Relationship of Emotional Intelligence and Intelligence Quotient with Academic Performance of Postgraduate Students

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Abstract

Objective: This study is aimed at examining the relationship of emotional intelligence (EI) and intelligence quotient (IQ) with academic performance (AP) among postgraduate students.

Study Design: Survey type with convenient sampling.

Place and Duration of Study: Shakoor Mind Care Institute Bahawalpur and the department of applied psychology Islamia University of Bahawalpur during 1st February 2012 to 31st May 2012.

Subjects and Methods: For this purpose 50 postgraduate students (n = 50) were selected from different departments of the Islamia University of Bahawalpur. After taking informed consent from each student, Wechsler Adults Intelligence Scale – III (WAIS – III) and Self Report Measure of Emotional Intelligence (SRMEI) was administered and the score for each student calculated. As a measure of the academic performance (AP), the cumulative grade point average (CGPA) of each participant was obtained and confirmed from their respective departments. The data collected was entered and analyzed by using SPSS 17.0.

Results: The students with average IQ but high or very high EI secured "good" and "excellent" CGPA against the students with low EI who were poor achievers. Regression analysis model shows significant dependence of AP upon EI ($R^2 = 0.751$). One way analysis of variance (ANOVA) shows that AP depends on EI at any level of significance (p = 0.00). ANOVA also proved significant dependence of AP upon IQ (p = 0.036). Finally, the overall impact of EI ($R^2 = 0.751$) on AP is significantly greater than that of IQ ($R^2 = 0.088$).

Conclusion: Both the Emotional Intelligence and Intelligence Quotient have strong relationship with academic performance. The overall impact of EI on AP is greater than that of IQ. The training classes to enhance EI may improve the academic and administrative performance of the participants.

Key words: Emotional Intelligence, Intelligence Quotient, Academic Performance.

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Introduction

The human brain contains two different kinds of intelligence; rational and emotional. The rational intelli-

gence or academic intelligence is the global capacity of the individual to act purposefully, to think rationally and to deal effectively with the environment. The emotional intelligence is the capacity to put emotions under control of reason and rationality. Although these are semi-independent faculties of mind but when working together in harmony, both emotional intelligence and intellectual abilities are enhanced.[1]

Emotional intelligence (EI) is an important component of personality; it can't be taken as a separate construct. EI is closely related to the general intelligence; however, it is not a true measure of cognitive ability.[2] The emotional intelligence is a type of social intelligence that involves the ability to identify and control the emotions of one self, others, and groups[3]. Moreover, it is the verbal and non-verbal appraisal and expression of emotions, the regulation of emotions in the self and others, and the use of emotional content in problem – solving. EI is a measure of cognitive ability which involves traits and social skills to facilitate interpersonal and intrapersonal behaviors. It includes four major skills; Self – Awareness, Self – Management, Social Awareness and Relationship Management.[4]

The general intelligence tests are mostly used in the selection of appropriate candidates in schools, for post graduation and jobs but the high level of competency can only be achieved through structured training, practice and feedback.[5] On the other hand, EI has significant importance in education[6] and has a lot of impact on professional success. It is considered the strongest predictor of performance and the biggest driver of leadership and personal excellence.[6] EI should be given more importance than intelligence quotient (IQ) to hire someone for higher education or job.[7] Emotional intelligence has a positive effect on interpersonal behavior of male and female students,[8] so it enhances performance in co-working environment. The incorporation of classes on emotional intelligence, in school and college level curriculum, would increase the emotional intelligence and reduce the emotional and behavioral problems that interfere with learning process.[9] In addition, the people with high emotional intelligence are more likely to choose a wise career and attain social competence which will increase the chance of career success.[10] The demographic factors like age, education, job condition, gender etc. also affect the level of emotional intelligence; females are more emotionally intelligent than males according to the age and educational level. Other studies refute any effect of demographics on EI.[10] High EI has positive

impact on job outcome by increasing the performance and job satisfaction[12].

General Intelligence is measured by Intelligence Quotient (IQ) = mental age /chronological age × 100. The mental age is calculated from the total score obtained by administering the standard intelligence scale like WAIS.[13] Intelligence has powerful (80%) genetic component[14] but environmental factors, like culture, gender, socioeconomic status, training and education, are compensatory up to 20%.[15,17] Some studies conclude strong positive correlation between IQ and socioeconomic status without gender difference.[16] According to the classification of IQ, the students with IQ 85 and above can progress to higher classes, therefore, IQ denotes academic intelligence.[22] In educational institutions, academic performance is calculated as cumulative grade point average (CGPA) which is not directly proportional to IQ.[23]

This study was designed to determine the relationship of emotional intelligence (EI) and intelligence quotient (IQ) with academic performance of the post graduate students from different departments of the Islamia University of Bahawalpur. We hypothesized that EI is more relevant measure than IQ to be evaluated for academic performance, induction of students into studies and jobs.

Subjects and Methods

This survey type study, with convenient sampling, was conducted by post graduate students of clinical psychology and their supervisors during internship at Shakoor Mind Care Institute Bahawalpur. More than 70 postgraduate students from various departments of the Islamia University of Bahawalpur were contacted, the purpose of the study explained in detail to each participant and the time frame for detailed interview agreed. Only 50 students could continue the study, the rest were excluded due to their personal reasons. The informed consent was signed by the consenting students and one to one briefing was given about the instruments to be administered.

