

A Study on the Relationship between Emotional Intelligence and Adolescent Psychopathology in the Senior School Students of Assam

Indranee Phookan Borooah¹, Tamanna Goswami Sarma²

¹ (Professor, Department of Psychology, Gauhati University, Guwahati, Assam, India)

² (Guest Faculty, Department of Psychology, Gauhati University, Guwahati, Assam, India)

Abstract: *The present study aims to investigate emotional intelligence and adolescent psychopathology in the senior school students of Assam and to explore if any relationship exists between the variables emotional intelligence and adolescent psychopathology.*

The total sample size comprised of 1900 male and female students taken from curricula following only national boards i.e. CBSE and ICSE of selected residential and day schools of three zones of Assam (i.e. Upper Assam, Central Assam and lower Assam).

The sample size was kept free and comprised of all the students from class 9-10 (Group 1) and 11-12 (Group 2) of the selected schools. Out of the total sample of 1900 students, N=926 for residential schools of Assam and for day schools of Assam N=974.

Emotional Intelligence (EI) was measured by Emotional Intelligence Scale (EIS) and adolescent psychopathology was measured by Adolescent Psychopathology Scale - Short Form (APS-SF).

Results revealed that residential school students showed higher and better EI levels than the students of day schools. Female students as a whole showed higher and better EI levels than male students as a whole. Group 2 (class 11-12) students showed higher and better EI levels than Group 1 (class 9-10) students of residential and day schools. Males as a whole showed greater psychopathologies than females as a whole. All groups of male students show elevated scores on eating disorder. Residential school males, although having higher and better EI levels showed similar levels of psychopathologies as the day school males. Although EI is progressing with age, psychopathological profile is more or less the same for both groups of males. Female groups are also progressing with age in EI, but their psychopathological profile shows absence of psychopathology.

Keywords; *Adolescence, Adolescent Psychopathology, Day school, Emotional Intelligence, Residential school.*

I. Introduction

1.1 Emotional Intelligence (EI)

Emotional intelligence (EI) is the ability to identify, assess, and control the emotions of oneself, of others and of groups.

The first use of the term “emotional intelligence” is usually attributed to Wayne Payne’s doctoral thesis. A study of Emotion: Developing Emotional Intelligence [1]. However, prior to this, the term “emotional intelligence” appeared in Leuner [2]. Stanley Greenspan [3] also put forward an EI model, followed by Salovey and Mayer [4], and Daniel Goleman [5]. The trait emotional intelligence and ability emotional intelligence was introduced in 2000.

The concept of emotional intelligence (EI) is relatively new and there is still confusion about its exact definition. Like the definitions of the traditional intelligence (IQ), emotional intelligence (EI) has got several definitions. It was Salovey and Mayer first gave this formal concept of emotional intelligence in 1990 in their model of emotional intelligence (EI) [4].

Emotional Intelligence as conceptualized by Salovey and Mayer [4] consisted of three different categories of adaptive abilities –

Firstly, it is appraisal and expression in the self as well as others. In the self there are verbal and non-verbal components. In the others there are non-verbal perception and empathy.

Secondly, there is a regulation of emotion in the self and others.

Thirdly, it is utilization of emotion that includes flexible planning, creative thinking, redirected attention and motivation.

Mayer and Salovey [6] however revised their own original model stressing cognitive components of emotional intelligence (EI) because they felt the former one “Omitted thinking about feelings” They defined emotional intelligence as –

Emotional intelligence involves the ability to perceive accurately, appraise and express emotions; the ability to access and / or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth.” This (EI) model conceptualized by Salovey and Mayer [6] contributes quite a lot in understanding mental abilities, which has been neglected for quite a long time.

1.2 Adolescent Psychopathology

A psychological disorder is defined as (i) a psychological dysfunction within an individual that is (ii) associated with distress or impairment in functioning and (iii) a response that is not typical or culturally expected. All three basic criteria must have to be met and no one criteria alone has yet been identified that defines the essence of abnormality.

DSM - IV - TR describes psychological disorder or abnormality as behavioural, emotional or cognitive dysfunction that are unexpected in their cultural context and associated with personal distress or substantial impairment in functioning. This definition is useful across cultures and subcultures.

Pathological behaviour is a form of behaviour which is deviated to a great extent from the average normal behaviour or from normal pattern of lifestyle of the society in which a person lives. Such behaviour is not conforming to that which is characteristic and representative of a group of people. Thus, it implies deviation from some clearly defined social norm and standard.

Psychopathology is the scientific study of psychological disorders. Adolescent psychopathology refers to the related important domains of adolescent psycho - social problems and disorders such as academic problems, anger, violence, interpersonal problems, conduct disorder, depression, anxiety, substance abuse etc.

An Integrative Approach has been developed which asserts that the contribution to psychological disorders does not occur in isolation rather behaviour, both normal and abnormal, is a product of continual interaction of psychological, biological and social influences. Thus, a multi dimensional integrative approach to the causes of psychological disorders must be considered when we think about psychopathology.

1.2.1 The multidimensional integrative approaches to psychopathology include

- (i) Genetic contributions to psychopathology.
- (ii) Neuroscience and its contributions to psychopathology.
- (iii) Behavioural and Cognitive Science.
- (iv) Emotions.
- (v) Cultural, Social and Interpersonal factors.
- (vi) Life - Span Development.

In conclusion it can be said that the field of modern approaches to psychopathology is very complex. The contributions from psychoanalytic theory, behavioural and cognitive science, emotional influences, social and cultural influences, genetics, neuroscience and life-span developmental factors all must have to be considered while studying psychopathology.

1.3 Adolescence

Adolescence is a transitional stage of physical and psychological human development generally occurring between puberty and legal adulthood age of majority.

WHO (World Health Organization) identifies adolescence as the period in human growth and development that occurs after childhood and before adulthood, from age 10 to 19.

It represents one of the critical transitions in the life span and is characterized by a tremendous pace in growth and change. The biological determinants of adolescence are fairly universal, however the duration and defining characteristics of this period may vary across time, cultures and socioeconomic situations. Thus, adolescence is the period of rapid changes in the individual's physical, mental, moral, emotional, social and sexual aspects. This period has seen many changes over the past century namely the earlier onset of puberty, later age of marriage, urbanization, global communication and changing sexual attitudes and behaviours. While adolescence is a time of tremendous growth and potential, it is also a time of considerable risk during which social contexts exert powerful influence.

