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Analysis of emotional quotient and intelligence quotient among 'High Achievers' and 'Low Performers' in school academics

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Abstract

The present research study was conducted to analyze the Emotional Quotient* and the Intelligence Quotient* of 'High Achievers'* and 'Low performers'* in School Academics. The research was conducted in Chandigarh and Mohali. The sample consisted of two groups, boys as well as girls, of 9th standard, and their result and assessment of the previous year i.e. 8th standard was considered. The first group Group A included 'High Achievers' having scored above 80% marks. The second group Group B included 'low performers' scoring marks between 40% and 60%. The tools used in the study were Stanford-Binet Intelligence Scale and Emotional Quotient Self-Score Questionnaire. It was reported that students with high EQ as well as high IQ scored higher, those with high IQ but low EQ scored less, those with low IQ but low EQ scored less, and those with low IQ as well as low EQ, scored very less. Thus, it could be concluded that Emotional Intelligence holds utmost importance to utilize, ameliorate and channelize the vital Intelligence Quotient for achieving success in academics.

Keywords: *Intelligence Quotient, *Emotional Quotient, *High Achievers, *Low performers

1. Introduction

Intelligence Quotient (IQ) is the phenomena that involves assessment regarding one's capability to observe, analyze and interpret the circumstances (Wechsler, 1958). It's the intellectual aptitude of an individual which is measurable and can be denoted numerically. Sternberg (1985) termed Intelligence as a mental capacity that entails recognition and alteration of the surroundings in which an individual lives. The level of IQ had been a predictor of the level of academic achievement of students. But in this century, intelligence and success are not viewed the same way they were before (Goleman 1995) [6]. New theories of intelligence have been introduced and are gradually replacing the traditional theory. The whole child/student has become the centre of concern, not only his reasoning capacities, but also his creativity, emotions and interpersonal skills. The multiple intelligence theory has been introduced by Gardner (1983) and the Emotional intelligence theory by Mayer and Salovey (1990) and then Goleman (1995) [6]. IQ alone is no more the only measure for success; emotional intelligence, social intelligence, and luck also play a big role in a person's success (Goleman 1995) [6]. IQ is the conscious intellectual capability or in other words it is the aptitude of a person that enables him to think, understand and analyze the logical and speculative problems. It's an assessment of mental capability through which individuals of same age group can be compared with one another. Intelligence quotients' wide ranging prognostic value is that intellectual capability which is highly applied in several spheres of everyday life. IQ tells a highly constant, overall capability for attaining, handling and employing knowledge of almost any category. This is the reason that higher IQ is considered so useful. It is not only related to the extent of knowledge gained or acquired by the individuals. In fact, it reveals the capability to yield from proper training, reason conceptually, think and solve problems. High intelligence is beneficial in almost all spheres of life. As almost all of us require some learning and problem solving, especially when there is too much technical and social change. More intelligent people can learn and plan better as they have a tendency to attain more benefit than individuals with low IQ.

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Table 1: Stanford–Binet Fifth Edition (SB5) classification

Stanford–Binet Fifth Edition (SB5) classification	
IQ Range	IQ Classification
145–160	Very gifted or highly advanced
130–144	Gifted or very advanced
120–129	Superior
110–119	High average
90–109	Average
80–89	Low average
70–79	Borderline impaired or delayed
55–69	Mildly impaired or delayed
40–54	Moderately impaired or delayed

Though, research indicates that intellect of an individual is different from social skills. Most often persons who have high level of IQ may possess less social skills. Carroll (1993) defines intelligence as a type of mental ability that concerns the handling of (and reasoning about) information of various sorts. Often, these abilities are described as falling along a hierarchy from simple perceptual processes and information processing to higher and more general forms of problem solving. Theories of intelligence are often based on psychometric data collected from individuals performing tasks perceived to measure intellectual functioning (Weinberg, 1989). Researchers such as Thurstone (1938) and Guilford (1967) have opted for distinct mental capabilities. Gardner (1983), believed that intelligence is much more than IQ, and developed the theory of multiple intelligences by proposing eight different types of intelligences: linguistic, logical-mathematical, bodily-kinesthetic, musical, visual-spatial, intrapersonal, interpersonal, and naturalistic. Furthermore, Sternberg (1985) proposed a triarchic theory of intelligence which is built on three cornerstones: (a) Intelligence cannot be understood outside of a sociocultural context; thus, the ability to adapt to one's environment is no small part of intelligence; (b) Intelligence is purposeful, goal-oriented, relevant behavior consisting of two general skills: the ability to deal with novel tasks and the ability to develop expertise, that is, the ability to learn from experience to perform mental tasks effortlessly or automatically; and, finally, (c) Intelligence depends on acquiring information-processing skills and strategies (Weinberg, 1989).

