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The level of emotional intelligence among Saudi nursing students: A cross-sectional study

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Abstract

Background: Emotional intelligence is an individual's capacity to comprehend, use, and control their own emotions to communicate and connect with people successfully. The emotional intelligence level among nursing students indicates their ability to regulate their emotions, possess self-awareness, demonstrate empathy, have motivation, and display social skills, impacting how they adapt during their education and preparation for nursing care. However, studies investigating emotional intelligence in the Saudi Arabian context are scarce.
Objective: This study aimed to evaluate the degree of emotional intelligence and its differences according to sociodemographic variables among nursing students in Saudi Arabia.
Methods: A cross-sectional study was undertaken with 322 nursing students conveniently selected at Majmaah University, Saudi Arabia. Data were collected between May and June 2023 utilizing the Schutte Self-Report Emotional Intelligence Test (SSEIT). Descriptive statistics, such as mean, standard deviation, frequency, and percentage, independent *t*-test, and one-way ANOVA were used for data analysis.
Results: Most of the students had emotional intelligence levels ranging from moderate to high (96.6%). There were significant differences in emotional intelligence levels according to the age of students, gender, year of study, marital status, mother's education, physical and psychological health, and grade point average (p <0.05).
Conclusion: The study findings may offer valuable insights for nursing educators in universities, emphasizing the importance of enhancing emotional intelligence and integrating it into nursing curricula. Additionally, it highlights the need to develop effective strategies and training sessions and workshops according to sociodemographic factors to enhance emotional intelligence levels among nursing students.

Keywords

emotional intelligence; nursing students; Saudi Arabia; sociodemographic

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Background

Emotional intelligence (EI) can be characterized as a component of social intelligence that includes the capacity to observe and comprehend the emotions and sentiments of both self and others to differentiate between them and apply this knowledge to regulate one's cognitive processes and behaviors (Brackett et al., 2004; Salovey & Mayer, 1990). It helps to manage stress, overcome obstacles, and react to others' emotions; hence, it helps in successful communication and connection with others (Busu, 2020). EI becomes an essential and primary component when providing safe and effective care and improving service quality (Kaya et al., 2017). Thus, a proficient comprehension of oneself and others can facilitate safe and effective care for others.

In the nursing context, EI pertains to a nurse's capacity to comprehend patients' emotions and communicate and effectively build relationships with them (Aldossary et al., 2019). Nurses may provide effective nursing care and adapt to this provision by developing their EI (Kaur et al., 2013). In addition, to be able to address clinical issues and make wise judgments, they should be self-directed, emotionally sophisticated, critical thinkers, and creative (Kim & Shin, 2021). Likewise, nursing students should possess the capacity to comprehend and effectively regulate their own emotions and the emotions of their patients, which can result in preparing them to provide better care for patients and enable them to communicate and build relationships with patients and their families, which requires that they improve their EI levels and gain related skills.

Several studies highlighting the importance of this topic have evaluated the EI level in nursing students and indicated that variability exists in the EI levels of nursing students in various nations and cultural contexts. While few studies have reported low levels of EI (Fakhry & El-Azeem, 2016; Faye et al., 2011), the research majority found moderate to high EI levels (Albagawi, 2018; Almegewly et al., 2022; Beauvais et al., 2011; Mahmoud et al., 2013). The observed variability can be attributed to individual characteristics, cultural values, and educational system variations.

Some factors seem to have an impact on nursing students' EI levels. For example, the student's physical and mental health appears to have a significant relationship with their levels of EI (Dugué et al., 2021). A positive association existed between the emotional level of competence among students and their overall life satisfaction (Aradilla Herrero et al., 2014;

Carvalho et al., 2018; Ruiz Aranda et al., 2014). In addition, the students had a propensity for reduced levels of stress, depression, and anxiety; hence, they display a decreased susceptibility to exhaustion (Aradilla Herrero et al., 2014; Carvalho et al., 2018; Foster et al., 2018; Ruiz Aranda et al., 2014; Zhang et al., 2016). EI is also related to students' critical thinking, where nursing students with moderate to high levels of EI showed a disposition toward critical thinking (Abou Hashish & Bajbeir, 2018; AkbariLakeh et al., 2018; Kang, 2015). Academic achievement is another factor reported to be related to the level of EI among students (AkbariLakeh et al., 2018; Almegewly et al., 2022). In addition, the student's clinical performance seems to be related to their EI level (Beauvais et al., 2011; Belay & Kassie, 2021).

