

EMOTIONAL INTELLIGENCE AND SELF-PERCEPTION OF MEDICAL AND DENTAL STUDENTS OF PESHAWAR–PAKISTAN

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ABSTRACT

Objective: To find out the relationship between emotional intelligence and self-perception of medical and dental students.

Methodology: A cross sectional study was conducted in the medical and dental institutions of Peshawar-Pakistan from November 2018 to June 2019. Convenience sampling technique was used. Schutte Emotional Intelligence Scale (SEIS) and Self-Perception Profile (SPP) were used for this study. Data were analyzed using SPSS v.25. Independent sample t-test was applied to find the differences in emotional intelligence and self-perception in students based on gender, private/public sector institutions and medical/dental studies. Pearson correlation was used to find the relationship between SEIS, SPP and their subscales.

Results: The mean age of the sample (n=1722) was 20.88 ± 1.48 years. Majority of the students showed high level of emotional intelligence (n=959, 55.7%) while a total of 726 (42.2%) students showed high level of self-perception. Emotional intelligence was weakly correlated with self-perception (r =0.305). There was no significant difference between male and female students on emotional intelligence while female students showed significantly high level of self-perception (p =.000). Students of private sector showed high level of emotional intelligence (p =.034). Dental students showed significantly high level of self-perception (p =.001), whereas there was no significant difference between them on emotional intelligence (p =0.974).

Conclusion: Emotional intelligence is weakly correlated with self-perception of the students. Female students had higher level of self-perception while private sector students had higher level of emotional intelligence.

Key Words: Emotional intelligence, Self-perception, Medical students

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INTRODUCTION

Emotional Intelligence (EI), as a term, was coined by John Mayer and Peter Salovey and got popularized by Daniel Goleman in 1996 in his book of the same name¹. Goleman defined it as “the ability to perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional meanings and to reflectively regulate emotions so as to promote both better emotional and intellectual growth” and identified its five components, namely, “self-awareness, self-regulation, internal motivation, empathy and social skill”². Mayer and Salovey presented a model which characterizes emotional intelligence as a set of four related abilities: “perception of emotion, emotional facilitation, understanding emotions and management of emotions”. These dimensions of emotional intelligence most likely play an important role in academic

performance and professional competence of medical undergraduates and graduates as they work in a highly stressful environment of long hours, unmanageable workload and require abilities related to emotional intelligence for effectively working with colleagues and patients³. This inculcates empathy, improves interpersonal skills and develops the capability redirect or control disruptive impulses and moods³. These skills are important in treating people according to their emotional reactions and result in better management of patients and strengthening professional relationships with the colleagues⁴. Higher EI among individuals indicate better interpersonal relationships and such individuals are considered to be effective team players by their peers⁵.

Personal self-concept which is known as self-perception “entails one’s personal assessment and awareness with regard to social, cognitive and physical attributes

of his/her existence"⁶. Self-perception means the perception and judgment of our self. Hence, self-concept may be considered as "an internal, personality standard that partially forms and regulates the behavior and performance of an individual, including professional activities"⁷. The personal and psychological wellbeing of an individual is highly affected by self-perception and self-esteem. Self-perception is the evaluative judgment and the idea that one has about the kind of person he/she is and can be appreciated in terms of various domains⁸. The behavior and attitude of a person is greatly influenced by his/her perception about self. The ability to understand personal emotions and variations of moods in eyes of others have great effect on our social skills. It is observed that emotionally intelligent students tend to monitor their own emotions and redirect disruptive impulses and moods effectively and emotional intelligence has an impact on developing and achieving good communication skill^{9,10}, job satisfaction^{11,12}, academic/clinical performance^{13,14}, and a good doctor-patient relationship^{15,16}. Therefore, it is important for medical students to evolve as emotionally intelligent physicians that are more empathetic and more adaptive to situations that could affect their individual worth.

To the best of our knowledge, no study has been conducted in our set up to measure the relationship between emotional intelligence and self-perception of undergraduate medical and dental students; therefore we plan to conduct a study to find out the relationship between EI and self-perception of medical and dental students of Peshawar. As a result of the study, educational interventions may be included in curriculum for improving emotional intelligence of undergraduate medical and dental students¹⁷.

METHODOLOGY

A cross sectional study was conducted in the medical and dental institutions of Peshawar, Pakistan. The duration of the study was from November 2018 to June 2019. Convenience sampling technique was used and all the students consenting to participate were included. The study was carried out after ethical approval from ethical review committee of Peshawar Medical College, Peshawar. Informed consent was taken from all the participants with explanation of the purpose of study. A questionnaire was used, based on demographic questions, Schutte Emotional Intelligence Scale and the self-perception profile.

