

Emotional Intelligence of Family Medicine Residents in Qatar

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Abstract

Background: Emotional Intelligence is the ability to recognize, control, and express one's own emotions and to recognize and react appropriately to the emotions of others. Principles of Emotional Intelligence include: self-awareness, managing your emotions, self-motivation, empathy, social skills.

Objectives of the Study: To measure global Emotional Intelligence among the family medicine residents in Qatar and to describe the distribution of emotional intelligence parameters among the family medicine residents; also to examine the relationship between emotional intelligence parameters' level and selected demographic variables.

Methods: The study targeted residents of the family medicine training programs in Qatar. The final number of questionnaires analyzed was 46 (90.2%). The study used a self-administered questionnaire in Arabic Language. The questionnaire had two parts: Section A: included personal information (e.g. Age, gender, marital status, number of children, PGY level, ethnicity) and Section B: Emotional Intelligence standardized questionnaire which is 153-items Trait Emotional Intelligence Questionnaire.

Results: Generally, residents of the family medicine program in Qatar are reporting average scores in the global EI and related factors and facets; males showed a statistically significant higher global EI, emotionality factors and their related facets (emotion expressions and relationship). The results showed that residents who were raised in small town/village had higher perceived global EI and well-being factor and its related facets (happiness, optimism and self-esteem). There was a statistically significant difference between batches with regard to scores in the emotionality factor and its facets (empathy) where senior residents showed high scores in both.

Conclusion: Family Medicine residents perceived lower E.I. scores, reversed gender relationship with E.I. scores. Academic performance and seniority showed significantly different EI scores.

Key words: Emotional, Intelligence, Family Medicine, Residency Program, Qatar

Background

Emotional intelligence is an individual characteristic that reflects the 'ability to monitor one's own and others' emotions, to discriminate among them, and to use this information to guide one's thinking and actions [1].

There was further addition to the concept of EI as enumerated by Salovey et al. For them, EI concerned the way in which an individual processes information about emotions and emotional responses. These findings pointed to different ways in which competencies such as empathy, learned optimism, and self-control contributed to important outcomes in the family, the workplace, and other life arenas [2].

The use of a variety of terms makes it difficult to agree on an overarching definition of EI. It has been referred to as emotional literacy, the emotional quotient, personal intelligence, social intelligence and interpersonal intelligence. Perhaps one of the best and most circumspect definitions of EI is 'a set of abilities (verbal and non-verbal) that enable a person to generate, recognize, express, understand and evaluate their own and others' emotions in order to guide thinking and action and successfully cope with environmental demands and pressures' [3].

The concept of EI is derived from extensive research and theory about thoughts, feelings, and abilities that, prior to 1990, were considered to be unrelated phenomena. Today, EI is gaining interest worldwide, contributing to critical reflection as well as to various educational, health and occupational outcomes [4].

Medical education aims to cultivate doctors with a broad range of skills which will ultimately enable them to provide patient care that is clinically sound and emotionally responsive(5).

In order to improve and streamline this endeavor, there has been an increased drive to define and assess the core characteristics of professional competence. Many of the skills that contribute towards this are thought to be underpinned by emotional intelligence (EI) [6].

Based on findings in the business literature indicating that EI may be an ingredient to professional success, there is increasing interest in developing physician EI as a way to improve work performance. Few studies, however, have described resident EI profiles at all. Jensen et al. described the EI of surgical residents at a university program; these residents scored highest in stress tolerance and lowest in social responsibility. EI did not correlate with age or training level. This study did not comment on gender differences within the resident group, nor did it attempt to establish the predictive validity of EI on resident performance [7].

In another study, investigators attempted to demonstrate a link between resident physician EI and performance as indicated by whether a resident was selected to serve as

chief administrative resident and found that there was no significant difference between the scores of residents selected to be administrative chiefs and those not selected. Additionally, linear regression analyses failed to demonstrate a significant association between EI scores and gender, age, or training level [8].

One study of resident physicians in a university-based Internal Medicine Department demonstrated both an increase in resident physician EI over time and a positive relationship between resident EI and clinical performance, but there were no gender differences [9].