It is essential to understand nursing students' EI levels and related factors for a number of reasons. First, it helps to identify students with low EI levels who are at risk of experiencing challenges in managing stress, overcoming obstacles, communicating with others, and reacting to others' emotions (Fteiha & Awwad, 2020). Second, it can inform the structure of interventional strategies designed to improve the EI level among the students (Meng & Qi, 2018). Last, it has the potential to enhance the nursing care quality and the delivery of nursing services they provide (Foster & McCloughen, 2020).

Although several studies have looked at EI among nursing students in other settings, a need exists for context-specific studies to explore EI and identify its associated factors at this institution. Studies conducted to explore EI in the Saudi Arabian context are scarce (Abou Hashish & Bajbeir, 2018; Albagawi, 2018; Almegewly et al., 2022; Moawed et al., 2017). Therefore, the research aimed to evaluate nursing students' EI levels at Majmaah University in Saudi Arabia and determine its differences by sociodemographic variables. The research findings can potentially contribute to advancing educational intervention approaches to enhance the students' EI levels.

Methods

Study Design

A cross-sectional study design was applied to evaluate the degree of nursing students' EI since it was considered suitable for this investigation. In this design, the participants' responses and the results were assessed simultaneously, offering valuable insights into the phenomena under study (Polit & Beck, 2018).

Samples/Participants

The participants were selected using convenience sampling. The inclusion criteria involved undergraduate nursing students enrolled in Majmaah University, Saudi Arabia, who expressed a willingness to participate in the research. There were 322 nursing students selected. At the time of the research, the enrollment of nursing students amounted to 479 individuals during the four academic years of the program, leading to a 67.2% response rate.

Instruments

A two-section, self-reported questionnaire in English was used for this study. The sociodemographic variables that included gender, age, marital status, year of study, physical and psychological health, father and mother educational attainment, and Grade Point Average (GPA, measured on a scale of 5) were included in the first section. These variables, especially physical and psychological health as well as the parent's education levels, were often included in the sociodemographic section of studies conducted about the EI of nursing students (Dahshan et al., 2020; Gizaw, 2021; Hussien et al., 2020; Lankashini et al., 2017). Also, the inclusion of such variables as the perceived physical and psychological health of the nursing students in a Likert scale was grounded on the frequently reported noteworthy relationship between these variables and EI (Aradilla Herrero et al., 2014; Carvalho et al., 2018; Lopes et al., 2004; Mayer et al., 2008; Ruiz Aranda et al., 2014; Schutte et al., 2007). In addition, three experts in nursing agreed upon the content validity of the physical and psychological health variables (items), with a value of 1 for each of them using the item-level content validity index (I-CVI).

The second section involved using the Schutte Self-Report EI Test (SSEIT), containing 33 items labeled into three dimensions: 1) appraisal and expression of emotions (13 items), 2) regulation of emotions (10 items), and 3) utilization of emotions (10 items) (Schutte et al., 1998). The 33 items were evaluated using a five-point Likert scale, with answers ranging from strongly agree to strongly disagree. EI was measured as the sum of the scores for all 33 items, with a score range of 33–165, where a score between 33 and 77 suggests a low EI level, a score between 78 and 121 indicates a moderate level and a score between 122 and 165 denotes a high level of EI (Schutte et al., 1998). The SSEIT is a validated measure that is widely used for assessing EI, with a Cronbach's alpha ranging from 0.80 to 0.94 (Abou Hashish & Bajbeir, 2018; Aldossary et al., 2019; Alsufyani et al., 2022; Schutte et al., 2007). The present research assessed the questionnaire's reliability by calculating Cronbach's alpha, yielding a value of 0.93, which was considered to be within normal values.

