

## ACADEMIC STRESS, EMOTIONAL INTELLIGENCE AND SELF-ESTEEM, IN MEDICAL STUDENTS OF SECOND AND THIRD YEAR

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### ABSTRACT

Present cross sectional study was conducted to identify the relationship among academic stress, emotional intelligence and self-esteem, in medical students of second and third year. A total of N= 206 participants (male & female) from the age range of 17 to 25 years (M=20.79, SD=1.25.) were included by using purposive sampling technique in this study. Stress overload scale SOS-S (2016), Wong and Law, Emotional Intelligence Scale WEIS (2004) and Rosenberg's Self-esteem Scale RSES (1965) were used to assess academic stress, emotional intelligence and self-esteem. Reliability of scales was .84, .85 and .78 respectively, Results indicated a strong positive correlation between emotional intelligence and self-esteem ( $r=.41$ ) and a strong negative correlation between emotional intelligence and academic stress ( $r=-.36$ ). A significant regression model was found. Academic stress and emotional intelligence, emerged as predictors of self-esteem. The overall model indicated 30% of the variation in medical students. It was concluded that self-esteem has a significant positive correlation with emotional intelligence and negative correlation with academic stress. No significant differences were found regarding academic stress, emotional intelligence and self-esteem in medical students. Whereas, differences regarding 2<sup>nd</sup> year and 3<sup>rd</sup> year of education were found regarding academic stress, emotional intelligence and self-esteem of medical students. Therefore, it is recommended to teach emotional intelligence skills and design stress management trainings for students to improve their academic performance.

**Keywords:** emotional intelligence, stress, self-esteem, medical students, academic stress.

### Introduction

Present study was initiated to explore the relationship among academic stress, emotional intelligence and self-esteem of medical students. Stress is common, among the medical students because their academic and professional requirements are highly demanding. Some resources of academic stress among medical students, include repeatedly exam pressure, stages, sub-stages, fear of not getting enough marks to pass and meeting the specified deadlines cause constant stress in medical students, resulting sleep disturbances and other psychological problems. Academic stress that students may face is due to poor study habits, which includes poor management of time (Macan et al., 1990) preparing for exams and assignments. Academic stress penetrates into the life of students and causes serious mental and physical health problems, hindering their ability to perform efficiently. The association between academic stressors and suicide ideation among adults has been well documented in several research studies (Ayyash-Abdo, 2002). Academic stress leads to mental illnesses enables them adopt negative attitude in life. Focus on the effects of academic stress on mental health in medical students; a study explored that exam and sessions are the most consequential factors of stress for medical students. Many students suffer from sleep deprivation and to overcome stress many take drugs (Ruzhenkova et al., 2018). Medical students go through significant stress levels than others and it is also negatively linked with their performance in academics. Researches have proved this association of stress and academic performance, among medical students (Waqas, Khan, Sharif, Khalid, & Ali, 2015). Academic stress and sleep disturbances in medical students are very common and the associated factors. This relatedness is documented in research and explored that medical students tolerate highest academic stress and poor sleep. It identified that academic stress has a negative impact on sleep.

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Many students took sedatives twice a week Furthermore academic stress is also related to emotional intelligence Researches confirmed significant negative relationship between academic stress and emotional intelligence among undergraduates (Suleman, Hussain, Syed, Parveen, Lodhi & Mahmood, 2019). Stress, anxiety and depression were also identified in students of medical school of Karachi in the similar year. Results explored that these three variables are the ones commonly found in medical students (Rehmani et al., 2018).

