

**PEDAGOGY OF LEARNING (POL)**

International Refereed Journal of Education

E-ISSN: 2395-7344, P-ISSN: 2320-9526

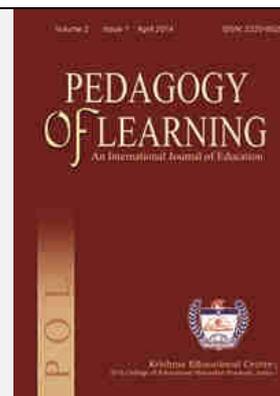
*Abstracted and indexed in:*

Google Scholar, Research Bib, International Scientific Indexing (ISI), Scientific Indexing Services (SIS), WorldCat, Cite Factor, Impact Factor: 0.787(GIF)

**UGC (India) Approved Journal**

(UGC Journal No. 44913, Education-1029)

Website: <http://pedagogyoflearning.com>



## **Emotional Intelligence of Secondary School Teachers: An Exploratory Dimensional Analysis**

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### **Article History:**

Received 20 July 2017

Received in revised form 23 August 2017

Accepted September 15, 2017

Published online 26 October 2017

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### **Abstract**

This study made a cross-sectional analysis of the emotional intelligence using ten dimensions. The study also investigated the theoretical evolution of emotional intelligence by performing a statistical analysis of various dimensions to explicitly explain the emotional intelligence. The location, scale and shape of the distribution of the dimensions are explained to emphasize the specialty of each dimension. The exploratory analysis on the behavior of each dimension is derived using stem and leaf, box plot, deciles and theoretical distribution of frequency of the dimensions. The location, scale and shape parameter of the distribution are presented to explain the nature of the response of the dimensions. As well, the graphs, tables, parametric values and goodness of fit statistics are presented to explain the characteristics of the distributions.

**Keywords:** Emotional Intelligence, Secondary School Teachers

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## **Introduction**

In India, just like in any other country in the world, the role of teachers in building the society and the nation at large is of the essence. It is this reason that Kothari (1964-66) puts that "India is being shaped by classrooms. Teachers are believed to have the ability to handle students' problems and motivate them to learn. While this is true, it is not uncommon to find some teachers who claim to have just entered into the teaching profession by chance, some by choice and some by force. It is obvious that those who enter into this noble profession by choice are effective teachers than those who entered the profession by chance or force. Consistent with this claim is the observation made by Barlozek (2013) that a few students dropped out of school following the unfair treatment from their teachers which is most often caused by the teachers' negative attitude towards students. This treatment to students is against Patti's (2006) suggestion that the youth need the teachers who will give them more care and attention for them to complete education. Therefore, competent and motivating teachers are required as we consider that children come into the classroom with a variety of intellectual, social and emotional needs. It strongly emphasized that emotions play an active and decisive role in everyday life and education is at squat if learner's emotions are not controlled (Boyd, 2005). This being the case, then there is a high need of the teachers with improved emotional intelligence to support learning and solve students' problems. It follows that an effective teacher should have improved emotional intelligence; i.e. not be easily defensive or angry, rather empathetic, guiding, motivating and encouraging learners to do things in a meaningful way (Kaufhold and Johnson, 2005). All these assertions may be summarized by the claim put forth by Dash and Behera (2004) that the ability to deal with the emotional upsets is a powerful asset on the part of the teacher in building and maintaining self-confidence and strong sense of competence. Nevertheless, it is important to know that emotional intelligence alone cannot make an effective teacher but also the teacher's competencies (Hans, Mubeen and Rabani, 2013; Edannur, 2010; Nicolini, 2010; Brackett and Katulak, 2007; Kremenitzer, 2005). Upadhyaya (2008) had argued, teachers could not be the effective source of knowledge unless they possessed the essential skills, knowledge and talents. Patra (2006) provided combined characteristics of a good teacher with an argument that a teacher's competence and emotional intelligence are closely related because the overall factors of emotional intelligence, such as self-awareness, empathy, self-motivation, value orientation and commitment are related to teacher effectiveness. Mishra (2006) elaborated that teachers who have a high emotional intelligence had a better motivation to teach and the student teachers having a low emotional intelligence had a low motivation to teach. Krishnamurthy and Varalakshmi (2011) generalize that improvement in emotional intelligence would increase the motivation and effectiveness of an employee in using his/her knowledge and skills. It is, therefore, imperative that the prospective teachers must have the subject competence and possess an adequate amount of emotional intelligence skills in order to cope with stress. Since the competence aspect of the teacher is obvious and commonly known and it is an expectation by everyone, this article does not focus on

the combined characteristics of teachers, as Patra (2006) puts. Instead, the author limits himself to the discussion of emotional intelligence, abbreviated as EI.

Though EI has received a considerable attention in the literature (Greenberg and Snell, 1997; Latter on Payne, 1985), not much of it has been used to understand the behavioral practices of teachers in the education industry. Wechsler (1940) suggested that the affective components of intelligence may be essential to get success in life. Latter on, Payne (1985) came with a critique to this as they introduced that EI is also required to get life success. Later, in 1990, the psychologists, Jack Mayer and Peter Salovey, introduced the primary formal definition of EI (Salovey and Sluyter, 1997). They defined it as:

“the capacity to reason about emotions to enhance thinking. It [EI] includes the abilities to accurately perceive emotions, to assess and generate emotions to assist thought, to understand emotions and emotional knowledge and to reflectively regulate emotions so as to promote emotional and intellectual growth” (Mayer and Salovey, 1997: 5).

