



Relationship between Emotional Intelligence, Coping Styles and Psychopathology among Medical Students in District Peshawar

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Abstract

This study was undertaken to assess the relationship between Emotional Intelligence, Coping Styles and Psychopathology among medical students in district Peshawar, Pakistan. 200 participants were recruited for data collection through purposive convenient sampling. Cross sectional research design was used. The age range of participants was 18 to 25 years with the participation of male (n=117) and female (n=83). Subjects were selected from public and private medical colleges. To determine the role of Demographic variables, age, gender, father income, college and self-reports measures of Emotional Intelligence scale Brief Cope Inventory and Psychopathic deviation were used. Correlation, t-test and regression analysis was applied for data analysis. The results revealed that female had high emotional intelligence as compared to male. It also showed from the results that those who have low emotional intelligence had more psychopathological characteristics. The results also revealed that those students who had poor emotional intelligence used maladaptive coping styles. Hence, it was inferred from the study that there is significant positive correlation between emotional intelligence, coping styles and psychopathology. Cross sectional nature of the study, use of self-report measures and non-probability sampling was the limitation of the study.

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1. Introduction

United States of Accreditation Council for Graduate clinical schooling (ACGME) has defined 6 capabilities of a medical graduate: patient carefulness, proficiency, structures based practice, interactive and communication skills, scientific information and training based mastering [1].

Most of the abilities which can be highlighted within the above capabilities are components of EI. Several researches were performed to evaluate the EI and its associates amongst clinical students and other fitness care specialists [2]. Despite the fact that feelings are recognized to be a prevalent phenomenon, cultural elements can strongly have an impact on the ways wherein they're being experienced/perceived, conveyed, and controlled [3]. South Asia (SA), at present there are numerous research on EI of medical undergraduates (UGs) and postgraduates (PGs) from SA, which has discovered the associations between EI,

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compassion and strain. Currently an increasing number of researches pointed on the co-relation among educational overall performance and EI from SA [4].

Emotional intelligence in scientific circle is the major topic of concern. Nemiah and colleagues (1970) coined the term alexithymia (failure to express feelings) for the first time, and it seems to be inversely related to emotional intelligence [5]. EI has also been related to stress and coping. Via growing their emotional intelligence individuals can emerge as greater dynamic and prosperous by anything they do, and benefit others turn out to be greater useful and a success also. The techniques and consequences of emotional intelligence progress additionally comprise numerous features to recognized and lessen strain—in place of individuals and consequently corporations—through using diminishing struggle; helping information and relationships; and nurturing balance, continuousness, and coherence. Love and spirituality is not the last standard but have first importance which links to emotional intelligence [6]. Coping is defined by [7] the mental and behavioral components are used by the individual to come across daily requirements and overcome difficulties', which are shaped by their internal and external domains, to maintain them within limits and decrease stress and tension. Usually coping is to understand the person beside poor physical and psychological outcomes.

The coping paradigm is an important concept for evaluation of an individual adoptable and non-adoptable style of stress management .Many measures has been used to assess the population. Ways of Coping questionnaires (WCQ), coping strategies inventory (CSI) and Brief Cope Scale (BCS) are some of the measured revealed by literature.

Psychopathy is amongst one of the utmost frequently researched and first-class proven .Psychiatric conditions, together with sociopathic and delinquent personality disease [8] For hundreds of years, many theorists from unique international locations and cultures have developed various medical descriptions that emphasize or encompass unique symptoms or personality trends based totally upon their character reviews [8]. In spite of the abundance of studies and use in criminal arenas, there is still a lack of agreement at the center features of psychopathy [8].

In a co relational study, found the associations among different regulatory strategies of emotions including taking, preventing, problem solving, judgmental, thinking, and suppression and symptoms of four mental health problems like anxiety, depression, eating, and drug abuse disorders [9]. The studied documented Meta-analysis asses of 241 effect sizes

from 114 researches that studied the relations amongst temperament, emotional parameter and psychopathology. Guiding strategies were consistent with internalizing disorder than externalizing disorder.

It was discovered that high EI predicted the use of adaptive coping styles during the experiences of not only stress but sadness, anger, fear, shame, and jealousy, while maintaining the experience of joy [10]. These results have important implications in the mental health field where emotions show a crucial role in the maintenance and development of illness. However, the literature cited above especially from EI, coping styles and psychopathology domain is backdrop justification for establishing the rationale of studying to find the association between three variables related to medical students. The study significance was to create awareness about comorbidity of psychopathology and emotional intelligence among medical students. It were helpful to know the ratio of emotional intelligence and coping styles in male vs. female, as female are lower emotional tolerance and more vulnerable to these pathological disorders when having maladaptive coping styles.

