

## A CORRELATIONAL STUDY BETWEEN EMOTIONAL COMPETENCE AND TEST ANXIETY AMONG THE SECONDARY SCHOOL STUDENTS

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### Abstract :

The present research aimed to study the relationship between secondary school students' level of emotional competence and their test anxiety. In the study all the participant students exclusively belonged to the secondary level of schooling from the Saitual town of Aizawl district of Mizoram for the academic year 2019. Sample comprised of 70 students (29 boys and 41 girls) which were selected using stratified random sampling. This result was supported using descriptive statistics, Pearson product moment correlation and Student 't' test for unpaired sample assuming equal variance. The finding of the study revealed that majority of student had a normal level of emotional competencies and also a normal level of test anxiety, and a negative but non-significant relationship existed between these two variables. This relationship was more negative in case of girls than boys. Both in high and low anxiety groups the relationship was found to be negative. Also no significant difference was observed in these two traits with regard to their gender. The findings suggest that a good training into emotional competencies may help students to regulate their test anxiety.

**Keywords:** Emotional Competence, Test Anxiety, Secondary School Students

Emotional intelligence created interest among researchers in social and applied sciences after the first scientific publication of emotional intelligence in 1990 through the work of Salovey & Mayer. It is said that intelligence cannot be enhanced much but emotional intelligence can be enhanced to a great extent. Emotional aspect of learner has been neglected for long in the field of academics. It has been proved that key to success in any field does not lie on 'what' to learn but it lies more in 'how' to learn. It is the emotional competency of the learners that enable them to sustain in hours of stress. Often the emotional state of the

learner is more decisive in coping up with the difficult times. Students feel the fear of testing which is psychologically a normal phenomenon but too much of test anxiety is sometime due to the fact that they do not emotionally connect to the subject. Our actions are guided by our emotions and therefore it is strongly believed that there is some possible connection between one's psychological state of affect and achievement in their subject, also supported in recent researches. The students' achievement can be improved if student feel secured in their classrooms and share an affective bond with their teachers. People with high emotional

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intelligence also have high level of emotional competency. Emotional competence is derived from emotional intelligence and can be defined as an ability person has for the expression of his or her emotions with complete freedom. Bhat & Khan (2018) state that emotional competence is a social skill for interpretation and understanding of the emotions displayed by others and an ability to appropriately display one's emotions and inner feelings.

Anxiety is feeling nervous or worrying about things that might happen in the future or that has been happening which can cause discomfort to the person. Anxiety can make a person unable to do things he/she is supposed to do properly or disable him to do certain daily tasks or roles efficiently. It is a feeling in which intense fear, worries and apprehension may characterize them. Anxiety can also be very distracting and can affect one's emotion which can cause uncomfortable physical sensation and thus can lead to the person having negative thoughts. These can cause uncomfortable physical sensation and in some severe case may lead to health disorders affecting the person in a negative way. However, anxiety being a characteristic of human nature may have some possible benefits. It has been found by scientists that stress or anxiety to some extent may not be necessarily a bad thing. Eustress (beneficial stress) which is a good kind of stress can keep us motivated and excited about certain things in life. Most people are likely to have experienced stress or anxiety prior to examination or tests. The fact is that, a little bit of

nervousness can be beneficial by enabling us to perform at the best level. But, these same stress, when it becomes excessive to the extent that it interferes with the performances during the tests or exams can be termed as test anxiety.

Test anxiety is thus a psychological condition where people are extremely distressed and anxious during the test periods. The degree at which people experience stress or anxiety during the test or exam may differ, but test anxiety is capable of impairing the memory and hinders the test performances. Test anxiety of right level to give good performance is required but people can get so anxious at times that they may actually be able to not perform at their best. Even if they possess the skills and knowledge to perform well on these situations, if they are excessively anxious, it impairs their performances. The severity of the test anxiety can differ considerably, depending upon the person as well as due to experience. Some may feel it difficult to concentrate in the exams but for a person who is only mildly anxious it can actually be helpful, as it can help to feel mentally alert and enabling to tackle the challenges that can arise during the examination or tests. Studies in recent past have been found to capture the relationship between these two psychological traits.

Berrocal, Alcaide, Extremera & Pizarro (2006) discussed that adolescents who are highly capable of managing feelings and regulating emotions may be less affected by anxiety and depression. Khaledian, Amjadian & Pardegi (2013) also discussed that with the emotional intelligence being higher, the individual has

lesser chance of encountering test anxiety and so on. Kumari & Jain (2014) also concluded about how student's preparation, concentration and performance can be hampered by too much stress and also found in the study about the high correlation between examination stress with level of anxiety in college students. Dawood et al. (2016) pointed out that the academic achievements of the students are not directly affected by test anxiety but rather anxiety may be a motivating factor during examination. Bhat & Farooq (2017) found that the students who are efficient in managing their emotions has lesser vulnerability to anxiety situations.

