

A COMPARATIVE STUDY ON EMOTIONAL INTELLIGENCE AMONG PAKISTANI UNDERGRADUATE NURSING STUDENTS

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Abstract

Emotional intelligence (EI) is a vital component in nursing, influencing key aspects such as clinical decision-making, critical thinking, and the quality of patient care. Nursing students often encounter emotionally challenging situations that affect their academic performance and ability to demonstrate empathy in clinical settings. This study aimed to assess EI among undergraduate nursing students at Rawalpindi College of Nursing and Benazir Bhutto Hospital College of Nursing in Rawalpindi, considering various demographic factors. A cross-sectional analytical approach was adopted to compare EI levels among 300 BSN nursing students from both institutions, with a focus on demographic variables such as age, residence, academic level, and marital status. The Brief Emotional Intelligence Scale (BEIS-10), rooted in Salovey and Mayer's (1990) framework, was employed to assess EI through a 10-item, 5-point Likert scale. Independent sample t-tests and one-way ANOVA were used to compare EI differences across demographic groups. The study revealed significant differences in EI, particularly across age, residence, and academic level. Older students, aged 21 to 25, exhibited significantly higher EI ($p = .001$). Additionally, day scholars showed greater emotional intelligence than hostel residents ($p = .004$), while students in their final years demonstrated notably higher EI than those in earlier stages ($p = .0001$). These findings highlight the strong influence of age, residence, and academic progression on EI. In contrast, marital status was not found to significantly affect emotional intelligence. In conclusion, the study emphasizes that age, residence, and academic level play a significant role in shaping the emotional intelligence of nursing students. The results underscore the need for targeted interventions to improve EI, particularly for younger students, hostel residents, and those in the early stages of their academic careers, to enhance both academic and clinical performance.

Keywords: Academic Level, Demographic Variables, Day Scholars, Emotional Intelligence, Hostel Living, Marital Status

Introduction

Emotion plays a pivotal role in evaluating cognition, motives, and situations, requiring emotional intelligence (EI) for effective management (1). Originally defined by Salovey and Mayer in 1990, EI was later expanded by Goleman, who highlighted key traits such as self-awareness, self-regulation, social awareness, and relationship management (2). Nursing, as a profession closely tied to individuals' health, involves not only clinical care but also interpersonal and group communication, which has become more complex with the evolving healthcare environment and rising patient expectations. In today's competitive healthcare market, nursing graduates need not only technical and critical thinking skills but also emotional intelligence (EI) to manage essential "soft" people skills effectively (3).

In nursing, where critical life-and-death decisions are frequent, EI becomes crucial for effective decision-making and problem-solving, making it indispensable for optimal performance. One key reason emotional intelligence is linked to nursing effectiveness is the role emotions play in creating a caring environment. A nurse's ability to build rapport, regulate their own emotions, and empathise with patients is essential for delivering high-quality care (4).

Therefore, a holistic approach to care is increasingly emphasized, urging healthcare professionals to address their patients' physical, psychological, and emotional needs. This shift reflects a move from simply providing care to genuinely caring about patients. Nurses who can identify, manage, and interpret both their own emotions and those of their patients are better equipped to provide the best care (5). Higher EI in nurses contributes directly to improved patient satisfaction (6).

Nursing students encounter a range of unique stressors, particularly in clinical settings. These challenges include managing patient suffering, handling emergencies, navigating difficult relationships with staff, and addressing gaps in both professional knowledge and practical skills. Additionally, they often face negative attitudes from ward staff, fear making mistakes, and struggle with bridging the gap between theory and practice, compounded by the unfamiliarity of the hospital environment (7). Given that nursing is a helping profession, these students play a critical role in influencing health outcomes. To fulfil this role, they must possess not only knowledge and skills but also critical thinking abilities to predict situations, generate ideas, and make informed decisions. Research indicates that nursing students frequently experience stress related to both academic and clinical demands. Those with lower emotional intelligence tend to struggle more with stress, resulting in adverse outcomes such as depression and despair (8).

While international and regional studies have investigated emotional intelligence and demographic variables, a significant gap exists in Pakistan's research on nursing students. Localized studies are essential to examine how emotional intelligence, in conjunction with demographic factors, can effectively address the specific stressors encountered by nursing students. Targeted interventions based on these insights could improve their emotional resilience and overall well-being.

