A Study on Level of Emotional Intelligence of Secondary School Science Teachers

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ABSTRACT:

This study was designed to study the level of Emotional Intelligence of Secondary School Science Teachers. Sample of 610 Science teachers were selected from 360 schools of Mandya district in Karnataka. Descriptive statistics, t-test, one way ANOVA and TUKEY's HSD post hoc procedures were used for statistical analysis. This study reflects that 15.08% of Secondary School Science Teachers showed high Emotional Intelligence. 66.88% of Secondary School Science Teachers showed medium Emotional Intelligence and 18.3% of Science teachers of Secondary School showed low Emotional Intelligence. There exists no significant difference between Male and Female as well as Physical Science and Biological Science teachers with respect to their Emotional Intelligence. It was found that there was significant difference between the Junior and Senior Science teachers of Secondary Schools with respect to Emotional Intelligence. This study also revealed that there was no significant difference between Private aided, Private unaided and Government Science Teachers of Secondary Schools with respect to their Emotional Intelligence. Science Teachers of Private aided Secondary Schools differed significantly from Science Teachers of Private aided and Government Secondary Schools with respect to their Emotional Intelligence.

KEYWORDS:

Emotional Intelligence, Secondary School Teachers, Science Educators, Teaching Experience, School Demographics.

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Introduction:

Nowadays in all the areas of modern system, people are thinking about one significant component along with the Intelligence. That component is none other than Emotional Intelligence. In real life, it is said that many achievers with high IQ do not always turn out to be the most successful or happy. Many studies reflect that low Emotional Intelligence is the main reason for that. Goleman [1995a,1998b] claims that Emotional Intelligence will account for success at levels higher than r=0.45 at home, at school and at work.

Teachers are said to play a new and dynamic role in modern system of education because of changing demands. This entails a teacher with unique capacities such as knowing not only himself but also the others [students and colleagues]. When we focus on knowing himself and others in education, it speaks off about Emotion of the teachers. Being a phrase, it includes aspects of both emotions as well as intelligence. So, we can understand it as management of emotions intelligently by the teacher.

Definition:

The phrase Emotional Intelligence is defined as "the capacity to recognize our own feelings and those of others, to motivate ourselves, and of managing emotions well in ourselves and in our relationships."

OBJECTIVES:

Following objectives were derived for the existing study,

1. To examine the level of Emotional Intelligence of Secondary School Science Teachers.

2. To examine the difference in Emotional Intelligence with respect to the following categories of Secondary School Science Teachers.

   a) Gender– Male and Female Science Teachers of Secondary Schools

b) Type of Schools– Government Secondary School

Private– aided Secondary School and

Private– unaided Secondary School

c) Teaching Experience– Juniors (<15 years)

Seniors (>15 years)

d) Subject Stream– Physical Science

Biological Science

Hypothesis:

Following hypotheses were derived for the second objective

1. There is no significant difference between Male and Female Science Teachers of Secondary Schools with their level of Emotional Intelligence.

2. There is no significant difference between the Government, Private– aided and Private– unaided Secondary Schools in their level of Emotional Intelligence.

3. There is no significant difference between Junior (<15years) and Senior (>15 years) Science Teachers of Secondary Schools in their level of Emotional Intelligence.

4. There is no significant difference between Physical Science and Biological Science Teachers of Secondary Schools in their level of Emotional Intelligence.

METHODOLOGY

In the present study Descriptive Survey Method has been adopted. Data analysis is carried out based on quantitative techniques.

SAMPLING TECHNIQUES USED

In the present study, Multi Stage Sampling Technique has been adopted. Simple Random Sampling Technique is used at the initial stage and Purposive Sampling Technique is used at the next

stage.

SIZE OF THE SAMPLE

Researcher has selected 306 schools out of 428 secondary schools of Mandya district, Karnataka state, by using random sampling technique. Then all the science teachers of 306 schools were selected for the study by using purposive sampling. So, researcher selected 610 science teachers for the study.