To suggest a comprehensive plan of counseling and therapy for those students who have maladaptive and poor emotional intelligence. The most important of all is that region of Pakistan very few studies have been conducted on this topic. The three variable were not studied as a communal variable as were studied in this study. As per the generational population the medical professional were considered as soul of the society. In order to make a good professional there valuations of coping abilities, emotional intelligence and psychopathic characteristics were needed to be assessed.

Therefore, the current study was planned with the following objectives:

1. To determine the emotional intelligence of medical students.
2. To evaluate the styles of coping among medical students.
3. To determine the psychopathological factors among medical students.
4. To determine differences in both gender.
5. To determine adaptive and maladaptive coping styles of students.
6. To find the association between psychopathological symptoms with emotional intelligence.

1.1 Hypotheses

1. Higher scorers on emotional intelligence scale have least possibility to develop psychopathological symptoms.
2. Low emotional intelligence students have more psychopathological traits.
3. Poor emotional intelligence leads to maladaptive coping styles.
4. Emotional intelligence is high in female as compared to male.
5. Comorbidity of psychopathology symptoms lowers the threshold of emotional intelligence

2. Materials and Methods

The target populations were the student of public and private medical colleges of district Peshawar. The study comprising of 200 students randomly selected from public and private medical colleges between the ages range of 18-25 years of both the gender. The samples were taken from four medical colleges i.e. Khyber Medical College (KMC), Khyber Girls Medical College (KGMC), Pak International Medical College (PIMC) & Rahman Medical College (RMC). The age of the students was 18-25 years which were included in the study. The 200 (100 boys and 100 girls) participant were selected from medical colleges of district Peshawar both public and private. A detailed demographic sheet was used for the current study. The sheet contains name, age gender, father income, college and address.

2.1 Instrument

Emotional intelligence scale (SRMEI) it was translated and validated in Pakistani culture [11]. It is comprised of 60 items consisting of three subscales (Interpersonal capabilities ,Emotional self –Awareness scale ,Emotional self –Regulation).it is a 5-point scale with five responses categories with the highest value of 5 for Always ,4 for Often ,3 for Sometimes,2 for Rarely ,and 1 for Never. Higher score show higher level of Emotional Intelligence and lower scores indicate lower level of emotional intelligence. Scores can range from 60 to 300. Emotional Self-Regulation Scale (ESRS) consists of 3 positively phrased and 24 negatively phrased items. The score on this subscale ranged from the minimum 21 to the maximum 105. Interpersonal Skills Scale (ISS) consists of 11 positively phrased and 1 negatively phrased items. Items number 9,10,11,20,21,22,31,32,33,42,and 43 while 41 is negatively phrased. The score range from these subscales is from the minimum 12 to the maximum 60 .Alpha value is 0.90 [11] the “Brief cope inventory [12] was used for data collection. The inventory comprised of 28 items with four point likert scale (1= I have not been doing this at all , 2= I have

been doing this a little bit, 3= I have been doing this most often and, 4= I have been doing this all the time). Higher score indicates greater coping by the respondents. The questionnaire covered 14 subscales, “active coping, planning, acceptance, denial, self-distraction, use of substance, use of emotional support, use of instrumental support, behavioral disengagement, venting, positive reframing, humor, religion, and self-blame”. For the sake of better understanding these dimensions were divided into four categories i.e. Adaptive (Problem-focused coping, Positive coping), Non Adaptive (Active avoidance coping and Religious and Denial coping).

Psychopathic Deviation; The original scale of MMPI developed in the late 1930s and early 1940^s it were translated into urdu version [13]. The Pd scale measured the resemblance to a group of individuals whose foremost problem falsehoods in their absences of profound emotional responses. Their incapability on the way to yield commencing proficiencies, and their neglect of group standards. It consists of 50 items with true –false category. The scoring range (0,1)of pd scale .the raw score were converted into standardized scores (T score) using suitable norm table as providing in MMPI. Score 70 or higher is normally taken as the cutoff point designed for the credentials of psychopathic deviate [13]

2.2 Procedure

The administrative officials of various colleges which were included in the present study were contacted and authority permission was taken from them. The whole research aim was explained to them and they had been assured that collected data were only used for research purpose. The booklet containing form A which included all demographic information while form B included three questionnaire i.e. Emotional intelligence scale of Urdu version, Brief cope scale Urdu version, and MMPI scale of psychopathic Deviation. The respondent was assured about the confidentiality of the information provided by them. For administration there were no time limits. Participants were helped in case of any trouble by the examiner. From different medical colleges 200 self-reports measures were filled by the student. The participants were acknowledged at the end.

