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Emotional Intelligence and Health of students

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ABSTRACT:

Emotional intelligence (EI), to predict the health of students, is the basic theme of this paper. Emotional intelligence shows the ability/competence to tune into the emotions of self and others to manage them for better survival results. Good health doesn't mean disease free life, rather it is personal, social and psychological well-being. To find out the relation and impact among these two variables, one hundred students of urban and one hundred students of rural area are taken for the study. These are the male and female students of graduation and post-graduation studying in Baba Saheb Bhim Rao Ambedkar Bihar University (B.R.A.B.U.), Muzaffarpur, Bihar, India. for the purpose of empirical study of the above mentioned topic. The paper also uses the available literature review to signify the EI to support better health. Though, the result of the study shows negative & low correlation among the EI and health of students. This means that there is less influence of EI on Health of students at BRABU, Muzaffarpur. The regression analysis of the data obtained from students depicts that only five percent change in health is explained by the variation in EI. So, there is no significant impact of EI on health of students in present study. Independent sample t-test reveals no significant difference between EI on the basis of sex in this study. Again, at health parameters female are found to be better in comparison to male students.

Keywords: Emotional Intelligence, Health, students

Introduction:

Emotional intelligence is taken as predictive variable for several psychological factors in academia. EI and health of students has been taken as two variables for the present study. Previous three decades have witnessed the abundant use of EI in the field of psychology as indicator of success in social, personal and occupational life. Emotional Intelligence, as a trait, competency or, ability has been discussed and used in research with open-heart by psychologists and occupational professionals.

Prior research conducted in this field shows positive correlation between EI and health. One good example is the review of people with heart problems, stress management, coping anxiety and score of their emotional intelligence done by Salovey, Bar-On, Taylor etc. All indicate the better score at EI results with good health.

Present study works to decipher the relation among EI and Health of students of graduation and post- graduation of B.R.A.B.U. Muzaffarpur, Bihar, India. Data collected from colleges of the said university has been used for the study. Male and female students of graduation and post-graduation from urban and rural areas have been taken. This is completely an empirical study based on primary data obtained from the students.

Statistical methods used to infer the results are Pearson correlation, Regression, independent sample t-test etc. For the purpose of descriptive analysis mean, standard-deviation, standard error and tables are used to describe the data.

EI as a variable for present study contains four portions (a) intrapersonal awareness, (b) interpersonal awareness, (c) intrapersonal management and (d) interpersonal management. As far as health is concerned psychological and physical health are the components of this variable.

The **purpose** of the present research is to represent a valid relation of EI and health among the students of graduation and post-graduation of B.R.A.

Bihar University, Muzaffarpur. Gender wise EI and health has also been inferred and results discussed.

Review Of Literature:

In this section we will take a look of the background and present work on emotions, intelligence, emotional intelligence, health & impact of EI on health. This review gives a glimpse of previous and present condition of research in this field.

Emotions and their impact: Emotions can route our daily life decisions. Anxiety, depression, anger, happiness etc are the factors with which people work in their daily life. Whenever we take any decision, do any work, talk to anyone, walk, run or indulge in any personal or, social activity our brain works all along with these emotions. These emotions directly or indirectly affect our behavior. Anxiety can mislead the judgment, depression can stop us to use reasoning, anger may obstruct rational action and so on. Emotions can show personally important issues (Nussbaum, 2001). Historical antecedents of EI are research on emotions. Beginning of development of EI is emotion system (Schultz, Izard and Abe, 2005). According to Schultz et al., emotions help in responding and adapting towards many challenges of life. Evolution of human being on this planet witnesses the importance of emotions. Making different type of faces, in different emotional expressions, is the proof that the emotions are important in our daily life. Hissing of snakes, barking of dogs, roaring of lions are the examples, which show that emotions are important factors in life of every organism on this planet. Our daily life expression, confrontation, and all type of activities that we face in social and personal life are affected by emotions.