Mayer and Salovey uses one phase expression ‘the ability model’, to summarize and easy the understanding of the concept. The two scholars further inform that this ability is not inherited but can be developed throughout the entire life. Thus, the authors divided this construct into four different abilities or skills, namely the perception and expression of emotion, assimilating emotion in thought, understanding and analyzing emotion, reflective regulation of emotion (Caruso et al., 2002). The traditional thinking of Indians with regard to self control justifies this definition put forward.

In India, there is the concept of Jitendriya which refers to a person who is able to manage and regulate one’s emotions. Similarly, the notion of Nishkam Karma also refers to the quality of non-attachment which is nothing but emotional self-regulation on emotions central to cognitive functioning and health. Again, certain religious practices like Vratas (ordinances) help an individual to control and regulate his personal emotions. These cultural traditions and moral values provide a reason to teach the skills and also a teaching pointer for emotional competencies; moral values are bedrock of empathy (Srivastava, Naidu and Mishra, 1986; Paranjpe, 1996). It is this reason that this study sought to provide a set of emotional competencies needed for teachers in secondary schools using the ten dimensions listed below.

- *Self-awareness* [D<sub>1</sub>] which refers to being aware of oneself;
- *Self-motivation*[D<sub>2</sub>]which refers to being motivated internally or an inner drive which tends to help a person keep-going towards a defined personal or common goal against all odds and setbacks;

- *Emotional stability*[D<sub>3</sub>] simply refers to a person's ability to remain stable, calm or keel when faced with pressure or stress;
- *Self-development*[D<sub>4</sub>] is a lifelong process by which an individual tries to develop his/her abilities/potentialities gradually;
- *Commitment* [D<sub>5</sub>] refers to the act of dedication towards work and organization;
- *Empathy* [D<sub>6</sub>] which means readiness to understand others' perspectives or sensitivity to misfortunes of the others as well;
- *Managing relations*[D<sub>7</sub>] is the ability to manage the emotions and emotional reactions of others;
- *Integrity*[D<sub>8</sub>] means to have strong moral principles or it is a state of being honest and fairness or it is an ability to tell the truth regardless of the nature of the context;
- *Value orientation*[D<sub>9</sub>] refers to the recognition and acceptance of right and wrong principles; and
- *Altruistic behavior* [D<sub>10</sub>] which is defined as selfless concern for the welfare of others.

These together explain the secondary school teachers' emotional intelligence using the characteristics of these dimensions (Ds) of (EI). Thus, the proximity of an individual dimension and its viability, and movement is discussed through statistical descriptive. Examination of the existence of each dimension is very important before evaluating the EI since there is a chance of misleading or getting repetitive responses in one or other part of some dimensions. This can be effectively determined by suitable statistical techniques like descriptive analysis, study of distribution, principal component analysis, reliability analysis, etc. The modern tools like stem and leaf, box plot, etc. are efficient to depict the variability and central tendency while exploring the distribution; q-q plot, goodness of fit, etc. are efficient to determine the nature and characteristics of each dimension and hence emotional intelligence.

## Methodology

A descriptive survey method was deployed to evaluate the dimensional contribution to EI. 360 secondary school teachers were selected randomly from the schools of National Council of Region, Delhi to participate in this study. Moreover, a standardized close ended questionnaire with the response of five points Likert Scale was used to evaluate the 10 dimensions with 34 items. The five points scale varied from Strongly Dis Agree (SDA) to Strongly Agree (SA) with medium response being

Neutral (N). This is a self-administering tool developed by Anakool and Sanjyot (2001). A theoretical analysis of the distribution structure in terms of location, scale, and shape parameter was developed so that each dimension is segregated in the distribution. Finally, the theoretical distribution regarding each dimension was evaluated and established with Chi-square goodness of fit and Anderson test, and their basic features are derived.

## **Results**

In this part of the paper, EI of secondary school teachers has been analyzed in terms of their response distribution structure. Thus, a theoretical analysis is attempted at the outset and then the exploratory analysis is made.

### **1. Distribution Structure of Emotional Intelligence Dimensions: A Theoretical Analysis**

The basic distribution analysis is developed by finding the location, scale and shape parameters of the distribution. Location identifies the central tendency of the data by means of the arithmetic mean, median or mode where a high clustering of the data is expected. The scale parameter is indicative of how much the data is distributed from the central value. It is the essential feature to identify the nature of distribution of data. Even though the location and scale are fixed and there is a chance of distribution of data to one side or both sides. It is presented by the shape parameter showing how the data is clustered to one side or scattered to the whole range, etc. Thus, location, scale and shape parameter is indicative of how a data usually behaves and how much it deviates from the normal distribution.