Keeping the above two psychological traits, i.e. emotional competency and test anxiety, the researchers are keen to know what kind of relationship exists between both especially in context of secondary Mizo students. Guided through existing literature review, researchers hold an assumption that a higher level of emotional competency may help individuals, especially the students to handle and regulate their higher level of test anxiety. The researcher also sought to find the influence of gender on these two psychological traits of students. Following are the research questions followed by objectives of the present study:

### **Research Questions**

1. What is the emotional competence level of secondary school students?
2. What is the test anxiety level of secondary school students?

3. What is the relationship between emotional competence and test anxiety among the secondary school students?
4. Is there any difference among emotional competence of boys and girls?
5. Is there any difference among test anxiety of boys and girls?

With the aim of finding valid answers to the above mentioned research questions, following research objectives were formulated:

### *Research Objectives*

1. To access the emotional competence of secondary school students.
2. To access the level of test anxiety of secondary school students.
3. To find out the correlation between emotional competence and test anxiety among the secondary school students.
4. To compare the secondary school students' emotional competence with respect to their gender.
5. To compare the secondary school students' test anxiety with respect to their gender.

### **2. Methodology**

The purpose of the present study is to find out the emotional competency and test anxiety among the secondary school students of Saitual town of Aizawl district, Mizoram. Descriptive survey method was employed for gathering quantitative data.

### *Population and Sample*

All students of secondary schools i.e. Class IX and X students in Saitual town formed the population of the present study.

It was estimated to collect 100 samples from the population using stratified random sampling. The stratification was based on gender and class level i.e. IX and X standard. However, owing to incomplete data some samples were discarded and the net collected sample comprised of 70 students with 29 boys and 41 girls.

*Tool:* In order to study the secondary school students' level of emotional competency and test anxiety the Scale for Emotional Competencies (EC-Scale) by Dr. H.C. Sharma & Dr. R.L. Bharadwaj and the Test Anxiety Scale (TAS) by Dr. V.P. Sharma was used for the purpose of collecting data.

*i) Emotional Competencies (EC-Scale):* The EC-Scale constructed by Sharma & Bharadwaj, 2007 was used to gather scores on emotional competencies of students. The scale is a blend of five different competencies as sub-scales on which separate scores are obtained and purposefully individual sub-scale scores can be used converting raw scores to Z-scores, or composite Z-scores can also be used adding all the sub-scale scores. There are 30 items in the scale with 6 items each for the five competencies. The five emotional competencies which can be studied through the scale are: a) Adequate

depth of feeling (ADF) assessed through items 1, 6, 11, 16, 21 & 26; b) Adequate expression and control of emotions (AEC) assessed through items 2, 7, 12, 17, 22 & 27; c) Ability to function with emotions (AFE) assessed through items 3, 8, 13, 18, 23, & 28; d) Ability to cope with problem emotions (ACPE) assessed through items 4, 9, 14, 19, 24 & 29 and e) Enhancement of positive emotions (EPE) assessed through items 5, 10, 15, 20, 25 & 30. Depending upon the composite T-scores the individuals can be classified into five categories highly competent, competent, average, incompetent and highly incompetent.

*Reliability and Validity of EC-Scale:* The reliability of the scale has been derived by employing two methods, viz., test-retest and split-half method. The obtained coefficient of reliability is enumerated as follows:

The scale is a highly reliable and can be suitably used on secondary school students. The validity of the scale has been determined with factor A and C of 16 Personality Factor Questionnaire and are found to be .64 and .69 respectively. The scale is administered widely on large samples and T-scores have been determined for different competencies and norms have been derived.

Table 1  
Coefficient of Reliability (N=100)  
Emotional Competencies

Method	Emotional Competencies					Total EC
	A ADF	B AECE	C AFE	D ACPE	E EPE	
Test-Retest (Interval 21 days)	.78	.85	.87	.75	.90	.74
Split-half	.71	.79	.82	.77	.81	.76

*Scoring Technique:* It is a five-point scale based on the lines of Likert having five alternatives to each item which are scored as 1, 2, 3, 4 & 5 from upper to lower end. The obtained raw competencies scores in each sub-scale are to be converted to Z scores with the help of Table values in the scale. The addition of five competencies scores are to be added and is to be interpreted using range of T-scores provided in the last Table in the manual. The maximum and minimum raw score to be obtained on the scale is that of 150 & 30 respectively.