3. Results

The results section begins with the presentation of descriptive statistics of demographic characteristics of the sample. This analysis used to describe the information regarding the Gender, age, educational background, father income, and three scales i.e. Emotional Intelligence, Brief cope inventory ,and Psychopathic deviation.

Table 1. Demographic Information (N=200)

Demographic Variables	Categories	N	%
Gender	Male	117	57.4%
	Female	83	40.7%
Age	15-20	29	14.2%
	21-25	170	83.3%
	26-30	1	0.5%
Colleges	Total students from Public medical colleges	104	51%
	Total students from Private medical colleges	96	47%
Father income	≤ 50000	55	27.5%
	51000-75000	55	27.5%
	>75000	90	45%

Note: 200 male and female participants of four medical colleges, two public and two private

Table 1 represents the demographic characteristics of all the respondents (N=200). Four variables were selected for demographics information i.e. gender, age, colleges and father income with categorization and percentages.

Table 2. Undergraduates' students of medical colleges' Aggregate levels of Emotional intelligence and its sub factors, Brief Cope Inventory and Psychopathic Deviate (N=200)

Scales	M	SD
EI	186.2	25.642
PEI	98.335	17.116
NEI	87.87	17.2009
BCI	70.55	9.575
PD	57.66	9.243

Note: EI=emotional intelligence; PEI=positive emotional intelligence; NEI=negative emotional intelligence; BCI; brief cope inventory; PD=psychopathic deviation

Results in table 2 represent mean and Standard Deviation of all three main scales with subscales. The mean of emotional intelligence (M=186.2±25) were higher as compared to brief cope inventory and psychopathic deviation. While the BCI and PD scale of mean and standard deviation as represent with half of sample. (M=70.5±9.5; M=57.6±9.2)

Table 3. Relationship between Negative Emotional Intelligence and Brief Cope Inventory. (N=200)

Scales	Negative Emotional Intelligence Score	Total Score Of Brief Cope Inventory
Negative emotional intelligence score	Pearson Correlation	1
	Sig. (2-tailed)	.027
	N	.706
	200	200

Total score of brief cope inventory	Pearson Correlation	.027	1
	Sig. (2-tailed)	.706	-

Note: p < .05

The results in table 3 illustrates that the two variable and its significant relationships. The calculated value of negative emotional intelligence and brief cope inventory (r=.706) which showed strong relationship among variable. The p at .05 level was (p<.02) which indicates significant correlation between two variable i.e. negative emotional intelligence and brief cope inventory. T-test was used for comparing independent sample. Table no 4 represented comparison among male and female on emotional intelligence scale. It showed that t value (-2.363) was less than from p value at 0.019 (p <.05).so it mean there is statistically significant difference between two groups.

The table 5 indicates results of the two variable and its relationships. The significance level at .05 level was greater (p=.156) which indicates no significance relationships between two variable.

Table 5. Correlation between Emotional Intelligence and Psychopathic Deviation (N=200)

Description	EI	PD
Total score of emotional intelligence	Pearson correlation	1
	Sig. (2-tailed)	.101
	N	.156
Psychopathic deviation	Pearson correlation	.10
	Sig. (2-tailed)	1
	N	.156
	200	200

Note: p > .05

The table no 6 showed the correlation between psychopathic deviate and negative emotional intelligence .the results showed that (r=.194**) have strong relationships between two variables. The significant level at .01 (p=. 006) which showed significant relationship of two variable.

The finding in table 7 of the regression analysis shows a weak positive relationships (R=.101) between independent variable psychopathic deviate and dependent variable emotional intelligence. R square value showed R.01 that there is insignificant change which in turn tells us to the whole population that result can be generalized .in analysis of variance table F value (2.027) and p value (p<.156) which is high value from .05 level .in coefficient table (β=.101, t=1.424) with p value (.000) which is less then at .05 level .there is association between independent and dependent variable.