TOOLS USED FOR THE STUDY

To test the Emotional Intelligence of the Secondary School Science Teachers, the investigator has constructed 'Teachers' Emotional Intelligence Scale' by considering Daniel Goleman's model of Emotional Intelligence.

Tool consists of 64 items with 41 positive and 23 negative statements. It possesses high content and construct validity. Its reliability is found to be 0.722. The scores in the tool ranges from 64 to 320 in the direction of increasing level of Emotional Intelligence.

STATISTICAL ANALYSIS USED IN THE STUDY

Descriptive and the Inferential Statistical Techniques are used in the present study. To analyze the collected data of 610 Science Teachers of Secondary School, SPSS package version 21.00 has been used.

1. Descriptive Statistics i.e., Mean and SD has been used to report the level of Emotional Intelligence.

2. 't' test is used to find out significant difference between Male and Female Science Teachers, Junior and Senior Science Teachers, Physical Science and Biological Science Teachers of Secondary School with regard to Emotional Intelligence.

3. One way ANOVA and Tukey's HSD post hoc procedures has been used to find out the difference among Science Teachers of

different categories based on the Type of schools with regard to the level of Emotional Intelligence.

Analysis of data

1.   Level of Emotional Intelligence

Table 1.1 Shows the level of Emotional Intelligence of Secondary School Science Teachers.

Emotional Intelligence	Frequency	Percentage
High	92	15.08%
Medium	408	66.88%
Low	110	18.03%
Total	610	100%

The table 1.1 shows that 66.88% of Secondary School Science Teachers have shown medium level of Emotional Intelligence. 15.08% of Secondary School Science Teachers showed a high level of Emotional Intelligence and 18.03% of Science Teachers of Secondary Schools showed low level of Emotional Intelligence. More number of Teachers have shown medium level of Emotional Intelligence. It may be because of lack of awareness and lack of enough training to manage their emotions.

2.   Analysis of data to find Level of Emotional Intelligence with respect to selected categories of Science Teachers of Secondary Schools.

2.1 Level of Emotional Intelligence between Male and Female Secondary School Science Teachers.

Table 2.1.2 Shows the level of Emotional Intelligence, number and percentage of total Male and Female Secondary School Science Teachers.

Level of Emotional Intelligence	Gender		Total
	Male	Female	
High	55(9.01%)	37(6.06%)	92
Medium	214(35.08%)	194(31.80%)	408
Low	55(9.01%)	55(9.01%)	110
Total	324	286	610

The table 2.1.2 reflects that 35.08% of Male and 31.80% of Female Science Teachers of Secondary Schools shows medium level of Emotional Intelligence. 9.01% of Male and 6.06% of Female Science Teachers of Secondary Schools shows high level of Emotional Intelligence. Further, 9.01% of Male and 9.01% of Female Science Teachers of Secondary Schools shows low level of Emotional Intelligence.

2.2 Level of Emotional Intelligence among Government, Private–aided and Private–unaided Science Teachers of Secondary Schools.

Table 2.2.3 Shows the level of Emotional Intelligence, number and percentage of Government, Private–aided and Private–unaided Science Teachers of Secondary School.

Emotional Intelligence	Type of Schools			Total
	Government	Private–aided	Private–un-aided	
Low	61(10%)	21(3.44%)	10(1.63%)	92
Medium	221(36.22%)	92(15.08%)	95(15.57%)	408
High	32(5.24%)	27(4.42%)	51(8.36%)	110
Total	314	140	156	610

The table 2.2.3 reflects that 36.22% of Government, 15.08% of Private–aided and 15.57% of Private–unaided Science Teachers of Secondary School show medium level of Emotional Intelligence. Further 10% of Government, 3.44% of Private–aided and 1.63% of

Private–unaided Science Teachers of Secondary School shown high level of Emotional Intelligence. Whereas, 5.24% of Government, 4.42% of Private–aided and 8.36% of Private–unaided Science Teachers of Secondary School shown low level of Emotional Intelligence.