#### ***Location***

There are different numbers of items for different dimensions so that a total of each dimension varies unequivocally for the location estimate to be essential to characterize each dimension. The average of arithmetic mean of each dimension is contributing a location estimate. It provides a bird's eye view on the position of dimension, how much away from the middle expected location parameter – 3. For example, for the dimension of self awareness, the location estimate is 4.2 which is definitely distanced from the median of opinion of 3. It means that most of the respondents favor a response of 4 indicating agreement with  $D_1$ . Also, the median getting more away from the mean ( $Me = 4.3$  indicating positive responses from the central value, 3). However, the explicit variability from 3 can be ascertained by inferential statistics. It is further unveiled that all the dimensions, except  $D_7$ , show location parameter more than 4 indicating the respondents' agreement to the dimensions. Dimension seven had the average of 3.9 but the median and mode are further positively distanced. This ensures its agreement level as others. Besides, except for  $D_1$ , all other showing median and mode indicates strong responses.

**Table 1: Location Estimate to Characterize the Dimensions of Emotional Intelligence**

DEI	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	D <sub>5</sub>	D <sub>6</sub>	D <sub>7</sub>	D <sub>8</sub>	D <sub>9</sub>	D <sub>10</sub>
<b>Mean</b>	4.2	4.3	4.3	4.4	4.5	4.4	3.9	4.2	4.5	4.4
<b>Median</b>	4.3	4.3	4.3	4.5	4.5	4.6	4.3	4.3	4.5	4.5
<b>Mode</b>	3.8	4.8	4.8	4.5	5.0	5.0	4.8	5.0	5.0	4.5

DEI = Dimensions of emotional intelligence

### Scale

The percentage response variation for 10 dimensions of EI varies from 62.5 to 87.5. It is also found that D<sub>1</sub> and D<sub>10</sub> have least variability and dimension 3, 4, 6, and 9 had a moderate variability while dimension 2, 5, 7, and 8 had high variability. 50 per cent of the middle response in dimension one is between 3.75 and 4.75. That is on a scale of one unit out of five, 50 per cent of the response is clustered. Similarly, for dimension two, centering of 50 per cent response is only in 0.67 unit. Again, dimension five had the highest centering of the middle response, while dimension eight had the lowest concentration of the middle responses. Further, with respect to the Standard Deviation, variability is almost equal in nine dimensions, except in D<sub>10</sub> with a Standard Deviation 0.94. Standard Deviation is good to understand the variability. It is not comparable from each dimension as the means of each dimension differs. So, the effect of mean from the scaling is materialized by a new measure called *coefficient of variance*. This will eliminate the effects of central tendency as well as scales of the measurements. So, it is better for the scale measurement to compare various dimensions of variability. The relative measure of scaling indicates *coefficient of variation* and it is the minimum for D<sub>9</sub> but it is very nearer to 13 per cent in most of the dimensions, except D<sub>7</sub> and eight. This is a clear indication that the questions regarding dimensions are apt and their responses are consistent, asserting the reliability of the dimensions. Statistically, 95 per cent confidence interval is the range of response, leaving 5 per cent response error. The confidence limit of D<sub>7</sub> is wider than all other dimensions but D<sub>1</sub> and D<sub>9</sub> had a minimum confidence interval. Comparing various measures of dispersions, D<sub>1</sub> has more consistent responses and D<sub>7</sub> has maximum variability of responses.

**Table 2: Scale Estimate to Characterize the Dimensions of Emotional Intelligence**

DEI	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	D <sub>5</sub>	D <sub>6</sub>	D <sub>7</sub>	D <sub>8</sub>	D <sub>9</sub>	D <sub>10</sub>
<b>Min.D</b>	10	10	9	4	3	11	7	5	4	5
<b>Max.D</b>	20	30	20	10	10	25	20	15	10	10
<b>Min.</b>	2.5	1.67	2.25	2	1.5	2.2	1.75	1.67	2	2.5

<b>Av. D</b>										
<b>Max. Av. D</b>	5	5	5	5	5	5	5	5	5	5
<b>% R V</b>	62.5	83.33	68.75	75	87.5	70	81.25	83.33	75	62.5
<b>Q1</b>	3.75	4	3.75	4	4.5	4	3.19	3.33	4	4
<b>Q3</b>	4.75	4.67	4.75	5	5	4.8	4.75	5	5	5
<b>QD</b>	0.5	0.335	0.5	0.5	0.25	0.4	0.78	0.835	0.5	0.5
<b>MD</b>	1.90	2.53	1.90	0.93	0.85	2.38	3.285	1.98	0.86	0.87
<b>S.D</b>	0.56	0.58	0.59	0.58	0.61	0.59	0.58	0.61	0.59	0.94
<b>C.V</b>	13.49	13.62	13.80	13.24	13.63	13.42	24.32	18.17	12.68	13.21
<b>LCL</b>	3.06	3.13	3.11	3.25	3.29	3.24	2.03	2.67	3.34	3.28
<b>UCL</b>	5.27	5.40	5.41	5.52	5.70	5.56	5.72	5.63	5.55	5.56
<b>CI</b>	2.21	2.27	2.30	2.27	2.41	2.32	3.69	2.96	2.21	2.28

DEI = Dimensions of Emotional Intelligence, Min. D = Minimum of Dimension, Max. D = Maximum of Dimension, Min. Av. D = Minimum of Average of Dimension, Max. Av. D = Maximum of Average of Dimension, R V = Response Variation, LCL = Lower confidence level, UCL = Upper confidence level, CI = Confidence interval

