A Statistical Study on the Emotional Intelligence of B.Tech Students of NIT Hamirpur

Arpan Garg¹, Prachi Agrawal², Talari Ganesh³
¹,²,³Department of Mathematics & Scientific Computing, National Institute of Technology Hamirpur, Himachal Pradesh, India
E-mail: ¹arpan1996garg@gmail.com, ²prachiagrawal202@gmail.com, ³ganimsc2007@gmail.com

Abstract. Emotions intelligence (EI) is the ability to recognize, implement, understand, and control emotions in definite way to reduce stress, make interaction effectively, overwhelmed challenges, and defusing conflict. The ideology behind entire perspective is that the students will develop themselves into what they are capable of becoming, provided we make them aware about emotional intelligence and the institute environment and parents create the appropriate circumstances for the development of intelligence. This study is not proposed to determine whether individual student becomes effective or ineffective. It is about examine the connections and interconnection between emotional intelligence and its component determinants along with understanding and level of responsibility in communication. It is also about formulating emotional intelligence radars and ladders to facilitate competency development. A survey was carried out, which consists of a sample researches in linkage to the gathering of data by setting up a questionnaire and structured involvement with various variables to identify design of associations. Descriptive analysis is deployed to derive meaningful and substantive conclusions and it indicates that the addressed sample was accurate and the different objects developed are significant for the performance measures. Further, the data obtained from the survey is put through statistical analysis utilizing statistical calculating package IBM SPSS Statistics. This study follows the relational model of database systems development that organizes and represents data in the form of tables and relations.

1. Introduction
Emotional intelligence (EI) is a comparatively latest and developing field of concerned with manner of behaving scientific researches, having capture the concentration of the common persons, the administration expert and the educational society. The development of emotional intelligence during the earlier many years has drive to the publishing of different categories of research papers and books which are widely popular. EI also joined with various innovative field of psychological studies, containing the cognitive neuro-science of emotion, SRT (self-regulation theory), and the findings for human cognitive capabilities beyond classical educational intelligence. Most publishing are relate to the description, designing, calculation and function of educational intelligence in the framework of individuals and association. Association of individuals have used academic intelligence for administrative advancement as well as for improving organizational influence [1].

Emotional intelligence develop administration practices and also helps in guidance improvement [2]. Emotional intelligence has been influential in stimulating and constructing a
habit of strong operating work area. Emotional intelligence function in the work area comprise organizational action like enrollment, guidance development, team developing, progression planning, organization efficiency and operation supervising. Harrison [3] has imitate emotional intelligence as a key capability of many association of individuals. Emotional intelligence has powerful relation with tenable competing benefit. Emotional intelligence assist the progress of innovating in the area of work and will also be support in improving employees imagination and the ability of handling uncertain risk [4]. Cherniss and Goleman [5] that emotional intelligence has arises as the influencing perception mostly in the present-day cooperative group and has made intellectual impact on the fields of social advancement, academics, and well-being. Therefore it seems to be that studies and the huge number of organizations rely on that EI abilities are crucial.

Emotional intelligence literature gives plenty proves that a number of experimental researches [6–9] are available to calculated emotional intelligence and examining its confirm-ability with business association. An attempt is make in this scientific research to model, calculate and examine the emotional intelligence in the academic area of a community. Emotional intelligence has been utilize in academic to put the foundations to construct the perception of a institutes devoted to learning [10]. This is accomplish through emotional intelligent parents and professor - the constructing blocks of the institute system. However, comparatively fewer numbers of witness are found in the field of operation for institution students. There are research [10] that describe the connection between emotional intelligence and educational performance in students making changeover from school to a college.

A searching by Van der Zee [11] and Newsome [6] validate that emotional intelligence is unrelated to psychological ability relating to educational achievement [8]. Another research by [12] exhibit that students with training disabilities had fewer emotional intelligence score than their not disabled fellow. A very less researches are available to illustrate the consequential determinants of emotional intelligence among the students. This research deals with first year B.Tech students of colleges as they describe the future human assets of any country. Yet, while corporation are assigning important amounts of their cost to this cause, the college systems are however in the starting stages of implementing project oriented towards emotional and public learning. These projects are still in their babyhood stage. It may be that even with the studies base demonstrating the significance of EI for career achievement; some institute system authority may still carry the conventional view of emotions and intelligence as exact opposites. This is open to doubt because studies advise that acquiring knowledge of latest skills, such as EI, is simple when one is younger [13].

