

THE INFLUENCE OF EMOTIONAL INTELLIGENCE ON SOFTWARE ENGINEERS' EMOTIONAL ADJUSTMENT AT WORKPLACE

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ABSTRACT

The aim of present study has been to investigate Emotional Intelligence and its impact on Indian IT professionals' emotional adjustment at workplace. The study was conducted in five major IT cities in India; NOIDA, DELHI, GURGAON, PUNE and BANGALURU. The study utilized a structured questionnaire developed by researcher based on emotional intelligence competencies as given by Daniel Goleman (1995, 1998). A sample of 414 software engineers from above mentioned major IT cities was used for statistical analysis. Data analysis included frequencies, percentages, mean scores, correlation and regression. The statistical data were computed by SPSS 16.0 for Windows. The analysis found statistically significant positive correlations between two variables of study; this means that increased emotional intelligence scores were associated with increased score of emotional adjustment at workplace amongst software engineers in Indian IT industry where the primary focus is on technical knowledge and expertise but soft skills.

Keywords: Emotional intelligence, Emotional adjustment at workplace, Software Engineers, Indian IT industry

INTRODUCTION

The importance of emotional intelligence in the workplace cannot be over emphasized. There has been an increased interest in this construct in Indian organizations too as "Emotional Intelligence (EI)" is considered as a cluster of emotional awareness and emotional management skills, which provide the ability to balance emotion and reason to maximize productivity, happiness and better emotional adjustment at workplace. Several researches has been conducted worldwide to find out association of EI with other organizational factors such as its relationship to leadership effectiveness (Goleman et. al, 2002; Palmer et. al, 2002), emotional labor and individual performance (Douglass et. al, 2004), work attitudes and outcomes (Carmeli, 2003), job satisfaction and organizational commitment (Adeyemo, 2007), leadership performance (Cook, 2006) and financial success of an organization (Bradberry and Greaves, 2003). Further results of various studies showed that EI based competencies are better predictors of performance and adjustment at workplace (Cherniss, 2000; Feist and Barron, 1996); as emotional competencies indicate the level of individuals' work performance and degree of adjustment individual will have with his surroundings. That is to say even though they have similar IQ levels individuals may have different emotional adjustment because of their EI and associated competencies (Emmerling and Goleman, 2005). Further Goleman (1998) explained that an individual's emotional intelligence can affect one's work satisfaction and workplace adjustment as well.

There, however, currently, little evidence to support the existence of such a relationship between EI and emotional adjustment at workplace in Indian IT organizations. The aim of the current study has been to explore the extent to which software engineers' emotional adjustment at workplace is related to emotional intelligence and with its competencies. The research was carried out in various IT organizations across India. A questionnaire was designed to explore relationship between emotional intelligence (EI) scores and scores from emotional adjustment at workplace (EAWP) from a sample of 414 IT professionals. The relationship was measured using an analysis of correlation.

LITERATURE REVIEW

Over time, researchers have attempted to unite emotion with intelligence though term "emotional intelligence" was not always used, but it was expressed in different ways. This concept has been studied and considered since the beginning of the twentieth century (Goleman, 1995), and Edward Thorndike is credited with the initial study as in 1920 he researched dimensions of EI as a form of "social intelligence". Initially he investigated social intelligence as one component of intelligence measured by the IQ score. Further in 1983, Howard Gardner wrote about "multiple intelligences" which he divided into "intrapersonal" and "interpersonal" intelligences. These intelligences were the foundation for the later models of EI (Goleman, 1995). However, the term 'Emotional Intelligence' (EI) owes its origin to Peter Salovey (University of Yale) and John Mayer (University of New Hampshire) who published their landmark article, "Emotional Intelligence" in journal named *Imagination, Cognition, and Personality* in year 1990. Their article presented the first model of emotional intelligence. But it was Denial Goleman (1995) who popularized this term by his bestseller book entitled *Emotional Intelligence: Why It Can Matter More Than IQ* (1995). He describes EI as "abilities such as being able to motivate oneself and persist in the face of frustrations; to control impulse and delay gratification; to regulate one's moods and keep distress from swamping the ability to think; to empathize and to hope."

Goleman's framework for emotional competence is divided into two categories. First is *personal competences*, which determines how individual manages himself, this includes self-awareness, self-regulation and self-motivation. The second category is *social competences*; this looks at how one manages his relationships and includes empathy and social skills with a purpose (Goleman, 1998). A brief description of each is given below.