### **Shape**

The shape of the distribution of the dimensions is estimated by three measures, in terms of mean, mode, in terms of quartiles, in terms of the third moment. The relative measure of skewness is assessed by Karl Pearson's coefficient of skewness and Bowley's coefficient of skewness. The measures of skewness in terms of  $D_1$  indicate a positive skewness while all other dimensions are negatively skewed. High skewness is found in  $D_8$  and  $D_9$  while it is least in  $D_4$  and for all other dimensions. Again, the relative measure of skewness shows a high skewness in  $D_8$ ,  $D_6$ ,  $D_2$ ,  $D_9$  and  $D_7$  ( $>0.90$ ) and it is least for  $D_{10}$  and  $D_4$  ( $<0.20$ ). With respect to quartile measure of skewness,  $D_5$  had a highest positive skewness and the lowest skewness is found in  $D_8$ . Further, Bowley's coefficient of skewness also shows the same dimensions with maximum and minimum of skewness. It is found that Bowley's coefficient of skewness varies from minus one to plus one so that comparative assessment is possible with this measure. Based on  $\mu_3$ ,  $D_1$  had a least skewness, while  $D_7$  had a maximum skewness. Among the relative measures of skewness,  $D_8$  had a minimum variability, while  $D_5$  had the maximum variability. Further, measure of kurtosis is maximum for  $D_7$  while its relative measure is minimum indicating the higher scale effect in the shape of the distribution. It is evident that there is a highly platykurtic ( $<3$ ) in the shape of the distribution showing almost equal distribution for all the responses.  $D_1$  and  $D_8$  are also distributed with shape of platykurtic curve but it is not very far from the normality (nearer to 3). However, in all other dimensions, the distribution is leptokurtic showing a high concentration of responses in a small interval. Among these,  $D_2$ ,  $D_5$ ,  $D_6$ ,  $D_9$  and  $D_{10}$  depict a very high peak in the distribution and it is the maximum for  $D_5$ . Again, it is found that skewness and kurtosis showing the shape of distribution is highly deviated from the normality on

D<sub>5</sub> and from mean, it is found that most of the responses for D<sub>5</sub> are clustered within the response four and five and only very few responses are found between one and three.

**Table 3: Estimate of Shape Parameter**

Dimensions	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	D <sub>5</sub>	D <sub>6</sub>	D <sub>7</sub>	D <sub>8</sub>	D <sub>9</sub>	D <sub>10</sub>
MSK <sub>1</sub>	0.41	-0.57	-0.49	-0.11	-0.50	-0.59	-0.87	-0.84	-0.55	-0.08
RMSK <sub>1</sub>	0.74	-0.98	-0.83	-0.19	-0.82	-1.01	-0.93	-1.12	-0.98	-0.13
MSK <sub>2</sub>	0	0	0	0	0.5	-0.4	-0.56	-0.33	0	0
RMSK <sub>2</sub>	0	0	0	0	1	-0.5	-0.36	-0.2	0	0
MSK <sub>3</sub>	-0.09	-0.31	-0.16	-0.17	-0.38	-0.25	-0.48	-0.20	-0.20	-0.23
RMSK <sub>3</sub>	-0.51	-1.57	-0.77	-0.89	-1.65	-1.23	-0.58	-0.47	-1.13	-1.18
MK	0.26	0.68	0.39	0.41	0.89	0.55	1.48	0.74	0.46	0.49
RMK	2.65	5.97	3.26	3.62	6.36	4.52	1.88	2.28	4.50	4.23

MSK<sub>1</sub> = Mean – Mode, RMSK<sub>1</sub> = Mean – Mode/SD, MSK<sub>2</sub> = Q<sub>3</sub>+Q<sub>1</sub>-2\*Q<sub>2</sub>, RMSK<sub>2</sub> = Q<sub>3</sub>+Q<sub>1</sub>-2\*Q<sub>2</sub>/Q<sub>3</sub>-Q<sub>1</sub>, MSK<sub>3</sub> = μ<sub>3</sub>, RMSK<sub>3</sub> = Root of μ<sub>3</sub>square/μ<sub>2</sub><sup>3</sup>, MK=μ<sub>4</sub>, RMK=μ<sub>4</sub>/μ<sub>2</sub><sup>2</sup>

## 2. Distribution Structure of Dimensions of Emotional Intelligence: An Exploratory Analysis

Before a thorough analysis of any data, it is customary to understand the data distribution structure so that comparisons, evaluation and prediction will be systematic and reliable. The following methods can be adopted to identify the distribution structure of data.

### Frequency

There is no single response in any dimension with strong dissatisfaction (1) and dissatisfaction is also negligible in all dimensions, except dimension seven with five per cent response. The highest response is a strong satisfaction in all except D<sub>1</sub>. D<sub>1</sub>, D<sub>2</sub>, D<sub>3</sub> and D<sub>8</sub> had almost equally strong and very strong response, while D<sub>4</sub>, D<sub>6</sub> almost double in strong response. There is very high difference between strong and very strong response in D<sub>5</sub>, D<sub>7</sub>, D<sub>9</sub> and D<sub>10</sub>.

