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DOI: https://doi.org/10.52461/pjap.v3i1.1310 **Original Research**

Resilience and Emotional Intelligence among Students in Karachi, Pakistan: A Comparative Study

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Abstract

Students find it difficult to deal with life experiences and their challenges can cause stress and adverse effects. Prior research has also supported that clinical practice environments can lead to anxiety and stress among students (Ahmad & Anwar, 2018). A cross-sectional study was designed to explore resilience and emotional intelligence (EI) among university students in three fields: psychology, medical, and nursing, as they go through an extensive training regimen during their academic sessions. The Brief Resilience Scale (BRS) (Smith et al., 2008) and the Schutte Self Report Emotional Intelligence Test (SSEIT) (Schutte et al., 1998) were used to determine resilience and EI respectively in the sample, which comprised of 301 university students. It was found that there is no significant relationship between emotional intelligence and resilience. However, managing own emotions (subscale of EI) was only found to be weakly correlated ($r = .173$, $p < .05$) with resilience. Moreover, a significant difference was found in the emotional intelligence of medical, nursing, and psychology students while an insignificant difference was found for resilience. The findings revealed that higher EI was found among medical students as compared to Nursing students. Moreover, Psychology students had greater EI than nursing students. Advocating a revision in the academic curriculum for developing skills like EI and resilience can facilitate a healthy coping of dealing with life and workplace challenges in their clinical practice.

Keywords: *emotional intelligence, resilience, psychology, medical, nursing students.*

Introduction and Literature Review

Higher levels of stress is much known among Undergraduate students (Rehmani et al., 2018). More than 70% psychology graduate students reported stress which hinders their optimal functioning (El-Ghoroury et al., 2012). An integrative review synthesized the evidence of resilience and EI in undergraduate nursing students which reflected a positive relationship between resilience and performance of undergraduate students (Cleary et al., 2018). However, Zhao and colleagues found no significant differences in resilience levels of nursing and medical students

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(Zhao et al., 2016). In Korea, research found that EI was one of the factors affecting resilience and had the highest impact among nursing students. In order to improve resilience among nursing students, their EI should be enhanced (Lee et al., 2017). EI has been demonstrated as a protective factor to combat against stress in nurses (Landa et al., 2008). Resilience in nurses has been shown to increase retention and enable them to provide better care to patients (Taylor et al, 2020). Furthermore, research finding found similar mean scores of resilience and distress across the medical and psychology students. Higher resilience levels were found to be associated with lower scores of distresses among students (Bacchi & Licinio, 2017) highlighting the emphasis on fostering resilience training.

A study found that medical students had lower resilience than the general population, Moreover, males had higher resilience than females (Houpy et al., 2017). Another study among Indian medical students revealed that resilience plays an enormous role in buffering day to day stressors in lives of medical students; and that resilience enables more autonomy, personal growth, and active coping (Sonika et al., 2019). Furthermore, in another research carried out in India revealed that psychology students have higher levels of EI than those studying in other disciplines (such as sciences, & arts) (Kaur et al., 2012). This finding serves as the basis of one hypothesis for the current research. Hence, the current study focuses on investigating the relationship of resilience and EI along with exploring differences among undergraduate medical, psychology and nursing students. Gorgens-Ekermans and Brand (2012) found workload and low EI as main reason of burnout and academic stress, and higher EI buffers these.

Rationale of Study

The research emphasis is to bridge the literature gap due to limited literature, to explore the role emotional intelligence and resilience among students studying in different health care programs as they undergo vast amount of stress and pressure throughout the course of their academics and clinical practice (Umbrin et al., 2022). Hence, investigating resilience and EI will be beneficial in devising psychology based supportive techniques in their curriculum which can boost these capacities and help them to tackle life and workplace challenges. Knowing where they stand, curriculum adaptations and awareness sessions can be incorporated to augment resilience and EI among students and trainees.

Objectives of Study

1. To investigate the relationship between resilience and emotional intelligence among students
2. To investigate differences among students of psychology, medical, and nursing based on resilience and emotional intelligence.

Hypotheses of the Study

Based on the literature review, following hypotheses were formulated:

1. There will be a significant relationship between resilience and emotional intelligence among students.
2. There will be significant differences among students of psychology, medical and nursing based on resilience and emotional intelligence.