This study targets the students of professional and non-professional colleges, as they are the future human capital of the country. Human capital represents the skills, abilities and knowledge that make it conceivable for peoples to do their profession work.

HCD (Human capital development) is about hiring, upholding and investing in people, using a various of means, including academics, mentoring, teaching, training, internships, organizational growth and manpower assets management. Students can be well-developed through emotional intelligence first task being examining their existing status of emotional quotient and then constructing on their skills and capabilities through emotional intelligence. Schultz defined human capital theory as the skills and knowledge that people receive through academics and coaching as being a form of capital, and this capital is a output of purposive investment that provides returns [14]. Schultz, in 1961 write that, Although it is straightforward that people receive useful knowledge and skills, it is not so straightforward that these knowledge and skills are a form of capital, or that this capital is in important part a outcome of purposive investment. Schultz named the body of knowledge that desired to give description, explanation, and validation of this phenomenon human capital theory [15].

Accordingly to Becker [16], studying, courses training, health care, and lectures on individual
development are all capital too because these develop health, raises income, and add to individuals appreciation of publication over his or her life duration.

Thus, Becker claimed that these are finance in human capital. The establishment of human capital takes place by developing individuals intelligence in colleges, who will be efficient in decision making and leadership. Thorndike [17] break down intelligence activities into three factors: public intelligence, factual intelligence, and theoretical intelligence. Beyond public intelligence, [18] suggested his theory of numerous intelligence, which contained both intra-personal and interpersonal intelligence. He associated both these framework to public intelligence. Gardner characterize them as following: Interpersonal Intelligence is the ability to comprehend other people: what things that motivates them, how do they work, how to work cooperatively with them. Intra-personal Intelligence is a mutual relationship ability turned towards inward. It is a capability to form an precise, coinciding with reality model of individual and to be capable to use that model to perform effectively in way of life.

The approach of emotional intelligence are declared to be based on large-scale scientific and studies evidence. However, small studies has been organize in the framework of academical institutions (the constructing blocks of human capital). The enterprise applications are broadly case explanation and tend to be located on derivative arguments. Therefore, it is tried to attempt here in this study to substantiating emotional intelligence applications in professional colleges of a pluralistic nation like India.

The objective is that emotional intelligence may lead to professional and individuals achievement has created a great contract of enthusiasm amongst the general social, supervisor, educational, and enterprise consultants alike. According to well-known opinion and work-field testimonials, emotional intelligence affects personal performance.

Proponents claim that increasing EI can do everything from improving the general quality of work life to enhancing career success. Although much work has gone into the development and application of emotional intelligence in peoples lives, there has been a general lack of independent, systematic analysis of the claim that emotional intelligence increases individual performance over and above the level expected from traditional notions of general intelligence. Therefore, in this current study, we analyze emotional intelligence of B.tech first year students in NIT Hamirpur, Himachal Pradesh of age group in between 17-22 years.

The organization of paper as section 2 describe the methodology. The result and discussion of the problem presented in section 3 and section 4 respectively. The concluding remarks is given in section 5.

2. Methodology
Many researches contributes significant assist to the great significance, and correlation between the, EI, career achievement, and captaincy qualities. There was a little bit insufficiency of study, nevertheless, connecting EI with educational achievement in B.Tech students’. There was also small knowledge on the basis for which B.Tech students’ comprehend the signification of emotional intelligence or gaining any learning. Because interaction is acquired as most of the greatest crucial typical feature needed by the B.Tech students and is inspired to be cultured in everyday college work possible mostly, emotional intelligence should have also included in engineering academics, because of own significant part in increasing interaction abilities.

Testing of the connection between emotional intelligence and educational achievement and the analyzing of dissimilarity in EI with consideration to knowledge of emotional intelligence is the main objective of this research. These propositions will be examine within the three department (Electrical and Computing Engineering (ECE), Dual Degree, Mechanical) of the NIT Hamirpur, campus of first year B.Tech students.