Intelligence: For long duration of time intelligence was taken as cognitive aspect of mental construct. Mechanical, abstract and social are the three categories of intelligence (Thorndike, 1920); Purposeful action, rational thinking (Wechsler, 1950); purposive adaptation to real-world (Sternberg, 1985); different forms of intelligence viz. interpersonal, intrapersonal, mathematical, linguistic, musical etc.(Gardener, 1983) are the different models on which the building of intelligence has been created historically. These are the cognitive themes of intelligence. Though, there are several other dimensions of intelligence which are important in practical life. Emotional aspects, personal parameters and survival dimensions are more important in comparison to cognitive aspects in our day-to-day survival in social and personal life (Bar-On, 1997; Goleman, 1995).

Emotional Intelligence: Some people are better in comparison to others, when the matter of solving problems and assessment and management of emotions of themselves and others is considered (Mayer and Salovey, 1997). So, Knowing the emotions of self and managing them, knowing the emotions of others and relationship management is popularly considered as emotional intelligence.

Three models of EI are present in academia i.e., Competency model by Daniel Goleman, Ability model by Mayer and Salovey and Trait model by Bar-On. Their measuring tools are Emotional competency Inventory, MEIS/MSCEIT and EQ-i respectively.

Ability Model: It says about perception, appraisal and expression of emotion, Understanding emotion, and regulation of it for the promotion of emotional and intellectual uplift (Mayer and Salovey, 1997). It is measured by MEIS- Multifactor Emotional Intelligence scale (2000) & by MSCEIT-Mayer Salovey Caruso Emotional Intelligence Test.

Competency Model : Daniel Goleman (best seller book- Emotional Intelligence, 1995) says that it is made up of self-control, empathy, self-awareness (Goleman, 1998).

Trait Model: Reuven Bar-On (2002) gives the concept of EQ (emotional quotient) and talks about personality traits as responsible factor for well-being.

Health: Good health is the state of physical, psychological and social well-being. Good health is not only the absence of disease (WHO). EI predicts the success in life. Prediction of stress is done by EI for the people who have intense emotions (Gohm et al., 2005). There may be two aspects of health viz., psychological and physical health. EI has its impact on psychological health. As far as physical health is concerned EI also affects physical health of individuals.

EI and Health: People showing low scores on emotional intelligence have higher risk of heart disease. People with frequent mood change show systolic and diastolic blood pressure towards stress (Salovey, 2001, 2002). Higher the emotional repair, lower the bodily pain (Salovey, 2002). Emotional intelligence and health are linked via

psychophysiologic stress reactivity (Woolery and Salovey, 2004). Higher EI is related to better health (meta analytic study by Schutte, Malouff, Thorsteinsson, Bhullar and Rooke, 2007) High scorers on EI are better to cope with stress of life (Bar-On, 1997; Taylor, 2001).

Hypothesis: One the basis of previous study on EI and health following statements has been hypothesized.

H1 Higher the emotional intelligence better will be the health of students. **Regression Analysis**

H2 Emotional intelligence of male students is found to be better than female students.

Independent Sample t-test

H3 Health of female students is found to be better than male students. **Independent Sample t-test**

Objectives of the Study:

1. To find out the emotional intelligence of male and female student of urban colleges.
2. To find out the emotional intelligence of male and female students of rural colleges.
3. To find out the health condition of male and female students of urban colleges.
4. To find out the health condition of male and female students of rural colleges.

Research Methodology: This study uses the quantitative analysis of the data collected from students of graduation and post-graduation of different colleges of B.R.A. Bihar University, Muzaffarpur, Bihar, India. Pearson r, regression analysis, independent sample t-test have been used for the purpose to test the hypothesis. Microsoft Excel helps in calculation of data.

Population: Population of the study is the male and female student of different colleges of B.R.A. Bihar University, Muzaffarpur studying in graduation and Post-graduation.

Sample: One hundred male and one hundred female students are taken for the study on the basis of random sampling. Among this sample 50 percent are from rural and 50 percent are from urban background. So, a total of 200 students as sample for the study of a big number of population i.e. students of graduation and post -graduation of B.R.A. Bihar university, Muzaffarpur have been considered.