Materials and Methods

Research Design

The current research employed a quantitative correlational survey research design to examine resilience and emotional intelligence of medical, psychology and nursing students.

Sampling Technique

The research data was collected via an online form using convenient sampling technique. The google form was shared on social media platforms and with focal persons of universities.

Research Participants

A sample of 301 university students comprising of Nursing students (n=98), Medical students (n=101) and Psychology students (n=102) was collected. The inclusion criteria were that the participants must be enrolled in undergraduate university belonging to Psychology, Medical or nursing departments while students of other programs were excluded from the study. The age range of the participants was between 18 years to 25 years (M= 21.41, SD= 2.25).

Instruments

The following measures were used in the research:

Informed Consent: *The consent* form was provided to the research participants to acquire their willingness to participate; it was established that they could withdraw at any point if they wished so.

Demographic Information Form: To observe inclusion and exclusion criteria, demographic form was used to get information about the participant's age, enrolled program, and year.

Schutte Emotional Intelligence Scale (SSEIT) by Schutte et al., 1998 uses four subscales: perception of emotions, utilizing emotions, managing own emotions, and managing others' emotions. It is based on the model by Salovey and Mayer (1990). It is a 33-item self-report measure with Likert scale responses. Higher scores signify higher EI. The internal consistency demonstrates a Cronbach's alpha of 0.87 and its two-week test-retest reliability was found to be 0.78. It has high predictive, construct, and face validity (Petrides & Furnham, 2000).

Brief Resilience Scale (BRS) is a 6-item measure which comprises of statements which are to be rated on a 5-point Likert scale. Higher scores indicate greater level of resilience in the respondents. BRS score ranges 1.00-2.99 and 3.00-4.30 represent "low" and "normal" resilience levels respectively, while 4.31-5.00 range represents "high" resilience level (Smith et al., 2008)**.** This scale has sound internal consistency, with Cronbach's alpha between 0.80 and 0.91.

Approximately 10 minutes were required for the research participants to complete the questionnaires. At the end of the form, participants were thanked for their participation. After the data collection process, the data was analyzed.

Statistical Analysis

Statistical analyses were carried out by computing the data in the Statistical Package for Social Sciences (SPSS) version 22. The analyses included reliability analysis, Pearson correlation, independent sample t-test and ANOVA to find out group and gender differences.

Ethical Consideration

According to American Psychological Association (APA) code of conduct, the scales (BRS and SSEIT) were used with the authors' permission. All participants filled consent forms before the survey was administered. Full anonymity was upheld and every participant was given the right to withdraw at any point in time. The e-form included a brief description with respect to research's aims and objectives.

Results

Table 1

Demographic Characteristics of Participants (N=301)

Variables	*f*	Mean	SD	%
Age		21.41	2.25	
Gender				
Male	42			14
Female	259			86
Marital Status				
Single	280			93.0
Married	9			3.0
Divorced	8			2.7
Separated	4			1.3
Family Structure				
Nuclear Family	192			63.2
Joint Family	109			36.2
Type of University				
Private sector	247			82.1
Public sector	54			17.9
Programs Enrolled				
BS Psychology	102			33.9
Nursing	98			32.6
MBBS	101			33.6
Year-wise Categorization				
1st year	86			28.6
2nd year	41			13.6
3rd year	41			13.6
4th year	118			39.2
5th year	15			5.0

Note: f= Frequency, M= mean, SD= Standard Deviation, %= Percentage

The table represents that total respondents were 301 university students, of which 259 (86%) were females, and 14% were males. Sample size included currently enrolled university students of 3 programs; Psychology (n= 102; 33.9%), Medical (n= 101; 33.6), and Nursing (n= 98; 32.6%).

Table 2
Psychometric Properties of Resilience and Emotional Intelligence

Variables	Items	α	M	SD	Skew	Kur	Range	
							Actual	Potential
Brief Resilience Scale	6	.410	18.07	3.36	.009	.512	1-5	5-30
Emotional Intelligence	33	.899	123.19	16.67	-.46	.508	66-156	33-198
Subscales Of EI								
Perceptions of Emotions	10	.68	36.36	5.38	-.19	.041	18-49	10-50
Managing own Emotions	9	.75	33.19	5.62	-.396	-.260	17-45	9-45
Managing others' Emotions	8	.72	29.97	4.7	-.22	.504	14-40	8-40
Utilization of Emotion	6	.73	23.66	3.76	-.843	1.54	9-30	6-30

Note: N= 301, α= Cronbach Alpha, M= Mean, SD= Standard Deviation, Skew= Skewness, Kur= Kurtosis.