Emotional Intelligence is defined as “The ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide ones thinking and actions (Salovey & Mayer 1990). A person's emotional intelligence helps much in all spheres of life through its various constituents or components namely knowledge of one's emotions and handling relationships. Emotional intelligence is another layer of human mind which is constructive enough in exploring human intelligence by processing a scientific method. Such systematic understanding of human emotion to measure human intelligence will prove much beneficial in uplifting common success rate of contemporary education and its system. Thus, emotional intelligence essentially reflects our ability to deal successfully with other people. Emotional intelligence was described formally by Salovey and Mayer (1990) according to whom “the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions.” According to Daniel Goleman (1995) [6], “Emotional intelligence is the capacity for recognizing our own feelings and those of others, for motivating ourselves, and for managing emotions well in

us and in our relationships [1].” Goleman (2002) in his research has identified a set of competencies that differentiate children with emotional intelligence. The competencies fall into four clusters such as Self Awareness (understanding of own emotions, powers, weaknesses, needs and awareness of self-existence), Self-Management (managing own emotional behavior), Social Awareness (ability to understand emotions and needs of others and thus putting oneself into others' shoes) and Relationship Management (ability to establish relationships with other individuals and to ensure sustainability of such relationships, creating and managing a team)–Emotional intelligence is a scientific human endeavour to bridge between two different human conditions of one human body, originating from head and heart respectively. Such collaboration of meaningful human emotions plays a pivotal role in deciding human achievement. Emotional intelligence is a phase that incorporates the intricate aspects of both emotion and intelligence. Emotions rule the heart while intelligence reigns supreme in the brain. IQ and EQ are inseparable and they exercise tremendous influence in the lives of individuals. Emotional intelligence can make a unique contribution to a better understanding of people and also use their potential to success. The intellectual behavior of a person is meaningfully decided by the emotional state of mind. Emotional intelligence has been highly predisposed by culture of the society in which the individual belongs. In the modern world, education is getting widened and there is a cut-throat competition among students to excel. In age the rapid expansion of education and unhealthy competitions among the learners the systematic studying of emotional intelligence becomes relevant and necessary as well. Students feel complicated to organize their emotions in order to face various situations in school life. It is imperative to manage the stress and strain to keep pace with the demands of the world. There is a connection between emotion and cognition. Mayer, Salovey and Caruso (2000) viewed emotion as one of the three fundamental classes of mental operations which include motivation, emotion and cognition. There is the notion that having positive quality emotions and feelings help students to achieve and give their best potential in the classroom (Fazura & Ghazali 2003). As such teachers should understand that any stress on the affective domain of the learners would affect their cognitive domain in classroom. Teaching emotional and social skills at school is important as these skills have long term effects on achievement. Also, research in brain based learning suggests that emotional intelligence is fundamental to effective learning. Hence, EI is being incorporated in the school curriculum and training programmes in some organizations to achieve their objectives (Funderstanding, 2008). Although IQ is often equated with success, but the research reveals that being able to make your way in a complex world by successfully dealing with people and your environment is the most important element of intelligence. This element is Emotional Intelligence (EI). Success is defined as ability to set and achieve your personal and professional goals. IQ's relevance to success is estimated to be low. Sternberg (1997). Sallowi and Meer (1990) introduced emotional quotient for the first time. Emotional quotient refers to abilities of sound perception of environment, self-motivation, cognition, and perception control of yourself and others (so that these processes are able to facilitate thought and communication process) (Zarean, *et al.*, 2007) It refers to set of cognitive abilities and skills that lead to increasing successfulness abilities in front of presses and environmental contingencies.