Chronological age provides only a rough marker of adolescence, and it is difficult to agree upon a precise definition of adolescence. Generally, adolescent period is divided into three parts –

- (i) Early Adolescence : 11 to 12 years
- (ii) Mid Adolescence: 13 to 15 years and
- (iii) Late Adolescence: 16 to 19 years.

1.4. The present study

The present study has been envisaged keeping in mind the adolescent period which is marked by adjustive demands both physical as well as social. It is of interest to get a profile of some pertinent variables including emotional intelligence and adolescent psychopathology to assess some developmental changes which are taking place in the adolescents. Following assessment in these two areas an attempt will be made to find if any relationships exist between each of these two variables.

1.5 Objective

- (i) To investigate emotional intelligence and adolescent psychopathology in the senior school students of Assam and
- (ii) To explore if any relationship exists between the variables emotional intelligence and adolescent psychopathology.

1.6 Hypothesis

Since it is an exploratory kind of research no hypotheses have been formulated.

II. Method

2.1 Variables

Independent variable (s)

- (i) School Type: Residential and Day
- (ii) Gender: Male (M) and Female (F)
- (iii) Class level: group1 (class 9-10) and Group 2 (class 11-12)

Dependent variable

- (i) Emotional Intelligence
- (ii) Adolescent Psychopathology

2.2 Sample

The total sample size comprised of 1900 male and female students taken from curricula following only national boards i.e. CBSE and ICSE of selected residential and day schools of three zones of Assam (i.e. Upper Assam, Central Assam and lower Assam).

The sample size was kept free and comprised of all the students from class 9-10 (Group 1) and 11-12 (Group 2) of the selected schools. Sample distribution is shown in Table 1.

Table 1: Sample distribution

School Type	Class				Total
	Group 1 (Class 9-10)		Group 2 (Class 11-12)		
	M	F	M	F	
Residential	N=275	N=199	N=267	N=185	N = 926
Day	N=275	N=237	N=249	N=213	N = 974

Total Sample Size = 1900

2.3 Design

2.3.1 Emotional Intelligence (EI)

A (2x2x2) factorial design was followed for analyzing emotional intelligence as shown in the Table below.

Table 2: 2x2x2 factorial design for analyzing emotional intelligence (EI)

School Type	Class			
	Group 1 (Class 9-10)		Group 2 (Class 11-12)	
	M	F	M	F
Residential	Mean (M) Standard Deviation (SD) N (Sample Size)	Mean (M) Standard Deviation (SD) N (Sample Size)	Mean (M) Standard Deviation (SD) N (Sample Size)	Mean (M) Standard Deviation (SD) N (Sample Size)
Day	Mean (M) Standard Deviation (SD) N (Sample Size)	Mean (M) Standard Deviation (SD) N (Sample Size)	Mean (M) Standard Deviation (SD) N (Sample Size)	Mean (M) Standard Deviation (SD) N (Sample Size)

2.3.2 Adolescent Psychopathology Scale-Short Form (APS-SF)

Finally, for the measure of Adolescent Psychopathology the male and female students of group 1 (class 9-10) and group 2 (class 11-12) were assessed separately under 12 critical areas of APS-SF i.e. Conduct Disorder (CND), Oppositional Defiant Disorder (OPD), Substance Abuse Disorder (SUB), Anger / Violence Proneness (AVP), Academic Problems (ADP), Generalized Anxiety Disorder (GAD), Post Traumatic Stress

Disorder (PTS), Major Depression (DEP), Eating Disturbance (EAT), Suicide (SUI), Self-Concept (SCP), Interpersonal Problems (IPP).

2.4 Tools

The following tools were used for data collection

- (i) Emotional Intelligence Scale (EIS) by Schutte et al, 1998 and
- (ii) Adolescent Psychopathology Scale - Short Form (APS-SF) by William M. Reynolds.

2.5 Procedure

Selected residential and day schools having only National Boards and not state boards of three zones of Assam (i.e. upper Assam Zone, central Assam zone and lower Assam zone) were contacted.

The two tools were administered to male and female students of group 1, (class 9 and 10) and group 2, (Class 11 and 12) of selected residential and day schools of Assam covering three zones. The two tests were administered in group. The administration of the two tests took about one hour. The two tests were administered sequentially with 10 minutes rest in between the two tests.

III. Analysis

3.1 Emotional Intelligence (EI)

In the factorial design adopted for emotional intelligence, it was proposed that ANOVA (Analysis of variance) would be done followed by Tuckey's Test to find out any significant difference in EI between the students, male and female, of group 1 (class 9-10) and group 2 (class 11-12) of residential and day schools. While carrying out ANOVA, Levene's Test of Equality of Error Variances is found to be significant which indicates that the assumption of normality required for ANOVA stood rejected. Therefore, Mann – Whitney U Test was applied.

3.2 Adolescent Psychopathology (APS)

The category of mean raw scores of the 12 sub scales of APS-SF were converted to T scores for all sample Groups separately with the help of Conversion Tables given in the manual of APS-SF booklet so that the number of psychopathological disorders falling in the following symptom range i.e. Sub- Clinical Symptom Range (60 T to 64 T); Mild Clinical Symptom Range (65 T to 69 T); Moderate Clinical Symptom Range (70 T to 79 T) and Severe Clinical Symptom Range (80 T and above) could be identified.

IV. Results And Discussions

Following the analysis of data obtained from the APS-SF and through SPSS by applying Mann - Whitney U Test to the scores of the EI scale the results obtained is discussed below.

4.1 Emotional Intelligence (EI)

Result of Mann Whitney U Test on school type (residential and day schools) has been found significant (as shown in Table 3) with residential schools having higher mean rank value (991.94) than day schools (mean rank value, 911.10). This shows that residential schools students (both male and female) have higher and better EI levels than the students (both male and female) of day schools.