2.3 Level of Emotional Intelligence of Junior and Senior Secondary School Science Teachers.

Table 2.3.4 Shows the level of Emotional Intelligence, number and percentage of Junior and Senior Science Teachers of Secondary Schools.

Emotional Intelligence	Experience		Total
	Junior	Senior	
High	18(2.95%)	74(12.13%)	92
Medium	159(26.06%)	249(40.84%)	408
Low	63(10.32%)	47(7.70%)	110
Total	240	370	610

The table 2.3.4 shows that 26.06% of Junior and 40.65% of Senior Science Teachers of Secondary Schools showed medium level of Emotional Intelligence. Whereas, 2.95% Junior and 12.13% Senior Science Teachers of Secondary Schools showed high level of Emotional Intelligence. Further 10.32% of Junior and 7.70% of Senior Science Teachers of Secondary Schools showed low level of Emotional Intelligence.

2.4 The level of Emotional Intelligence of Physical and Biological Science Teachers of Secondary School.

Table 2.4.5 Shows the level of Emotional Intelligence, number and percentage of total Physical Science and Biological Science Teachers of Secondary School.

Teacher Effectiveness	Subject stream		Total
	Physical Science	Biological Science	
High	59(9.67%)	33(5.40%)	92
Medium	259(42.45%)	149(24.42%)	408
Low	57(9.34%)	53(8.68%)	110
Total	375	235	610

The table 2.4.5 illustrates that 42.45% of physical Science and 24.42% of Biological Science Teachers of Secondary Schools showed medium level of Emotional Intelligence and 9.67% of Physical Science and 5.40% of Biological Science Teachers of Secondary Schools showed high level of Emotional Intelligence. Further 9.34% of Physical Science and 8.68% of Biological Science Teachers of Secondary Schools showed low level of Emotional Intelligence.

3. Analysis of data to find the significant difference in Emotional Intelligence of selected categories of Science Teachers of Secondary Schools.

3.1 Hypothesis 1

There is no significant difference between the mean scores of Male and Female Secondary School Science Teachers with respect to Emotional Intelligence.

To test the hypothesis 1, mean, standard deviation and t–value were calculated.

Table 3.1.6 Shows the Gender, number, Mean, Standard deviation total value of Secondary School Science Teachers with respect to Emotional Intelligence.

Gender	N	Mean	Std. Deviation	Total value	Significance
Male	324	241.5247	17.23	1.492	NS (0.136)
Female	286	239.3706	18.27		

S∗∗=Significant at 0.01 level. S∗=Significant at 0.05 level. NS=Not

significant

From the Table 3.1.6, it is evident that the obtained t-value 1.492 is less than the table value at 0.05 level. Hence the null hypothesis is accepted and the alternative hypothesis is rejected. This means that there is no significant difference between the mean scores of Male and Female Secondary School Science Teachers with respect to Emotional Intelligence.

3.2. Hypothesis-2

There is no significant difference between the mean scores of Government, Private-aided and Private-unaided Secondary School Science Teachers with respect to Emotional Intelligence.

To test this hypothesis, one way ANOVA test was applied and the following table shows the result.

Table 3.2.7 Shows the mean scores of Government, Private-aided and Private-unaided Secondary School Science Teachers with respect to Emotional Intelligence.

School Type	N	Mean	Standard deviation	Standard Error
Government	314	244.51	16.68	0.94
Private-aided	140	240.42	17.05	1.44
Private-unaided	156	232.56	17.87	1.43
Total	610	240.51	17.75	0.72

Table 3.2.8 Shows one way ANOVA for the mean scores of Government, Private-aided and Private-unaided Secondary School Science Teachers with respect to Emotional Intelligence.

Source of variation	Degrees of freedom	Sum of Squares	Mean of Sum of Squares	F-Value	Significant	S/NS
Between School	2	14865.385	7432.693	25.485	0.000	S**
Within School	607	177028.982	291.646			

| Total | 609 | 191894.367 | 315.097 | | | |

S**=Significant at 0.01 level. S*=Significant at 0.05 level. NS=Not significant.