*ii) Test Anxiety Scale (TAS):* The TAS scale is constructed by Sharma(1978) was used to gather data for secondary students' test anxiety levels. There are 30 items in the scale with no sub-scale defined. The individuals can be classified into five categories on the basis of test anxiety percentile position into the levels highest to lowest as extremely high test anxiety, high test anxiety, normal test anxiety, low test anxiety and extremely low test anxiety.

*Reliability and Validity of TAS:* The reliability of the scale has been derived by employing two methods, viz., test-retest and split-half method. The obtained Coefficient of stability by test retest method (after 10 days) is 0.927 and coefficient of internal consistency with odd-even method using Spearman Brown formula is 0.876. The scale is a highly reliable and can be suitably used on secondary school students. The predictive validity of the scale through teachers' rating is found to be 0.768 and through internal marks is 0.743.

*Scoring Technique:* It is a five-point scale with five alternative answers hierarchically presented. The five alternatives are assigned weight from first to fifth as 1, 2, 3, 4 & 5 respectively. The sum of all weights assigned to the testee would be the total anxiety score of the individual. The maximum and minimum raw score to be obtained on the scale is that of 150 & 30 respectively.

*Data collection:* The data was collected using stratified random sampling using the strata of class level i.e. IX & X and gender. All students are resident of Saitual Town, in the eastern block of Aizawl district, Mizoram. The total population of secondary school students in the town comprised of around 208 according to data provided in the Annual publication (2014-15) out of which a total of 70 samples have been selected. All the students were chosen for the academic year 2019-2020.

### 3. Findings and Interpretations

*Objective 1:* To access the emotional competency of secondary school students.

The secondary students were found to obtain a raw mean score of 94.02 with a maximum and minimum score of 123 and 76 with a standard deviation of 9.71 and SEM of 1.16. Table 2 provides the descriptive statistics of the students' over all EC raw scores along with scores obtained on each of the five sub-scales.

Table 2 provides the description of the distribution of students' EC raw scores for each of the sub-scales and total scores along with composite converted Z-scores.

Emotional Competencies	Mean	SD	SEM	Minimum	Maximum
ADF	17.6	3.05	0.35	12	27
AECE	19.85	3.27	0.39	13	26
AFE	17.05	2.80	0.33	11	26
ACPE	17.04	3.21	0.38	9	27
EPE	22.47	3.29	0.39	11	29
Total Raw scores	94.02	9.71	1.16	76	123
Total Z scores	260.67	20.19	2.41	224	318

Table shows that maximum mean score were obtained for the competency 'enhancement of positive emotions', EPE (22.47) and minimum mean score was obtained for the competency 'ability to cope with problem emotions', ACPE (17.04). The minimum score of 9/30 was obtained for competency 'ability to cope with problem emotions', ACPE and maximum score of 29/30 was obtained for competency 'enhancement of positive emotions', EPE and also maximum standard deviation (3.29) was obtained for the same. The least standard deviation was obtained for competency 'ability to function with emotions', AFE (2.80).

Further Table 3 provides the classification of students on the basis of their composite EC scores of range of T-scores.

With reference to Table 3 it is found that maximum students (89%) have an average level of emotional competency and rest 11% are having good level of emotional competency with one student

being highly emotional competent. It is interesting to note that none of the students falls into the category of emotional incompetencies which is a favourable scenario.

*Objective 2:* To access the level of test anxiety of secondary school students.

The secondary students were found to obtain a raw mean score of 74.29 with a maximum and minimum score of 106 and 49 with a standard deviation of 13.51 and SEM of 1.62. Table 3 provides the descriptive statistics of the students' TAS raw scores. Table 4 provides the classification of students on the basis of their percentile TAS scores.

With reference to Table 4 it is found that approximately half of the students (47%) have a normal test anxiety level which is a good sign. However approximately 24% of students are having high test anxiety level. Approximately 29% of students have low test anxiety level which is also sign of good mental health of students.

Range of T-Scores	Category	Frequency of Students (N=70)	Percentage of students
70 and above	Highly competent	1	1.43%
60-69	Competent	7	10%
40-59	Average	62	88.57%
30-39	Incompetent	0	0%
29 and below	Highly incompetent	0	0%

Table 4  
Classification of Secondary School Students into Test Anxiety Categories.