Table 3: One Way Mann – Whitney U Test for the independent variable school type (residential and day schools), gender (male and female), class level / age, group 1 (class 9-10) and group 2 (class 11-12)
Mann – Whitney Test

Variables	Mean Rank	Asymp. Sig. (2-tailed)
School Type Residential : Day	991.94 : 911.10	.001 (Significant)
Gender Male : Female	902.59 : 1011.74	.000 (Significant)
Class Level Group 1 (Class 9-10) : Group 2 (Class 11-12)	820.93 : 1090.27	.000 (Significant)

The students of residential school as a whole showed higher EI levels than the students of day schools, as revealed by the results. This might be because of the strong peer influences that the students generally come across in the residential school that leads to their emotional development. Although in day schools too, the students face peer influences but the influence is not as strong as compared to the residential schools where the students live in close proximity with the peers and share experiences. Though emotional development in

children and adolescents are considered to begin from their interactions at home with parents and siblings, adolescents are more likely to be influenced and impressed by their peers, television, mass media and their school environment. Therefore, school is considered to be an appropriate environment to provide or teach life skills within each of the five domains of emotional intelligence. The adventurous journey of adolescence creates in itself a difficult challenge in the realm of emotions. Thus, they need an atmosphere where proper social integration is of utmost importance for their success. While all people are capable of developing their emotional intelligence (EI), interaction patterns and the socialization process have a variable impact on such development [7]. And in this regard schools are the first and best place where the largest part of socialization takes place for children and adolescents. Students from residential schools probably receive better education and training in interpersonal and soft skills as students receive constant attention from caregivers and are groomed to be top achievers not only in academics but also as a complete person. Their learning environment is more conducive with continuous support from teachers and caregivers. As the students live together in hostels they spend more time with peers and their interaction is more with peers facilitating accurate perception of emotions thereby modifying emotional responses corresponding to the emotions of their peers. This finding is consistent with many other research studies that have also supported the view of the importance of school as a socialization process in the development of emotional intelligence of the adolescent students [8, 9, 10, 11].

The Mann - Whitney U Test result on gender (male and female) has also been found to be significant with female student groups having higher mean rank value (1011.74) compared to the male student groups (mean rank value, 902.59). This shows that females have higher and better EI levels than males.

Results on EI show that female student groups have higher EI levels compared to the respective male student groups. This is because females are slightly superior to males in perceiving emotion, integrating it in thought, understanding and managing it as seen in various researches cited below. Apart from this females view themselves as more pro-social, empathetic- sympathetic and also enact more pro-social, caring, nurturing, understanding and helping behaviours than do males. A current and common view is that women’s emotional intelligence level is higher than men’s [12, 13, 14, 15, 16, 17]. It has been affirmed that women tend to be more emotionally expressive than men, understand emotions better and that they have a greater ability as regards certain interpersonal skills. Women, for instance, who recognize other people’s emotions better are more perceptive and have greater empathy [18, 19, 20, 21, 22, 23]. Thus, females are in a better position to understand emotion and express it at appropriate times. The present research findings are found to be consistent with many other research studies that have supported the view that females are slightly superior in terms of perceiving emotion, integrating it in thought, understanding and managing it than do the males [24, 14, 25, 26, 27].

Goleman [5] found that females are more skilled at emotional expression and relating to others. LaFrance and Hecht (in press) [28] suggested that women are able to read emotions more carefully than men because they generally possess less power in society. Hall and Halberstadt [29] pointed out that greater emotional accuracy is shown among the females than the males. Harrod and Scheer [30] found significant differences between emotional intelligence scores of women and men with women having higher levels of emotional intelligence.

Finally, the result of Mann – Whitney U Test on class level / age (Group 1, class 9-10 and Group 2, class 11-12) has been found to be significant with Group 2 (class 11-12) students having higher mean rank value (1090.27) than Group 1 (class 9-10) students (mean rank value, 820.93).

The finding that the students (both male and female) of Group 2 (class 11-12) of residential and day schools showed higher EI levels compared to the students (both male and female) of Group 1 (class 9-10) of residential and day schools can be attributed to age factor that plays an important role in the development of emotional intelligence (EI). Studies have shown that EQ develops with age [31]. Ergin, Ismen, and Ozabaci [12] conducted a study on adolescents and found that 15-year-old student’s emotional intelligence levels were lower than 16-17 year old students. The present research findings are found to be consistent with many other research studies that have supported the view that general age trend is important to the development of emotional intelligence (EI) and that EI level increases as age increases [15,32, 14, 33].

Table 4: Two Way Mann – Whitney U Test.

Independent Variables	Grouping Variables	Mean Rank	Asymp. Sig (2-tailed)
School = Residential	Gender Male: Female	445.14: 489.42	.013 (Significant)
School = Day	Gender Male : Female	455.54 : 524.72	.000 (Significant)
Gender = Male	School Residential : Day	559.07 : 507.06	.006 (Significant)
Gender = Female	School Residential : Day	434.77 : 402.76	.055 (Significant)
School = Residential	Class Group 1 : Group 2	393.87 : 536.51	.000 (Significant)

School = Day	Class Group 1 : Group 2	426.97 : 554.58	.000 (Significant)
Class = Group 1	School Residential : Day	501.92 : 485.71	.371 (Not Significant)
Class = Group 2	School Residential : Day	492.65 : 423.11	.000 (Significant)
Gender = Male	Class Group 1 : Group 2	463.92 : 607.67	.000 (Significant)
Gender = Female	Class Group 1 : Group 2	356.29 : 484.55	.000 (Significant)
Class = Group 1	Gender Male : Female	470.12 : 523.00	.004 (Significant)
Class = Group 2	Gender Male : Female	430.01 : 493.14	.000 (Significant)

The result of Mann - Whitney U Test between residential male and female has been found significant with residential females having higher mean rank value (489.42) compared to the male student groups of the same school (mean rank value, 445.14).

The result of Mann - Whitney U Test between day male and female has also been found to be significant with day school females having higher mean rank value (524.72) compared to the males of the same school (mean rank value, 455.54).

Thus, the findings revealed that the two female groups of both residential and day schools have better EI levels compared to the males in general of both the types of schools. This shows the effect of gender on EI. The reason for this gender difference has already been discussed above.