"Schutte Emotional Intelligence Scale" (SEIS)¹⁸ is a 33-item likert type scale, developed by Schutte, with three subscales or categories i.e., "(a) appraisal and expression of emotion (b) regulation of emotion and (c) utilization of emotion". Participants were directed to choose one of the given response option to each statement. Scores were calculated by taking the mean av-

erage of the scores of all items and greater than mean reflects higher emotional intelligence.

"Self-Perception Profile for college students" (SPP)¹⁹ is used for the evaluation of global self-worth and self-perception across specific domains. The questionnaire contains 13 subscales namely "creativity, intellectual ability, scholastic competence, job competence, athletic competence, appearance, romantic relationships, social acceptance, close friendships, parent relationships, humor and morality". There are four items per subscale. Scores for each of 13 subscales are calculated by taking the mean of the items. Greater score on the scale reflects higher level of self-esteem or self-perception.

The data were analysed by using SPSS v.25. Analysis of the basic variables was carried out using descriptive statistics. Reliability of the scales was carried out through Cronbach's alpha reliability. Independent sample t-test was applied to find the differences in emotional intelligence and self-perception in students based on gender, private/public sector institutions and medical/dental studies. Correlation was calculated between SEIS, SPP and their subscales by applying Pearson correlation. Results were considered significant at $p < 0.05$ level.

RESULTS

A total of 1875 students were approached for the study and a sample of 1722, after data cleaning, was taken for the analysis. Sample's mean age was 20.88 \pm 1.48 years with the age range of 18-25 years. The Cronbach's alpha reliability was 0.884 for SEIS and 0.80 for SPP. Majority of the students were females ($n=1019$, 59.2%), from medical colleges ($n=1430$, 83%), from private sector colleges ($n=1041$, 60.4%) and studying in 2nd year ($n=474$, 27%). Majority of the students showed high level of emotional intelligence ($n=959$, 55.7%) while a total of 726 (42.2%) students showed high level of self-perception. Further details are given in Table 1.

Using Pearson correlation analysis, Emotional intelligence showed a weak correlation with self-perception ($r=0.305$). The correlation between emotional intelligence and its subscales is given in table 2 while the correlation between self-perception profile with its subscales is given in table 3.

There was no significant gender difference between students on emotional intelligence ($p=.246$) while female students showed significantly high level of self-perception ($p=.000$). Students studying in private sector institutions showed high level of emotional intelligence than students of public sector institutions ($p=.034$) but there was no significant difference on self-perception ($p=0.457$). Dental students showed significantly high level of self-perception than medical students ($p=.001$), but no significant difference between them on emotional intelligence ($p=0.974$). The details are given in table 4.

Table 1: Basic details of the study (n=1722)

S. No.	Characteristics	Frequency	Percentage
1	Gender	Male	703 (40.8%)
		Female	1019 (59.2%)
2	Institutes	Private	1041 (60.5%)
		Public	681 (39.5%)
3	Specialty	Medical	1430 (83%)
		Dental	292 (17%)
4	Class	1st year	430 (25%)
		2nd year	474 (27.5%)
		3rd year	385 (22.4%)
		4th year	274 (15.9%)
		5th year	159 (9.2%)
5	Emotional Intelligence	High	959 (55.7%)
		Low	763 (44.3%)
6	Self-Perception	High	726 (42.2%)
		Low	996 (57.8%)

Table 2: Inter-scale correlation between emotional intelligence scale and its subscales (n=1722)

S. No.	Measures	I	II	III	IV
I	Emotional Intelligence Scale	-			
II	Appraisal of Emotions	.866*(.000)	-		
III	Regulation of Emotions	.901**(.000)	.666**(.000)	-	
IV	Utilization of Emotions	.783** (.000)	.477** (.000)	.623** (.000)	-

** Correlation was significant at the 0.01 level (2-tailed).

* Correlation was significant at the 0.05 level (2-tailed).

DISCUSSION

We conducted this study to find the relationship between emotional intelligence and self-perception of students of medical and dental institutions using SEIS and SPP. The Cronbach's alpha reliability of SEIS was 0.878, which is in accordance with other studies where the reliability was 0.83-0.89^{17,20,21}. Similarly, the reliability of SPP was 0.825 in our study while the original study, reporting a value of 0.84¹⁹.

A strong correlation has been observed between self-perception and emotional intelligence in a number of studies ($r=0.651$ & 0.82), which is in contrast to the findings of our study^{20,21}. This can be explained in the context of our culture where being humble is considered as a symbol of higher self-perception and scales like SPP may not be suitable to be used here as such and either cultural adaptation of such scales or local designing of scales is needed.