Table 2 represents the psychometric properties of the two scales and their subscales. Emotional Intelligence has good internal consistency, α= .899. The reliability of BRS score came out to be α= .410, which is questionable. Moreover, platykurtic distribution of kurtosis can be seen in all the scales, kur < 3. Majority of the scales are approximately symmetrically skewed, i.e., ranging between -.5 to +.5, except for the scale of utilization of emotions, which is moderately skewed, ranging between -1 to -.5.

Table 3
Correlation Between Emotional Intelligence and Resilience

Variables	**1**	**2**	3	4	**5**	**6**
1. Brief Resilience Scale	-					
2. Emotional Intelligence	.082					
Subscales Of EI						
3. Perceptions of Emotions	.044	.819**				
4. Managing own Emotions	.173**	.871**	.562**			
5. Managing others' Emotions	.030	.878**	.607**	.693**		
6. Utilization of Emotion	.004	.863**	.600*	.698**	.739**	-

***Correlation is significant at the 0.05 level. EI= Emotional Intelligence*

Table 3 represents the correlation between EI and Resilience. No significant correlation was found between the two variables (p> 0.05). However, a weak yet positive correlation was found between resilience and managing own emotions subscale of EI (r=.173, p<.05).

Table 4

Analysis of Variance (ANOVA) of Resilience and Emotional Intelligence on University Student Enrolled in Different Programs (N-=301)

	1 n=102		2 n=98		3 n=101						Mean D		95% CL	
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	Sig	η²	i-j	i-j	Sig	LL	UL
Resilience	17.53	3.904	18.34	2.336	18.36	3.300	2.008	.136	-	-	-	-	-	-
										1>2	6.606*	.014	1.035	12.178
Emotional Intelligence	124.882	13.303	118.275	18.855	126.237	16.668	6.720	.001*	.043	3>2	1.355	1.000	-4.174	6.884
										3 >2	7.962*	.002	2.377	13.546

Note: 1= Psychology, 2= Nursing, 3= Medical Students, M= Mean, SD= Standard Deviation, CI = Confidence Interval, LL = Lower Limit, UL = Upper Limit

Table 4 represents that Resilience was found to be insignificant among students enrolled in different programs. Medical students were found to have higher EI as compared to other students ($p < 0.05$). Moreover, it was found that EI of nursing students was found to be less as compared to psychology and Medical students ($p<.05$). Furthermore, EI was found to have insignificant difference between psychology and medical students.

Table 5

Independent Samples t-test for Resilience and Emotional Intelligence based on Gender

	Gender	n	Mean	SD	Sig.	95% CI Lower	95% CI Upper
Resilience	Female	259	18.03	3.35	.654	-1.353	.851
	Male	42	18.29	3.45			
Emotional Intelligence	Female	259	122.29	16.47	.021*	-11.786	-.952
	Male	42	128.67	17.05			
Perception of emotions	Female	259	36.14	5.436	.078	-3.335	.177
	Male	42	37.71	4.885			
Managing own emotions	Female	259	32.88	5.645	.015*	-4.090	-.443
	Male	42	35.14	5.078			
Managing others' emotions	Female	259	29.77	4.604	.065	-2.974	.090
	Male	42	31.21	5.135			
Utilization of emotions	Female	259	23.51	3.635	.083	-2.308	.144
	Male	42	24.60	4.373			

Note: (P<0.05), SD= Standard Deviation, CI= Confidence Interval; df (Degree of freedom) = 299

Table 5 represents a significant gender difference in Emotional Intelligence and EI subscale of managing own emotions. Males have a better emotional intelligence and can manage their own emotions in a better way as compared to females. However, no significant difference can be seen among males and females in other sub-scales.