The result of Mann - Whitney U Test for males of residential and day schools has been found significant with males from residential schools having higher mean rank value (559.07) compared to the males of day school (mean rank value, 507.06).

Mann - Whitney U Test for females of residential schools and day schools have also been found significant with females of residential schools having higher mean rank value (434.77) compared to the females of day school (mean rank value, 402.76). These two results illustrate the effect of school type.

Thus, the findings revealed that the males and females of residential schools have better EI levels compared to the males and females of day school. In other words, residential students have better EI levels than day school students.

This is again because of strong peer influences that the students of residential school generally come across where the students live in close proximity with the peers and share experiences than the day school students. Moreover, residential school environments are considered to be more conducive and facilitative to the development of emotional intelligence of students as explained earlier. Many research findings support the importance of school as a socialization process in the development of emotional intelligence of adolescent students as cited earlier.

The result of Mann - Whitney U Test between Group 1 (class 9-10) and Group 2 (class 11-12) students of residential schools have been found significant with Group 2 (class 11-12) students from residential schools showing higher mean rank value (536.51) compared to the Group 1 (class 9-10) students (mean rank value, 393.87). Even Group 1 (class 9-10) and Group 2 (class 11-12) students of day school have been found significant with Group 2 (class 11-12) students showing higher mean rank value (554.58) than Group 1 (class 9-10) students (mean rank value, 426.97).

Thus, the findings revealed that Group 2 (class 11-12) students have higher and better EI levels than Group 1 (class 9-10) students of residential and day school.

This is because age factor plays an important role in the development of EI and that EI increases as age increases. Many research studies and findings cited earlier have supported this view.

Further results revealed no significant differences between Group 1 (class 9-10) students of residential and day schools.

Mann - Whitney U Test between Group 2 (class 11-12) students of residential and day schools have been found significant with Group 2 (class 11-12) students from residential schools having higher mean rank value (492.65) than Group 2 (class 11-12) day schools students (mean rank value, 423.11).

Thus, Group 2 (class 11-12) students of residential school have higher and better EI levels than the same group of students from day school. This is again because of strong peer influences as well as conducive and facilitative environments that the students probably come across in residential schools that lead to better development of their emotional intelligence as supported by many research findings cited earlier. It is also indicated that school type probably plays a more significant role in development of EI at the higher age level.

Mann - Whitney U Test between males of Group 1 (class 9-10) and Group 2 (class 11-12) have been found significant with males of Group 2 (class 11-12) having higher mean rank value (607.67) than the males Group 1 (class 9-10) (mean rank value, 463.92) Similarly Females of Group 1 (class 9-10) and Group 2 (class 11-12) have also been found significant with females from group 2 (class 11-12) having higher mean rank value (484.55) compared to the mean rank value (356.29) of female students of Group 1, (class 9-10)

Thus, the findings revealed that Group 2 (class 11-12) students have higher and better EI levels than Group 1 (class 9-10) students. Thus, showing age factor that plays an important role in the development of EI.

Further the Mann - Whitney U Test result between Group 1 (class 9-10) male and female have been found significant with Group 1 (class 9-10) females having higher mean rank value (523.00) than the mean rank value (470.12) of males of Group 1 (class 9-10).

Similarly, Mann - Whitney U Test between Group 2 (class 11-12) male and female have also been found significant with Group 2 (class 11-12) female having higher mean rank value (493.14) than the mean rank value (430.01) of Group 2 (class 11-12) male.

Thus, the findings revealed that females have better EI levels than males. The reason for this is that females tend to be more emotionally expressive than males, understand emotions better are more perceptive and have greater empathy for which females have better EI levels. The present finding is consistent with many other research studies that have supported the view as cited earlier.

Table 5: Three Way Mann – Whitney U Test

Independent Variables	Grouping Variables	Mean Rank	Asymp. Sig (2-tailed)
School = Residential ; Gender = Male	Class Group 1 : Group 2	235.82 : 308.25	.000 (Significant)
School = Residential ; Gender = Female	Class Group 1 : Group 2	157.57 : 230.08	.000 (Significant)
School = Day ; Gender = Male	Class Group 1 : Group 2	228.55 : 299.99	.000 (Significant)
School = Day ; Gender =Female	Class Group 1 : Group 2	199.35 : 254.60	.000 (Significant)
School = Residential; Class = Group 1	Gender Male : Female	230.15 : 247.65	.170 (Not Significant)
School = Residential; Class = Group 2	Gender Male : Female	212.91 : 246.12	.008 (Significant)
School = Day; Class = Group 1	Gender Male : Female	240.41 : 275.17	.008 (Significant)
School = Day; Class = Group 2	Gender Male : Female	215.76 : 249.91	.006 (Significant)
Class = Group 1; Gender = Male	School Residential : Day	283.57 : 267.43	.233 (Not Significant)
Class = Group 1; Gender = Female	School Residential : Day	219.00 : 218.08	.939 (Not Significant)
Class = Group 2; Gender = Male	School Residential : Day	276.09 : 239.64	.005 (Significant)
Class = Group 2; Gender = Female	School Residential : Day	219.07 : 182.50	.002 (Significant)

Taking all the three independent variables school type, gender and class level together the Mann - Whitney U Test revealed the following results.

The Mann - Whitney U Test for residential males of Group 1 (class 9-10) and Group 2 (class 11-12) have been found significant with residential males of Group 2 (class 11-12) showing higher mean rank value (308.25) compared to the mean rank value (235.82) of residential males of Group 1 (class 9-10).

Similarly residential female of Group 1 (class 9-10) and Group 2 (class 11-12) have also been found significant with residential females of Group 2 (class 11-12) showing higher mean rank value (230.08) compared to the mean rank value (157.57) of residential females of Group 1 (class 9-10).

Mann – Whitney U Test between day school males of Group 1 (class 9-10) and Group 2 (class 11-12) have also been found significant with day school males of Group 2 (class 11-12) showing higher mean rank value (299.99) than the mean rank value (228.55) of day school males of Group 1 (class 9-10).