Gilman believed that emotional quotient includes both internal and external components. The internal components include self-perception, emotion of autonomy and capabilities, self-actualization, and decisiveness. The external components include interpersonal relationships, facility in empathy and responsibility emotions. Also emotional quotient includes individual's capability to perception of facts, flexibilities, problems solving skills, and ability to managing stress and impulses (Dehshiri, 2004) Based on Gilman (2001), generally emotional quotient refers to abilities of regulation and cognition of emotions in individuals. The desire of any educational system is to produce students who are sufficiently trained to contribute meaningfully to the development of the Family, Society and Nation. Emotional intelligence is the ability of an individual to appropriately and successfully respond to a vast variety of emotional stimuli being elicited from the inner self and immediate environment. Goleman focused to a large extent on the power of emotional intelligence to help individuals achieve success and he closely equated success with money and earning power. This means tackling frustrations, conflicts, inferiority complexes etc. It also means avoiding emotional exhaustion such as stress, burnout and negativity of emotions. People in conflict are generally locked into a self-perpetuating emotional spiral in which the genesis of the conflict is usually not clear. Finding ways to deal with anger, fear, anxiety and sadness are essential signs of emotional competency. For example, learning how to manage yourself when upset is one such asset. Being able to channelize emotions to a positive end is another key skill to raise your EQ. Emotional intelligence has now become the point of general interest for public, practitioners and researchers in the school, colleges and universities. It is believed that emotional and social competences are as important as traditional dimensions of intellectual ability and personality.

2. Method

The present study aimed at analyzing the Emotional Quotient and the Intelligence Quotient of 'High Achievers' and 'low performers' in School Academics. The research was conducted in Chandigarh and Mohali.

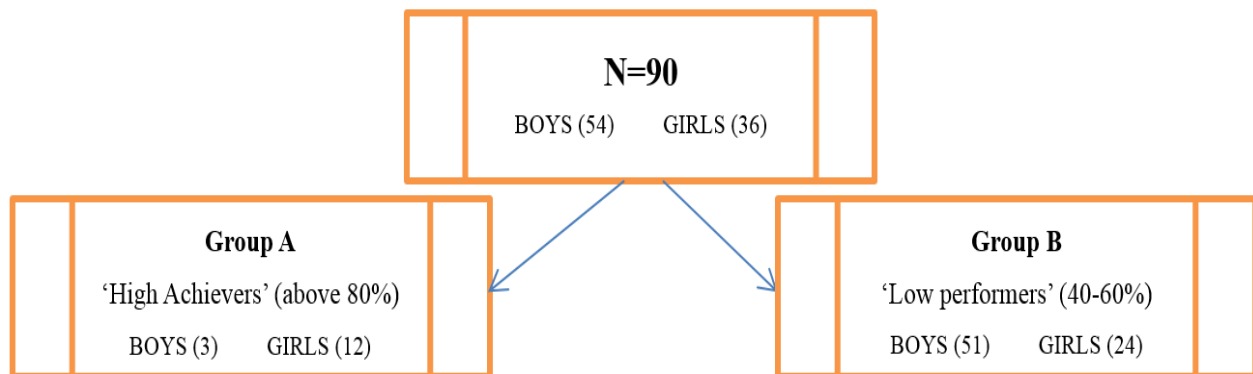


Fig 1: Sampling Procedure

2.3 Actual administration of the tests

The first step included sample selection and then, rapport was formed with the subjects. Instructions were given and they were asked to answer honestly.

2.4 Scoring

Scoring was done as per the manuals for both the tests. The

2.1 Tools used in the study

2.1.1 Stanford-Binet Intelligence Scale

The Stanford-Binet Intelligence Scale is a test which helps to measure and evaluate intelligence in children and adults. This test has gone through many changes over a period of almost 100 years. The most recent edition is the Stanford Binet Fifth Edition including General intelligence, Verbal routing test, Knowledge, Nonverbal routing test, Fluid Reasoning, Verbal and nonverbal age scales, Quantitative Reasoning, Visual-Spatial Processing, Working Memory, Nonverbal IQ and Verbal IQ.

2.1.2 Emotional Quotient Self-Score Questionnaire

This questionnaire is designed to evaluate aspects of your Emotional Intelligence (EI). It determines Emotional Quotient or EQ, a competence based measure relating to Emotional Intelligence. Emotional Intelligence is a term used to describe the way in which we handle both our own emotions and those of others and the impact they have on both ourselves and others. In this questionnaire the following factors are explored:

- Self-Awareness
- Self-Management
- Social Awareness
- Social Skills

In the questionnaire the subjects were asked to rate themselves with regard to certain observable behaviours; as this is self-assessment they were instructed that they should clearly respond as honestly as possible. The object is to identify areas of relative strength and those areas with the potential for development.