This studies consider the following two standards:
(a) Training and learning of EI can be done, instead being completely hereditary;
The participators in this study have obscurity and are assured that their feedback are not a point of their personal appraisal, increases capability to give response positively by respondents.

2.1. Research

86 students taken part in the EI test performed during the Even Semester 2019. All of them are the part of a NIT Hamirpur course and are from three different departments (Electrical and Computing Engineering (ECE), Dual Degree, Mechanical). The upbringing atmosphere of the students varied, including the students of undergraduate and graduated; both female and male students. In inclusion to the group of students, another individuals group was evaluated. The harmonious questionnaire was distributed to every student to accumulate biographical testimony like as name, students age, students gender, students course, students belongs which region, is student a hostler or day scholar, familiarity with EI, their own how would they gave ranking to emotional intelligence. Every participants was guaranteed obscurity, even though every students survey was marked with random numbers from 1 to 86, to allow comparability between test results. Every student participated in this research is recognized as the numbers from 1 to 86.

3. Results

A statistical study has been done for the emotional intelligence of B.Tech students in NIT Hamirpur. The study contain 85 respondents corresponding to 90 parameters with demographical information. The association has been made for all the parameters with respect to demographical variables such as age, gender, region, hostel/day scholar. Using IBM SPSS Statistics 20 analysis has been done by following information pointed out.

By observing the age most of the respondents are having age group 17-18 where as gender respondents are male, as per as region is concern north people express their feelings who are residing in hostel. Coming to the parameter the respondents are much graceful, much cheerful, more intelligent, where as they are uncertain in aggressive. In the sample respondents are feeling very kind, not much harsh, and they not artistic, much brave, more likable, and very happy. Based on the given information it has been shown that the respondents are very systematic, uncertain in miser where as according to their feelings they are not responsible. Most of the people are attractive not nervous, not at all irritable and much enthusiastic and they are not careless. The respondent are feeling somewhat critical and boastful and trying to be very simple. Most of the respondents are confident, clean and formal but they are not talkative, and little bit lazy. Among the respondents they are affectionate reliable, much alert in their concern, better resourceful, and high modest. They are fussy not and not at all obstinate, most delicate and more friendly and also uncertain vague. Respondents are adventurous but uncertain in anxious and unsteady. They are more social respect to superior, high curiosity, but they are not at all greedy. Respondents are frank and fair-minded but they are not impatient, not at all wicked and more energetic but not that much foolish and insincere.

4. Discussion

The age group of the respondent are 18 with 47.1 percent and 19 with 34 percent and the remaining people are under 17. Male percentage is 84.7 and the females are 15.3. The most of the students are from northern region 88.2 percent and remaining has split by east, west and south regions. All respondent are residing in the hostel only. Table 1, 2, 3, 4 represent the frequency with the different factor as Age, Gender, Region and Resident respectively and their graphs are shown in the Fig. (1, 2, 3, 4).

Coming to the parameters, graceful, cheerful and more intelligent people are with 56.5 percent, 50.6 percent, 49.5 percent respectively and the remaining percentage has been splitting accordingly whereas the respondents are not that much aggressive and very kind with 49.4 percent. The similar interpretation can be observe for the remaining parameters from Table 5.
Table 1. Frequency Table for Age

| Age | Frequency | Percent |
|-----|-----------|---------|
| 17  | 15        | 17.6    |
| 18  | 40        | 47.1    |
| 19  | 29        | 34.1    |
| 20  | 1         | 1.2     |
| Total | 85    | 100.0   |

Figure 1. Age versus Frequency

Table 2. Frequency Table for Gender

| Sex | Male | Female | Total |
|-----|------|--------|-------|
| Frequency | 72 | 13 | 85 |
| Percent    | 84.7 | 15.3 | 100.0 |

Figure 2. Gender versus Frequency

Table 3. Frequency Table for Region

| Region | East | West | North | South | Total |
|--------|------|------|-------|-------|-------|
| Frequency | 1   | 4    | 75    | 5     | 85 |
| Percent    | 1.2 | 4.7  | 88.2  | 5.9   | 100.0 |
**Figure 3.** Region versus Frequency