**Table 4: Response Frequency Distribution of Emotional Intelligence Dimensions**

Response	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	D <sub>5</sub>	D <sub>6</sub>	D <sub>7</sub>	D <sub>8</sub>	D <sub>9</sub>	D <sub>10</sub>
<b>2</b>	0	4	2	2	2	6	20	6	2	0
<b>3</b>	34	28	25	6	16	26	90	88	14	15
<b>4</b>	171	161	159	109	65	119	89	113	97	86
<b>5</b>	155	167	174	243	277	209	161	153	247	258

**Stem and Leaf**

The average response of D<sub>1</sub> mainly varies from 3.2 to 5 with an optimum 3.7, 4.5 and 4.7. This indicates that the data is multimodal and the maximum response is between 4.2 and 4.7. The major of average response of D<sub>2</sub> is between 4 and 4.8 with an optimum at 4 and a strong agreement is found within the above range with more than 278 out of 360 (77%) is opting this response. There is a very high cluster of average response between 3.7 and 5 uniformly over the response which implies the D<sub>3</sub> is strongly or very strongly adopted by the respondents. D<sub>4</sub> is highly centered with the response between 3.5 and 5 with the maximum at 4.5 and then at 5. About 243/360 (67.5%) strongly agrees with D<sub>4</sub>. D<sub>5</sub> is sparsely distributed between 3.5 and 5 at equal intervals. As in D<sub>4</sub>, 277/360 (76.9%) opted for strong agreements. The range of response is very wide between 2.6 and 5 in D<sub>6</sub> but a concentration is observed at the right extreme 4.6 to 5. D<sub>7</sub> also had a wide response (1.8, 5) but the distribution structure is uneven at 2.5, 3.6 and 4.5, etc. which indicates some distraction on their agreement response. The major response of D<sub>8</sub> varied from 3 to 5 at equal intervals and the same problem of D<sub>7</sub> is observed. D<sub>9</sub> is much concentrated at 4, 4.5 and 5 with an optimum at 5 followed with 4.5. It is a clear indication of strong agreement with D<sub>9</sub>. The tenth dimension varies from 3.5 to 5 at equal intervals with an option at 4.5. 259/360 (72%) are in a strong agreement with D<sub>10</sub>.

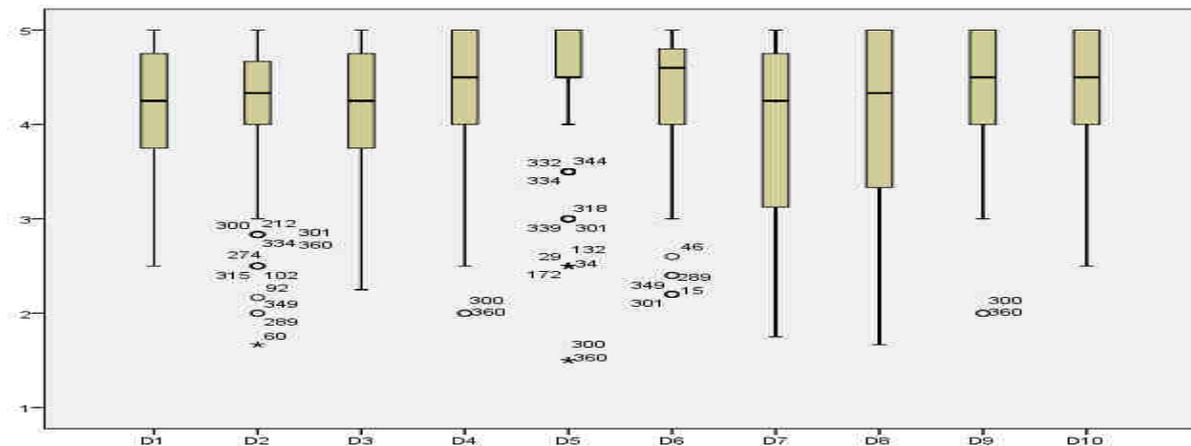
**Table 5: Stem-and-Leaf Distribution of Responses**

Response	5	1	4	24	26	67	26	52	63	66	26	
D <sub>1</sub>	2.5	2.7	3	3.2	3.5	3.7	4	4.2	4.5	4.7	5	
Response	18	8	6	6	5	25	78	47	54	43	56	14
D <sub>2</sub>	2.8	3	3.3	3.5	3.6	3.8	4	4.3	4.5	4.6	4.8	5
Response	2	4	1	8	12	22	48	34	55	52	68	54
D <sub>3</sub>	2.2	2.5	2.7	3	3.2	3.5	3.7	4	4.2	4.5	4.7	5
Response	2	1	5	57	52	131	112					
D <sub>4</sub>	2	2	3	3.5	4	4.5	5					
Response	44	39	125	152								
D <sub>5</sub>	3.5	4	4.5	5								
Response	7	5	1	19	13	24	30	35	17	69	60	80
D <sub>6</sub>	2.6	3	3.2	3.4	3.6	3.8	4	4.2	4.4	4.6	4.8	5
Response	4	16	67	23	47	42	129	32				
D <sub>7</sub>	1.8	2.2	2.5	3	3.6	4	4.5	5				
Response	2	4	2	86	36	77	52	101				
D <sub>8</sub>	1.6	2.3	2.6	3	3.6	4	4.6	5				
Response	2	14	19	78	116	131						
D <sub>9</sub>	2.5	3	3.5	4	4.5	5						
Response	8	7	35	51	142	117						
D <sub>10</sub>	2.5	3	3.5	4	4.5	5						

