Stress and Intelligence of Higher Secondary Students: A Study in Bajali Block of Assam

[a]Bhupamani Choudhury, [b]Kaberi Saha
[a]Research Scholar, Dept.of Education, Gauhati University, India
[b]Associate Professor, Dept. of Education, Gauhati University, India

Abstract

In present days, various psychological problems badly affect the mental and physical health of our students. Among them, Stress is very common. The present paper proposed to study the level of stress among higher secondary students along with their level of intelligence. This research was also aimed to study the influence of intelligence on stress of students. Descriptive survey method was used for the study. This study was conducted in 3 higher secondary schools of Bajali block of Barpeta district. 140 sample students (50% students from each school) were selected, through stratified random sampling technique, among whom 50% were male and 50% were female students. For collecting data, Anxiety, Depression and Stress scale by Pallavi Bhatnagar and Verbal Intelligence Test by R.K. Ojha and K. Ray Chowdhury were adapted and developed according to the requirements of the study. The study revealed that more male students possess average stress and more female students possess high stress. It also revealed that more female students possess average intelligence and more male students possess high intelligence. Moreover, it was found that intelligence has no significant influence on stress of male and female students.

Introduction:

Stress, as a negative emotional experience, can be described as a state of mental or physical tension that causes feeling of pain to an individual. The term 'Stress' is used to explore a situation in which a person undergoes through some internal or external pressure or conflict and believes that the circumstances are going beyond his capacity. It is the result of continuous interaction of individual and the environment.

Existence of stress always depends on the existence of stressors. Anything that challenges an individual's capability or adaptability and create mental or physical disturbances can be termed as stressors.

Intelligence is a term used to describe one's mental ability or capacity to understand, analyze and apply different kind of knowledge and skills. It is the ability to perceive information, retain it as knowledge and apply whenever situation demands. Intelligence is most often studied in humans but it has alsobeen observed in animals too. According to Linda Gottfredson, intelligence is "the ability to deal with cognitive complexity".

Significance of the study:

Higher secondary stage is the most crucial part of student life, because the students studying in higher secondary level are occupying the adolescence stage of human life cycle.In adolescence stage,various changes and developments, i.e.biological, psychological, emotional and social etc.occur in youngster's body and mind.In the journey from childhood to adulthood, most of the adolescents face multiple problems.

These are because of the conflict between society's expectation from them and their own psycho-biological change. They have to cope with different kind of pressures laid down by parents, family, school and society. Because of all that pressures they facepsychological disturbances which lead them to stress and also depression.

It One's mental ability or intelligence implies his ability to cope with different complex situations of life.Thus, a person' intelligence determines his behavior in various aspects of life. One may overcome psychological problem easily but another one may not.Thereforeit is necessary to study whether there are any influences of student's mental ability or intelligence on their stress.

Statement of the problem:

The present study has been entitled as- "Stress and Intelligence of Higher Secondary Students: A Study in Bajali Block of Assam"

Objectives:

1. To examine the level of Stress of higher secondary students on the basis of gender.
2. To examine the level of Intelligence of higher secondary students on the basis of gender.
3. To study the influence of intelligence on stress of boys.
4. To study the influence of intelligence on stress of girls.

Hypotheses:

H0 - There exists no significant difference between the level of stress of boys and girls.

H0 - There exists no significant difference between the level of intelligence of boys and girls.

H0 - There exists no significant influence of intelligence on stress of boys.

H0 - There exists no significant influence of intelligence on stress of girls.

Delimitations:

1. The study is delimited only to provintialized higher secondary school students.
2. The study includes only the students studying higher secondary first year**.**

Literature Review:

Magaya et. al. (2005) studied about Stress and Coping Strategies among Adolescents having age group of 17-19 years. Result shows that females possess a higher level of perceived stress than males. In case of coping strategy they focused on emotional aspects rather focusing on the actual problem.

Jain, Seema (2016) conducted a study on Psychological Correlates of some Mood states- Anxiety, Stress, Depression and Guilt among adolescents. Study revealed that there area strong negative relationship between academic achievement and anxiety, stress, depression and guilt.

Baruah, Dr. Rupali, Sanchaya, Dr. Saras, Ojah, Dr. Tulika (2017) conducted a study on Depression, Anxiety and Stress level among students of Gauhati medical College. The study shows that females, lower semester students, and non-smoker students possess higher level of depression, anxiety and stress. Students with satisfactory academic performance possess lower level of depression, anxiety and stress.