Similarly day school female of Group 1 (class 9-10) and Group 2 (class 11-12) have also been found significant with day school females of Group 2 (class 11-12) showing higher mean rank value (254.60) compared to the mean rank value (199.35) of day school females from Group 1 (class 9-10).

Thus, the findings revealed that Group 2 (class 11-12) students of both residential and day school have better EI levels than Group 1 (class 9-10) students of both the schools. As mentioned earlier, this could be due to age factor that plays an important role in the development of EI.

The Mann - Whitney u Test for residential Group 1 (class 9-10) males and females have not been found significant. In the younger age groups, the residential environment remaining same, there is no significant difference in the two genders which appears perplexing. While residential Group 2 (class 11-12) males and females have been found significant with females showing higher mean rank value (246.12) than the mean rank value (212.91) of males of the same group and school.

Similarly, the results of Mann - Whitney U test for day school Group 1 (class 9-10) male and female have been found significant with females showing higher mean rank value (275.17) compared to the mean rank value (240.41) of males of the same group and school. This could be due to the effect of gender or home environment influence on EI for male and female students.

The results for day school Group 2 (class 11-12) male and female have also been found significant with females again showing higher mean rank value (249.91) than the mean rank value (215.76) of males of the same group and school.

Thus, the findings revealed that females of Group 2 (class 11-12) of both residential and day school have better EI levels than their male counterparts from the same group of both types of schools. This shows that females of older group have better EI levels than their male counterparts from the same group. Thus, showing the impact of both gender and class level (age factor) upon the development of EI as has been mentioned earlier.

The findings also revealed that while females of Group 1 (class 9-10) residential school have not showed higher EI levels with the males of the same group and school the females of day school Group1 (class 9-10) showed better EI levels than males of the same group and school. This difference in finding within the same group (group 1, class 9-10) females of two types of school (residential and day) could probably be because of replacement of parental nurturance by school caregivers, and probably lower warmth and involvement in residential school environment compared to day school environment which are also considered to be important for development of EI. The residential school environment seems to be having less of an impact on the younger groups of male and female residential school students such that development of EI in males and females is same.

The Mann - Whitney U Test for Group 1 (class 9-10) males of residential and day school have not been found significant. Similarly, the result of Mann - Whitney U Test for Group 1 (class 9-10) females of residential and day school have also not been found significant. This seems to indicate that for EI development school type probably has no effect on the young adolescents of both gender of class 9 and 10.

The results of Mann - Whitney U Test for Group 2 (class 11-12) males of residential and day school have been found significant with residential school males showing higher mean rank value (276.09) than the mean rank value (239.64) of day school males.

Even the result of Mann - Whitney U test for Group 2 (class 11-12) females of residential and day school have been found significant with again residential school females showing higher mean rank value (219.07) compared to the mean rank value (182.50) of day school females. This shows that residential school students of older group (i.e. Group 2, class 11-12) have better EI levels than day school students of the same group. This finding may again be attributed to the strong peer influences, and probably a conducive and facilitative environment for development of EI that students generally come across in residential schools at a later age, together with the age factor independently playing an important role in the development of EI as have been mentioned earlier.

4.2 Adolescent Psychopathology Scale-Short Form (APS-SF)

For adolescent psychopathology profiles for each group of students was obtained and these are discussed below

Table 6: Results of adolescent psychopathology scale-short form (APS-SF) for male and female of Group 1 (class 9-10) and Group 2 (class 11-12) of residential schools of Assam.

Residential School								
	Group 1 (class9-10)				Group 2 (Class 11-12)			
Clinical Symptom Range	SUB (60T to 64 T)	MILD (65T to 69T)	MODERATE (70T to 79T)	SEVERE (80T & above)	SUB (60T to 64T)	MILD (65T to 69T)	MODERATE (70T to 79T)	SEVERE (80T & above)
Male	ADP (60T) GAD(61T) PTS(63T) DEP (63T) SUI (60T) SCP(61T) IPP(62T)	No.	EAT (74T)	No.	ADP (60T) GAD(61T) PTS(61T) DEP(60T) IPP (60T)	EAT (68T)	No.	No.
Female	No.	No.	No.	No.	No.	No.	No.	No.

ADP – Academic Problem ; GAD - Generalized Anxiety Disorder; PTS - Post Traumatic Stress Disorder; DEP - Major Depression; ; SUI - Suicide; SCP - Self Concept; IPP - Interpersonal Problems; EAT - Eating Disturbance.

Table 7: Results of adolescent psychopathology scale-short form (APS-SF) for male and female of Group 1 (class 9-10) and Group 2 (class 11-12) of day schools of Assam.

Day School								
	Group 1 (class 9-10)				Group 2 (class 11-12)			
Clinical Symptom Range	SUB (60 T to 64 T)	MILD (65T to 69T)	MODERATE (70T to 79T)	SEVERE (80T & above)	SUB (60T to 64T)	MILD (65T to 69T)	MODERATE (70T to 79T)	SEVERE (80T & above)
Male	PTS (61T) SUI (60T) IPP (60T)	EAT (68T)	No.	No.	IPP(60T) DEP(63T)	EAT (68T)	No.	No.
Female	SUI (60T)	No.	No.	No.	No.	No.	No.	No.

PTS - Post Traumatic Stress Disorder; SUI - Suicide; IPP - Interpersonal Problems; DEP - Major Depression; EAT - Eating Disturbance.

The research findings on APS-SF (as shown in Table 6 and 7) revealed that

1. Male students of residential schools and the male students of day schools showed different patterns of adolescent psychopathologies (as shown in Table no. 6 and 7). The males of residential schools showed greater number of psychopathologies compared to the males of day schools.

The difference with the day school males may be because of the fact that the students of the residential schools not only have strong peer influences but are perhaps deprived of parental nurturance, warmth and involvement (in their residential school environments) which are also considered to be important factors for understanding adolescent psychopathologies, as has been found by many research studies [34, 35, 36, 37, 38, 39, 40, 41, 42].

2. Female student groups of residential and day schools showed almost no psychopathologies compared to the respective male students group of residential and day schools. The only psychopathology recorded was at the sub-clinical symptom range and need to be interpreted against the overall profile of the scores of the scale for the group. Since scores are not elevated under mild, moderate or severe, the sub-clinical finding may be considered as non-significant.