Table 3: Inter-scale correlation between self-perception profile and its subscales (n=1722)

S. NO.	Measures	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII
I	Self-perception Profile	-												
II	Job Competence	.615** (.000)	-											
III	Scholastic Competence	.493** (.000)	.354** (.000)	-										
IV	Social Acceptance	.551** (.000)	.291** (.000)	.041 (.090)	-									
V	Appearance	.595** (.000)	.299** (.000)	.211** (.000)	.271** (.000)	-								
VI	Parent Relationship	.443** (.000)	.178** (.000)	.151** (.000)	.199** (.000)	.140** (.001)	-							
VII	Close Friendship	.479** (.000)	.211** (.000)	.134* (.010)	.336** (.000)	.267** (.000)	.063** (.009)	-						
VIII	Intellectual Ability	.554** (.000)	.327** (.000)	.323** (.000)	.209** (.000)	.194** (.000)	.229** (.000)	.072** (.003)	-					
IX	Morality	.473** (.000)	.241** (.000)	.214** (.000)	.209** (.000)	.194** (.000)	.229** (.000)	.204** (.000)	.126** (.000)	-				
X	Romantic Relationship	.290** (.000)	.122** (.000)	.122** (.000)	.114** (.000)	.077* (.001)	-.029 (.230)	.105 (.056)	.207 (.082)	.088** (.000)	-			
XI	Humour	.422** (.000)	.166** (.000)	.078 * (.011)	.255** (.000)	.220** (.000)	.211** (.000)	.270** (.000)	.106** (.000)	.257** (.000)	.135** (.000)	-		
XII	Creativity	.545** (.000)	.305** (.000)	.308** (.000)	.211** (.000)	.256** (.000)	.133** (.000)	.145** (.001)	.339** (.000)	.189** (.000)	.136** (.000)	.162** (.000)	-	
XIII	Athletic Competence	.369** (.000)	.172** (.000)	.102** (.000)	.113** (.000)	.208** (.000)	.028 (.246)	.039 (.107)	.166** (.000)	.018 (.455)	.157** (.000)	-.018 (.445)	.223** (.000)	-
XIV	Global Self-worth	.709** (.000)	.411** (.000)	.299** (.000)	.326** (.000)	.409** (.000)	.334** (.000)	.201** (.000)	.409** (.000)	.281** (.000)	.156** (.000)	.168** (.000)	.250** (.000)	.234** (.000)

** Correlation was significant at the 0.01 level (2-tailed).

* Correlation was significant at the 0.05 level (2-tailed).

Nanbuife et al showed strong correlations between emotional intelligence and its components, which is mostly in accordance with the findings of our study²².

Similarly, correlation of SPP with its subscales and the inter subscale correlation at most places showed a weak correlation in our study, which is in favour of the findings of Calero et al⁸.

There were no gender differences in emotional intelligence and its components among the medical undergraduates, which is same as reported in other studies^{18,21-26}. However, a few studies showed contrast findings and females have shown to have higher emo-

tional intelligence^{20,27}. This may be due to the fact that females are considered to be significantly better at considering one's own and others emotions when making decisions as well as expressing that such consideration has taken place.

Our study showed that females had a significantly higher score on SPP than males. Other studies showed contrast findings and found that males have significantly higher self-esteem than females²⁸⁻³⁰. Some studies, however, showed no significant difference between males and females^{20,31}.

In the present study, private sector students showed

Table 4: Mean differences and t-values of gender, institutes and speciality on emotional intelligence scale and self-perception profile (n=1722)