Finally, a study conducted by Harvard Medical School in Dec 2014 showed that resident physicians demonstrated Global EI similar to that of the general population. This Global EI was not significantly different between specialty groups. Moreover, across all specialties, men and women residents scored similarly on Global EI. Finally, there was a Stepwise linear regression that identified only age as a significant demographic predictor of global EI with a possible increase in Global EI with every year in training [10].

Methods

Study Design: The study used observational analytical cross-sectional design.

Study setting:

This study was conducted in West Bay Training Health Center affiliated to Primary Health Care Corporation in Qatar the Family Medicine Residency Program runs its activity in the form of academic days and continuity care clinic.

Study Subjects:

There was a non-probability target sampling (all the residents were included in the study. (Target number was 51.)

Inclusion criteria:

- Family medicine residents at different levels of training.

Exclusion criteria:

- Any resident who refused to participate.
- Any resident who was on leave/absent during the study period.
- Any questionnaire with invalid entries.

Total number of residents eligible for the study:

51 residents; Number of residents on leave: 1 (maternity Leave); Number of residents who refused to participate: 1; Number of discarded Questionnaires: 3; Final number of questionnaires analyzed: 46 (90.2%).

Data Collection Methods:

The study used a self-administered questionnaire which is in Arabic Language. The study used a questionnaire with two parts:

Section A: included personal information (e.g. Age, gender, marital status, number of children, PGY level, ethnicity)

Section B: Emotional Intelligence standardized questionnaire which is 153-items Trait Emotional Intelligence Questionnaire (TEIQue) downloaded from:

<http://www.psychometriclab.com/> (11)

- (TEIQue questionnaire), is psychometrically validated and available in many languages (including Arabic).
- The questionnaire takes approximately 15-25 minutes to complete.
- Comprised of 153-item self-assessment tool for E.I. in which each item is answered on a seven-point Likert scale ranging from [1=completely disagree] to [7=completely agree].
- These 153 items yield scores for global E.I. score in addition to scores of 4 factors and 15 emotional intelligence facets.
- The 4 broader emotional intelligence factors are Well-being, Self Control, Emotionality and Sociability.
- The 15 E.I. facets include: Happiness, Optimism, Self-esteem, Emotion regulation, Impulse control, Stress management, Empathy, Emotion perception, Emotion expression, Relationships, Emotional management, Assertiveness, Social awareness, Self-motivation, and Adaptability

Data Analysis:

- Data was entered in Excel spreadsheet and the scores on the 153-items were uploaded to psychometric lab website for calculating the global EI and associated factors and facets.
- Subsequent analyses on TEIQue Global, Factor, and Facet raw scores were completed.
- Using STATA 9.0 Intercooled Comparisons between groups were conducted using two-tailed Student's t-test or one-way Analysis of Variance (ANOVA) when appropriate.

Results

Table 1: distribution of study respondents according to their background:

It shows that females represented 58.7% , age more than or equal 30 represented 56.5% , lives in city represented 84.8% and 63% were married.

Table 2: Summary of emotional intelligence score :

Generally, residents of the family medicine program in Qatar are reporting average scores in the global EI and related factors and facets.

Table 3: THE RELATIONSHIP BETWEEN Gender and EI global and subset scores:

Males showed statistically significant higher global EI, emotionality factors and its related facets (emotion expressions & relationship).

Table 4: THE RELATIONSHIP BETWEEN Upbringing and EI global and subset scores :

Residents who were raised in a small town/village had higher perceived global EI and well-being factor and its related facets (happiness, optimism and self-esteem).

Table 5: THE RELATIONSHIP BETWEEN Academic Performance and EI global and subset scores:

Those who were classified as higher academic performers showed higher scores on the self-control factor and its facets (emotional regulation and stress management) and also, in the emotional management scores.

Table 6: THE RELATIONSHIP BETWEEN PGY level and EI global and subset scores :

There was a statistically significant difference between batches with regard to scores in the emotionality factor and its facet (empathy) where senior residents showed high scores in both.