Table 6. Correlation between Negative Emotional Intelligence and Psychopathic deviation (N=200)

Description	Ptd1	Negative emotional intelligence score
Pearson Correlation	1	.194**
Ptd1		
Sig. (2-tailed)		.006
N	200	200
Negative emotional intelligence score		
Pearson Correlation	.194**	1
Sig. (2-tailed)	.006	
N	200	200

Note: ** 0.01 level (2-tailed) Correlation is significant.

Table 7. Regression Analysis of Emotional Intelligence and Psychopathic Deviation (N=200)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.101 ^a	.010	.005	25.57679

Note: a. Predictors: (Constant), ptd1; b. Dependent Variable: total score of emotional intelligence

Table 7a.ANOVA

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1325.88	1	1325.88	2.03	.156 ^b
	Residual	129526.12	198	654.172		
	Total	130852	199			

Note: a. Dependent Variable: total score of emotional intelligence. b. Predictors: (Constant), ptd1

4. Discussion

This research was primarily aimed at finding the relationship of emotional intelligence, coping styles and psychopathic deviate among medical students at district Peshawar. The finding reveals that under grades of medical students have moderate to high level of emotional intelligence, coping styles and psychopathic deviation. The finding also suggested that negative emotional intelligence and psychopathic deviation have positive relationships. The present study also suggestive of emotional intelligence have positive relationship with coping styles. It was hypothesized that poor emotional intelligence leads to maladaptive coping styles. The present study used Pearson-correlation that there was a weak positive relationship among variable.

The second hypothesis of the present was that emotional intelligence is high in female as compared to male. Independent sample t test presented a statistically significant relationship among the two groups. It confirmed that female had high emotional

intelligence as compared to male. The third hypothesis of the current study that higher scorer on emotional intelligence scale have least possibility to develop psychopathological symptoms. The result of the study did not show significant Pearson correlation in this respect.

The fourth hypothesis stated that low emotional intelligence have more pathological symptoms. It also confirmed from the results by using Pearson correlation that there is statistically significant association among variable. The final hypothesis of the study was that comorbidity of psychopathological symptoms lowers the threshold of emotional intelligence. From coefficient analysis and regression analysis there was significant relationship between variable.

A wide view of literature reviewed supported the finding. The following discussion is built on these finding. The study revealed that students who have low emotional intelligence showed high psychopathological characteristics. Psychopaths are totally lack empathy to deficits in emotion recognition and disappointment. The present study demonstrate that female have high emotional intelligence as compared to male. This finding was consisted with the study conducted that girls have better ER than men [14].

A similar study was conducted and it was a correlational study which found association among different regulatory strategies' of emotion including acceptance, avoidance, difficulty resolving, reevaluation, meditation and overpowering and psychopathological signs [9]. Whereas our study focused on broaden aspects of emotional intelligence and psychopathic deviation. Another study was conducted and compared 20 criminal psychopaths with 19 non psychopaths [15]. The hypothesis of the study does not supported by results that psychopathy have negative correlation with emotion perception and emotion regulation. The finding of this study contrary to above research, which documented that low emotional intelligence students have more psychopathological characteristics.

This research revealed that negative emotional intelligence has weak relationship with brief cope inventory. It is consistent with the results of research conducted and reported that in a group of adolescent, capability to cope and control emotion was negatively associated with use of nonproductive coping approaches [16]. It was discovered that high EI predicated the use of adoptive styles during the experience of not only stress but sadness anger, fear, shame, jealousy .while maintain the experience of joy

[10]. Similar to this study the results of the current data indicate that there is significance relationship amongst variable i-e emotional intelligence and coping styles. The study reported that female participants had high score on interpersonal emotional intelligence than male [17]. The present study stated that emotional intelligence of female ($M=191.22$ & $SD =18.38$) is more than male ($M=182.63$ & $SD =29.29$). It was demonstrated that better health is highly associated with higher emotional intelligence. Contrary to this study, the present study does not compare Emotional Intelligence with health [18].

The study observed that there is more enhanced suicidal ideation among those low in controlling emotions. The present study of hypothesis is that those who have low emotional intelligence have more psychopathological symptoms [19]. The results indicate from correlational analysis that there are strong relationships between low level of emotional intelligence and psychopathic characteristics. The problem –focused coping and non-productive coping has relationships between behavior with emotional management strategy, recognition, expression and understanding of emotions. In consistent with the above study, regression analysis and coefficient analysis of Emotional Intelligence and Brief Cope inventory showed significant association [20].