The findings that females have almost no psychopathologies compared to the males may be because of the fact that females have higher and better EI levels than males. Many research findings have found close association and link between EI levels and adolescent psychopathologies in the sense that adolescents with lower EI levels are at greater risk of developing adolescent psychopathologies, while higher and better EI levels leads to less aggressive behavior and psychopathologies [43, 44]. Thus, female groups having better EI levels are showing no psychopathologies.

3. Male students of residential schools show different patterns for the two groups (Group 1, Class 9-10 and Group 2, Class 11-12). Within the residential male groups, the class 9-10 Group records score for eating disorder elevated to the moderate category which represents significant psychological problem in most cases. While the class 11-12 group records score for eating disorder elevated to the mild category. For the residential school males, eating / weight is an issue with both the groups but in the younger group it is at higher level of severity.

This finding may be attributed to the fact that the male students of younger group experience rapid bodily change and as such are more concerned with their body image compared to the male students of older group (Group 2, Class 11-12) who have already experienced those bodily changes for which reason their eating disorder score is elevated at the lower level range. This is an interesting finding in the context of the recent social change regarding the importance of physical attractiveness in males as in the present times male physical attractiveness is coming to be valued as much as female physical attractiveness, as has been seen in the area of fashion, personal grooming and physical fitness. This could be a reason for which males were found to be paying close attention to their bodies and physique.

- Day school males have also recorded elevated scores on eating disorder to the mild level in the class 9 to 10 and 11 to 12 male groups, same as the residential group of class 11 to 12.

As the day school males have also recorded elevated scores on eating disorder to the mild level in the class 9 to 10 and class 11 to 12 male groups, same as the residential group of class 11 to class 12 it appears that eating disorder is probably common to male adolescents in general. Although the incidence of eating pathology among boys remains relatively low, rates of eating disordered behaviour among boys appears to be increasing [45].

- A perplexing finding of this study is that while males of residential schools are showing greater number of psychopathologies, females of residential schools are not showing such numbers of psychopathologies. As mentioned earlier, this could be due to higher and better EI level shown by the females and also the close association and link between EI levels and adolescent psychopathologies as has been cited earlier. There is also possibility that the residential school environment for females is more nurturing.

Table 8: Emotional Intelligence Score and Adolescent Psychopathology Profile

GROUPS AND SCHOOL TYPES	Emotional Intelligence (EI)	Adolescent Psychopathology
Group 2 Residential (Female)	M = 130.70	No
Group 2 Residential (Male)	M = 127.54	ADP (60T) IPP (60T) GAD (61T) EAT (68T) PTS (61T) DEP (60T)
Group 2 Day (Female)	M = 128.07	No
Group 1 Residential (Female)	M = 124.03	No
Group 2 Day (Male)	M = 125.79	IPP (60T) DEP (63T) EAT (68T)
Group 1 Residential (Male)	M = 122.14	ADP (60T) SUI (60T) GAD (61T) SCP (61T) PTS (63T) IPP (62T) DEP (63T) EAT (74T)
Group 1 Day (Female)	M = 123.98	SUI (60T)
Group 1 Day (Male)	M = 120.63	PTS (61T) EAT (68T) SUI (60T) IPP (60T)

4.3 Relating Emotional Intelligence (EI) and Psychopathology

Comparison of emotional intelligence of each group with adolescent psychopathology considering the type of school results reveals that

- The residential school students showed better EI levels compared to the day school students but the males from residential schools showed greater number of psychopathologies although the same group from the same school showed higher and better emotional intelligence level.

The reason for showing greater number of psychopathologies inspite of having higher EI levels could probably be because of replacement of parental nurturance by school care givers, lower warmth and involvement in residential school environments which are considered important for understanding adolescent psychopathologies. Many research studies and findings cited earlier have supported the above views.

Comparison of emotional intelligence of each group with adolescent psychopathology considering gender results reveals that

- Female student groups have shown higher EI levels with almost no psychopathologies compared to the respective male student groups. This shows that females have better EI levels and no psychopathologies.

The reason for this relationship can be attributed to the close association and link between lower emotional intelligence level and adolescent psychopathologies in the sense that systematic difficulties in recognizing other's emotions and systematic deficits in empathy (i.e., in the capacity to be aroused by other emotions) are strongly associated with psychopathology, aggression and delinquency [43]. Thus, better understanding of emotions leads to less aggressive behaviours and more positive relations with peers

and other person. Apart from this, females tend to be more emotionally expressive than males, understand emotions better, are more perceptive and have greater empathy for which the female student groups have shown better EI levels

2. The males of residential school have shown higher EI levels with greater number of psychopathologies while the males of day schools have shown same number of psychopathologies as shown by the males of residential schools although their EI level is lower as compared to the residential males.

This difference in finding i.e. higher EI levels in residential school males as well as similar level of psychopathologies in males from both types of schools might be because of replacement of parental nurturance by school care givers, lower warmth and involvement in residential school environments which are considered important for understanding adolescent psychopathologies. Many research studies and findings cited earlier have supported the above views.

3. While the females of residential schools are showing higher and better EI levels, males of residential schools are also showing higher and better EI levels but the male groups are showing greater number of psychopathologies while the female student groups have shown no psychopathologies at all.

This finding of higher EI levels among residential school students (both male and female) could probably be because of better socialization process that residential schools provide as the students live in close proximity with the peers that leads to their emotional development. But the difference in psychopathologies with males showing greater number of psychopathologies and females showing no psychopathologies could probably be because of the close association between higher EI levels and less aggressive behaviours and psychopathologies as has been cited earlier. There is also possibility that the residential school environment for females is more nurturing.

4. Females of day schools have shown better EI levels with no psychopathologies while the males of day schools have shown lower EI levels with greater number of psychopathologies.

The reason could probably be because female tend to be emotionally expressive than males, understand emotions better and have greater empathy for which females from day schools have scored higher EI levels. Since higher EI levels leads to less aggressive and delinquent behaviour the female student groups have shown no psychopathologies compared to the respective male student groups. There is also possibility that parental care, encouragement, reassurance and emotional support at home seems to be more facilitative and nurturing for females than males.