Tools : For Emotional Intelligence EII-MM (Emotional Intelligence Inventory by Dr. S.K.Mangal and Mrs. Shubhra Mangal has been used to measure the EI of 200 students of different colleges of B.R.A. Bihar University, Muzaffarpur. It consists of four factors as intra personal awareness, interpersonal awareness, intrapersonal management and interpersonal management.

Data Analysis: Regression analysis, pearson r, independent sample t-test has been used to test hypotheses under inferential statistics section. In order to find out useful information from the data, descriptive statistical procedure is applied. For that purpose Microsoft excel is used. To discuss the orientation of responses on five point likert-scale, statistics used is mean, standard deviation, standard error etc.

Results and Discussion:

Data has been entered in excel sheets of MS-Excel software and with the help of tools available in MS-excel, data interpretation has been done. Results obtained are discussed in this section in tabular and graphical form.

Table. 1

Gender	Number	Urban	Rural
Female	100	50	50
Male	100	50	50
Total	200	100	100

(Composition of sample taken)

Tablel 1 shows that there are 100 female and 100 male students present in this study. Among overall 200 students there are 50 male urban, 50 female urban, 50 male rural and 50 female rural students are available.

Figure 1 represents the pi-chart of Female (rural and urban) and Male (rural and urban) students of B.R.A.Bihar University under study, showing 50% rural and 50% urban female students and 50% rural and 50% urban male students.

Table. 2

Results of Emotional Intelligence

		Minimum	Maximum	Mean	Std. Deviation
Emotional Intelligence	200	39	170	115.12	21.70
Valid N (list-wise)	200				

Table 2 represents the minimum score obtained by 200 students i.e. 39 and maximum score is 170 at emotional intelligence. Means of the data is 115.12 overall and standard deviation i.e. deviation of data from mean is 21.70.

Table. 3
Descriptive Results of Health:

Factors of Health	N	Minimum	Maximum	Mean	Std. Deviation
Health	200	0	70	27.39	15.97
Valid N (list-wise)	200				

Table 3 says that the minimum score obtained i.e. 00 and maximum score is 70 at emotional intelligence by 200 students. Mean of the data is 27.39 overall and standard deviation i.e. deviation of data from mean is 15.97.

Table. 4
Results of factors of Emotional Intelligence:

Factors of EI	**N**	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Intra-personal Awareness	200	05.00	50.00	28.45	07.53
Inter-personal Awareness	200	04.00	49.00	27.66	07.43
Intra-personal Management	200	05.00	54.00	39.00	08.23
Inter-personal Management	200	09.00	45.00	33.00	06.30
Overall Emotional Intelligence	200	39.00	170	115.12	21.70

In Table 3, there is a description of all factors of Emotional Intelligence i.e. intrapersonal awareness, Interpersonal awareness, Intrapersonal management and Interpersonal management. Minimum and maximum scores obtained by all students (200 male and female) has been mentioned. and factor wise mean and standard deviation has been presented in the data of table.

Level of Emotional Intelligence gender wise : According to the tool applied for the measurement of EI of students of B.R.A. Bihar University, there are seven level of emotional intelligence viz., Extremely High, High, Above average, Average, Below Average, Low and Extremely low. Gender wise results are mentioned in this section.

Table- 5
Level of Emotional Intelligence of Female students:

Class- Interval	**Z-score range**	**Grade**	**Level of EI**	**EI Score obtained**
183 and above	+2.01 & above	A	Extremely High	00
165 to 182	+1.26 to 2.00	B	High	00
148 to 164	+0.51 to +1.25	C	Above Average	03
123 to 147	-0.50 to +0.50	D	Average	30
106 to 122	-1.25 to-0.51	E	Below Average	30
88 to 105	-2.00 to -1.26	F	Low	29
87 & below	-2.01 & below	G	Extremely Low	08
				100

Table no. 5 shows that no female students are at extremely high and high level, i.e. A and B, of emotional intelligence. 03 female students are at above average with C grade, 30 are at average with D grade, 30 are at below average with E grade, 29 are at low with F grade and 08 female students are at extremely low end of the emotional intelligence.