Variables:

In the present study Intelligence is independent variable and Stress is dependent variable.

Methodology:

Method: Keeping an eye on the nature of the study quantitative data were collected using Descriptive Survey method.

Population,Sample and Sampling Technique:278 students from 3 schools of Bajali Blockare the population of the study. 50% students from each school have been selected as sample among whom 50% are boys and 50% are girls. Thus the number of total sample students becomes 139. But for the convenience of the research work the number has been increased to 140. And for selecting the sample from the population, Stratified Random Sampling Technique has been adopted.

Sources of Data: For the study primary data were collected by field survey method. Secondary data were collected through books, journals, thesis etc.

Procedure for data collection: The investigator personally visited three higher secondary schools of Bajali block and with the help of teachers collected the required data from students.

Tools: For collecting the required data, two scales have been adapted and developed from the following two scales-

a. Anxiety, Depression and Stress scale by Pallavi Bhatnagar
b. Verbal Intelligence Test by R.K. Ojha and K. Ray Chowdhury.

Reliability and Validity: The reliability of the adapted version of the scales has been found .77 in Stress scale and .84 in Intelligence scale. And for determining the validity, the scales were thoroughly reviewed by research guide and expert.

Scoring procedure: Each item of the Stress and Depression scale is scored 1 if response is ‘yes’ and 0 if response is ‘no’. Again, each item in the Verbal Intelligence test is scored 1 if response is ‘right’ and for every wrong answer score 0 is provided.

Statistical techniques used:

Considering the objectives and hypothesis of the study, descriptive statistics i.e. mean, SD, simple percentage etc. were used. Inferential statistics i.e. t-test and chi-square test were used for analyzing the data.

Discussion and Results:

TABLE-1.1

Percentage wise distribution of Stress scores among boys and girls

Category	Boys		Girls	
	Frequency	Percentage	Frequency	Percentage
High	11	15.71	28	40
Average	40	57.17	24	34.29
Low	19	27.14	18	25.71

Table-1.1 shows that the percentage of girls having high stress is more than that of the percentage of boys. Again, the percentage of boys having average stress is more than that of the percentage of girls. But, the percentage of boys and girls having low stress is almost same.

TABLE-1.2

Mean, SD and t-values of Stress scores (Boys and Girls)

Gender	N	Mean	SD	df	t-value	Level of significance
Boys	70	7.04	2.49	138	1.6041	Not significant at .05 level
Girls	70	7.81	3.18			

It is found from the Table-1.2 that the calculated 't-value' of Stress is 1.6041 which is smaller than the table value 1.98 at .05% level of significance. So the hypothesis H0□:- "There exists no significant difference between the Stress of boys and girls" is accepted. The Stress scores of boys and girlsdon't differ significantly.

TABLE-2.1

Percentage wise distribution of Intelligence scores among boys and girls.

Category	Boys		Girls	
	Frequency	Percentage	Frequency	Percentage
High	30	42.86	15	21.43
Average	27	38.57	32	45.71
Low	13	18.57	23	32.86

Table-2.1 depicts that the percentage of boys having high stress is more than that of the percentage of girls. The percentage of boys having average stress is less than the percentage of girls having average intelligence.Again, the percentage of boys having low intelligence is less than that of the percentage of girls.

TABLE-2.2

Mean, SD and t-values of Intelligence scores (Boys and Girls)

Gender	N	Mean	SD	df	t-value	Level of significance
Boys	70	35.63	5.57	138	3.7528	Significant at 0.05% level
Girls	70	32.29	4.8			

Table-2.2 shows that the calculated 't-value' of Intelligence is 3.7528 which is larger than the table value 1.98 at .05% level of significance. So, the null hypothesis H0□:- "There exists no significant difference between Intelligence of boys and girls" is rejected. The boys and girls differ significantly in level of Intelligence.

TABLE-3.1

Data representing the influence of Intelligence on Stress of boys

Categories of Intelligence	Categories of Stress			
	High	Average	Low	Total
High	23.33% (7)	50% (15)	26.67% (8)	42.86% (30)
Average	14.81% (4)	62.96% (17)	22.22% (6)	38.57% (27)
Low	0% (0)	61.54% (8)	38.46% (5)	18.57% (13)
Total	15.71% (11)	57.14% (40)	27.14% (19)	100% (70)

(The number within parenthesis indicate frequency)

Table-3.1 represents the category wise cross tabulation data of Intelligence scores and Stress of boys. Among the boys having high Intelligence;23.33% have high Stress, 50% have average Stress and 26.67% have low Stress. Among the boys having average Intelligence;14.81% have high Stress, 62.96% have average Stress and 22.22% have low Stress. Again, among the boys having low Intelligence; no one have high Stress, 61.54% have average Stress and 38.46% have low level of Stress.