2.2 Participants

The research was conducted in Chandigarh and Mohali. The sample consisted of two groups, boys as well as girls, of 9th standard, and their result and assessment of the previous year i.e. 8th standard was considered. The first group **Group A** included 'High Achievers' having scored above 80% marks. The second group **Group B** included 'low performers' scoring marks between 40% and 60%.

academic results were taken from the teachers concerned.

2.5 Statistical Analysis

Once the data was obtained, it was coded, tabulated and analyzed, keeping in mind the objectives of the study. Appropriate statistical tools were used to draw meaningful inferences. The statistical tools used in the present study are given in Table 1

15.	82	29	140
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Table 2: Statistical tools used for analysis of data

S. No.	Statistical tools	Formula	Purpose
1.	Mean (x)	$X = \Sigma X/N$ where, X = Variable N = No. of sample	To find out the average scores of variable used in the study.
2.	Percentage (%)	$\% = X/N \times 100$ where x = Derived score n = total score	To find the distribution of subjects with regard to various variables of the study.
3.	Standard Deviation (S.D.)	$0 = \sqrt{\Sigma x^2 / N}$ Where X = Deviation from actual mean X = mean. X = variable. N = number of samples.	To find out deviation from the man scores of the variables.
4.	Standard error of mean (S.E)	$S.E = 0/n$ Where $0 = S.D.$ n = number of observations	To find out the degree to which the mean is effected by the error of measurement and sampling.
5.	't' test	$t = (x1-x2) / S$ $\sqrt{n1n2/n1 + n2}$ where x1 = mean of 1 st sample x2 = mean of second sample S = combine S.D. n1 = number of observations in 1 st sample. n2 = number of observations in 2 nd sample	To compare the average score of any two groups or to find out whether the mean of the two samples vary significantly from each other.

3. Results and Discussion

Group A - 'High Achievers' (above 80%) Boys (3) Girls (12)

Group B - Low performers' (40-60%) Boys (51) Girls (24)

Table 3: Distribution of Marks, EQ and IQ of participants of Group A

Group A Distribution of Marks, EQ and IQ			
S No	Marks (%)	EQ	IQ
1.	97	37	135
2.	96	36	130
3.	95	34	130
4.	95	35	95
5.	95	35	85
6.	95	35	85
7.	92	34	125
8.	91	35	140
9.	91	31	130
10.	90	32	125
11.	88	32	125
12.	85	32	130
13.	85	29	130
14.	84	28	135

Table 4: Distribution of Marks, EQ and IQ of participants of Group B

Group B Distribution of Marks, EQ and IQ			
S No	Marks (%)	EQ	IQ
1.	59	29	65
2.	59	26	65
3.	58	25	65
4.	42	25	85
5.	42	25	85
6.	40	25	80
7.	40	25	85
8.	43	24	75
9.	43	24	85
10.	41	24	130
11.	40	24	75
12.	40	24	125
13.	43	23	85
14.	41	23	85
15.	58	22	75
16.	43	22	75
17.	42	22	65
18.	40	22	65
19.	40	22	75
20.	42	21	85
21.	42	21	75
22.	40	21	65
23.	40	21	85
24.	59	20	85
25.	52	20	75
26.	43	20	75
27.	41	20	85
28.	52	19	70
29.	52	19	80
30.	52	19	80
31.	43	19	75
32.	43	19	75
33.	43	19	75
34.	41	19	65
35.	41	19	65
36.	41	19	70
37.	58	18	70
38.	52	17	80
39.	52	17	75
40.	52	17	75
41.	52	17	75
42.	52	17	75
43.	52	16	85
44.	52	16	85
45.	52	16	85
46.	52	15	85
47.	43	14	85
48.	43	14	85
49.	43	14	90
50.	52	12	75
51.	52	12	75
52.	52	12	75
53.	44	12	75
54.	44	12	75
55.	44	12	75
56.	44	12	75
57.	44	12	100
58.	43	12	135
59.	43	12	115
60.	43	12	75
61.	42	12	75
62.	41	12	65
63.	41	12	75

64.	41	12	75
65.	41	12	75
66.	41	12	100
67.	40	12	100
68.	40	12	70
69.	40	12	70
70.	40	12	75
71.	40	12	75
72.	40	12	65
73.	40	12	125
74.	44	11	75
75.	40	11	100

Table 5: Mean, SD, SEM and t-value of Academic Performance (%) between Group A and Group B

Marks (%)	N	Mean	SD	SEM	t-value	Level of significance
Group A	15	90.3	4.91	1.27	48.673	Highly Significant
Group B	75	45.23	5.89	0.68		