Comparison of emotional intelligence of each group with adolescent psychopathology considering Class level results reveals that

1. Group 2 (class 11-12) students have shown higher and better EI levels than Group 1 (class 9-10) students of both the schools. It has been seen from results that although EI is progressing with age psychopathological profile is more or less the same for both the groups of males considering the number of psychopathologies at different levels.
2. While females groups are also progressing with age in EI, their psychopathological profile showing absence of psychopathology is the same for the female groups.

4.4. Salient Findings:

The results from the study have highlighted the following:

1. Residential school students (both male and female) showed higher and better EI levels than the students (both male and female) of day schools
2. Female students as a whole showed higher and better EI levels than male students as a whole.
3. Group 2 (class 11-12) students showed higher and better EI levels than Group 1 (class 9-10) students of residential and day schools.
4. Males as a whole showed greater psychopathologies than females as a whole.
5. All groups of male students show elevated scores on eating disorder.
6. Residential school males, although having higher and better EI levels as compared to day school males, showed similar levels of psychopathologies as the day school males.
7. Although EI is progressing with age, psychopathological profile is more or less the same for both groups of males considering the number of psychopathologies at different levels.
8. Female groups are also progressing with age in EI, their psychopathological profile showing absence of psychopathology is the same for the female groups.
9. Males of residential schools showed psychopathologies profile to the same extent as the males of day schools although the males from residential schools have better EI levels.
10. Females of residential and day school have better EI levels and accordingly showed fewer or no psychopathologies.

V. Conclusion

From the findings discussed in the previous section it appears that the dynamics of the two educational paradigms (residential and day schools) are different and complex having differential impact on the students of each type of schools.

Furthermore similar research may be extended by including the following suggestions

1. Family environment may be studied along with the above independent variables since many researchers have mentioned that family environment plays a significant role in development of emotional intelligence and adolescent psychopathology.
2. The school environment of residential and day schools may also be assessed objectively using some psychological tool as results of the present research are showing differential effect of the two types of schools.
3. The student groups consisted of adolescents from various ethnic groups of Assam and the North-East. Further research may delineate the students into ethnic groups and study the variables for each group. Inter ethnic group differences (if any) may also be studied for each of the variables.
4. Younger age groups may be included to see the development of emotional intelligence (EI) through different developmental stages.

References

- [1] Payne, W.L., *A study of emotion: developing emotional intelligence; self integration; relating to fear, pain and desire*, Dissertation Abstracts International, 47, P.203A, 1983/1986.
- [2] Leuner, B., Emotionale intelligenz und Emanzipation (Emotional intelligence and emancipation), *Praxis der Kinderpsychologie und Kinderpsychiatrie*, 15, 1966, 193-203).
- [3] Greenspan Stanley, *The course of life: Psychoanalytic contributions to understanding personality development with G.H. Pollock (1980) with an update in 1989-90* (International University Press, 1989).
- [4] Salovey, P. and Mayer, J.D., Emotional intelligence, *Imagination, Cognition and Personality*, 9(3), 1990, 185-211.
- [5] Goleman, D., *Emotional Intelligence: why it can matter more than IQ for character, health and lifelong achievement* (New York, NY: Bantam press, 1995).
- [6] Mayer, J.D., and Salovey, P., What is emotional intelligence, in P. Salovey and D.J. Sluyter (Eds.), *Emotional development and emotional intelligence: Educational implications*, (New York: Basic Books, 1997) 3-31.
- [7] Sung, H.Y., The influence of culture on parenting practices of East Asian families and emotional intelligence of older adolescents: A qualitative study, *School Psychology International*, 31(2), 2010, 199-214.
- [8] O'Connor, E., and McCartney, K., Examining teacher-child relationships and achievement as part of an ecological model of development, *American Education Research Journal*, 44(2), 2007, 340-369.
- [9] Jennings, C.M. and Di, X., Collaborative learning and thinking: The Vygotskian approach, in L. Dixon-Krauss (Ed.), *Vygotsky in the Classroom: Mediated Literacy Instruction and Assessment*, (White Plains, N.Y. Longman, 1996) 77-91.
- [10] Bandura, A., Social cognitive theory in cultural context, *Applied Psychology: An International Review*, 51(2), 2002, 269-290.
- [11] Marzuki, A., Mustaffa, S., Saad, M., Muda Suhaini, Abdullah Suhanim, Che Din B. Wan., Emotional intelligence and demographic differences among students in public universities, *Research Journal in organizational Psychology and Educational Studies*, 1(2), 2012, 93-99.
- [12] Ergin, D.Y., Ismen, E., Ve Ozabaci, N., EQ of gifted youths. A Comparative study, *13th Biennial World Conference on The World Council for Gifted and Talented Children*, Istanbul, Turkey, 1999, 2-6.
- [13] Schutte, N.S., Malouff, J.M., Bohik, C., Coston, T.D., Greeson, C., Tedlicka, C., Rhodes, E., Wendorf, G., Emotional intelligence and interpersonal relations, *Journal of Social Psychology*, 141 (4), 2001, 523-536.
- [14] Mayer, J.D., Caruso, D.R. and Salovey, P., Emotional intelligence meets traditional standards for intelligence, *Intelligence*, 27 (4), 1999, 267-298.
- [15] Reiff, H.B., Hatzes, N.M. Bramel, M.H. Ve Gibbon, T., The relation of learning disabilities and gender with emotional intelligence in college students, *Journal of Learning Disabilities*, 34 (1), 2001, 66-78.
- [16] Ciarrochi, J.V., Chan A.Y.C. and Bajgar J., Measuring emotional intelligence in adolescents, *Personality and Individual Differences*, 31, 2001, 1105-19.
- [17] Charbonneau, D. and Nicol, A. M., Emotional Intelligence and leadership in adolescents, *Personality and Individual Differences*, 33, 2002, 1101-1113.
- [18] Aquino, A.E., *Diferencias de Genero y Edad en la Inteligencia Emocional de un Grupo de Internautas. [Gender differences and age in a group of Web Brower's emotional intelligence]*, Unpublished Thesis, Universidad Inca Gracilazo de la Vega. Facultad de Psicologaiy Ciencias Sociales, Lima-Peru, 2003.
- [19] Argyle, M., *The psychology of interpersonal behaviour* (Harmondsworth, UK; Penguin, 1990).
- [20] Hargie, O., Saunders, C., and Dickson, O., *Social skills in interpersonal communication* (Psychology Press, 3rd edn, Rout ledge: London, 1995).
- [21] Lafferty, J., *The relationship between gender, empathy, and aggressive behaviors among early adolescents*, Dissertation Abstracts International: Section B: The Science and Engineering, 64 (12), 6377B, 2004.
- [22] Tapia, M. and Marsh II, G.E., The effects of sex and grade – point average on emotional intelligence, *Psicothema*, 18, 2006, 108-111.
- [23] Trobst K.K. Collins, R.L., and Embree, J.M., The role of emotion in social support provision: gender, empathy and expression of distress, *Journal of social and Personal Relationship*, 11(1), 1994, 45-62.
- [24] Schutte, N.S., Malouff, J.M. Hall, L.E., Haggerty, D., Cooper, J.T. Golden, C.J. and Dornheim, I., Development and Validation of a measure of emotional intelligence, *Personality and Individual Differences*, 25, 1998, 167-177.
- [25] Ciarrochi, J. V., Chan, A. Y. C. and Caputi, P., A critical evaluation of the emotional construct, *Personality and Individual Differences*, 28 (3), 2000, 539-561.
- [26] Mayer, J.D., Geher, G., Emotional intelligence and the identification of emotion, *Intelligence*, 22, 1996, 89-113.