Table 1: Distribution of respondents by their background factors (N=46)

No.	Variable	Values	Frequency	Percentage
1	Gender	Male	19	41.3
		Female	27	58.7
2	Age groups	Less than 30 years	20	43.5
		30 year and more	26	56.5
3	Place of upbringing	City	39	84.8
		Town / Village	7	15.2
4	Marital status	Ever married	29	63.0
		Never married	17	37.0
5	Batch	PGY-1	12	26.1
		PGY-2	08	17.4
		PGY-3	10	21.7
		>PGY-3	16	34.8
6	Academic performance	Average or higher	24	52.2
		Below average	22	47.8
	Total		46	100

Table 2. Summary of intelligence emotional score among residents

No.	Item	Mean	SD	Minimum	Maximum
1	Global EI	31.4	0.49	2.42	4.52
2	Well-being factor	2.68	0.82	1.43	5.10
3	Self control factor	3.64	0.79	2.24	5.53
4	Emotionality factor	2.87	0.60	1.64	4.49
5	Sociability factor	3.26	0.75	1.76	4.90
6	Happiness	2.43	1.06	1.00	5.50
7	Optimism	2.87	0.99	1.50	5.63
8	Self-esteem	2.73	0.88	1.18	5.64
9	Emotion regulation	3.69	0.89	2.08	5.67
10	Impulse control	3.45	0.98	1.33	5.33
11	Stress management	3.78	0.83	2.60	6.10
12	Empathy	3.04	0.69	1.67	5.00
13	Emotion perception	2.85	0.65	1.70	4.50
14	Emotion expression	3.39	1.27	1.20	6.60
15	Relationships	2.21	0.72	1.00	4.78
16	Emotional management	2.93	0.70	1.56	4.56
17	Assertiveness	3.55	1.02	1.22	5.67
18	Social awareness	3.30	0.91	1.27	5.36
19	Self-motivation	3.54	0.71	1.80	5.20
29	Adaptability	3.30	0.73	1.67	4.89

Table 3: The Relationship Between Gender and EI global and subset scores

No.	Item	Gender		P-value
		Male Mean (SD)	Female Mean (SD)	
1	Global EI	3.29 (0.51)	3.03 (0.45)	0.080
2	Well-Being factor	2.87 (0.82)	2.54 (0.81)	0.181
3	Self-control factor	3.61 (0.81)	3.66 (0.79)	0.819
4	Emotionality factor	3.16 (0.57)	2.67 (0.55)	0.005*
5	Sociability factor	3.37 (0.82)	3.19 (0.69)	0.416
6	Happiness	2.47 (0.95)	2.41 (1.15)	0.838
7	Optimism	3.13 (0.84)	2.68 (1.06)	0.130
8	Self-esteem	3.01 (0.99)	2.54 (0.74)	0.067
9	Emotion regulation	3.71 (0.99)	3.69 (0.83)	0.938
10	Impulse control	3.47 (1.00)	3.43 (0.98)	0.889
11	Stress management	3.64 (0.74)	3.87 (0.88)	0.362
12	Empathy	3.08 (0.73)	3.01 (0.67)	0.740
13	Emotion perception	2.99 (0.65)	2.74 (0.65)	0.197
14	Emotion expression	4.05 (1.28)	2.92 (1.06)	0.002*
15	Relationships	2.53 (0.71)	1.99 (0.65)	0.011*
16	Emotional management	3.14 (0.72)	2.78 (0.65)	0.086
17	Assertiveness	3.63 (1.07)	3.50 (1.00)	0.666
18	Social awareness	3.34 (0.98)	3.28 (0.88)	0.828
19	Self-motivation	3.71 (0.62)	3.42 (0.75)	0.179
20	Adaptability	3.40 (0.63)	3.23 (0.80)	0.436

*p value \leq 0.05

Table 4: The Relationship Between Upbringing and EI global and subset scores

No.	Item	Upbringing		P-value
		City Mean (SD)	Town/village Mean (SD)	
1	Global EI	3.07 (0.40)	3.54 (0.75)	0.017*
2	Well-Being factor	2.55 (0.66)	3.42 (1.25)	0.008*
3	Self-control factor	3.59 (0.76)	3.90 (0.97)	0.3463
4	Emotionality factor	2.80 (0.54)	3.24 (0.83)	0.076
5	Sociability factor	3.21 (0.76)	3.58 (0.60)	0.230
6	Happiness	2.30 (0.94)	3.16 (1.48)	0.049*
7	Optimism	2.72 (0.87)	3.70 (1.26)	0.015*
8	Self-esteem	2.61 (0.77)	3.40 (1.19)	0.026*
9	Emotion regulation	3.64 (0.84)	4.00 (1.17)	0.328
10	Impulse control	3.44 (1.02)	3.49 (0.79)	0.902
11	Stress management	3.70 (0.76)	4.21 (1.08)	0.129
12	Empathy	2.99 (0.65)	3.30 (0.90)	0.281
13	Emotion perception	2.77 (0.59)	3.27 (0.84)	0.060
14	Emotion expression	3.30 (1.23)	3.87 (1.47)	0.279
15	Relationships	2.15 (0.63)	2.52 (1.14)	0.216
16	Emotional management	2.89 (0.72)	3.13 (0.59)	0.422
17	Assertiveness	3.47 (1.02)	4.03 (0.93)	0.180
18	Social awareness	3.26 (0.94)	3.57 (0.75)	0.407
19	Self-motivation	3.47 (0.67)	3.90 (0.85)	0.143
20	Adaptability	3.27 (0.72)	3.49 (0.82)	0.462