Comparison of Age with Emotional Intelligence

As individuals age, emotional intelligence tends to increase, influenced by life experiences, enhanced emotional regulation, and improved social skills. Older individuals often demonstrate greater emotional awareness and sensitivity to both their own and others' emotions. However, the relationship between age and emotional intelligence can vary depending on contextual factors, highlighting its complexity. Recent studies indicate that emotional intelligence scores differ significantly among various age groups, with older students generally exhibiting higher emotional intelligence, particularly in areas like social skills (9, 8). Nevertheless, contrasting findings from other research suggest no significant relationship between emotional intelligence and age, reflecting variability in outcomes across different contexts (10). This inconsistency emphasizes the need for further investigation into the role of age in emotional intelligence development, particularly within nursing education. A deeper understanding of these dynamics could inform more effective educational strategies and interventions to enhance emotional intelligence among nursing students.

Comparison of Residence with EI

The relationship between residence and emotional intelligence is shaped by a range of environmental and social factors. Hostel residents often face obstacles such as reduced familial support and limited social networks, which can impede their emotional development. On the other hand, day scholars benefit from closer family ties and more diverse social interactions, fostering emotional competencies like empathy and regulation. This underscores the

importance of a supportive living environment for nurturing emotional intelligence and promoting well-being. Existing studies suggest that hostel residents are more prone to depression, anxiety, and stress compared to those living at home, indicating that living arrangements significantly influence emotional well-being and, potentially, emotional intelligence (11). Furthermore, evidence shows that day scholars tend to demonstrate better emotional adjustment than hostel students (12). However, other studies have produced contrasting results, finding no significant link between students' residence and their emotional intelligence or emotional maturity (9, 13). These mixed findings reflect the varying impacts of living arrangements on emotional well-being. Given these variations, it becomes essential to conduct a comprehensive investigation into how residence and other sociodemographic factors influence emotional intelligence, particularly in healthcare settings. Understanding these dynamics is crucial for shaping targeted interventions and support strategies that promote emotional development and well-being.

Comparative Analysis of Academic Levels with Emotional Intelligence

Academic progression significantly enhances emotional intelligence (EI) by providing students with increased exposure to both academic and clinical experiences. As they advance, students engage in increasingly complex social and professional interactions that promote the development of key competencies such as empathy, emotional regulation, and resilience. This is particularly evident in healthcare settings, where real-world experiences refine EI through therapeutic communication. Additionally, this progression fosters skills in stress management, collaboration, and emotional awareness, reflecting the evolving academic landscape and the growing demands of the profession that contribute to EI development. Studies suggest that final-year students exhibit significantly higher global trait emotional intelligence scores compared to their first-year counterparts. Emotional intelligence tends to improve with career advancement, influenced by factors such as age, experience, and the enhancement of social competencies. In particular, nursing students must cultivate strong emotional resilience to navigate the pressures of their field while fostering positive interpersonal relationships (14). Within educational contexts, Year 4 students demonstrate markedly higher total emotional quotient scores, especially in interpersonal relationships and stress management, compared to Year 1 students. Furthermore, 24% of Year 4 students show improved overall EI functioning, indicating their well-developed emotional and social skills (15). In contrast, some studies have reported no significant changes in EI scores over three years, suggesting a level of stability in emotional intelligence despite academic advancement (16). These discrepancies underscore the need for a thorough investigation into how academic progression affects emotional intelligence across different healthcare environments.

Comparison of Marital Status with EI

The relationship between marital status and emotional intelligence (EI) is complex and shaped by various factors. Married individuals often display higher EI due to the emotional support and stability provided by relationships, fostering key skills such as empathy, emotional regulation, and effective communication. On the other hand, single individuals may develop certain aspects of EI through unique social experiences and responsibilities, with social challenges contributing to their emotional growth. Research has indicated that married nursing staff tend to have higher emotional intelligence scores, suggesting that cultural and contextual factors can influence EI outcomes across different populations (17). In contrast, other studies have found that single students achieved higher emotional intelligence scores compared to their married counterparts, with notable differences in areas like self-awareness and social intelligence (8). However, when examining the impact of marital status on emotional intelligence among nursing students, no significant differences in total EI scores were observed between married and unmarried students (18). These mixed findings emphasize the need for further investigation of how marital status impacts emotional intelligence across various healthcare settings.

Enhancing emotional intelligence (EI) in nursing students is vital for equipping them to handle the complexities of their profession, fostering improved emotion management, communication, empathy, and decision-making.