Percentiles	Category	Frequency of Students (N=70)	Percentage of students
Above 80 <sup>th</sup> Percentile	Extremely High Test Anxiety	13	18.57%
Above 75 <sup>th</sup> – 80 <sup>th</sup> Percentile	High Test Anxiety	4	5.71%
Between 75 <sup>th</sup> and 25 <sup>th</sup> Percentile	Normal Test Anxiety	33	47.14%
Below 25 <sup>th</sup> – 15 <sup>th</sup> Percentile	Low Test Anxiety	9	12.85%
Below 15 <sup>th</sup> Percentile	Extremely Low Test Anxiety	11	15.71%

**Objective 3:** To find out the correlation between emotional competency and test anxiety among the secondary school students.

For the above mentioned objective a research hypothesis was formulated which states that

**H<sub>1</sub>:** *There exists a negative relationship between secondary school students' emotional competency and test anxiety.*

In order to statistically test the research hypothesis it was converted to null form which is

**H<sub>0</sub>:** *There is no significant relationship between secondary school students' emotional competency and test anxiety.*

H<sub>0</sub>: r<sub>12</sub>=0 where r= Correlation Coefficient for variables 1 & 2 (1= Emotional Competency & 2 = Test Anxiety). Table 5 depicts the result of Pearson's Product Moment correlational analysis.

**Interpretation:** A reference to Table 5, it is found that there is a negative but non-significant (-0.1120) relationship between emotional competency and test anxiety of secondary school students. Hence the research hypothesis was rejected and alternative null hypothesis was accepted. Although, researchers strongly felt that there has to be a significant negative relationship between the two traits, which although visible in the result is not significant, the reason can be the small sample size.

Further, gender wise correlational was also separately done in order to understand the effect of gender. With reference to Table 6, it is inferred that in case of girls the value of correlation coefficient is negative (-0.249) and more than the overall correlation and in case of boys it is also negative (-0.087), but lesser than that of boys. It suggests in case of

Table 5  
Relationship between Emotional Competency and Test Anxiety of Secondary School Students

Variables	N	Df	Pearson's Coefficient	Correlation	Significance level
Emotional Competency (EC)	70	68	-0.11203		NS
Test Anxiety (TA)	70	68			

NS: non-significant

**Table 6**  
**Gender wise relationship between Emotional Competency and Test Anxiety of Secondary School Students**

Variables	Gender	N	Df	Pearson's Correlation Coefficient	Significance level
EC	Boys	29	27	-0.087	NS
TA	Boys	29	27		
EC	Girls	41	39	-0.249	NS
TA	Girls	41	39		

*NS: non-significant*

**Table 7**  
**Relationship of various sub scales of Emotional Competency with Test Anxiety of Secondary School Students**

Variables for	N	Df	Pearson's Correlation Coefficient	Significance level
ADF (EC) & TAS	70	68	0.0140	NS
	70	68		
AEC (EC) & TAS	70	68	0.0104	NS
	70	68		
AFE (EC) & TAS	70	68	0.1500	NS
	70	68		
ACPE (EC) & TAS	70	68	-0.3289	9**
	70	68		
EPE (EC) & TAS	70	68	0.0052	NS
	70	68		
Total EC & TAS	70	68	0.1120	NS
	70	68		

\*\* Significant at .01 level, NS: non-significant

girls the research hypothesis is found to be more valid. However in both the cases the correlation co-efficient is found to be non-significant.

Also, correlational analysis was performed for each of the five sub-scales of EC-scale with the TAS scores of students which is depicted in Table 7. Interestingly, for the sub-scale ‘ability to cope with problem emotions’ (ACPE) the correlation (-0.329) was found to be highly significant at 0.01 level of significance. This suggest that this emotional competency of student holds a negative relationship with their test anxiety levels, strengthening the guiding research hypothesis, which states that students who are good in their emotional competency skills may be found

to be less test anxious in comparison to their counterparts. Also, another emotional competency, ‘ability to function with emotions’, AFE shows a negative relationship with students’ test anxiety level, but was not found significant. However the sub-dimensions of ADF, AEC and EPE shows positive relationship but is not significant.

Further an analysis of relationship was tried to perform between the academic anxiety scores of high, normal & low anxiety group and their emotional competency scores. Table 8 depicts the value of correlation coefficients.

With reference to Table 8 it is concluded that the nature of relationship between the emotional competency and test anxiety scores is negative both in case



**Table 8**  
**Relationship between Emotional Competency and Test Anxiety of Secondary School Students within the High, Normal and Low anxiety groups**

Variables	Group	N	Df	Pearson's Coefficient	Correlation	Significance level
Emotional Competency (EC) & Test Anxiety (TA)	High Anxiety	17	15	-0.093		NS
	Normal Anxiety	33	31	0.074		NS
	Low Anxiety	20	18	-0.335		NS

NS: non-significant

of high and low anxiety group, but exceptionally positive in the normal anxiety group. However none the relationships are significant.