It was reported that psychopaths are supposed to be lacking in identifying other emotions as well that overall EI had significant positively associated with all psychopathological measures of both gender [21]. It was also reported that alexithymia is positively associated to secondary psychopathology [22]. Whereas, similar to the above study the present study results indicated that there was positive relationships among emotional intelligence and psychopaths. The present study showed the psychopathology of medical students the total mean of both gender were 57.66 & and standard deviation of 9.24. The study conducted on two cross sectional temporal meta type of analysis to find generational psychopathology among young American college students [14]. Young people had scored higher (average $d=1.05$) including Pd (psychopathic deviate). The present study reported from 200 participants of medical students that low emotional intelligence has more pathological characteristics. It was investigated that criminal behavior can be predicated through emotional intelligence from a life span perspective view of psychopathy [23]. The study investigated emotional disorder through combined consequences of trait emotional intelligence, mindfulness, and the irrational ideals. A sequence of hierarchical regression verified that trait EI is a more potent predictor of

psychopathology than mindfulness and irrational belief mixed [24]. The prevailing study anticipated that those who've pathological symptoms have low emotional intelligence tendencies.

It was also suggested that the effect of emotional intelligence on academic achievement facilitated by adjustment to university [25]. The present study does not compare the Emotional intelligence with Academic achievement. It was stated that psychological necessities & healthiness have a specific significance in life of medical students. This research examines the association among healthiness and emotional intelligence of medical students in Yazd University [26]. It was predicted that there was positively association among healthiness and emotional intelligence. The present study does not compare EI with general health of the medical students.

A cross sectional analytical study was conducted in India on emotional intelligence of doctors and medical students, the mean score ($M=124.4$ & $sd =12.8$) [27]. While the present study's mean was ($M=186.20$ & $SD=25.64$). The study was conducted on the association among academic achievement and EI of medical students. Multiple regression analysis showed a statistically significant positively correlation among EI and academic achievement of medical students ($r=0.246$ $p=.000$) [28]. The present study also showed that emotional intelligence and Brief cope inventory have a positive linear relationship ($r=.052$, $p=.461$) which is high value from 0.05 level.

The study stated the correlation among EI & coping styles with stress. The data showed EI had positive correlation with coping styles [29]. The present study also showed that emotional intelligence and coping styles among medical students have a weak positive relationship.

5. Conclusion

To conclude, the findings of the study suggest that undergraduates in medical colleges of Pakistan have moderate to high levels of emotional intelligence, coping styles and psychopathological traits. Emotional intelligence according to the scales utilized in the research, As per general perception that prevails in the Pakistani society that males have low level of emotional intelligence as compared to female.as coping styles also high in female as compared to male. While the third scales used in the study indicates from the results that psychopathic traits are more in male as compared to female.

6. Limitation and suggestion:

Limitations include resource, time constraints, convenient sample size so cannot be generalized to the

whole population. This study can further elaborated to find out other related factors like behavior and attitudes in future. Due to the enormous amount of available scales for emotional intelligence, coping, and psychopathology based on different theoretical conceptualizations, it is recommended that future research use qualitative measures to compare results. In addition, EI was measured by a global score. This global scored was applicable for the Current research which designed to observe whether a general facilitated relationship existed among coping styles, EI, and psychopathology. However, now that it has been shown that a mediating effect exists. Undergraduate medical students are asset for our future. We highly praise the exploration of emotional intelligence, coping strategies and mental illness among medical students.

7. Implication

Despite some of the limitation of this there is certain implication of research in clinical psychology perspective. Though the results obtained are not definitive due to the correlational research Design, there are several implications that can be drawn from this study. This study supports current literature proposing emotional intelligence as a protective factor against Psychopathology. From a functionalist perspective this relationship makes sense. Emotions guide behavior and they are used as information to help the individual achieve goals. Therefore, deficits in emotional intelligence would have a negative effect on the individual's ability to make goal-directed decisions. Although it has not been confirmed that this relationship is causal, interventions aimed at improving emotional intelligence can be used to further prevent and treat mental illness. Training to improve emotional intelligence has already been encouraged in the fields of education and business. These activities should be improved and supported given the benefits.

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