We administered Wechsler Adult Intelligence Scale third revision (WAIS – II) to calculate Intelligence Quotient (IQ) which is designed for 16 – 89 year of age.[20,21] Self Report Measure of Emotional Intelligence 2010 (SRMEI) was used to measure emotional intelligence.[22,23] The cumulative grade point average (CGPA) was taken as true measure of academic performance and CGPA of individual student was asked for

and then confirmed from the respective departments. The obtained scores from these measures were entered into SPSS17.0 and analyzed using regression analysis and one – way ANOVA test.

Results

Most of the students securing "Good" and "Excellent" academic performance come with average IQ (Table 1).

The students with moderate to very high EI secured "Good" and "Excellent" rating in academic performance (Table 2).

Regression analysis and one – way ANOVA are used to measure the relationship of Emotional Intelligence and Intelligence Quotient with performance among postgraduate students.

In this regression model of dependence analysis, the academic performance is taken as dependent variable and emotional intelligence as independent variable. The R^2 value 0.751 denotes that variation in the academic performance due to the emotional intelligence is 75.1%, which is significantly high dependence of academic performance on emotional intelligence (Table 3).

Table 1: Relationship of Academic Performance with Academic Intelligence or IQ.

Academic Performance Confirmed from Current CGPA of Students.	Academic Intelligence (IQ)					Total
	Very Superior	Superior	High Average	Average	Low Average	
Satisfactory (Up to 2 – CGPA) or 60% Marks	0	0	1	4	0	5
Good (Up to 3 – CGPA) or 70% Marks.	0	1	2	16	1	20
Excellent (Up to 4 – CGPA) or above 85% Marks	2	0	3	19	1	25
Total	2	1	6	39	2	50

IQ = Intelligence Quotient

Table 2: Relationship of Emotional Intelligence with Academic Performance (CGPA).

Academic Performance Confirmed from Current CGPA of Students.	Emotional Intelligence				Total
	Low	Moderate	High	Very High	
Satisfactory (Up to 2 – CGPA) or 60% Marks	5	0	0	0	5
Good (Up to 3 – CGPA) or 70% Marks	4	16	1	0	21
Excellent (Up to 4 – CGPA) or above 85% Marks	0	8	10	6	24
Total	9	24	11	6	50

CGPA = cumulative grade point average

Table 3: Regression analysis of dependence between academic performance and emotional intelligence.

Model	R	R. Square Estimate	Adjusted R. Square	Std. Error of the Estimate
1	0.867	0.751	0.746	0.1474

R = coefficient of determination

Table 4:
The results of ANOVA when academic performance depends on the emotional intelligence.

Model	Sum of Squares	d.f	Mean Square	F	P-Value Sig
Regression	3.147	1	3.147		
Residual	1.043	48	.022	144.864	.000
Total	4.190	49			

ANOVA = One way analysis of variance, d.f = degree of freedom

Table 5:
The results of ANOVA when academic performance depends on the intelligence quotient.

Model	Sum of Squares	d.f	Mean Square	F	P-Value Sig.
Regression	.370	1	.3704.648		
Residual	3.820	48	.080	4.648	.036
Total	4.190	49			

Table 6: Comparison of the impact of academic intelligence and emotional intelligence on academic performance.

Academic Intelligence		Emotional Intelligence	
R	R Square	R	R Square
0.297	0.088	0.867	0.751

The one way analysis of variance (ANOVA), when academic performance is dependent variable shows that academic achievement depends on EI at any level of significance ($P = 0.000$).

The table 5 shows the results of the analysis of variance (ANOVA) when academic performance depends on the intelligence quotient. The academic achievement also depends on the IQ status significantly ($P = 0.036$).

The value of R-square is the measure of the independent impact of emotional intelligence (0.751) and academic intelligence (0.088) on academic performance (Table 6).

Discussion

The academic performance (AP) is based upon the IQ level, but it is not directly proportional to it[5]; the maximum number of students (35 out of 50) with average IQ secured "good" and "excellent" CGPA (Table1). No student with "satisfactory" AP could score high on

Self Report Measure of Emotional Intelligence. This indicates that some additional factors contribute to the academic performance in unison with IQ. This finding of our study is in concordance with the results of other international studies.[6,7,9] We tried to elucidate the effect of EI on the academic performance in addition to IQ and reached encouraging conclusions in favor of EI. The regression analysis, keeping academic performance as dependent variable and EI the independent variable (Table3), shows that variation in AP due to change in EI is significantly high ($R^2 = 0.751$). The one way analysis of variance (ANOVA) confirms the significant dependence of AP on both EI and IQ (Table 4 and 5) but the results show clear edge of EI over IQ. This conclusion is in line with some studies in the literature.[9] Finally, the statistical analysis of overall impact, clearly determines the distinction of EI over IQ (Table 6). Such a distinguished impact of EI has already been proved in different studies.[10-12]

The statistical results of our study confirm strong relationship of the two kinds of intelligence (emotional and rational or academic) with academic performance. The academic intelligence is basic requirement to achieve excellence and the emotional intelligence catalyses this process of reaching excellence. This study indicates that the students with average IQ + high / very high EI performed better than the students with superior IQ + low / moderate EQ. I/Q is mainly inherited but the students can be trained to achieve high EI earlier, to make them best achievers in their studies and the excellent performers at their work places. This work up recommends training classes in institutions on useful

constructs of EI to make our youth full of vision and promising individuals of the society.

Conclusion

The academic performance of the students is significantly related to both the academic intelligence (IQ) and emotional intelligence (EI). The overall impact of EI on academic performance is greater than that of IQ. The emotional intelligence can be, markedly, enhanced by training whereas the IQ is mainly inherited. Therefore, the training classes of the students to enhance EI in educational institutions can help them become the best performers in their studies and professions.

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