**Box Plot**

With respect to the box plot, outliers and extreme values are significantly found in D<sub>2</sub>, D<sub>5</sub>, and D<sub>6</sub>. The opinion of 360 and 300 in many dimensions are outliers, implying that they can be ignored and other outliers can be replaced by the mean value of each dimension for further analysis. The most consistent opinion is for D<sub>5</sub> with 75% between Q<sub>1</sub> and Q<sub>3</sub> and the remaining 25% below is also stable. In D<sub>4</sub>, D<sub>8</sub>, D<sub>9</sub> and D<sub>10</sub> also there is a very high concentration in the opinion 5 showing Q<sub>3</sub> and maximum are coinciding. The middle, i.e. 50% is mostly clustered in D<sub>2</sub>, D<sub>1</sub>, D<sub>3</sub>, D<sub>4</sub>, D<sub>9</sub> and D<sub>10</sub>, which shows moderate clustering of the middle values. In D<sub>6</sub>, upper middle 25% is highly clustered but lower middle 25% is taking a reasonable distance. D<sub>7</sub> and D<sub>8</sub> show the highest distribution of the middle 50% responses. The lower 25% observations are almost equal in D<sub>1</sub>, D<sub>2</sub>, D<sub>3</sub>, D<sub>4</sub>, D<sub>6</sub>, D<sub>7</sub>, D<sub>9</sub>, and D<sub>10</sub>. Moreover, with respect to box plots, all the medians are between 4 and 5 and most of them are near 4.5.

**Figure 1: Box Plots on Response of Emotional Intelligence Dimensions**



**Deciles**

The 10 divisions of D<sub>1</sub>, D<sub>2</sub>, D<sub>3</sub>, D<sub>4</sub>, D<sub>5</sub>, D<sub>6</sub>, D<sub>7</sub>, D<sub>8</sub>, D<sub>9</sub>, and D<sub>10</sub> start from 3.5 and ending at 5, which implies that there is a high skewness in the opinion to the strong or very strong agreement. For D<sub>6</sub>, it starts from 3.6, for D<sub>7</sub> 2.5, D<sub>8</sub> 3 and for D<sub>9</sub> 4, and all ends in 5. D<sub>1</sub> and D<sub>3</sub> distributed in a span of 0.25 for deciles. D<sub>2</sub> and D<sub>8</sub> vary in the span of 0.16, D<sub>4</sub>, D<sub>5</sub>, D<sub>9</sub>, and D<sub>10</sub> are quickly increasing and reach the maximum at 6<sup>th</sup> or 7<sup>th</sup> deciles. The increment scale of D<sub>6</sub> is 0.20 but it reaches the maximum at 8<sup>th</sup> deciles. D<sub>7</sub> is the highest distributive pattern with a span of 0.25 at each decile. There is a span of 0.33 consistently in D<sub>8</sub> which reaches the optimum at 8<sup>th</sup> decile. Thus, D<sub>4</sub>, D<sub>5</sub>, D<sub>9</sub> and D<sub>10</sub> reach strong agreement at 7<sup>th</sup> decile, D<sub>8</sub> AT 8<sup>th</sup> decile, D<sub>3</sub> at 9<sup>th</sup> decile and D<sub>1</sub>, D<sub>2</sub> and D<sub>7</sub> in the last decile. Eventually, D<sub>5</sub> achieve the optimum even at 6<sup>th</sup> decile.

**Table 6: Deciles Distribution of Emotional Intelligence Dimensions**

		DIMENSIONS OF EMOTIONAL INTELLIGENCE									
		D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	D <sub>5</sub>	D <sub>6</sub>	D <sub>7</sub>	D <sub>8</sub>	D <sub>9</sub>	D <sub>10</sub>
DECILES	D <sub>1</sub>	3.5	3.5	3.5	3.5	3.5	3.6	2.5	3	4	3.5
	D <sub>2</sub>	3.75	4	3.75	4	4	4	2.5	3.33	4	4
	D <sub>3</sub>	3.75	4.16	4	4	4.5	4.2	3.25	3.66	4	4.5
	D <sub>4</sub>	4	4.16	4.25	4.5	4.5	4.4	3.75	4	4.5	4.5
	D <sub>5</sub>	4.25	4.33	4.25	4.5	4.5	4.6	4.25	4.33	4.5	4.5
	D <sub>6</sub>	4.5	4.5	4.5	4.5	5	4.6	4.5	4.66	4.5	4.5
	D <sub>7</sub>	4.5	4.66	4.75	5	5	4.8	4.5	4.66	5	5
	D <sub>8</sub>	4.75	4.66	4.75	5	5	5	4.75	5	5	5
	D <sub>9</sub>	4.75	4.83	5	5	5	5	4.75	5	5	5
	D <sub>10</sub>	5	5	5	5	5	5	5	5	5	5

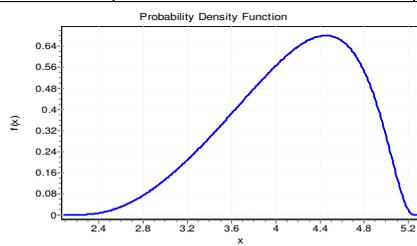
***The Exact of the Distribution of Dimensions of Emotional Intelligence***