International studies have examined the influence of sociodemographic factors such as age, living arrangements, academic year, and marital status on EI; however, the findings have often been inconclusive (19,20,21,22). In Pakistan, there is a notable lack of comprehensive research addressing EI among nursing students, highlighting a significant gap in the literature. Therefore, addressing this gap is essential, as the limited local research on EI among Pakistani nursing students hinders a deeper understanding of how these sociodemographic factors influence their emotional development within nursing education. As the demands on nursing professionals continue to grow, there is a clear need for targeted interventions that focus on enhancing EI. This study aims to address the gap by comparing emotional intelligence (EI) across demographic variables such as age, living arrangements, academic year, and marital status among Pakistani nursing students. The focus is on understanding how these factors influence emotional competencies, offering insights for developing targeted training programs that cater to the specific needs of nursing practice.

Objectives of the Study

1. To compare emotional intelligence between younger (16-20 years) and older (21-25 years) undergraduate nursing students.
2. To examine the differences in emotional intelligence between hostel residents and day scholars among undergraduate nursing students.
3. To compare emotional intelligence between first-year and final-year undergraduate nursing students.
4. To assess emotional intelligence differences between married and unmarried undergraduate nursing students.

Hypothesis

1. There is no significant difference in emotional intelligence between younger (16-20 years) and older (21-25 years) undergraduate nursing students.
2. There is no significant difference in emotional intelligence between hostel residents and day scholars among undergraduate nursing students.
3. There is no significant difference in emotional intelligence between first-year and final-year undergraduate nursing students.
4. There is no significant difference in emotional intelligence between married and unmarried undergraduate nursing students.

Methods

Study Design

It is a quantitative type of research, and a cross-sectional analytical study design was used to conduct this research.

Participants

The study was conducted from December 2023 to August 2024, focusing on female undergraduate students pursuing a Bachelor of Science in Nursing (BSN) enrolled in both Rawalpindi College of Nursing or Benazir Bhutto Hospital College of Nursing in Rawalpindi, Pakistan, with a sample size of 300 female participants aged 16-25, calculated using a population proportion calculator at a 95% confidence level and 5% margin of error, including only students currently enrolled in the BSN program and excluding those with severe medical conditions, with informed consent obtained from all participants before data collection.

Sampling Technique

Data was collected using a convenience sampling approach, a non-random technique where the researcher selects the sample based on ease and accessibility, without adhering to specific criteria.

Instruments

Participants completed a questionnaire that included both the Brief Emotional Intelligence Scale (BEIS-10) and a section on demographic information. The BEIS-10, a validated and reliable tool in the Pakistani context, was adapted from the original scale by Schutte et al. (1998) and revised by Davies et al. (2010). This shorter version consisted of 10 items measuring interpersonal and intrapersonal emotional functioning, rated on a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree). With an alpha reliability of $\alpha = .90$, the total scores ranged from 10 to 50, with higher scores indicating greater emotional intelligence (23). The BEIS-10 assessed five core components: Appraisal of Own Emotions, Appraisal of Others' Emotions, Regulation of Own Emotions, Regulation of Others' Emotions, and Utilization of Emotions.

Alongside the emotional intelligence scale, participants also provided key demographic information, including age, marital status, gender, residence, academic level, and institute name. These variables were critical for examining their comparison with emotional intelligence. The demographic section was administered together with the BEIS-10, ensuring that both data sets were gathered simultaneously for comprehensive comparison and analysis.

Procedure

Following the necessary permissions, the researcher collected data from undergraduate nursing students using a convenience sampling approach. The study's purpose was communicated to participants, emphasizing their voluntary participation and ensuring confidentiality throughout the process. Informed consent was obtained, and participants were reminded to omit any identifying details. Data were gathered using Likert-scale questionnaires and later entered into SPSS for analysis. To safeguard the data, physical copies were securely stored under lock and key, while digital files were protected with password encryption.

Data Analysis

Data were analyzed using SPSS version 29, employing descriptive statistics such as frequencies and percentages for demographic and categorical variables. The Kolmogorov-Smirnov test was used to assess normality, followed by the application of parametric tests. Emotional intelligence was compared across demographic variables using an independent sample t-test and one-way ANOVA.

Results

In the initial phase of the study, a descriptive analysis was conducted to examine the demographics and emotional intelligence (EI) profiles of the participants. The majority of participants were young, single, female, and predominantly hostel residents, with equal representation from two nursing colleges. Emotional intelligence was assessed using the BEIS-10, focusing on participants' abilities to appraise, regulate, and utilize emotions. Most participants were young adults, with the largest academic representation from 4th-year students (Table-1). The EI profile indicated that the majority of participants either agreed or strongly agreed across all emotional intelligence components, particularly in Appraisal of Own Emotions (53.6%) and Utilization of Emotions (37.66%). Neutral responses were relatively stable, while disagreement levels remained low, suggesting an overall positive self-perception in emotional awareness, regulation, and utilization (Table-2). Comparative analyses further revealed significant differences in EI across various demographic groups.