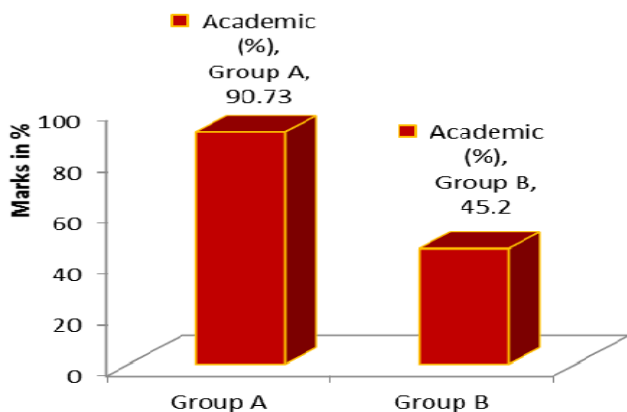


Fig 2 Mean of Academic Performance (%) between Group A and Group B

Table 6: Mean, SD, SEM and t-value of Emotional Quotient (EQ) between Group A and Group B

EQ	N	Mean	SD	SEM	t-value	Level of significance
Group A	15	32.93	2.47	0.637	26.59	Extremely Significant
Group B	75	17.45	1.97	0.227		

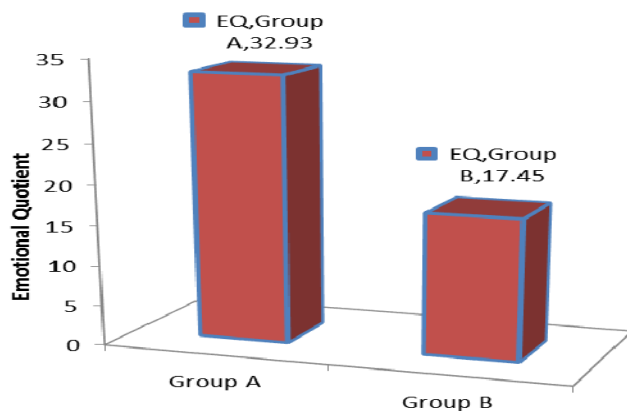


Fig 3 Mean of Emotional Quotient between Group A and Group B

Table 7: Mean, SD, SEM and t-value of Intelligence Quotient (%) between Group A and Group B

IQ	N	Mean	SD	SEM	t-value	Level of significance
Group A	15	122.67	9.80	2.53	19.6245	Highly Significant
Group B	75	80.60	10.13	1.17		

Group A	15	122.67	9.80	2.53	19.6245	Highly Significant
Group B	75	80.60	10.13	1.17		

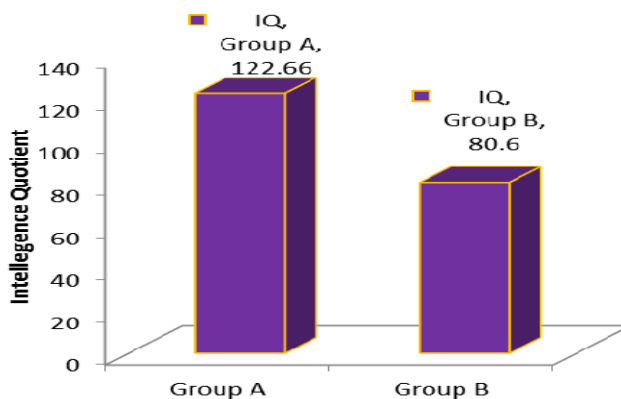


Fig 4 Mean of Intelligence Quotient between Group A and Group B

- It was witnessed that the mean of Group A was significantly higher than that of Group B in case of their IQ
- It was evaluated that the mean of Group A was Extremely higher than that of Group B in case of their EQ
- The results reported that students with high EQ as well as high IQ scored higher.
- The results revealed that those with high IQ but low EQ scored less.
- It is further notified that the participants with low IQ as well as low EQ scored very less.
- It was found that the academic success of students is inevitably related to both their EQ and IQ, However, it is evident that those students who have higher EQ have greater probability of success, which is clear from the fact that those subjects who had higher IQ but less EQ scored less in academics than those having high EQ but lower IQ

4. Conclusion

In the end it can be concluded that Emotional Intelligence holds utmost importance to utilize, ameliorate and channelize the vital Intelligence Quotient for achieving success in academics.

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