- [27] Mandell, Barbara and Pherwani, Shilpa, Relationship between emotional intelligence and transformational leadership style: A gender Comparison, *Journal of Business and Psychology*, 17 (3), 2003, 387-404.
- [28] LaFrance, M. and Hecht, M.A. (in press), Option or obligation to smile. The effects of power and gender on facial expression, in P. Phillipot, R.S. Feldman, and E.J. Coats (Eds.), *The Social Context of Nonverbal Behavior*, (Cambridge, UK: Cambridge University Press) 45-70.
- [29] Hall, J.A., and Halberstadt, A.G., Subordination and sensitivity to nonverbal cues: A study of married working women, *Sex Roles*, 31, 1994, 149-165.
- [30] Harrod, Nicholas R., Scheer Scott D., An exploration of adolescent emotional intelligence in relation to demographic characteristic, *Adolescence*, vol. 40, no. 159, 2005, 503-512.
- [31] Geher, G., *Measuring emotional intelligence: Common ground and controversy* (New York: Nova Science Publishing, 2004).
- [32] Bar-On, R., Emotional intelligence and self-actualization, in Joseph Ciarrochi, Joe Forgas and John D. Mayer (Eds.), *Emotional intelligence in everyday life: A scientific inquiry*, (New York: Psychology Press, 2001) 82-97.
- [33] Derksen, J., Kramer, I. and Katzko, M., Does a self report measure for emotional intelligence assess something different than general intelligence, *Journal of Personality and Individual Differences*, 32 (1), 2002, 34-48.
- [34] Henggeber, S.W., Multidimensional casual models of delinquent behaviour, in R. Cohen and A. Siegel (Eds.), *Context and Development*, (Hillsdale, NJ: Lawrence Erlbaum, 1991) 221-231.
- [35] Resnick, M.D., Bearman, P.S., Blum, R.W., Barman, K.E., Harris, K.M., Jones, J., Tabor, J., Bauhring, T., Sieving, R.E., Shaw, M., Ireland, M., Bearing, L.H., and Udry, J.R., Protecting adolescents from harm: Findings from the National Longitudinal Study on Adolescent Health, *Journal of the American Medical Association*, 278, 1997, 823-832.
- [36] White, H.R., and Jackson, K., Social and Psychological influences on emerging adult drinking behavior, *Alcohol Research and Health*, 28(4), 2005, 182-191.
- [37] Krens KA Klepac L, Cole A.K., Peer relationships and pre – adolescent’s perceptions of security in the child – mother relationships, *Development Psychology*, 32, 1996, 457-466.
- [38] Borawski, E.A., Ievers-Landis, C.E., Lovegreen, L.D., & Trapl, E.S., Parental monitoring, negotiated unsupervised time, and parental trust: The role of perceived parenting practices in adolescent health risk behaviors, *Journal of Adolescent Health*, 33, 2003, 60-70.
- [39] Frensch, K., Cameron, G., and Preyde, M., Community adaptation of Youth accessing residential programs or a home-based alternative: School attendance and academic functioning, *Child and Youth Care Forum*, 38, 2009, 287-303.
- [40] Buehler, C., Parent and peers in relation to early adolescent problem behavior, *Journal of Marriage and the Family*, 68 (1), 2006, 109-124.
- [41] Allen, J. P., Porter, M. R., McFarland, C. F., Marsh, P. A., & McElhaney, K. B., The two faces of adolescents' success with peers: Adolescent popularity, social adaptation, and deviant behavior, *Child Development*, 76 (3), 2005, 747-760.
- [42] Khaleque A, Rohner R.P., Perceived parental acceptance – rejection and psychological adjustment: a meta analysis of cross – cultural and intercultural studies, *Journal of Marriage and Family*, 64, 2002, 54-64.
- [43] Lemerise, E., and Maulden, J., Emotions and social information processing: Implications for understanding aggressive (and non – aggressive) children, in W. Arsenio and E. Lemerise (Eds.), *Emotions, aggression and morality in children. Bridging development and psychopathology*, (Washington, DC: American psychological Association, 2010) 157-176.
- [44] McLaughlin, Katie A., Hatzenbuehler, Mark L., Mennin, Douglas S., and Nolen-Hoeksema, Susan, Emotion dysregulation and adolescent psychopathology: A prospective study, *Behaviour Research and Therapy*, 49(9), 2011, 544-554.
- [45] Ricciardelli, L.A. and McCabe, M.P., A bio-psychosocial model of disordered eating and the pursuit of muscularity in adolescent boys, *Psychological Bulletin*, 130, 2004, 179-205.