Even though the sample size is 360, there is no sign of normality found on the response for any dimension of EI. Kolmogorov-Smirnov and Shapiro-Wilk test fail to identify the normality for the dimensions. Also, P-P plot and Q-Q plot shows very a high difference from normality because the respondents are on a strong or very strong agreement with the dimensional objectives so that a negative skewness is evident in all the dimensions. Thus, it is better to explore the exact of the distribution pattern/structure of each dimension. Using easy-fit soft ware, the exact distribution on each dimension and its average of the total response are assured. Using K.S. test, the significance of the distribution is further ascertained. From the distribution study, for each dimension, Johnson SB distribution is most common in D<sub>1</sub>, D<sub>3</sub>, D<sub>4</sub>, D<sub>5</sub> and D<sub>8</sub>, while the Log-Pearson-3 for D<sub>2</sub>, Beta distribution for D<sub>6</sub>. Generalized Extreme Value distribution for D<sub>7</sub>, Log -Logistic distribution for D<sub>9</sub> and Gumbel Min distribution for D<sub>10</sub> and, eventually, the power function distribution is followed by the average response of emotional intelligence as a whole.

**Table 7: Exact Distribution of Emotional Intelligence Dimensions**

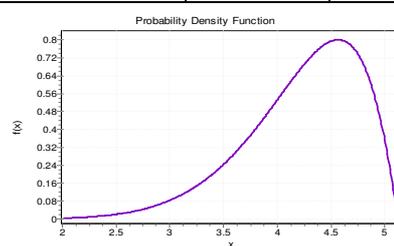
Dimension	Distribution	Parameter	KS Stat.	P-Value
D <sub>1</sub>	Johnson SB	$\Gamma = -0.77291$ $\delta = 1.1387$ $\xi = 2.0904$ $\lambda = 3.1874$	0.12717	0.98431
D <sub>2</sub>	Log-Pearson 3	$\Gamma = 1.6337$ $B = - 0.09702$	0.11012	0.99504

		$\alpha = 2.0744$		
D <sub>3</sub>	Johnson SB	$\Gamma = -1.4412$ $\delta = 1.3471$ $\xi = 1.1341$ $\lambda = 4.2909$	0.10076	0.99847
D <sub>4</sub>	Johnson SB	$\Gamma = 2.1102$ $\delta = 1.4586$ $\xi = 0.15287$ $\lambda = 5.3606$	0.18897	0.92644
D <sub>5</sub>	Johnson SB	$\Gamma = -0.84604$ $\delta = 0.51238$ $\xi = 3.2285$ $\lambda = 1.661$	0.25288	0.46972
D <sub>6</sub>	Beta	$\alpha_1 = 1.8127$ $\alpha_2 = 0.56766$ $a = 2.34$ $b = 5.0$	0.10942	0.99541
D <sub>7</sub>	Gen Extreme Value	$k = 0.80956$ $\alpha = 1.0821$ $\mu = 3.8867$	0.14227	0.9704
D <sub>8</sub>	Johnson SB	$\Gamma = -0.33177$ $\delta = 0.68483$ $\xi = 2.2244$ $\lambda = 3.1127$	0.14749	0.98383
D <sub>9</sub>	Log -Logistic	$\alpha = 2.6674E+8$ $\Gamma = -8.4821E+7$ $\beta = 8.4821E+7$	0.28951	0.98383
D <sub>10</sub>	GumbelMin	$\sigma = 0.45481$ $\beta = 4.6834$	0.20682	0.91578
EI	Power Function	$\alpha = 2.7277$ $a = 2.7651$ $b = 4.9$	0.1357	0.9807



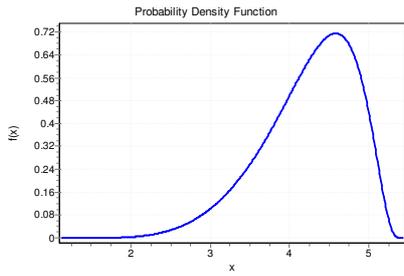
D<sub>1</sub>

Johnson SB (-0.77291; 1.1387; 3.1874; 2.0904)



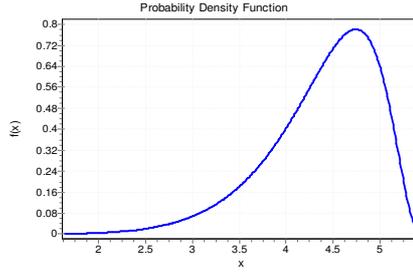
D<sub>2</sub>

Log-Pearson 3 (2.0744; -0.09702; 1.6337)



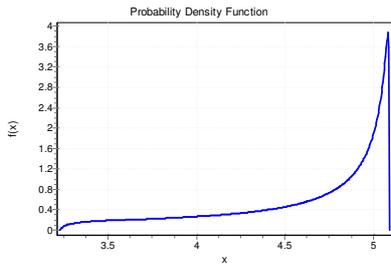
D<sub>3</sub>

Johnson SB (-1.4412; 1.3471; 4.2909; 1.1341)