**Table 4.** Frequency Table for Resident

| Hostler/Day scholar | Hostler | Day Scholar | Total |
|---------------------|---------|-------------|-------|
| Frequency           | 84      | 1           | 85    |
| Percent             | 98.8    | 1.2         | 100.0 |

**Figure 4.** Resident versus Frequency

in which the percent of the parameters is given in the parenthesis and Fig. (5, 6, 7) represent the different emotions with their frequencies.
Table 5. Frequency Table

|          | Very much like this (percent) | Much like this (percent) | Uncertain (percent) | Not like this (percent) | Not at all like this (percent) | Total |
|----------|------------------------------|--------------------------|---------------------|------------------------|--------------------------------|-------|
| Graceful | 16 (18.8)                    | 48 (56.5)                | 14 (16.5)           | 4 (4.7)                | 3 (3.5)                       | 85 (100.0) |
| Cheerful | 27 (31.8)                    | 43 (50.6)                | 11 (12.9)           | 3 (3.5)                | 1 (1.2)                       | 85 (100.0) |
| Intelligent | 23 (27.1)               | 39 (45.9)                | 19 (22.4)           | 3 (3.5)                | 1 (1.2)                       | 85 (100.0) |
| Aggressive | 13 (15.3)                | 18 (21.2)                | 23 (27.1)           | 25 (29.4)              | 6 (7.1)                       | 85 (100.0) |
| Kind     | 43 (50.6)                    | 37 (43.5)                | 4 (4.7)             | 0 (0.0)                | 1 (1.2)                       | 85 (100.0) |
| Harsh    | 6 (7.1)                      | 10 (11.8)                | 24 (28.2)           | 30 (35.3)              | 15 (17.6)                     | 85 (100.0) |
| Artistic | 9 (10.6)                     | 23 (27.1)                | 31 (36.5)           | 17 (20.0)              | 5 (5.9)                       | 85 (100.0) |
| Brave    | 32 (37.6)                    | 34 (40.0)                | 14 (16.5)           | 4 (4.7)                | 1 (1.2)                       | 85 (100.0) |
| Likable  | 20 (23.5)                    | 40 (47.1)                | 22 (25.9)           | 2 (2.4)                | 1 (1.2)                       | 85 (100.0) |
| Happy    | 44 (51.8)                    | 31 (36.5)                | 8 (9.4)             | 1 (1.2)                | 1 (1.2)                       | 85 (100.0) |
| Systematic | 24 (28.2)                | 29 (34.1)                | 17 (20.0)           | 9 (10.6)               | 6 (7.1)                       | 85 (100.0) |
| Miser    | 4 (4.7)                      | 12 (14.1)                | 38 (44.7)           | 22 (25.9)              | 9 (10.6)                      | 85 (100.0) |
| Irresponsible | 5 (5.9)                | 11 (12.9)                | 21 (24.7)           | 34 (40.0)              | 13 (15.3)                     | 85 (100.0) |
| Attractive | 18 (21.2)                | 27 (31.8)                | 30 (35.3)           | 9 (10.6)               | 1 (1.2)                       | 85 (100.0) |
| Nervous  | 14 (16.5)                    | 27 (31.8)                | 28 (32.9)           | 12 (14.1)              | 4 (4.7)                       | 85 (100.0) |
| Irritable | 5 (5.9)                    | 9 (10.6)                 | 17 (20.0)           | 40 (47.1)              | 14 (16.5)                     | 85 (100.0) |
| Enthusiastic | 29 (34.1)                | 40 (47.1)                | 10 (11.8)           | 6 (7.1)                | 0 (0.0)                       | 85 (100.0) |
| Careless | 7 (8.2)                      | 18 (21.2)                | 19 (22.4)           | 23 (27.1)              | 18 (21.2)                     | 85 (100.0) |
| Critical | 6 (7.1)                      | 19 (22.4)                | 43 (50.6)           | 12 (14.1)              | 5 (5.9)                       | 85 (100.0) |
| Boastful | 5 (5.9)                      | 17 (20.0)                | 33 (38.8)           | 10 (11.8)              | 20 (23.5)                     | 85 (100.0) |
| Simple   | 49 (57.6)                    | 31 (36.5)                | 2 (2.4)             | 3 (3.5)                | 0 (0.0)                       | 85 (100.0) |