Table 1: Demographic Profile of the Respondents

| Variables | | Frequency = n | Percentage = % |
|-----------------------------------|--------------------------------|---------------|----------------|
| Age of the respondents | 16-20 years | 129 | 43.0 |
| | 21-25 years | 171 | 57.0 |
| Marital Status of the Respondents | Single | 298 | 99.3 |
| | Married | 2 | 0.7 |
| The Gender of the respondents | Female | 300 | 100 |
| Residence of the respondents | Hostel | 254 | 84.7 |
| | Day Scholar | 46 | 15.3 |
| Academic Level of Study | Year 1 | 74 | 24.7 |
| | Year 2 | 75 | 25.0 |
| | Year 3 | 75 | 25.0 |
| | Year 4 | 76 | 25.3 |
| Institute Name of the respondents | Public College of Nursing, Rwp | 150 | 50.0 |
| | Rawalpindi College of Nursing | 150 | 50.0 |

Table 2: Emotional Intelligence (EI) Profile of the Respondents

| | Appraisal Of Own Emotions | | Appraisal Of Others' Emotions | | Regulation Of Own Emotions | | Regulation Of Others' Emotions | | Utilization Of Emotions | |
|-----------------------|---------------------------|------------|-------------------------------|------------|----------------------------|------------|--------------------------------|------------|-------------------------|------------|
| | Freq | Percentage | Freq | Percentage | Freq | Percentage | Freq | Percentage | Freq | Percentage |
| Strongly Disagree (1) | 9 | 3.0% | 20 | 6.6% | 16 | 5.3% | 17 | 5.67% | 26 | 8.67% |
| Disagree (2) | 19 | 6.3% | 15 | 5.0% | 20 | 6.7% | 18 | 6.00% | 29 | 9.67% |
| Neutral (3) | 55 | 18.4% | 57 | 19.0% | 47 | 15.6% | 43 | 14.33% | 22 | 7.33% |
| Agree (4) | 161 | 53.6% | 119 | 39.7% | 118 | 39.3% | 124 | 41.33% | 110 | 36.66% |
| Strongly Agree (5) | 56 | 18.7% | 89 | 29.7% | 99 | 33.0% | 98 | 32.67% | 113 | 37.66% |

The findings of the empirical analysis indicated that age was a significant factor influencing emotional intelligence (EI). An independent samples t-test revealed that students aged 21-25 years exhibited significantly higher emotional intelligence ($M = 3.62$, $SD = 0.80$) compared to those aged 16-20 years ($M = 3.29$, $SD = 0.96$), with a t-value of 3.23 and a p-value of 0.001, indicating that older students possessed greater emotional intelligence than their younger counterparts. A similar pattern emerged when comparing living arrangements. Day scholars displayed significantly higher EI ($M = 15.06$, $SD = 8.64$) than hostel residents ($M = 12.13$, $SD = 5.90$), supported by a t-value of 2.867 and a p-value of 0.004, suggesting that living as a day scholar was associated with higher emotional intelligence. In contrast, marital status did not yield significant differences in emotional intelligence. The

independent t-test indicated no statistically significant variation between single and married participants, with a t-value of 1.07 and a p-value of 0.281. Although married participants had a higher mean EI score ($M = 17.50$, $SD = 9.19$) compared to single participants ($M = 12.54$, $SD = 6.46$), this difference was not statistically significant. These findings underscore that while age, and residence, significantly influenced emotional intelligence, marital status did not exert a meaningful effect in this sample of nursing students (Table-3).

Further, A one-way ANOVA showed significant differences in emotional intelligence across academic levels, with final-year students displaying significantly higher EI compared to first-year students ($F = 7.97$, $p = 0.0001$). This highlighted a marked difference in emotional intelligence development between students in the early and later years (Table -4).

