthcare compared to male students (Altwalbeh et al., 2019). Such differences can be linked to emotional

sensitivity and communication methods as well as socialization.

The statistically significant association between empathy and year of study could also be a result of the effects of clinical exposure during nursing education. As nursing students advance in their programs, they come across different patient scenarios that can contribute to their capacity to learn the emotional point of view and the emotionally sensitive reactions of the patient.

Relationship between emotional intelligence and empathy

The key outcome of the current research consisted of moderate positive correlation between emotional intelligence and empathy among nursing undergraduates. Other researchers have also established that emotional intelligence is positively correlated with empathy between healthcare practitioners and students. The emotional intelligence aspects such as emotional awareness and emotional regulation that make up the emotional intelligence contribute to building empathetic communication skills (Beauvais et al., 2017). The relationship between emotional intelligence and empathy has also been described as high based on previous nursing student studies (Hajibabae et al., 2018).

The relationship between emotional intelligence and empathy is also supported by recent evidence, in which emotional intelligence is believed to contribute to caring behaviours, professional competence, and effective interpersonal communication in a healthcare environment (Beauvais et al.,

2017; Hajibabae et al., 2018; Lina et al., 2022). Thus, the results of the study add to the existing literature and highlight the significance of emotional intelligence in enhancing empathy in nursing students.

Implications

The results obtained in the current study can have relevance to various areas including nursing education, practice, and policy making. Specifically, the positive relationship between emotional intelligence and empathy found in this study implies that it would be possible to improve both the ability of nursing students to empathize with patients and their emotional competencies at the same time.

From an educational perspective, the observed positive correlation between emotional intelligence and empathy underscores the importance of addressing both concepts within undergraduate nursing curricula. Reflective activities, simulation training, communication skills training, and effective debriefing procedures may help students improve their emotional skills and learn to communicate better emotionally. Furthermore, counseling and mentoring programs are likely to prove helpful in this situation (Budler et al., 2022; Shahin et al., 2024).

Increased levels of emotional intelligence and empathy are likely to lead to improved communications between nurses and patients, formation of stronger therapeutic relationships (Babaii et al., 2021; Moudatsou et al., 2020), better collaboration and teamwork in multidisciplinary healthcare

settings, and enhanced emotional resilience in challenging clinical contexts. Development of these skills can also help to mitigate future risks of experiencing stress and burnout for nurses and provide quality patient-centered care (Kawashima et al., 2025; Tarigan et al., 2025).

The findings suggest that it is essential to integrate emotional competencies and related “soft” skills into nursing education standards and professional competencies frameworks. It would also be reasonable to include the evaluation of these competencies in students' curriculums and assessments. Finally, universities can pay more attention to the development of student well-being initiatives in order to foster the development of emotional skills and prepare nursing students for their future careers.

Strengths and limitations

A key strength of this study is the use of the Sinhala versions of the SSEIT and the TEQ, both of which had undergone cross-cultural adaptation and validation among Sri Lankan nursing students prior to their use. Furthermore, the study achieved a high response rate, enhancing the representativeness of the findings within the study population. Another strength is the inclusion of nursing undergraduates from all years of study, enabling the assessment of emotional intelligence and empathy across different stages of undergraduate nursing education. In addition, this study contributes to the limited body of evidence on emotional intelligence and empathy among nursing undergraduates in Sri Lanka.

The study was conducted among nursing undergraduates from one particular institution, and it cannot be said to portray the generalized results well enough when it comes to other institutions. Second, the research used self-reported questionnaires which are prone to social desirability bias or subjective perceptions by the respondents. Third, the cross-sectional design of the study does not permit conclusions regarding causality between emotional intelligence and empathy. The addition of larger samples that represent various universities and longitudinal research designs could help yield a more in-depth insight into the connection between emotional intelligence and empathy in nursing students in future studies.

Conclusions

The current revealed that emotional intelligence and empathy displays among nursing undergraduates at the General Sir Jhon Kotelawala Defense University is at a comparably high level. Emotional intelligence and empathy showed a moderate positive relationship, which suggested that students having a high emotional intelligence would have an increased level of empathy.

Additionally, emotional intelligence and empathy were also identified to be dependent on some socio-demographic and educational variables including academic year, motivation to pursue nursing, satisfaction with undergraduate nursing education and the principal reason of choosing nursing. Moreover, empathy was significantly related to gender with the female students showing high empathy scores than the male students.

The results indicate the significance of emotional competencies in nursing education and the necessity to stimulate emotional intelligence and empathy in nursing undergraduates to increase patient-centred care and professional practice.