| Confident | 27 (31.8)                   | 40 (47.1)                | 11 (12.9)           | 6 (7.1)                | 1 (1.2)                       | 85 (100.0) |
| Clean    | 41 (48.2)                    | 32 (37.6)                | 5 (5.9)             | 6 (7.1)                | 1 (1.2)                       | 85 (100.0) |
| Formal   | 24 (28.2)                    | 38 (44.7)                | 13 (15.3)           | 8 (9.4)                | 2 (2.4)                       | 85 (100.0) |
| Talkative | 14 (16.5)                   | 22 (25.9)                | 19 (22.4)           | 23 (27.1)              | 7 (8.2)                       | 85 (100.0) |
| Lazy     | 20 (23.5)                    | 20 (23.5)                | 13 (15.3)           | 18 (21.2)              | 14 (16.5)                     | 85 (100.0) |
| Affectionate | 23 (27.1)                | 45 (52.9)                | 12 (14.1)           | 4 (4.7)                | 1 (1.2)                       | 85 (100.0) |
| Reliable | 34 (40.0)                    | 34 (40.0)                | 11 (12.9)           | 5 (5.9)                | 1 (1.2)                       | 85 (100.0) |
| Alert    | 29 (34.1)                    | 37 (43.5)                | 14 (16.5)           | 4 (4.7)                | 1 (1.2)                       | 85 (100.0) |
| Resourceful | 22 (25.9)                | 40 (47.1)                | 19 (22.4)           | 3 (3.5)                | 1 (1.2)                       | 85 (100.0) |
| Modest   | 19 (22.4)                    | 37 (43.5)                | 25 (29.4)           | 2 (2.4)                | 2 (2.4)                       | 85 (100.0) |
| Fussy    | 5 (5.9)                      | 9 (10.6)                 | 38 (44.7)           | 24 (28.2)              | 9 (10.6)                      | 85 (100.0) |
| Obstinate | 6 (7.1)                      | 20 (23.5)                | 43 (50.6)           | 13 (15.3)              | 3 (3.5)                       | 85 (100.0) |
| Delicate | 12 (14.1)                    | 40 (47.1)                | 16 (18.8)           | 11 (12.9)              | 6 (7.1)                       | 85 (100.0) |
| Friendly | 48 (56.5)                    | 31 (36.5)                | 1 (1.2)             | 3 (3.5)                | 2 (2.4)                       | 85 (100.0) |
| Vague    | 4 (4.7)                      | 7 (8.2)                  | 52 (61.2)           | 11 (12.9)              | 11 (12.9)                     | 85 (100.0) |
| Adventurous | 36 (42.4)                | 32 (37.6)                | 9 (10.6)            | 4 (4.7)                | 4 (4.7)                       | 85 (100.0) |
| Unsteady | 5 (5.9)                      | 20 (23.5)                | 31 (36.5)           | 21 (24.7)              | 8 (9.4)                       | 85 (100.0) |
| Anxious  | 15 (17.6)                    | 20 (23.5)                | 28 (32.9)           | 13 (15.3)              | 9 (10.6)                      | 85 (100.0) |
| Social   | 30 (35.3)                    | 22 (25.9)                | 15 (17.6)           | 12 (14.1)              | 6 (7.1)                       | 85 (100.0) |
| Character | Superior | Curious | Greedy | Frank | Fair-minded | Impatient | Wicked | Energetic | Foolish | Insincere | Active | Excitable | Clever | Shy | Argumentative | Jealous | Disciplined | Ambitious | Quarrlesome | Independent | Tense | Willing | Efficient | Thoughtful | Serious | Suspicious | Sympathetic | Impressive | Inventive | Honest | Weak | Contended | Tolerant | Idealistic | Strict | Obedient | Shirker | Humorous | Mischievous | Restless | Bossy | Selfish | Rude | Determined | Punctual | Broadminded | Bluffer | Smart |
|----------|----------|---------|--------|-------|------------|-----------|--------|-----------|--------|----------|--------|-----------|-------|-----|---------------|--------|-------------|----------|------------|-----------|-------|--------|----------|---------|--------|----------|--------|--------|--------|--------|--------|--------|-----|--------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
Figure 5. Parameters versus Frequency from questionnaire emotions 1 to 30