Table – 6
Level of Emotional Intelligence of Male students:

Class- Interval	**Z-score range**	**Grade**	**Level of EI**	**EI Score obtained**
188 and above	+2.01 & above	A	Extremely High	00
170 to 187	+1.26 to 2.00	B	High	01
151 to 169	+0.51 to +1.25	C	Above Average	09
126 to 150	-0.50 to +0.50	D	Average	23
107 to 125	-1.25 to-0.51	E	Below Average	33
89 to 106	-2.00 to -1.26	F	Low	31
88 & below	-2.01 & below	G	Extremely Low	03
				100

Table no. 6 shows that no male student are at extremely high level, i.e. A, only one students is at High level i.e. at B grade of emotional intelligence. 09 male students are at above average with C grade, 23 are at average with D grade, 33 are at below average with E grade, 31 are at low with F grade and 03 male students are at extremely low end of the emotional intelligence.

Descriptive results of Health condition of Students

Among 200 students of B.R.A. Bihar University, Muzaffarpur, PGIHQ.N-1-VWP questionnaire of health has been distributed and the results are mentioned below.

Table 7.

Results of factors of Health

Factors of Health	N	Minimum	Maximum	Mean	Std.Deviation
Physical health	200	00.00	32.00	09.26	06.67
Psychological health	200	00.00	42.00	18..14	10.98
Overall health	200	00.00	70.00	27.39	15.97

Table 7 shows the results of physical and psychological health of students with a range of scores. Minimum response begins with zero in both physical and psychological health section, maximum result goes upto 32 and 42 respectively. Mean of result is 09.26 for physical health and 18.14 for psychological health. Overall performance of 200 students at health depicts a range from zero to seventy with mean of 27.39 and standard deviation of 15.97. Detailed description of results and their meaning is given in tables below.

Level of health condition of students gender wise: Tables depicted below are the representation of health condition of male and female students under study.

Table – 8

Level of Health of Female students:

Class- Interval	Z-score range	Grade	Level of Health	Health Score obtained
61 and above	+2.01 & above	G	Extremely Poor Health	05
52 to 60	+1.26 to 2.00	F	Very Poor Health	06
42 to 51	+0.51 to +1.25	E	Poor Health	18
28 to 41	-0.50 to +0.50	D	Average/Moderate Health	34
18 to 27	-1.25 to-0.51	C	Good Health	16
08 to 17	-2.00 to -1.26	B	Very Good Health	18
07 & below	-2.01 & below	A	Extremely Good Health	03
				100

Table 8 shows the overall health of female students. There are 5 students having extremely poor health with G grade, 6 students have very poor health with F grade, 18 students have poor health with E grade, 34 students have average/moderate health condition with D grade, 16 students have good health with C grade, 18 students have very good health with B grade and 3 students possess extremely good health with A grade among overall 100 female students of the study.

Table. 9

Level of Health condition of Male students:

Class- Interval	Z-score range	Grade	Level of Health	Health Score
61 and above	+2.01 & above	G	Extremely Poor Health	00
52 to 60	+1.26 to 2.00	F	Very Poor Health	00
42 to 51	+0.51 to +1.25	E	Poor Health	07
28 to 41	-0.50 to +0.50	D	Average/Moderate Health	28
18 to 27	-1.25 to-0.51	C	Good Health	30
08 to 17	-2.00 to -1.26	B	Very Good Health	19
07 & below	-2.01 & below	A	Extremely Good Health	16
				100

Table 9 shows the overall health of male students. There is no any student at G and F level i.e. of extremely poor or very poor health, 7 students have poor health with E grade, 28 students have moderate or average health with D grade, 30 students have good health with C grade, 19 students are at very good health with B grade and 16 students possess extremely good health with A grade among overall 100 male students of the study.

B.Inferential statistics: Inferential statistics is applied to know the conclusion and test the hypotheses of the study.

Analysis of Hypothesis 1:

This hypothesis says that higher the emotional intelligence better will be the health of students. In order to test this hypothesis the test applied is regression analysis. Relationship between two variables can be determined with the help of statistics. Tools helping to determine the relationship and impact among two variables may be pearson r and regression analysis respectively.