*p value \leq 0.05

Table 5: The Relationship Between Academic Performance and EI Global and Subset Scores

No.	Item	Academic Performance		P-value
		Average & above Mean± (SD)	Average & above Mean± (SD)	
1	Global EI	3.23 (0.50)	3.04 (0.46)	0.196
2	Well-Being factor	2.73 (0.88)	2.63 (0.78)	0.690
3	Self-control factor	3.86 (0.79)	3.40 (0.73)	0.047*
4	Emotionality factor	2.90 (0.62)	2.84 (0.60)	0.713
5	Sociability factor	3.42 (0.82)	3.09 (0.63)	0.137
6	Happiness	2.43 (1.06)	2.44 (1.09)	0.987
7	Optimism	2.84 (0.99)	2.90 (1.02)	0.842
8	Self-esteem	2.91 (0.96)	2.55 (0.75)	0.166
9	Emotion regulation	3.95 (0.93)	3.41 (0.77)	0.039*
10	Impulse control	3.64 (0.97)	3.24 (0.97)	0.163
11	Stress management	3.99 (0.80)	3.55 (0.81)	0.069
12	Empathy	3.05 (0.73)	3.04 (0.66)	0.958
13	Emotion perception	2.92 (0.58)	2.77 (0.73)	0.447
14	Emotion expression	3.38 (1.20)	3.40 (1.37)	0.948
15	Relationships	2.27 (0.74)	2.14 (0.71)	0.543
16	Emotional management	3.18 (0.73)	2.66 (0.56)	0.009*
17	Assertiveness	3.68 (1.01)	3.41 (1.04)	0.382
18	Social awareness	3.40 (1.06)	3.20 (0.73)	0.475
19	Self-motivation	3.51 (0.70)	3.56 (0.73)	0.810
20	Adaptability	3.27 (0.61)	3.34 (0.86)	0.751

*p value ≤ 0.05

Table 6: The Relationship Between PGY level and EI global and subset scores

No.	Item	Batch Mean (SD)				P-value
		PGY-1	PGY-2	PGY-3	> PGY-3	
1	Global EI	2.90 (0.35)	3.17 (0.45)	3.27 (0.56)	3.21 (0.53)	0.275
2	Well-Being factor	2.29 (0.43)	2.92 (0.53)	2.76 (1.11)	2.79 (0.93)	0.297
3	Self-control factor	3.65 (0.69)	3.56 (0.44)	3.57 (1.01)	3.72 (0.90)	0.956
4	Emotionality factor	2.49 (0.53)	2.74 (0.72)	3.09 (0.42)	3.08 (0.57)	0.032*
5	Sociability factor	3.05 (0.80)	3.36 (0.81)	3.63 (0.50)	3.15 (0.77)	0.284
6	Happiness	1.96 (0.78)	2.80 (0.93)	2.61 (1.38)	2.50 (1.06)	0.306
7	Optimism	2.41 (0.66)	3.13 (0.84)	2.88 (1.28)	3.08 (1.04)	0.283
8	Self-esteem	2.52 (0.70)	2.85 (0.74)	2.80 (0.74)	2.80 (1.14)	0.805
9	Emotion regulation	3.60 (0.77)	3.51 (0.73)	3.45 (1.09)	4.01 (0.90)	0.375
10	Impulse control	3.51 (0.80)	3.39 (0.78)	3.63 (1.16)	3.32 (1.13)	0.879
11	Stress management	3.83 (0.83)	3.78 (0.56)	3.62 (1.01)	3.84 (0.87)	0.927
12	Empathy	2.79 (0.76)	2.68 (0.35)	3.51 (0.34)	3.12 (0.77)	0.027*
13	Emotion perception	2.61 (0.56)	2.71 (0.75)	3.23 (0.63)	2.85 (0.63)	0.143
14	Emotion expression	2.69 (1.07)	3.55 (1.87)	3.38 (0.88)	3.83 (1.15)	0.126
15	Relationships	1.89 (0.65)	2.00 (0.68)	2.24 (0.60)	2.53 (0.77)	0.094
16	Emotional management	2.81 (0.64)	2.72 (0.83)	3.26 (0.52)	2.92 (0.75)	0.359
17	Assertiveness	3.23 (1.03)	3.89 (0.99)	3.93 (0.78)	3.39 (1.12)	0.281
18	Social awareness	3.12 (1.03)	3.45 (0.93)	3.69 (0.69)	3.13 (0.92)	0.385
19	Self-motivation	3.29 (0.46)	3.70 (0.86)	3.78 (0.47)	3.49 (0.87)	0.384
20	Adaptability	3.31 (0.81)	3.40 (0.31)	3.04 (0.99)	3.40 (0.66)	0.652