Figure 6. Parameters versus Frequency from questionnaire emotions 31 to 60

Figure 7. Parameters versus Frequency from questionnaire emotions 61 to 90
5. Conclusion

This study assessed and examined students to conclude that EI ability probably impact student performance and their career achievement. The analysis has been conducted with 85 respondents corresponding to 90 parameters with demographic information. This research concludes that the emotional intelligence is the inherited component collection, information and abilities achieved by personals and their lifetime development throughout. There are evidences which are undoubtedly for recognizing emotional intelligence as the significant in projecting individual and educational achievement, and thus it has capability implications for the students. The development of the students are done in a way that are personally significant and also are meaningful and productive for the community.

Furthermore, emotional intelligence undertake contribution in educational performance. In the emotional intelligence test specify that components of emotional intelligence make easier the procedure of knowledge understanding and team co-operation, specially inside the engineering area, where interaction is highlighted. Accompanying the discovery of the preference part performed by emotional intelligence in educational performance, furthermore it establish that the individual level by which emotional intelligence is well-known will finally affects the emotional intelligence test result.

While the elementary concentration of academic is educational performances, simply there is extreme authentic evidence by which college could not ignored the growth of emotional intelligence skills. Arising trends make necessary latest research and applied studies on contributing the emotional brain and the emotional framework of the learning. Making healthier and high-yielding students needed for the influential deliberate growth of emotional intelligence abilities and capability as simple and basic portion of the procedure of academics. Therefore the last motive of the studies is that to build a base which can be used experimentally to calculate emotional intelligence and its important aspects and thus deliver direction for the growth of youngsters conducting career orientate education to frame modern India.

References

[1] Lowe K B, Kroeck K G and Sivasubramaniam N 1996 The leadership quarterly 7 385–425
[2] Druskat V U and Wolff S B 2001 The emotionally intelligent workplace: How to select for, measure, and improve emotional intelligence in individuals, groups and organizations 132–155
[3] Harrison R 1997 People Management 3 41
[4] Pelled L H, Eisenhardt K M and Xin K R 1999 Administrative science quarterly 44 1–28
[5] Cherniss C and Goleman D 2001 How to select for measure and improve emotional intelligence in individuals, groups and organizations san Francisco: Jossey-Bass
[6] Newsome S, Day A L and Catano V M 2000 Personality and Individual differences 29 1005–1016
[7] Petrides K V and Furnham A 2001 European journal of personality 15 425–448
[8] Petrides K V, Frederickson N and Furnham A 2004 Personality and individual differences 36 277–293
[9] Cabana M D, Rand C S, Powe N R, Wu A W, Wilson M H, Abboud P A C and Rubin H R 1999 Jama 282 1458–1465
[10] Parker J D, Summerfeldt L J, Hogan M J and Majeski S A 2004 Personality and individual differences 36 163–172
[11] Van der Zee K, Thijs M and Schakel L 2002 European journal of personality 16 103–125
[12] Reiff H B, Hatzen N M, Bramel M H and Gibson T 2001 Journal of learning disabilities 34 66–78
[13] Goleman D 1998 Working with emotional intelligence (Bantam)
[14] Nafukho F M, Hairston N and Brooks K 2004 Human Resource Development International 7 545–551
[15] Baptiste J 2001 Forum Qualitative Sozialforschung/Forum: Qualitative Social Research vol 2
[16] Becker G S 1993 Journal of political economy 101 385–409
[17] Thorndike E L 1920 Harper’s magazine
[18] Gardner D P, Larsen Y W, Baker W, Campbell A and Crosby E A 1983 A nation at risk: The imperative for educational reform (United States Department of Education Washington, DC)