From the Table 3.2.8, it is evident that the obtained F-value (25.485) is greater than the table value at 0.01 level. Hence, the null hypothesis is rejected and the alternative hypothesis is accepted. This means that there is significant difference between the mean scores of Government, Private-aided and Private-unaided Science Teacher of Secondary School with respect to Emotional Intelligence. Tukey's HSD post hoc procedures were followed and it was found that there was significant difference between Emotional Intelligence scores of Teachers of Private-aided and Private-unaided as well as Science Teachers of Government and Private-unaided Secondary Schools. However, Science Teachers of Private-unaided Schools had least Emotional Intelligence and differed significantly from Teachers of Private-aided and Government Schools.

3.3 Hypothesis 3

There is no significant difference between the mean scores of Junior and Senior Science Teachers of Secondary School with respect to Emotional Intelligence.

To test the hypothesis 7, mean, standard deviation and t-value were calculated.

Table 3.3.9 Shows the experience, number, mean, Standard deviation and t-value of Secondary School Science Teachers with respect to Emotional Intelligence.

Experi-ence	N	Mean	Standard devi-ation	t-value	S/NS
Junior	240	235.1917	17.29	6.135	0.000**
Senior	370	243.9676	17.19		

S**=Significant at 0.01 level. S*=Significant at 0.05 level. NS=Not significant.

From the Table 3.3.9, it is evident that the mean scores of junior Science Teachers of Secondary School is 235.19 and Senior Science Teachers of Secondary School is 243.97 with S.D=17.29 and 17.22 respectively. t–value (6.135) is found to be significant at 0.01 level. Hence the null hypothesis is rejected and the alternative hypothesis is accepted which means that there is significant difference between the mean scores of Junior and Senior Science Teachers of Secondary School with respect to the Emotional Intelligence.

3.4 Hypothesis 4

There is no significant difference between the mean scores of Physical and Biological Science Teachers of Secondary School with respect to Emotional Intelligence.

To test the hypothesis 8, mean, standard deviation and t–value were calculated.

Table 3.4.10 Shows the Subject Stream, number, mean, Standard deviation and t– value of Secondary School Science Teachers with respect to Emotional Intelligence.

Subject stream	N	Mean	Standard deviation	t–value	S / NS
Physical Science	275	241.21	17.09	1.207	NS (0.228)
Biological Science	375	239.39	18.73		

S∗∗=Significant at 0.01 level. S∗=Significant at 0.05 level. NS = Not significant.

From the Table 3.4.10, it is evident that the obtained t–value (1.207) is less than the table value at 0.05 levels. Hence the null hypothesis is accepted and the alternative hypothesis is rejected. This means that there is no significant difference between the mean scores of Physical Science and Biological Science Teachers of Secondary School with respect to the Emotional Intelligence.

DISCUSSION OF THE FINDINGS

1. Distribution of sample is continuous and normal

2. 15.6% of Science Teachers of Secondary School possess high Emotional Intelligence, 66.8% of Science Teachers of Secondary School process medium Emotional Intelligence and 18.03% of Science Teachers of Secondary School possess low Emotional Intelligence.

3. There is no significant difference between Male and Female [Results of Tyagi (2003), Pathan (2004) supports this whereas result obtained by Pramod Bansibihari and Lata Sarwade, Law and Song (2004), Vishalakhi (2013) Okech (2004) contradicts with this result)] as well as Physical Science and Biological Science Teachers of Secondary School with respect to their Emotional Intelligence. There is no significant difference between Senior and Junior Science Teachers of Secondary School with respect to their Emotional Intelligence [This result contradicts with the result obtained by Okech (2004)]. There is no significant difference between Private-aided, Private-unaided and Government Science Teachers of Secondary Schools with respect to their Emotional Intelligence. Science Teachers of Private-aided Secondary Schools differed significantly from Science Teachers of Private-aided and Private-unaided Secondary Schools with respect to their Emotional Intelligence [Researcher could not find any reviews in support of results obtained regarding type of schools in this study].

    As the researcher obtained supportive as well as contradictory results felt the need of further research regarding these aspects.

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