1. **Self-awareness;** it is the ability to recognize and understand one's moods, emotions.
2. **Self-regulation;** The ability to control, redirect impulses and moods means the propensity to suspend judgment to think before acting.
3. **Self-Motivation;** A passion to work for reasons that go beyond money or status it enables individual to pursue goals with energy and enthusiasm.

4. **Empathy;** it is an ability in managing meaningful relationships and building networks; Skills in treating people according to their emotional reactions.
5. **Social skill;** this is a proficiency in managing relationships and building networks i. e. an ability to find common ground and support.

Above mentioned EI Competencies has been considered for calculation of EI score in present study.

The IT industry is characterized by phenomenal and increasingly rapid change. The life expectancy of many IT products is getting less each year, and the price realized for such technology & products continuously falls. Because of the unique set of environmental pressures in the IT industry such as continuous re-engineering, outsourcing, more sophisticated markets requiring more creative and breakthrough technologies on the other hand more demanding customers, more competition, and general information overload, these factors have a negative impact on the well-being of employees and the effectiveness of an organization. To deal with these challenges employees need not only technical skills but other skills commonly known as emotional skills, as explained by Goleman (1998) that the personal and social competencies in Emotional Intelligence (EI) enhance an individual's high technical and functional expertise and for software engineers EI means a balance of technical and emotional considerations to problem solving scenarios. Goleman (1995) explains that EI is more important than IQ for workplace success. The value of emotional intelligence in the workplace is quite searched. Several researches has been conducted to find out importance of EI in organization such as its' relationship to leadership effectiveness (Goleman et. al, 2002; Palmer et. al, 2002), emotional labor and individual performance (Douglass et. al, 2004), work attitudes and outcomes (Carmeli, 2003), job satisfaction and organizational commitment (Adeyemo, 2007), principal leadership performance (Cook 2006) and financial success of an organization (Bradberry and Greaves, 2003).

Recent studies showed that EI based competencies are better predictors of performance and adjustment at workplace (Cherniss, 2000; Feist and Barron, 1996) as emotional competencies indicate the level of individuals' work performance and degree of adjustment individual will have with his surroundings. That is to say even though they have similar IQ levels individuals may have different emotional adjustment because of their EI and associated competencies (Emmerling and Goleman, 2005). Further Goleman (1998b) explained that an individual's emotional intelligence can affect one's work situation and workplace adjustment.

The present study is an attempt to find out the impact of emotional intelligence on software engineers' adjustment at workplace emotionally. Is EI has any kind of bearing on their relationships with peers, superiors and team mates, does it has any effect on their happiness at workplace (emotional adjustment at workplace); are the main questions of this research study.

METHODOLOGY

I. Hypothesis

In the light of literature reviewed above following hypothesis (null) was set to be explored.

Hypothesis (H_0): Emotional intelligence does not have any effect on software engineers' emotional adjustment at workplace.

II. Sample

Sample consists of 414 software engineers, working in different IT companies in India, mainly in the cities of Bangaluru, Pune and NCR (Delhi, Noida and Gurgaon). A structured questionnaire was administered to 600 respondents to generate data, out of which 476 responded back and 414 were found usable (only those employees were considered for study who had at least one year of work experience in their current organizations). The response rate for present study has been 69%. Total 21 IT companies were considered for present study.

III. Sampling Technique

Area and random sampling method was used to collect these responses, first IT firms were divided into areas, based on geographical location of IT firms cluster (IT hub) in India then individual IT firm within area was randomly sampled (Neuman, 2003).

To reduce the biasness in response and to create a mixed sample, further stratification was also done on the basis of demographic profile of respondents which included gender, marital status and hierarchical position- team leader and team member. A brief description of demographic variables of data set is presented in table 1.

Table-1: Demographic Representation of Sample

Variable	Frequency	Percentage (%)	Total
Gender			414
Male	255	61.6%	
Female	159	38.4%	
Designation			414
Team Leader	48	11.6%	
Team Member	366	88.4%	
Marital Status			414
Married	173	41.6%	
Single	241	58.4%	
Female Respondents			159*
Married	70	44%	
Single	89	56%	
Male Respondents			255*
Married	103	40.4%	
Single	152	59.6%	
			*Total: 414
Region			

NCR	158	38.2%	414
Pune	126	30.4%	
Bangaluru	130	31.4%	
Team Leader			48
Male Team leader	30	62.5%	
Female Team leader	18	37.5%	

IV. Data Collection Instrument

Data for present study was collected by two well defined structured questionnaires, for EI and for emotional adjustment at workplace.