Academic stress and self-esteem are also associated with each other and researchers confirmed this relatedness, among the nursing students. Lower age, no financial support, low education and lack of support from family tend to contribute to high academic stress and low self-esteem (Chalise et al., 2015). Correlation of Emotional intelligence, anxiety, academic stress and self-esteem are found in gifted children, revealing the negative association of academic stress with other variables (Busari, 2016). Furthermore, relationship between emotional intelligence and academic stress among college students, showed science medium students undergo higher stress levels than those who adopt humanities, commerce. This demonstrates that, students with high emotional intelligence have low levels of academic stress (Kauts & Deepa, 2016). Emotional intelligence is correlated with high self-esteem in students. This was identified by a study in Malaysia, that students of public sector showed high emotional intelligence, average self-esteem and a positive relationship between variables. Fakarnddin et al., 2018).

Current study has been designed to determine how academic stress and emotional Intelligence are responsible for self-esteem levels among students of government and private medical colleges. This study will escort academic institutions and students, to illustrate how emotional intelligence and academic stress are responsible for enhancing self-esteem. Self-esteem is mandatory for a successful life and responsible for success in academics.

Researches on medical students explored the link among stress, self-esteem with academic years, reported different academic years have different levels of stress depending upon the pressures they face (Suleman et al., 2018).

Although many researchers have investigated on how emotional intelligence is responsible for academic stress and self-esteem levels in medical students but there is still a lack of literature on how academic stress would be predicted by self-esteem and emotional intelligence.

### **Hypotheses**

- There is likely to be a relationship among academic stress, emotional intelligence and self-esteem in medical students.
- There is likely to be a positive relationship between emotional intelligence and self-esteem in medical students.
- There is likely to be a negative correlation between academic stress and self-esteem. in medical students.
- There is likely to be a negative correlation between academic stress and emotional intelligence in medical students.
- Academic stress and emotional intelligence are likely to be the predictors of self-esteem in medical students.
- Gender differences are likely to be found regarding stress, emotional intelligence and self – esteem in medical students.
- Academic year differences are likely to be found regarding self-esteem in medical students.

## Methods

### Participants and procedure

Correlational research design was used for this research. Purposive sampling technique was used. A sample of N=206 students (103 male & 103 female students) from different medical colleges of Pakistan was collected on line, through Google, due to COVID19. This process of data collection was necessitated, as the Country was facing a complete lockdown and all the Universities were closed.

### Inclusion criteria

- (a) Students with age range 18-25
- (b) both male and female students

### Exclusion criteria

- (a) Married students
- (b) Students with any physical disability
- (c) Those diagnosed with any mental disorder were not included.

### Sample characteristics

The participants of this study were the students of government and private medical colleges and universities of Pakistan. Both male and female students were included with the age range of 17-25 years, M=20.79 years.

#### *Demographic characteristics of participants (N=206)*

Variables	Mean (SD)	f (%)
Gender		
Male		103 (50)
Female		103 (50)
Age	20.79 (1.25)	
17-19		22 (10)
20-22		164 (80)
23-25		20 (10)
Academic year		
2 <sup>nd</sup> year		92(45%)
3 <sup>rd</sup> year		114 (55.3%)
Day scholar		84(41%)
Boarder		122 (59.2%)
Universities		
Category 1		154 (74.75)
Category 2		23 (11.18)
Category 3		29 (14.09)
Mother's education		
Graduation		53 (26)
Housewife		19 (9.4)
Inter		67 (49.1)
Masters		67 (49.1)
Father's education		
Diploma		8 (4%)
Graduation		63 (31.3%)
Inter		46 (23.4%)



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Masters		83 (40.3%)
Uneducated		6 (4%)
Birth order		
First child		76 (37%)
Middle child		76 (37%)
Last child		54 (26.2%)
Family system		
Joint		51 (25%)
Nuclear		155 (75.2%)
Number of siblings	3.33 (1.38)	
Monthly family income		
Less than 50,000		27 (13.1%)
More than 50,000 and less than 100,000		66 (32%)
More than 1000,000 and less than 150,000		64 (31.1%)
More than 150,000		49 (24%)
Residence		
Urban		161 (78.2%)
Rural		45 (22%)

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**Instruments**

**Wong and Law Emotional Intelligence scale (WLEIS)**

WLEIS is a self-measuring instrument of emotional intelligence and it consists of 16 items which was developed in 2004 by Wong and Law. It is a seven point Likert scale rate. The reliability of EI scale is .88. The instrument has a good criterion validity.