Based on results of this research, it is possible to suggest several recommendations to nursing education and further research. First, training strategies on emotional intelligence and empathy should be included in the nursing education programmes because both competencies are essential in the provision of effective care to patients and in the interaction between the nurse and the patient. Second, the positive correlation between emotional intelligence and empathy highlights the importance of promoting both attributes within undergraduate nursing education. Future educational initiatives may consider incorporating reflective learning, communication skills training, simulation-based learning activities, and structured debriefing to support the development of emotional intelligence and empathy among nursing students. Third, emotional intelligence and empathy should be evaluated periodically during undergraduate education, and the results can assist teachers in establishing where the students need certain assistance and improvements. Lastly, the connection between emotional intelligence and empathy and other professional competencies in various educational and cultural settings in nursing students ought to be further studied.

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Conflicts of Interest

The authors declare that they have no conflicts of interest.

References

- Altwalbeh, D., Khamaiseh, A. M., & Algaralleh, A. (2019). Self-reported empathy among nursing students at a university in Jordan. *Open Nursing Journal*, 12, 255–262. <https://doi.org/10.2174/1874434601812010255>
- Babaii, A., Mohammadi, E., & Sadooghiasl, A. (2021). The meaning of the empathetic nurse–patient communication: A qualitative study. *Journal of Patient Experience*, 8, 23743735211056432. <https://doi.org/10.1177/23743735211056432>
- Batran, A. (2024). The emotional intelligence and the associated factors among nursing students. *Open Journal of Nursing*, 14(3), 114–126. <https://doi.org/10.4236/ojn.2024.143008>
- Beauvais, A., Andreychik, M., & Henkel, L. (2017). The role of emotional intelligence and empathy in compassionate nursing care. *Mindfulness & Compassion*, 2(2), 75–79. <https://doi.org/10.1016/j.mincom.2017.09.001>
- Budler, L. C., Gosak, L., Vrbnjak, D., Pajnkihar, M., & Štiglic, G. (2022). Emotional intelligence among nursing students: Findings from a longitudinal study. *Healthcare*, 10(10), 2032. <https://doi.org/10.3390/healthcare10102032>
- Chatzoglou, P., Bampali, D.-P., Chatzoudes, D., & Polychrou, E. (2026). Emotional intelligence of health professionals and its impact on caring behaviour and job performance. *Journal of Health Management*. Advance online publication. <https://doi.org/10.1177/09720634261424594>
- Fernández-Abascal, E. G., & Martín-Díaz, M. D. (2015). Dimensions of emotional intelligence related to physical and mental health and to health behaviors. *Frontiers in Psychology*, 6, 317. <https://doi.org/10.3389/fpsyg.2015.00317>
- Goleman, D., Boyatzis, R. E., & McKee, A. (2002). *Primal leadership: Realizing the power of emotional intelligence*. Harvard Business School Press.
- Hajibabaei, F., Farahani, M. A., Ameri, Z., Salehi, T., & Hosseini, F. (2018). The relationship between empathy and emotional intelligence among Iranian nursing students. *International Journal of Medical Education*, 9, 239–243. <https://doi.org/10.5116/ijme.5b83.e2a5>
- Hashmi, S., Tahir, O., Nasir, Z., Hasnain, H., Ullah Riaz, R. S., Ali Khan, H. M., Ramza, R., Alghzawi, H. M., Mukherjee, J., & Palav, A. (2024). Impact of

- emotional intelligence on professional performance and stress resilience among healthcare practitioners. *Cureus*, 16(11), e74113.
<https://doi.org/10.7759/cureus.74113>
- Jawabreh, N. (2024). The relationship between emotional intelligence and clinical decision making among nursing students. *SAGE Open Nursing*, 10, 23779608241272459.
<https://doi.org/10.1177/23779608241272459>
- Jayangi, L., Ganegoda, U. D., & Amarasekara, T. D. (2026). Emotional intelligence and academic self-efficacy among allied health undergraduates in Sri Lanka: A cross-sectional study. *BMC Medical Education*, 26(1), 191.
<https://doi.org/10.1186/s12909-025-08526-4>
- Kang, S.-W., & Choi, E.-J. (2020). The relationship of perceptions of hospice and palliative care with emotional intelligence and cognitive empathy in nursing students. *Journal of Hospice and Palliative Nursing*, 22(3), 213–219.
<https://doi.org/10.1097/NJH.00000000000000645>
- Kawashima, T., Ota, Y., Aikawa, G., Watanabe, M., Ashida, K., & Sakuramoto, H. (2025). Effectiveness of emotional intelligence training on nurses' and nursing students' emotional intelligence, resilience, stress, and communication skills: A systematic review and meta-analysis. *Nurse Education Today*, 151, 106743.
<https://doi.org/10.1016/j.nedt.2025.106743>
- Liang, A., Gao, C., Xu, W., Shen, Y., Liu, C., Lu, Z., & Yang, Y. (2022). Individual factors in dignified care: A cross-sectional study of critical care nurses. *Journal of Nursing Management*, 30(7), 3286–3294.
<https://doi.org/10.1111/jonm.13765>
- Lina, M., Qin, G., & Yang, L. (2022). Mediating effects of emotional intelligence on the relationship between empathy and humanistic care ability in nursing students: A cross-sectional descriptive study. *Medicine*, 101(46), e31673.
<https://doi.org/10.1097/MD.00000000000031673>
- Moudatsou, M., Stavropoulou, A., Philalithis, A., & Koukouli, S. (2020). The role of empathy in health and social care professionals. *Healthcare*, 8(1), 26.
<https://doi.org/10.3390/healthcare8010026>
- Riaz, S., Bilal, K., Ahmad, W., Rasheed, M. H. ur, Nazir, U., Javed, Z., Khan, S., Zafar, S., & Mukhtar, F. (2020). Empathy among medical students: A cross-sectional survey. *Journal of Ayub Medical College Abbottabad*, 32(4 Suppl. 1), 681–685.
<https://www.jamc.ayubmed.edu.pk/index.php/jamc/article/view/8308>