- a) **Questionnaire for EI:** The EI Questionnaire was drafted on the basis of Daniel Goleman's (1995, 1998) competencies of Emotional Intelligence; *Self Awareness, Self Regulation, Self Motivation, Empathy and Social Skills* .The questionnaire had two sections, section one aimed to cover demographic variables, while section two aimed to check emotional intelligence level of respondent. Section two of questionnaire had 40 items related to emotional intelligence, rated at **five point Likert scale**, having 1 = strongly disagree to 5 = strongly agree and 3= undecided. The higher score represented higher emotional intelligence.
- b) **Questionnaire for Emotional Adjustment at Workplace:** This questionnaire had ten questions. It aimed to check the emotional adjustment of employees at workplace (Singh, 2008). Like EI questionnaire a **five point Likert Scale** starting from strongly disagree to strongly agree (1 – 5) was used.

V. Reliability of the Questionnaire

The reliability of scales was assessed using Cronbach's Alpha. It may be mentioned that its value varies from 0 to 1 but, satisfactory value is required to be more than 0.6 for the scale to be reliable (Cronbach, Lee J., and Richard J. Shavelson 2004; Cronbach, 1951). In the present study the Cronbach's alpha reliability coefficient has been checked of overall as well as of subscales too. The scores are given in table 2.

Table 2: Reliability Statistics for Scales

Name of Subscale	Reliability Statistics (Cronbach's Alpha)	N of Items
Self –Awareness	0.851	8
Self-Regulation	0.740	8
Self-Motivation	0.629	8
Empathy	0.745	8
Social Skills	0.848	8
Emotional Adjustment at Workplace	0.803	10
Overall Questionnaire	0.801	50

The questionnaire had an overall score of **Cronbach's Alpha (0.801)** and its 6 sub-scales range from **0.629 to 0.851**. These results indicate that the instrument has a high internal consistency and reliable for further use.

DATA ANALYSIS & INTERPRETATION

As per research question to find out the significance between respondents’ emotional intelligence level and their emotional adjustment at workplace correlation and linear regression were used.

I. Correlation Analysis between EI, its competencies and Emotional Adjustment at Workplace

Correlation was applied to check if there was any significant relationship among EI competencies (Self-awareness, Self-regulation, Self-motivation, Empathy and Social skills), total EI score and emotional adjustment at workplace. Table 3 shows result of correlation analysis among total EI score, EI competencies and employees’ emotional adjustment at workplace which has been cited in the study as EAWP. The result of correlation analysis shows that, there was a positive correlation among all the EI competencies (self-awareness, self-regulation, self-motivation, empathy and social skills), with one another, and with total EI score with a significance level of 0.01(2-tailed). **The correlation coefficient varies from .628 to .832.** In present study amongst EI competencies the minimum correlation is between self-awareness and empathy (.696) while highest is between self-awareness and social skills (.786) while total EI score is maximum correlated with self-regulation (.722) and least with empathy (.628).

Result further explains that there is also a positive correlation among EI competencies, total EI score and emotional adjustment at workplace (EAWP) significant at 0.01 level of significance (2-tailed). Within EI competencies EAWP is high correlated with social skills (.832) while minimum with empathy (.690) and with total EI score it is moderately correlated (.631).

Table- 3: Coefficients of Correlation of EI Competencies with One another, Total EI Score & Emotional Adjustment at Workplace

Pearson Correlation Coefficients							
Competencies	Self-Awareness	Self-Regulation	Self-Motivation	Empathy	Social Skills	Emotional Adjustment at Workplace	TOTAL EI Score
Self-Awareness	1	.733**	.758**	.696**	.768**	.766**	.658**
Self-Regulation		1	.801**	.750**	.789**	.701**	.722**
Self-Motivation			1	.774**	.828**	.767**	.654**
Empathy				1	.728**	.690**	.628**
Social Skills					1	.832**	.679**
Emotional Adjustment at workplace						1	.631**
TOTAL EI Score							1

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

a. Listwise N=414

II. Regression Analysis between EI & EAWP

Linear regression was applied to find out the relation between emotional intelligence (EI) and emotional adjustment at workplace (EAWP). To explore influence of EI on respondent’s

emotional adjustment at workplace for analysis purpose Emotional Intelligence (EI) was considered as independent variable whereas emotional adjustment at workplace (EAWP) was treated as dependent variable. Table nos. 4, 5 and 6 below are showing the results of linear regression.