Table 3: Comparison of Emotional Intelligence Scores Across Demographic Variables Using Independent Sample t-tests

| Demographic Variables | | Mean \pm SD | t-value | P-value |
|-----------------------|-------------|------------------|---------|---------|
| Age Group | 16-20 Years | 3.29 \pm 0.96 | 3.23 | .001 |
| | 21-25 Years | 3.62 \pm 0.80 | | |
| Residence | Hostel | 12.13 \pm 5.90 | 2.867 | .004 |
| | Day Scholar | 15.06 \pm 8.64 | | |
| Marital Status | Single | 12.54 \pm 6.46 | 1.07 | .281 |
| | Married | 17.50 \pm 9.19 | | |

Table 4: Comparison of Emotional Intelligence Scores Across Demographic Variables Using Analysis of Variance

| Demographic Variable | | Mean \pm SD | F | P-value |
|----------------------|--------|------------------|------|---------|
| Academic Levels | Year 1 | 7.33 \pm 5.27 | 7.97 | 0.0001 |
| | Year 2 | 5.44 \pm 0.63 | | |
| | Year 3 | 11.67 \pm 4.39 | | |
| | Year 4 | 16.11 \pm 5.00 | | |

Discussion

The nursing profession combines both art and science and emotional intelligence (EI) plays a crucial role in developing these core values. A well-balanced personality, reflected through EI, is essential for nursing students. In this context, this study compared EI across various demographic factors and found significant differences.

Specifically, participants aged 21-25 demonstrated significantly higher emotional intelligence (EI) compared to those aged 16-20, with a p-value of 0.001. These results were consistent with previous findings, which indicated that older individuals scored higher in EI and linked emotional intelligence to age (24, 25). Moreover, this research also underscored that younger individuals exhibited lower scores in empathy and emotional skills, a trend corroborated by various studies supporting the socioemotional selectivity theory, which highlights enhanced emotion regulation with age (26, 27, 28, 29). In contrast, other studies found no significant relationship between EI and age, suggesting limited support for the notion that EI inherently increases with age (30).

Furthermore, this study identified a significant difference in emotional intelligence, with day scholars scoring higher ($M = 15.06$, $SD = 8.64$) than hostel residents ($M = 12.13$, $SD = 5.90$), supported by a p-value of 0.004. Previous research consistently highlighted the influence of living arrangements, demonstrating that day scholars generally exhibited higher emotional intelligence. Similar results were reported in several studies (31, 32, 33). Conversely, some studies found no significant differences, with hostel students being characterized as more emotionally mature, thereby contradicting the findings of this study (34, 35).

Additionally, this study revealed significant differences in emotional intelligence (EI) across academic levels, with final-year students exhibiting notably higher EI than first-year students ($F = 7.97$, $p = 0.0001$), indicating a clear progression in EI development. These results aligned with findings from previous research, which reported enhanced EI and improved emotional management as students advanced in their studies (36, 37). Moreover, other studies similarly found that final-year students outperformed earlier cohorts in EI, particularly in emotional awareness and global trait EI (38, 39). However, contrasting evidence suggested no significant increase in EI with advancing academic years, challenging the assumption of uniform growth in EI through educational experiences (40).

Lastly, marital status did not significantly affect emotional intelligence, as indicated by an independent t-test showing no difference between single and married respondents ($p = .281$). This finding aligned with prior studies that reported no significant relationships between family or marital status and emotional intelligence (41, 42). Additionally, research supported this conclusion, indicating a p-value of 0.09 (43). In contrast, other studies identified significant differences, with findings suggesting that emotional intelligence, particularly optimism, significantly predicted satisfaction among married individuals (44).

The study's strengths include a robust sample size of 300 students and the use of the validated Brief Emotional Intelligence Scale (BEIS-10), enhancing the reliability and generalizability of the findings. However, the study only included female undergraduate nursing students, which may limit the applicability of the findings to male students or those in other fields of study. Based on these findings, it is recommended to implement targeted interventions, such as workshops and training programs, specifically designed to enhance emotional intelligence among younger and hostel-resident students, thereby improving their academic performance and clinical skills.

Conclusion

In conclusion, this study examined the significant differences in emotional intelligence (EI) among undergraduate nursing students in Pakistan, revealing critical insights into how demographic factors such as age, residence, and academic level influence EI. The results indicated that older students and day scholars exhibited higher levels of emotional intelligence compared to their younger and hostel-resident counterparts, while final-year students outperformed earlier cohorts. The study underscores the essential role of emotional intelligence in nursing, as it impacts clinical decision-making, critical thinking, and patient care. Given these findings, there is a strong imperative for targeted interventions, such as workshops and training programs, aimed at enhancing emotional intelligence, particularly among younger students and hostel residents. By fostering emotional intelligence through these strategies, educational institutions can improve the academic performance and clinical skills of nursing students, ultimately benefiting patient care outcomes.

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