Discussion

The study aimed to investigate the relation of resilience and EI with examine the difference in resilience and EI among university students of Psychology, Medical and Nursing programs. In reference to the prior research, EI has been found to play a significant role in building resilience (Magnano et al., 2016) and is related to psychological resilience (Armstrong et al., 2011). Individuals with higher emotional intelligence can effectively regulate their mood states and know about expressing their feelings. However, the current research results were found to be in contradiction that is, there was an insignificant relationship between resilience and EI. However, another prior research supported these results as their findings revealed no relationship between EI and resilience among female undergraduate university students (Jayalakshmi & Magdalin, 2015). Since females constituted a majority of the sample, the findings of this study contextualize well to the current research. However, another study indicated significant moderate relationship between emotional intelligence and resilience (Ridwan & Agustin, 2017). In present research a weak yet positive correlation ($r=.173$, $p<.05$) was found between resilience and managing own emotions (EI subscale) which can be supported by another study showing a strong correlation between the factors of emotional intelligence (managing own emotions), resilience, and leadership success (Maulding et al., 2012).

A significant difference in EI ($p<.05$) was found while no significant difference was found in the resilience of medical, psychology and nursing students of Karachi, Pakistan. A similar finding yielded that there was no difference in resilience of medical, nursing and psychology students (Bacchi & Licinio, 2017). Moreover, medical students were found to have higher EI as compared to other programs. This is concurred by a study which revealed a positive correlation between medical students' guilt, anxiousness, and anger with resilience. (Kaye-Kauderer et al., 2019). The analyses further yielded that a significant difference was found between nursing and psychology students and that psychology students have high EI as compared to nursing while medical students have high EI as compared to Nursing. The findings reflected that nursing students have low EI as compared to other programs. A study finding reported that in Medical and Psychology students there were similar scores of mean resilience and psychological distress (Bacchi & Licinio, 2017). In addition, the analysis revealed that Psychology students had a higher EI score than nursing students which is found to be in accord with a study conducted in India where it was shown that Psychology students obtained higher EI scores than those in other fields of study. Psychology graduate students had the greatest levels of EI (Kaur et al., 2012). This might be due to the vast differences in curricula of the two fields. Psychology students do become more emotionally intelligent as they progress through their training phase over the span of their degree. A study conducted on university students studying physical education were exposed to several workshops which aimed towards imparting psychological knowledge. There was a significant rise in EI levels observed in students who partook in the workshops (Kuk et al., 2021). Existing evidence emphasizes the concern on building resilience among population such as it was discovered that mental health professionals were not more resilient than the general population and are consequently not more immune to stressful events (Frajo-Apor et al., 2016).

The findings demonstrated gender differences where it was found that EI was higher among males as compared to females. However, these findings are unlikely to be significant as males were underrepresented in the sample. There is great disparity in the literature available regarding sex differences in EI. For instance, a study revealed higher scores for males than those for females on an EI measure (Ajmal et al., 2017). Similarly, a study conducted in Peshawar, Pakistan also revealed that males tend to score higher on emotional intelligence measures as compared to their female counterparts (Ahmad et al., 2009). There is also some literature that points to findings contrary to ours' and they found that females perform superiorly than males at EI measures and have more polished EI capacities (Joseph & Newman, 2010; Cabello et al., 2016). Several other studies reported no significant differences in gender with regards to EI, such as Meshkat and Nejati (2017) found no significant differences in EI scores across genders among 455 university undergraduates; however, there were gender differences in empathy, self-regard, self-awareness, and interpersonal relationships. Females scored better on empathy, while males performed better on self-regard (Meshkat & Nejati, 2017). These findings open up a new avenue for research regarding sex differences in the trait of emotional intelligence in Pakistan.

Conclusion

In academia, resilience and emotional intelligence plays a very significant role as a protective factor. Medical and Psychology field demands strong emotional intelligence and resilience which can help them cope and manage their stress and pressure throughout their academic and training phase. There is a high prospect that resilience and emotional intelligence can help the students in their academic performance as well as in their personal lives too. The differences shed importance on the students' training on resilience building and emotional intelligence to prepare them for future work-life challenges.

Limitations and Suggestions

Research sample should be large, and a diverse group must be incorporated to investigate the variables. Limited responses from male population confines the study's generalizability. A comparative analysis with other professionals can be recommended to study the scope of resilience and emotional intelligence. Further research can investigate whether EI and resilience serve a protective function against variables such as burnout and distress. A qualitative approach can help in understanding the lack and gap in academic curriculum and training so that policies can be revised to ensure wellbeing of future healthcare professionals.

Implication of the Study

Resilience building interventions and emotional intelligence training can facilitate healthy outcomes. A revision in the curriculum can foster the growth of students.

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