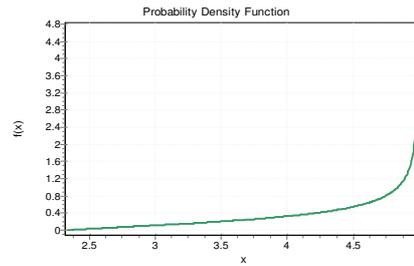
D<sub>4</sub>

Johnson SB (-2.1102; 1.4586; 5.3606; 0.15287)



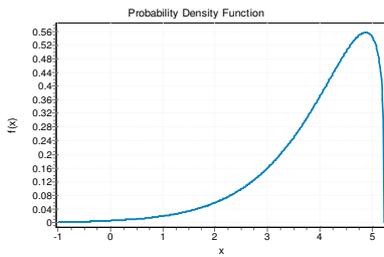
D<sub>5</sub>

Johnson SB (-0.84604; 0.51238; 1.861; 3.2285)



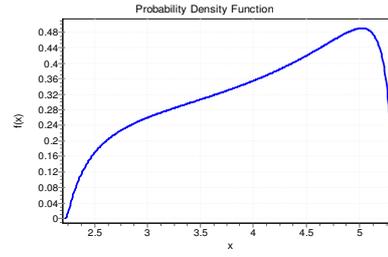
D<sub>6</sub>

Beta (1.8127; 0.56766; 2.34; 5.0)



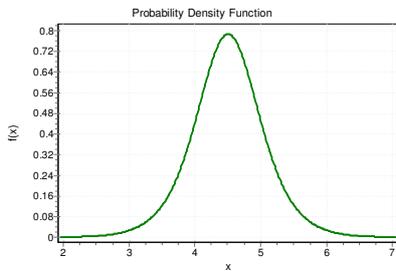
D<sub>7</sub>

Gen. Extreme Value (-0.80956; 1.0821; 3.8867)



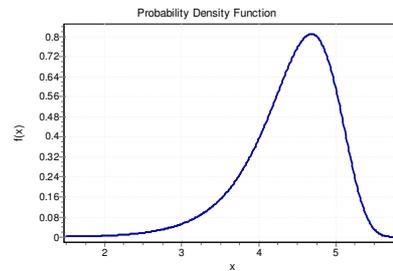
D<sub>8</sub>

Johnson SB (-0.33177; 0.68483; 3.1127; 2.2244)



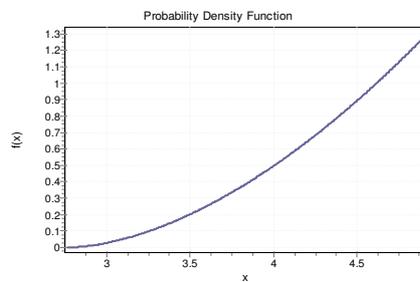
D<sub>9</sub>

Log-Logistic (2.6674E+8; 8.4821E+7; -8.4821E+7)



D<sub>10</sub>

Gumbel Mn (0.45481; 4.6834)



EI

Power Function (2.7277; 2.7651; 4.9)

## Conclusion

This study explained the emotional intelligence in terms of ten dimensions. The study established the existence of emotional intelligence through the location parameter where most of them are very strongly agreeable for the respondents. Using the scale parameter, the variability is thoroughly analyzed and found that a consistent opinion is developed in most of the dimensions, except D<sub>7</sub> and D<sub>8</sub>. The shape of the distribution shows negative skewness in all cases with extreme in D<sub>2</sub>, D<sub>5</sub> and D<sub>6</sub>. Also, the kurtosis is mostly leptotype with the maximum in D<sub>2</sub> and D<sub>5</sub>. Thus, among the ten dimensions, higher consistency in the opinion is found in D<sub>2</sub> and D<sub>5</sub>. Stem and leaf response shows that D<sub>4</sub>, D<sub>5</sub> and D<sub>9</sub> have a minimum fluctuation in the responses, while the maximum fluctuation is found in D<sub>7</sub> and D<sub>8</sub>. Box plot is indicative of overall distribution and D<sub>5</sub> is limited varying with a maximum clustering of data from Q<sub>2</sub> to Q<sub>4</sub>. D<sub>2</sub>, D<sub>6</sub> and D<sub>9</sub> also show the response in the positive side exempting some extreme or outliers. The highest variability in the response is maintained by D<sub>7</sub> and D<sub>8</sub> with 50 per cent of the middle response is also reasonable is scattered. The distribution of deciles is used to develop the exact distribution of each dimension. The most commonly seen distribution is Johnson SB distribution for D<sub>1</sub>, D<sub>3</sub>, D<sub>4</sub>, D<sub>5</sub>, and D<sub>8</sub> with four parameters of which two are shape parameters. Most of the distributions have at least three parameters, except in D<sub>10</sub>, explaining the location, scale and shape of the dimension. It is interesting to note that the emotional intelligence, as a variable composed of the ten dimensions, is followed by a power function which is monotonically increasing over the response one to five.

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**Recommended Citation of this Publication:**

Behera, N.P. (2017). Emotional intelligence of secondary school teachers: an exploratory dimensional analysis. *Pedagogy of Learning*, 4 (3), 14-29. Available at: [www.pedagogyoflearning.com](http://www.pedagogyoflearning.com).