*p value \leq 0.05

Discussion

Generally, residents of the family medicine program in Qatar are reporting average scores in the global EI and related factors and facets in comparison with international scores. Our findings are however, consistent with findings in family medicine residents who demonstrated average overall EI (12). Despite the Global EI score of the residents being average, Residents scored highly in self-control, emotional regulation, stress management, assertiveness and self-motivation. They may reflect the areas of EI most practiced and therefore developed during residency training.

Males showed statistically significant higher global EI, emotionality factors and its related facets (emotion expressions & relationship) which is opposite to what one study showed. Across all specialties, men and women residents scored similarly on Global EI, a finding which counters our hypothesis and stands in contrast to the finding that women have higher overall EI than men in several studies of medical students and medical school applicants (13). Men and women undergo the same training to become physicians, and there may be effects of training on EI which erode gender differences by moulding men and women towards a common type with regard to particular facets of emotional intelligence.

There was a statistically significant difference between those who were raised in a city and those raised in small-town/village. The results showed that residents who were raised in a small town/village had higher perceived global EI and well-being factor and its related facets (happiness, optimism and self-esteem), in comparison to our study which showed there was no significant difference between the emotional intelligence of the rural and urban students (14).

There was a statistically significant difference between those who are classified as above average in their academic performance and their colleagues. Those who were classified as higher academic performers showed higher scores on the self-control factor and its facets (emotional regulation and stress management) and also in the emotional management scores. Much of the interest in EI in medical training pertains to its potential value as an additional predictor in subsequent performance either on the medical school or residency level (15). Extension of the present study to incorporate evaluation of the work performance characteristics of participating resident physicians could contribute to current knowledge of the predictive power of EI on clinical performance.

There was a statistically significant difference between batches with regard to scores in the emotionality factor and

its facet (empathy) where senior residents showed high scores in both.

Stepwise linear regression identified only age as a significant demographic predictor of Global EI with a possible increase in Global EI with every year in training. This increase may not be a consequence of the training itself, but rather the accumulation of another year of life experience. According to this model, older residents at the same training level as younger residents will have higher Global EI, possibly due to the additional life experience accumulated prior to entering residency training (10).

Conclusions

Family Medicine residents in Qatar achieved lower E.I. scores. Results showed reversed gender relationship with E.I. scores. Academic performance and seniority showed significantly different EI scores while age and marital status did not.

Recommendation:

- Conducting the study on a higher scale by increasing the sample size of the study through incorporating different departments under medical education.

- Inclusion of more variables in the future studies including cultural background and language thus to validate or refute the lower EI scores obtained.

- Conducting an emotional intelligence development training in Qatar followed by administering a second EI assessment to residents.

Competing interests:

No conflict of interest.

Ethical Considerations:

This research project was approved from IRB (Institutional Review Board) in Primary Health Care Corporation in Qatar. We ensured confidentiality throughout the research where the participants' identities were not requested in the self-administered questionnaire. Moreover, the study data was stored and secured and only the primary investigator had access to the confidential research information.

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