Data Collection

Data were collected between May and June 2023. The questionnaire, in a hard and electronic copy, was sent to the students for data collection with the help of the student's course instructors. After their classes, a hard copy of the questionnaire was gathered from the students. The students were provided with an explanation of the study's objectives and potential consequences prior to their completion of the questionnaire. Also, informed consent was acquired from those who expressed their agreement, after which they proceeded to complete the questionnaire.

Data Analysis

Data were analyzed using the Statistical Package for Social Sciences (SPSS). Descriptive statistics, including mean and standard deviation, frequency, and percentage, were used to present the participants' characteristics and scores on EI and its dimensions. The relationship of EI level according to sociodemographic variables was estimated using independent *t*-tests or one-way analysis of variance (one-way ANOVA). These statistical tests helped determine whether significant differences existed in EI levels across different subgroups based on sociodemographic factors.

Ethical Considerations

This research approval has been granted by the Committee of Ethics in Research of Majmaah University (clearance number: MUREC-May.14/COM-2023/16-4). Nursing students were assured that their involvement would not impact their academic progress and status. In addition, the students' participation was completely optional, and their privacy and anonymity were maintained. Participants were also appropriately informed about the withdrawal right after data collection was concluded.

Results

Three hundred twenty-two undergraduate nursing students participated in this study. The majority aged up to 20 years (59.9%). Females comprised more than half (54.7%) of the participants (**Table 1**).

Table 1 Participants' characteristics (*N* = 322)

Characteristics	f	%
Age (in years)		
Up to 20 years	193	59.9
Above 20 years	129	40.1
Gender		
Male	146	45.3
Female	176	54.7
Marital Status		
Single	316	98.1
Married	6	1.9
Year of Study		
First year	84	26.1
Second year	133	41.3
Third year	61	18.9
Fourth year	44	13.7
Physical Health		
Poor	8	2.5
Average	54	16.8
Good	134	41.6
Very good	35	10.9
Excellent	91	28.3
Psychological Health		
Poor	36	11.2
Average	92	28.6
Good	106	32.9
Very good	31	9.6
Excellent	57	17.7
Father's Education		
Primary school	42	13.0
Intermediate school	39	12.1
High school/Diploma	131	40.7
Bachelor's degree or higher	110	34.2
Mother's Education		
Primary school	82	25.5
Intermediate school	44	13.7
High school / Diploma	103	32.0
Bachelor's degree or higher	93	28.9
GPA		
Up to 4	104	32.3
4.01 to 4.5	105	32.6
4.5 to 5	113	35.1

Most of the students were unmarried (98.1%). Second-year students formed the largest group of participants (41.3%). A good level of these indices was recorded regarding self-reported accounts of physical health (41.6%) and psychological health (32.9%). A significant proportion of the nursing students (74.9% for fathers and 60.9% for mothers) reported that their parents had attained a high school/ diploma or a higher education level. In addition, the majority of participants had GPAs in the range of 4.5 to 5.

Regarding the EI score, most students had a moderate to high EI score (96.6%). The average EI total and its dimensions scores were 120.43 ± 19.14, 45.89 ± 8.00, 37.53 ± 7.17, and 37.01 ± 5.64, respectively (**Table 2**).