- Ruiz-Ortega, A. M., Sánchez-Álvarez, N., & Berrios-Martos, M. P. (2024). Psychological well-being and emotional intelligence in undergraduate nursing students as predictors of academic success. *Nurse Education Today*, 143, 106406. <https://doi.org/10.1016/j.nedt.2024.106406>
- Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. *Imagination, Cognition and Personality*, 9(3), 185–211. <https://doi.org/10.2190/DUGG-P24E-52WK-6CDG>
- Schutte, N. S., Malouff, J. M., Hall, L. E., Haggerty, D. J., Cooper, J. T., Golden, C. J., & Dornheim, L. (1998). Development and validation of a measure of emotional intelligence. *Personality and Individual Differences*, 25(2), 167–177. [https://doi.org/10.1016/S0191-8869\(98\)00001-4](https://doi.org/10.1016/S0191-8869(98)00001-4)
- Shahin, D., Ghazi, C., Shuwaikh, H., & Bayoumy, S. (2024). Emotional intelligence and academic performance among nursing university students. *Malaysian Journal of Nursing*, 16(Suppl. 1), 12–20. <https://doi.org/10.31674/mjn.2024.v16isuppl.002>
- Shubayr, N., & Dailah, H. (2025). Assessment of emotional intelligence, self-efficacy, and perceived stress among nursing students in clinical practice: A cross-sectional study. *BMC Nursing*, 24(1), 505. <https://doi.org/10.1186/s12912-025-03109-6>
- Sutil-Rodríguez, E., Liébana-Presa, C., & Fernández-Martínez, E. (2024). Emotional intelligence, health, and performance in nursing students: A systematic review. *The Journal of Nursing Education*, 63(10), 686–692. <https://doi.org/10.3928/01484834-20240614-03>
- Tarigan, M., Silitonga, H. Y. L., Purba, J. M., Nurhidayah, R. E., & Nilvarangkul, K. (2025). Emotional intelligence and education-related stress among baccalaureate nursing students in Indonesia: A cross-sectional study. *Belitung Nursing Journal*, 11(6), 786–793. <https://doi.org/10.33546/bnj.4053>
- Vetriselvan, T., Selvaraj, R., Sindhu, L., & Rithika, V. (2025). A cross-sectional study on empathy among medical students of tertiary care centers in Tamil Nadu. *International Journal of Pharmaceutical and Clinical Research*, 17(1), 889–893. <https://impactfactor.org/PDF/IJPCR/17/IJPCR,Vol17,Issue1,Article133.pdf>
- Weerasinghe, D. G. D. B., Patabendige, P. N. M., Thuduwege, S. V. R., Arumapperumachchi, P. M., Walpita Gamage, C. K., & Hettigoda, K. (2023). Cross-cultural adaptation of the Toronto Empathy Questionnaire to Sinhalese for implementation among nursing students in Sri Lanka. *Journal of Management, Social Sciences and Humanities*, 4(2),

75–84.

<https://ir.kdu.ac.lk/handle/345/7587>

Weerasinghe, D., Patabendige, P., Thuduwege, S., Arumapperumachchi, P., Walpita Gamage, C., & Hettigoda, K. (2023). The cross-cultural adaptation of the Schutte Self-Report Emotional Intelligence Test (SSEIT) for use among nursing students in a defence university, Sri Lanka. *KDU Journal of Multidisciplinary Studies*, 5, 145–151. <https://doi.org/10.4038/kjms.v5i1.71>

Yang, Y., & Wang, C. (2024). The chain mediating effect of empathy and communication ability on emotional intelligence and caring ability of nursing students. *Frontiers in Psychology*, 14, Article 1339194. <https://doi.org/10.3389/fpsyg.2023.1339194>

Yu, J., & Kirk, M. (2008). Measurement of empathy in nursing research: Systematic review. *Journal of Advanced Nursing*, 64(5), 440–454. <https://doi.org/10.1111/j.1365-2648.2008.04831.x>