Pearson correlation is used to find out the relation between two variables. It means one variable is positively or negatively associated with another variable. This is a linear relationship which ranges from +1 to -1 through 0. Zero correlation means there is no relationship between two variables.

This result shows that the correlation among the results of EI and Health administered among 200 students of B.R.A. Bihar University gives the result of (-0.23) . which is far away from (-1). It means there is a negative and weak correlation among EI and Health of students of B.R.A. Bihar University. This is little correlation among EI and health in opposite direction. Thus increasing EI is weakly related with decreasing health among students.

Regression analysis: Regression analysis is done to find out the degree of association between two variables. It predicts the degree of change in dependent variable in accordance with change in independent variable. It means how much change takes place in dependent variable, whenever there is a change in independent variable.

Table- 10

Results of Regression Analysis

No. of Observations	R Square	Significance p	Significance F	Regression Coefficient
200	0.054465106	0.000881601	0.000	-0.171

Table 10 shows the regression analysis of hypothesis 1. As we know that the result of R square closer to 1, the better the regression line fits the data. Here it is only 0.05 which is very less to 1.

Result of R square is only 0.05. After changing it to percent (0.05*100) = 5% This equals five percent. It means that only 5 percent in change in health is explained by the variation in Emotional Intelligence.

Significance F - To check the reliability of results we check significance F value. If the significance F is less than 0.05, the result is found to be reliable. Here the value of significance F is 0.000881601 and is very less than 0.05. So, the result is reliable.

Significance p - All p values should be less than 0.05. In our study the significance p values are 0.000 and 0.0008. which are less than 0.05

As we know that the measurement of p-value is done to know the significance of observational data. Whenever we identify an apparent relationship between two variables, there is always a possibility that this correlation might be a coincidence. A p-value calculation helps to determine if the observed relationship could arise as a result of chance. Here this calculation is not a matter of chance and is reliable.

Hypothesis 2: Second hypothesis is that the emotional intelligence of female students would be higher than male students. The test applied for testing this hypothesis is independent sample t-test.

Table 11.

Gender	Observations	Mean	Std. Deviation	Std. Error	Value of t-test
Female	100	112.59	21.37	2.14	0.099281
Male	100	117.65	21.84	2.18	

The value of t-test (0.09) obtained is greater than 0.05. This shows that there is no significant difference between male and female students on the basis of Emotional Intelligence. So, the present hypothesis two is rejected.

Value of t-test obtained (0.00) is very less than 0.05 which indicates the reliability of the data and shows that the hypothesis is proved to be right. So, there is a significant difference between health condition of male and female students of B.R.A. Bihar University and Female students are better at health in comparison to male students.

Conclusion:

Hypothesis 1 – It indicates that higher the EI better would be the health of students. Just because the pearson r result being (- 0.23), which is a weak negative correlation among the variables EI and Health, shows that there is a very weak and negative impact of EI on health.

Regression analysis of the data obtained from students shows that result of R square is only 0.05. After changing it to percent (0.05*100) = 5% This equals five percent. It means that only 5 percent change in health is explained by the variation in Emotional Intelligence. So, hypothesis one is not accepted means it is rejected in the present study among 100 male and 100 female students of graduation and post-graduation of B.R.A. B.U. Muzaffarpur, Bihar.

Hypothesis 2 – It shows that the EI of female students will be better than male. The value of t-test (0.09) obtained is more than 0.05. So, no significant difference is present between male and female students as per EI is concerned. So, hypothesis two is rejected.

Hypothesis 3 – It says that the female students are better at health than male ones. The value of t-test obtained is 0.00. This value is less than 0.05. Which supports the fact that the data is reliable and hypothesis is proved to be right. The difference is significant and supports that that the health condition of female students is better in comparison to male students of B.R.A.B.U.

Future prospects: There is a need to get larger sample size and detailed sampling of students for results with universal acceptance. This can be done by data collection from other universities also.

Conflict of interest: No any conflict of interest is present among the authors of this study.

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