Table 2 Emotional intelligence and its dimensions scores in nursing students (*N* = 322)

EI and Its Dimensions Scores	Min	Max	Mean ± SD / Number (%)
EI Total Score	70	161	120.43 ± 19.14
Low level			11 (3.4%)
Moderate level			144 (44.7%)
High level			167 (51.9%)
EI Dimensions Score			
Appraisal and expression of emotions in the self and others	25	61	45.89 ± 8.00
Regulation of emotion in the self and other	14	50	37.53 ± 7.17
Utilization of emotions in solving problems	20	50	37.01 ± 5.64

An independent *t*-test was performed with a 95% confidence interval (CI) for the mean difference of EI between age groups. The results indicated that nursing students in the higher age group (above 20 years) had lower EI levels than the students in the lower age group (up to 20 years), in which the difference between the groups was statistically significant (t_{320} = -2.10, p = 0.037). Another independent *t*-test result indicated that the EI level of males was significantly higher than females (t_{320}= 2.38, p = 0.018).

Additionally, the mean difference in EI between single and married nursing students showed that single students had significantly higher EI levels than married students (t_{320}= -2.29, p = 0.023).

The one-way ANOVA revealed a statistically significant difference in EI by year of study ($F_{3, 318}$ = 7.87, p <0.001), with students in later years scoring lower levels of EI. In addition, the results indicated a significant difference in EI by physical health classification ($F_{4, 317}$ = 17.12, p <0.001) and by psychological health ($F_{4, 317}$ = 17.37, p <0.001), with students in higher status of physical and psychological health scoring higher levels of EI.

The EI was also investigated based on the education of the fathers and mothers of the students. The results did not show a significant difference in the EI level of students as categorized by the father's education level ($F_{3, 318}$ = 0.85, p = 0.470). In contrast, a significant difference was noted in students' EI level based on the mother's education ($F_{3, 318}$ = 5.50, p = 0.001). The emotional intelligence of students with mothers reaching high school or having a bachelor's degree was significantly higher than those with mothers getting primary level.

Last, the analysis results showed a significant difference in EI according to GPA groups ($F_{2, 319}$ = 3.52, p = 0.031), in which students with higher GPAs (4.5 to 5) scored higher EI among the others (**Table 3**).

Table 3 Differences in emotional intelligence levels according to sociodemographic variables (*N* = 322)

Sociodemographic variables	Mean ± SD	*t*/*F* values	*p*-value
Age			
Up to 20 years	122.25 ± 17.39	*t* (320) = -2.10 [a]	0.037*
Above 20 years	117.71 ± 21.29		
Gender			
Male	123.20 ± 19.13	*t* (320) = 2.38 [a]	0.018*
Female	118.14 ± 18.90		
Marital Status			
Single	120.77 ± 18.85	*t* (320) = -2.29 [a]	0.023*
Married	102.83 ± 27.70		
Year of Study			
First year	125.57 ± 15.05	*F* (3, 318) = 7.87 [b]	<0.001*
Second year	122.63 ± 19.39		
Third year	114.93 ± 19.57		
Fourth year	111.61 ± 20.51		
Physical Health			
Poor	92.88 ± 19.33	*F* (4, 317) = 17.12 [b]	<0.001*
Average	109.28 ± 20.18		
Good	119.30 ± 19.91		
Very good	125.37 ± 8.78		
Excellent	129.25 ± 13.82		
Psychological Health			
Poor	109.92 ± 25.60	*F* (4, 317) = 17.37 [b]	<0.001*
Average	111.60 ± 16.76		
Good	123.45 ± 18.22		
Very good	127.52 ± 13.79		
Excellent	131.88 ± 11.50		
Father's Education			
Primary school	117.86 ± 16.33	*F* (3, 318) = 0.85 [b]	0.470
Intermediate school	119.13 ± 15.79		
High school/Diploma	119.80 ± 18.09		
Bachelor or higher	122.64 ± 22.20		
Mother's Education			
Primary school	113.65 ± 21.70	*F* (3, 318) = 5.50 [b]	0.001*
Intermediate school	119.14 ± 15.04		
High school / Diploma	123.93 ± 16.61		
Bachelor or higher	123.16 ± 19.74		
GPA			
Up to 4	117.79 ± 20.22	*F* (2, 319) = 3.52 [b]	0.031*
4.01 to 4.5	119.01 ± 20.02		
4.5 to 5	124.19 ± 16.73		