Variable	Gender		t value (sig)	Institutes		t value (sig)	Specialty		t value (sig)
	Male n=703 M(SD)	Female n=1019 M(SD)		Private Sector n=1041 M(SD)	Public Sector n=681 M(SD)		Med-ical n=1430 M(SD)	Dental n=292 M(SD)	
Emotional Intelligence Scale	113.51 (17.961)	116.54 (17.423)	-3.493 (0.246)	115.20 (18.457)	115.46 (16.493)	-.294* (0.034)	115.88 (17.813)	112.48 (16.897)	3.002 (0.974)
Appraisal of Emotions Subscale	44.54 (7.955)	45.69 (7.743)	-2.994 (0.226)	45.06 (8.068)	45.46 (7.499)	-1.041 (0.172)	115.88 (17.813)	44.99 (7.731)	0.560 (0.912)
Regulation of Emotions Subscale	35.56 (7.427)	36.38 (7.037)	-2.327* (0.037)	35.94 (7.498)	36.21 (6.741)	-.761** (0.004)	36.23 (7.269)	35.12 (6.840)	2.406 (0.914)
Utilization of Emotions Subscale	33.42 (5.650)	34.47 (5.295)	-3.823 (0.442)	34.20 (5.666)	33.79 (5.572)	-1.501 (0.860)	34.38 (5.411)	32.37 (6.358)	5.607** (0.000)
Self-Perception Profile	141.30 (13.499)	142.89 (17.423)	-2.039** (0.000)	141.87 (15.771)	142.80 (16.223)	-1.188 (0.457)	141.87 (15.472)	144.05 (18.048)	-2.133** (0.001)
Job Competence	10.59 (2.095)	10.51 (2.372)	.692** (0.001)	10.55 (2.222)	10.53 (2.325)	0.200 (.085)	10.50 (2.209)	10.74 (2.503)	-1.622** (0.002)
Scholastic Competence	10.32 (2.093)	10.40 (2.194)	-.734 (0.180)	10.38 (2.158)	10.35 (2.147)	0.255 (0.751)	10.36 (2.130)	10.41 (2.263)	-.397 (0.157)
Social Appearance	10.60 (2.176)	10.66 (2.461)	-.552** (0.000)	10.71 (2.356)	10.52 (2.333)	1.647 (0.524)	10.56 (2.273)	11.02 (2.659)	-3.102** (0.001)
Appearance	10.54 (2.414)	10.68 (2.702)	-1.134** (0.000)	10.54 (2.485)	10.75 (2.737)	-1.578** (0.001)	10.58 (2.526)	10.85 (2.869)	-1.656** (0.001)
Parent Relationship	10.96 (2.307)	11.76 (2.540)	-6.610** (0.000)	11.24 (2.466)	11.73 (2.467)	-4.068 (0.810)	11.36 (2.425)	11.80 (2.697)	-2.761** (0.004)
Close Friendship	10.36 (2.335)	10.41 (2.908)	-.363** (0.000)	10.51 (2.587)	10.21 (2.829)	2.209* (0.046)	10.35 (2.662)	10.60 (2.808)	-1.463 (0.098)
Intellectual Ability	10.50 (2.097)	10.28 (2.256)	2.080 (0.062)	10.30 (2.148)	10.48 (2.262)	-1.664 (0.133)	10.37 (2.165)	10.37 (2.336)	-.024* (0.024)
Morality	10.55 (2.076)	11.04 (2.201)	-4.593 (0.339)	10.77 (2.133)	10.95 (2.206)	-1.731 (0.456)	10.80 (2.146)	11.03 (2.241)	-1.697 (0.342)
Romantic Relationship	9.53 (2.233)	9.29 (2.238)	2.078 (0.185)	9.48 (2.225)	9.25 (2.401)	2.000 (0.51)	9.40 (2.275)	9.34 (2.411)	0.399 (0.106)
Humor	10.56 (2.275)	11.33 (2.498)	-6.524** (0.003)	10.91 (2.391)	11.18 (2.503)	-2.180 (0.091)	10.99 (2.411)	11.15 (2.572)	-.994 (0.266)
Creativity	10.24 (2.117)	10.14 (2.399)	0.906** (0.004)	10.18 (2.225)	10.17 (2.383)	0.082* (0.036)	10.19 (2.270)	10.14 (2.317)	0.343 (0.074)
Athletic Competence	10.20 (2.158)	9.85 (2.445)	3.042** (0.000)	10.00 (2.260)	9.98 (2.454)	0.221** (0.007)	10.00 (2.317)	9.94 (2.441)	0.404* (0.040)
Global Self-worth	16.35 (2.885)	16.54 (3.324)	-1.266** (0.000)	16.30 (3.087)	16.71 (3.238)	-2.612 (0.260)	16.42 (3.112)	16.66 (3.343)	-1.158 (0.89)

** Correlation was significant at the 0.01 level (2-tailed).

* Correlation was significant at the 0.05 level (2-tailed).

higher emotional intelligence than students of public sector. This is in contrast with the findings of another study which reported that students from public sector institute were more emotionally intelligent²⁴.

LIMITATIONS

The sample was selected from only medical and dental colleges of Peshawar; so it may not be representative of all Pakistani university students. Further studies on emotional intelligence and self-perception can include other variables including mental health, family circumstances and college environment.

CONCLUSION

The results of this study showed a weak correlation between emotional intelligence and self-perception of the students under study. Female students had higher level of self-perception as compared to male students. The students studying in private sector have higher level of emotional intelligence than those studying in public sector institutes.

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CONTRIBUTORS

AN and MI conceived and conceptualized the idea and wrote the manuscript. AN, MQ, ZI & SS did data collection, data entry and helped in the write up of the study. MRS did statistical analysis and helped in the write up of the study. MI critically revised the manuscript and supervised the study. All authors contributed significantly to the submitted manuscript.