**Stress Overload Sale-Short (SOS-S)**

This scale is developed by Amirkhan in 2016. It is a self-assessment tool in order to measure stress. It consists of 10 items with 5 points likert scale rate. The scale exhibits' good reliability and validity values and it has good internal consistency of .94 and test-retest reliability of .75. Scale shows construct validity with Short Perceived Stress Scale (PSS-10).

**Rosenberg Self-esteem Scale (RSE)**

Rosenberg developed this scale in 1965. It is a self-reporting instrument of Self-esteem. It is a 4 points Likert Scale and consists of 10 items. Internal consistency of this tool is .77-.88 and it shows Test-retest Reliability of .82-.85.

**Procedure**

Permission from authors was taken to use measuring tools. After the approval of proposal from research board of university a google form was prepared consisting of a covering letter to introduce the objective of the study. Confidentiality of the participant's information was also assured. Demographic form, Emotional intelligence scale (WEIS), Stress Overload Scale-Short (SOS-S) and Rosenberg Self-esteem Scale) were also include in the google form. Data was collected online by sharing google form through emails, whatsApp considering lockdown situation due to corona virus pandemic.

**Results**

This research was conducted to explore relationship among academic stress, emotional intelligence and self-esteem in medical students of Pakistan and the sample included 206 medical university students. Tools used for assessment were included Short Stress Overloaded Scale (S-SOS), Wong and Law Emotional Intelligence Scale (WEIS) and Rosenberg's Self-esteem Scale (RSES). In the subsequent chapter we will report findings of the study.

**Table 2**

*Descriptive statistics of scales (N=206)*

Variables	Mean	SD	Items	Range (actual)		Range (potential)		$\alpha$
				Min	Max	Min	Max	
WLEIS	79.79	15.05	17	28	112	17	119	.85
S-SOS	28.68	8.06	10	10	50	10	50	.84
RSES	16.26	4.57	10	3	27	10	40	.78

*Note: S-SOS=Short Stress Overloaded Scale, WEIS=Wong and Law Emotional intelligence RSES=Scale and Rosenberg's Self-esteem Scale.*

**Table 3**

*Correlation among academic stress, emotional intelligence, self-esteem, gender, academic year and student type (N=206)*

Variables	1	2	3	4	5	6	7
1.Gender	-	.12	.24**	.02	-.13	.07	-.09
2.Year		-	.14*	.05	-.19**	.10	-.20**
3.Familysystem			-	-.07	.03	-.15*	-.04
4.Student type				-	.13	.02	.08
5.WLIES					-	-.36**	.41**
6.SOS_S						-	-.50**
7.RSES							-

\*\**P* < 0.01, \**P* < 0.05 .

A Pearson product-moment correlation coefficient was analyzed in order to assess correlation among emotional intelligence, academic stress, self-esteem, gender, year, family system and student type. Results found a strong positive correlation between gender and family system,  $r=.24$ . Results also showed that academic year had significant positive correlation with family system  $r=.14$ , strong negative correlation with emotional intelligence  $r=-.19$  and self-esteem  $r=-.20$ . There was strong negative correlation between family system and academic stress,  $r=-.15$ . No significant correlation was reported between the student type and the other variables. There was a strong negative correlation between emotional intelligence and academic stress  $r=-.36$ , a strong positive correlation between emotional intelligence and self-esteem  $r=.41$ . High levels of emotional intelligence were correlated with low academic stress and with high self-esteem. A strong negative correlation was found between academic stress and self-esteem  $r=-.50$ , if academic stress will be high then emotional intelligence will be low.