Note: [a] Independent *t*-test, [b] One-Way ANOVA test, *Significance level at the *p*-value of 0.05

Discussion

EI refers to an individual's capacity to comprehend, use, and control emotions to communicate and connect with others. This research aimed to evaluate the levels of EI among nursing students and examine any potential correlations with their demographic characteristics. Based on the results, a significant majority of the students (96.6%) had moderate to high levels of EI, aligning with previous research examining EI levels among nursing students (Abou Hashish & Bajbeir, 2018; Albagawi, 2018; Almegewly et al., 2022; Beauvais et al., 2011; Mahmoud et al., 2013). For example, Abou Hashish and Bajbeir (2018) found that a significant proportion of students demonstrated moderate (66.4%) and high (54.9%) EI levels. This finding suggests that the nursing students included in this research had a high level of EI, demonstrating their capacity to recognize and understand their own emotions and those of others. This may also suggest that the nursing students involved had a moderate to high inclination toward critical thinking (Abou Hashish & Bajbeir, 2018; AkbariLakeh et al., 2018; Kang, 2015) and academic achievement (AkbariLakeh et al., 2018; Almegewly et al., 2022), and they demonstrated a moderate level of skill and preparedness for their clinical performance (Beauvais et al., 2011; Belay & Kassie, 2021) as these attributes were found to have a significant correlation with the nursing students' level of EI.

According to the study's findings, significant differences existed in EI level according to the age of students, gender, year of study, marital status, physical and psychological health, GPA, and mother's education. In terms of the age of the students, some studies have reported similar findings that correlations exist between the student's age and their level of EI (Budler et al., 2022; Ishii, 2018; Por et al., 2011). On the contrary, other research has indicated no relation in terms of the age of the students with their sores of EI (Albagawi, 2018; Cerit & Beser, 2014). As age is a factor that can impact an individual's maturity, this may indicate that the nursing students in current research have developed their levels of EI over time or that they had different life experiences and maturity levels that impacted their EI capabilities (Brackett et al., 2004; Budler et al., 2022).

Furthermore, the research findings indicated a statistically significant disparity in the average EI levels between male and female nursing students, in which male students had greater EI levels than their female counterparts. This finding is similar to a research result reported in Ethiopia, where males scored higher levels of EI than females (Belay & Kassie, 2021). In contrast, other studies reported contradicting findings that females scored higher than males (Cerit & Beser, 2014; Stiglic et al., 2018). It is well acknowledged that females tend to have a higher EI than men, as shown by previous studies (Brackett et al., 2004; Cerit & Beser, 2014; Ishii, 2018). However, the male students in the present research may possess superior abilities in perceiving emotions and negative behaviors (Muris et al., 2003) and perhaps excel in interpersonal interactions (Brackett et al., 2004).

The research findings also highlighted the statistically significant difference in the EI level between single and married nursing students, where single students scored higher EI levels than married. This finding is similar to a result reported in research undertaken in Turkey, where single students scored higher levels of EI than married nursing students (Cerit & Beser, 2014). However, this contradicts a study conducted in Slovenia, where married nursing students scored higher levels of EI than single nursing students (Budler et al., 2022). Being married or in a relationship is believed to positively influence the individual's level of EI, whereas married individuals often demonstrate higher levels of EI (Khodarahimi, 2015; Madahi & Samadzadeh, 2013). However, the single students in the present study might have more emotional dynamics exposure or the difference would not be considered given the relatively limited proportion of married students included in the present study compared to single students.