Table 4: Linear Regression analysis

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.870 ^a	.757	.756	.22936
a. Predictors: (Constant), EI-SCORE				

In this model summary r^2 is called the coefficient of determination; the r^2 explains that how much of the variance in the dependent variable is explained by the independent variable or the amount of variation in the response that is due to the variability in the predictor variable. The value of r^2 close to 0 means that estimated model is a poor one while values close to 1 imply that model does a great job explaining the variation. In current model the value of r^2 is .757 means that about 75.7% variation in emotional adjustment at workplace could be explained by emotional intelligence while 24.3% variations may be because of some other reasons.

ANOVA table in SPSS regression output tells us if the association between the variables is statistically significant i. e if this is a significant linear regression. This is determined by the result of the F-test ("F"), and is indicated by "Significance F", the associated P value for the F test.

Table-5: ANOVA

ANOVA ^b						
Model		Sum of Squares	df	Mean Square	F	Significance
1	Regression	67.505	1	67.505	1.283E3	.000 ^a
	Residual	21.674	412	.053		
	Total	89.179	413			
a. Predictors: (Constant), EI-SCORE						
b. Dependent Variable: EWPA						

The result explains the Significance is .000 (i.e. p is <.05), so the outcome is statistically significant. It indicates that there is a significant positive relationship (F (1,412) = 89.179, p < .05). As both the constant and EI contribute significantly to the model (Significance = .000). Table 7 presents coefficients of regression analysis.

Table 6: Coefficients

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Significance
		B	Std. Error	Beta		
1	(Constant)	2.192	.043		50.762	.000
	EI-SCORE	.880	.025	.870	35.822	.000
a. Dependent Variable: EAWP						

The table above shows that all coefficients are positive, so it could be interpreted that the relationship is direct or positive, meaning that higher value of the dependent variable (EAWP) is associated with higher value of the independent variables (EI). As value of B is .880 so it could be concluded that for every one unit increase in EI score, there is a corresponding increase in EAWP of .880.

For the same Regression Equation¹ will be as

Emotional Adjustment at Workplace = 2.192 + .880 * Emotional Intelligence
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RESULTS & DISCUSSION

Results of regression analysis and correlation explain the association between EI level of respondents and their emotional adjustment at workplace encourage us to reject the null hypothesis as given below.

Hypothesis Test Summary(H ₀₂)			
Null Hypothesis	Test	Significance	Decision
H₀: Emotional intelligence does not have any effect on software engineers' emotional adjustment at workplace.	Correlation & Linear Regression	Regression Equation is EAWP = 2.192 + .880*EI	Reject the null hypothesis.

Since the hypothesis (null) is rejected, hence it is concluded that Emotional Intelligence positively affects IT employees' emotional adjustment at workplace in Indian IT industry. Positive correlation among EI competencies, emotional adjustment at workplace (EAWP) has also been observed, it is highly correlated with social skills (.832) while minimum with empathy (.690). Further ANOVA output shows that all coefficients are positive, so it could be interpreted that the relationship is direct or positive between these two variables.

CONCLUSION

Results of correlation and regression analysis explain that EI has a statistically significant relationship with emotional adjustment at workplace. Thus, it may be stated with confidence, that EI does bear a positive relationship with software engineers' emotional adjustment at workplace in Indian context. Findings of present study are in line with many other empirical studies conducted in the same arena to explore the effect of EI on workplace adjustment and have shown a positive association (Fox and Spector 2000; Jordan et al 2002; Wong and Law 2002).

¹ as Regression Equation is “Predicted variable (dependent variable) = intercept + slope * independent variable”

The positive relationship between EI and emotional adjustment at workplace implies that people with higher EI enjoy better relations with peers and superiors; enjoy working in teams as compared to those with lower EI. This may be because high EI ensures high motivation, high inspiration level, leadership quality, high negotiation skills, and a pleasant personality. Thus, individuals with high EI find themselves in a better position at the workplace irrespective of their position in organizational ladder. Moreover they tend to develop more “friends” than “foes” in the workplace. Another reason is that Emotionally Intelligent people are highly motivated thus meet their role demands without experiencing much stress. In addition, since, they understand and value others' emotions, they tend to make better bonds with people around them, their empathetic nature probably makes the significant others more understanding and empathetic towards them, thus practically lessening the role demands placed upon them.

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