**Table 3.5**

*Academic stress and emotional intelligence as predictors of Self-esteem (N=206)*

Variable	Self-esteem	
	Model 1 $\beta$	95%CI
Constant	16.38	[12.13, 20.64]
Academic stress	.08**	[.04, .12]
Emotional intelligence	-.23**	[-.30, -.16]
$R^2$		.31
F		43.40
$\Delta R^2$		.30

Note: N = 206, CI = confidence interval, \*\* $p < .01$ .

A multiple linear regression was conducted to see if academic stress and emotional intelligence predicted self-esteem in medical students of Pakistan. A significant regression model was found ( $F(2, 196, 198) = 43.40, p < .05, R^2 = .31, \Delta R^2 = .30$ ). It suggests that students with high academic stress have low self-esteem values while students with high emotional intelligence have high self-esteem. Overall two predictor model indicated 31% of the variation in self-esteem of medical students.

**Table 1.4**

*Self-esteem differences between academic years (N=204)*

Variables							95% CI	
	2 <sup>nd</sup> Year		3 <sup>rd</sup> Year		<i>t(df)</i>	<i>Sig</i>	<i>LL</i>	<i>UL</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Self-esteem	89.90	14.31	77.20	15.21	2.80(197)	.00	1.70	9.88

Variables	2 <sup>nd</sup> year		3 <sup>rd</sup> year		<i>t(df)</i>	<i>Sig</i>	95% CI	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			<i>LL</i>	<i>UL</i>
	SE	17.26	4.73	15.45			4.30	2.81(197)

Note: Self-esteem= ( $t=2.81, df=197, p<0.05$ ).

An independent sample t-test was calculated in order to compare self-esteem between 2<sup>nd</sup> year and 3<sup>rd</sup> year students. Results indicates a significant difference in the scores for 2<sup>nd</sup> year ( $M=89.90, SD=14.31$ ) and 3<sup>rd</sup> year ( $M=77.20, SD=15.21$ );  $t(197)= 2.80, p=.005$ . Current findings suggest that students in 2<sup>nd</sup> year have high self-esteem than students in 3<sup>rd</sup> year.

**Table 1.5**

*Gender differences between emotional intelligence, stress and self-esteem*

Variables	Women		Men		<i>t(df)</i>	<i>Sig</i>	95% CI	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			<i>LL</i>	<i>UL</i>
	EI	77.83	15.33	81.74			14.59	1.87(197)
AS	29.24	8.17	28.12	7.96	-1.00(197)	.32	-3.34	1.09
SE	15.86	4.54	16.66	4.60	1.24(197)	.22	-.46	2.08

Note: Emotional intelligence= ( $t=1.87, df=197, p>0.05$ ), Academic stress= ( $t=-1.00, df=197, p>0.05$ ), Self-esteem= ( $t=1.24, df=197, p>0.05$ ).

An independent sample t-test was calculated in order to compare gender differences between emotional intelligence, self-esteem and academic stress. There were no significant gender differences regarding emotional intelligence, self-esteem and academic stress found. It indicates that that men and women are similar in terms of personalities, cognitive abilities and other characteristics. They grow in similar environments, come across similar life circumstances and conditions. Moreover, modern woman is equally competent, educated, emotionally intelligent and confident so they are more alike than different.

**Discussion**

Medical students face higher levels of academic stress because they are supposed to learn a huge amount of knowledge, overburden with a lot of assignments and frequent exams, face pressure regularly and they have no time to take rest and feel relaxed. They face a very demanding environment and people expect a lot of sacrifices from them. This research has been conducted to identify the association among academic stress, emotional intelligence and self-esteem in students of medical colleges of Pakistan.