Moreover, the findings of this study highlighted the significance of the association between EI and the physical and psychological health of nursing students, where students with a higher status of physical and psychological health scored higher levels of EI. Similar studies reported that the levels of EI were significantly related to the physical and psychological health of nursing students in which students were physically active, had decreased burnout, and were satisfied with their overall life (Aradilla Herrero et al., 2014; Carvalho et al., 2018; Dugué et al., 2021). In addition, findings were reported by other studies, indicating that nursing students with high levels of EI experienced lower levels of stress (Dahshan et al., 2020; Foster et al., 2018; Shahin, 2020). Nursing students frequently encounter elevated stress levels due to academic obligations, clinical practicums, and exposure to potentially distressing circumstances. This may suggest that the nursing students in this study possess a certain degree of stress management, thereby improving their psychological state of being.

This research identified that nursing students' EI levels were significantly related to their mothers' educational levels. Nursing students with high levels of EI tended to have mothers with high educational levels. Similar findings were reported in other studies conducted to explore the relationships between academic performance and achievement. These studies' results revealed that nursing students with high levels of EI usually had parents with high education levels (Akbar et al., 2011; Farooq et al., 2011). This suggests that parents with high education levels are knowledgeable about how parents affect their children's emotional growth (Lankashini et al., 2017; Moawed et al., 2017). This study also indicated a correlation between nursing students' cumulative GPA and EI levels. High EI levels were correlated with a high GPA. This result agrees with other studies that have indicated the same association (Moawed et al., 2017; Thomas et al., 2021). This can explain the relationship between EI and academic achievement and success (Almegewly et al., 2022).

Surprisingly, the research findings indicated a statistically significant negative relationship between EI and years of study, where the levels of EI decreased with advancement in the year of study. This finding contradicts the findings of many studies that indicated a positive correlation between the advancement in year of study and EI levels among the students (Foster et al., 2018; Thomas et al., 2021). These studies observed that students with higher EI levels were more prevalent in the higher years of the study. It is possible that some students with an increasing academic load over the years of study tend to lack emotional competence and need assistance with the enhancement of these skills and the improvement of their EI levels. The findings of this study explain that nursing students require educational interventions to improve their EI levels. The explicit inclusion of EI in nursing education is crucial, as it has the potential to influence various aspects of student learning, such as critical thinking, ethical decision-making, and the utilization of evidence and knowledge in practice (Cleary et al., 2018; Foster et al., 2015).

Limitations of the Study

Although the study yielded noteworthy findings, it is essential to acknowledge that certain limitations still exist. The limited scope of the data collection, which was confined to a single university in Saudi Arabia, poses a challenge to the generalizability of the results to other nursing students. Consequently, further investigation into the EI of nursing students is warranted. Subsequently, data were collected through a self-administered questionnaire, which may have resulted in reporting bias due to the potential influence of the participants' interpretations of the questions.

Implications and Recommendations

The findings of this study can provide an understanding of nursing students' levels of EI and inform the development of interventional strategies for students to improve their EI. Understanding the factors related to students' EI levels also helps build such a strategy. Focusing on students' critical thinking, academic achievement, and clinical performance can foster improvements in their EI levels. Subsequent investigations may expand upon the assessment of EI by using several methodological frameworks, including qualitative inquiries or mixed methodologies. It is suggested that further study should be conducted to examine the correlation between EI and other characteristics that are closely associated.

Conclusion

The majority of the nursing students in this study had moderate to high levels of EI. According to the study's findings, a significant relation exists between the level of EI and the age

of students, gender, year of study, marital status, physical and psychological health, GPA, and mother's education. The ability of the nursing students in stress management and the greater understanding of parents about the influence on their children would have a possible impact on the students' psychological and physical health and emotional development and, consequently, on their EI levels. To improve nursing students' EI levels, the subject of EI should be a fundamental part of nursing curricula. Training courses and seminars are also necessary to improve EI levels among students. Thus, nursing educators in universities should adopt strategies for strengthening the EI levels and enhancing related skills.

Declaration of Conflicting Interest

The author declares no conflict of interest.

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Author's Contribution

The corresponding author solely developed this study.

Author's Biography

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Data Availability

The dataset generated during and analyzed during the current study is available from the corresponding author upon reasonable request.

Declaration of Use of AI in Scientific Writing

Nothing to disclose.

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