**Objective 4:** To compare the secondary school students' emotional competency with respect to their gender.

The present sample comprises of 29 boys and 41 girls. In order to compare students' emotional competency statistical test of students 't' test for unpaired sample assuming equal variances was performed by calculating the F-ratio between the higher(boys) and lower variance(girls) of the two samples as the F statistics (1.66) < F critical(1.943,  $\alpha=0.025$  for 2-tailed test) for df(28,40).

The research objective guided to propose the following null hypotheses:

***H<sub>0</sub>***:-There is no significant difference in emotional competency of secondary school students with respect to their gender

$H_0: \mu_1 = \mu_2$  where  $\mu_1$  = Mean score on EC of boys &  $\mu_2$  = Mean score on EC of girls. Table 9 depicts the t-test analysis.

**Interpretation:** A reference to Table 9 reveals that the obtained t value (1.905) was not found significant at 0.05 level with degrees of freedom 68, 't' critical value(1.99) for 2 tailed analysis being > obtained 't' value. It means that students do not differ significantly on emotional competency with respect to their gender. Hence the null hypothesis is accepted.

**Objective 5:** To compare the secondary school students' test anxiety with respect to their gender.

In order to compare students' test anxiety statistical test of students 't' test for unpaired sample assuming equal variances was performed by calculating the F-ratio between the higher(boys) and lower(girls) variance of the two samples as the F statistics (1.07) < F critical(1.943,  $\alpha=0.025$  for 2-tailed test) for df(28,40).

**Table 9**  
**Significance of Difference between Emotional Competency of Secondary School Students with respect to their Gender**

Group	Number	Mean	S.D.	SEM	t value	Df	P value	Significance of Difference	Decision on Null Hypothesis
Boys	29	91.43	10.89	2.02	1.905	68	0.06	NS	Accepted
Girls	41	95.85	8.45	1.32					

The test suggests that the difference between the two means is not significant at 0.05 level.

**Table 10**  
**Significance of Difference between Test Anxiety of Secondary School Students with respect to their Gender**

Group	Number	Mean	S.D.	SEM	t value	Df	P value	Significance of Difference	Decision on Null Hypothesis
Boys	29	70.79	13.56	2.52	1.85	68	0.06	NS	Accepted
Girls	41	76.76	13.08	2.04					

*The test suggests that the difference between the two means is not significant at 0.05 level.*

The research objective guided to propose the following null hypotheses:

***H<sub>0</sub>***:-There is no significant difference in test anxiety of secondary school students with respect to their gender

$H_0: \mu_1 = \mu_2$  where  $\mu_1$  = Mean score on TC of boys &  $\mu_2$  = Mean score on TC of girls. Table 10 depicts the t-test analysis.

***Interpretation:*** A reference to Table 10 reveals that the obtained t value (1.85) was not found significant at 0.05 level with degrees of freedom 68, 't' critical value(1.99) for 2 tailed analysis being > obtained 't' value. It means that students do not differ significantly on test anxiety with respect to their gender. Hence the null hypothesis is accepted.

#### **4. Conclusion, Educational Implications and Limitations**

Overall, the present study concludes that participants' test anxiety is associated with their emotional competency levels; however there are several shortcomings due to which the study cannot be generalized owing to small sample size and limited age range of the participants. It is interesting to find that this negative relationship is visible in both high and low anxiety group, explaining that test anxiety is quiet obvious among the secondary school students and their good level emotional competencies may help them to

regulate it to some extent. Malik et al. (2013) found negative significant correlation between emotional intelligence and test anxiety among higher secondary students. Our present finding is also consistent with the given study, however not being a significant but exceptionally significant negative relationship is found for students' ability to cope with problem emotion. Also differential analysis in relation to gender revealed that relationship was more negative in case of girls than boys but no significant difference was observed in these two traits with regard to their gender. This analysis is quiet favourable suggesting gender differences do not prevail much, however on the contrary girls were found to take more advantage of their emotional competencies to regulate and handle test anxiety in the present sample. Despite some limitations, present study has some applicability in educational setting as it further emphasizes that students with higher emotional competencies can benefit in regulating their pre exam test anxiety levels. It further strengthens the urgency of school counselors, mental health professionals and teachers to work with students on regular basis to give them sound training in identifying and handling their emotions also suggested by an earlier study (Malakar, 2019). Teaching emotional competencies may mean making students

learning the language of emotions which may increase their vocabulary and spelling more generally, and interventions involving written text may also improve reading comprehension, suggesting students good in emotional intelligence may also have sharp language skills (MacCann et al., 2020).

### 5. Acknowledgement

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