The likely existence of a negative correlation between academic stress and self-esteem in medical students of Pakistan was hypothesized. Results of the study confirmed the hypothesis and proved that these two factors are negatively correlated. Low self-esteem was found in participants who experienced high academic stress. Results from a previous study also supported the negative association between academic stress and self-esteem (Farhan & Khan, 2015). A study conducted on special children verified association among self-esteem, anxiety, emotional intelligence and academic stress (Busari, 2016). A hypothesis of the study was that the possible existence of a positive relationship between emotional intelligence and self-esteem. Results of the study have provided a strong positive correlation between emotional intelligence and self-esteem in participants. Emotionally intelligent students have high self-esteem. This study advocated hypothesis and indicated that self-esteem and emotional intelligence are



positively correlated. Students with high emotional intelligence skills have better self-esteem values than others. These results are also consistent with a study on university students in Pakistan. This study also proved that these two variables are positively linked with each other (Bibi, Saqlain & Mussawar, 2016).

Another hypothesis of the study was, the likely existence of a negative relationship between academic stress and emotional intelligence. Results of the research yielded a strong negative correlation between academic stress and emotional intelligence. Students who have lower emotional intelligence experience high academic stress. Findings of the research are in line with the study by Kauts who reported that emotional intelligence and academic stress are negatively correlated with each other (Kauts & Deepa, 2016). The correlation between emotional intelligence and academic stress among undergraduates is identified and the results of this study showed a negative correlation between the two variables (Busari, 2016)

Furthermore, academic stress and emotional intelligence were considered as predictors of self-esteem in medical students. Results indicated a significant regression model ( $F(2, 196, 198) = 43.40$ ,  $p < .05$ ,  $R^2 = .30$ ,  $\Delta R^2 = .30$ ). It showed that students with high academic stress have low self-esteem values while students with high emotional intelligence have high self-esteem. This result is inconsistent with research conducted on medical sciences students. Findings predicated that self-efficacy in students will be increased with the increase in emotional intelligence (Gharetepeh et al., 2015)

It was hypothesized that there is likely to have gender differences regarding emotional intelligence, self-esteem and academic stress. But results didn't support the hypothesis and showed no significant gender differences regarding academic stress, emotional intelligence and self-esteem. This result is in line with a previous study, reported no significant differences between stress levels and gender in college students (Chemutai & Mulambula, 2020). One possible cause of no gender differences in self-esteem among university students is that now women in Pakistan are getting equal opportunities for education, occupation and are self-sufficient. Another reason might be that sample of the study included only students who are getting education whereas in Pakistan most of the women are unable to get an education so there may be differences for uneducated women regarding self-esteem. It was also hypothesized that there is likely to have self-esteem differences between academic years. Results of the research also proved that there is a significant difference in Self-esteem regarding academic year. Students of second year have high self-esteem than students of 3rd year. It is supported by a previous study conducted by Naz et al. (2017) to explore the level of self-esteem in medical students concerning their academic year. It showed self-esteem differences in terms of the academic year and indicated the highest range of normal self-esteem in 4<sup>th</sup> year students than other years

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### **Conclusion**

Results concluded the existence of a positive association between emotional intelligence and self-esteem and showed a negative relatedness between academic stress and self-esteem in medical students of Pakistan. Academic stress and Emotional Intelligence are important indicators of self-esteem of medical students. Therefore, it is recommended to teach emotional intelligence skills and design stress management trainings for students to improve their performance and achievement in academics leading to better quality of life.



### Limitations and suggestions

Although researcher tried to control extraneous variables, but mood and mental states are not easy to control, which may influence the findings. Data was collected online due to covid-2019, there may be a chance of misinformation from the participants. Instruments used in this study were based on western cultures, and cultural impacts in the results are possible, when applied on Asian population.

### Implications

This research is highly significant in educational settings and can give new directions to enhance self-esteem. Students can benefit from results that revealed high emotional intelligence and low academic stress result into high self-esteem. Self-esteem is extremely important component for successful life and indicates academic achievements and productivity. Emotional intelligence skills should be part of academics prescribed for university students. Study results can also be used in counseling as well. Awareness be provided to clients on how to increase the self-esteem.

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