TABLE-3.2

Chi-square value representing the influence of intelligence on Stress of boys

Variables	Computed Chi-square value	Critical value	df	Level of significance
Intelligence				

Stress	4.48	9.488	4	Not significant

Table No-3.2depicts that the resulted value (4.48) of chi-square is much less than table value at 0.05 level. Hence, null hypothesis i.e.“there exists no significant influence of intelligence on stress of boys” is accepted.

TABLE-3.3

Data representing the influence of Intelligence on Stress of girls

Categories of Intelligence	Categories of Stress			
	High	Average	Low	Total
High	33.33% (5)	46.67% (7)	20% (3)	21.43% (15)
Average	40.63% (13)	40.63% (13)	18.75% (6)	45.71% (32)
Low	43.48% (10)	17.39% (4)	39.13% (9)	32.86% (23)
Total	40% (28)	34.29% (24)	25.71% (18)	100% (70)

(The number within parenthesis indicate frequency)

Table-3.3 represents the category wise cross tabulation data of Intelligence scores and Stress of girls. Among the girls having high Intelligence;33.33% have high Stress, 46.67% have average Stress and 20% have low Stress. Among the girls having average Intelligence;40.63% have high Stress, 40.63% have average Stress and 18.75% have low Stress. Again, among the girls having low Intelligence; 43.48% have high Stress, 34.29% have average Stress and 25.71% have low level of Stress.

TABLE-3.4

Chi-square value representing the influence of intelligence on Stress of girls

Variables	Computed Chi-square value	Critical value	df	Level of significance
Intelligence	5.61	9.488	4	Not significant
Stress				

Table-3.4 depicts that the resulted value (5.61) of chi-square is much less than table value at 0.05 level. Hence, null hypothesisi.e.“there exists no significant influence of intelligence on stress of girls” is accepted.

Summary and Conclusion: This research work indicates that maximum numbers of girl possess high stress and maximum numbers of boys possess average stress.Though, generally we can't consider intelligence on the basis of gender, but, this study shows that more boys possess high and average intelligence and more girls possess low and average intelligence. That means the sample boys of this study are more intelligent than sample girls.It is also clear from the study that intelligence i.e. high, average or low, has no significant influence on stress of boy and girl students. That means more intelligent students may or may not have high stress. In the same way, students who possess low intelligence, may or may not have highor low stress. Both intelligence and stress are independent to each other.

Implications:

This study made an effort to analyze the level of stress and intelligence of higher secondary students, which may help scholars to work on this area. It also helps to understand psycho-emotional problems faced by the teenagers. Then it will be easy for parents and teachers to take remedial measure and to lead them in proper direction.

References:

1. Best, J W. and Kahn, J.V. (1989), "Research in Education", Prentice Hall of India Pvt. Ltd., New Delhi

2. Kothari, C.R. *Research Methodology* (Second Revised Edition 2004), New Age International (P) Ltd. Ansari Road, Dariyaganj, New Delhi-110002

3. Mangal, S.K. Advanced Educational Psychology (Second Edition 2011), Asoke K. Ghosh, PHI Learning Private Limited, M-97, Connaught Circus, New Delhi-11001

4. Muuss, R. (1996) Theories of Adolescence, Sixth Edition, New York: McGraw Hill.

5. Paul Ballas, D.O. (2006). Stress management. Retrieved February 15, 2008, from http://yourtotalhealth.ivillage.healthline.com/adamcontent/stress-management

6. Ross, S.E., Niebling, B.C., & Hecker, T.M. (1999). Sources of Stress among college students. College student journal.33, 312-314

7. Saha, K. (2013), "Statistics in Education and Psychology", Asian Books Private Limited, New Delhi-2.
8. Khan, Z., Lanin, A. B., and Ahmed, N. (2015). The level of stress in Male and Female school students Journal of Education and Practice, 6(13), 166-168
9. Pariat, L., Rynjah, A., & Kharjana, M. G. (2014). Stress Levels of College Students: Interrelationship between Stressors and Coping Strategies. Journal of Humanities and Social Science, 19(8), 40-46.
10. Auerbach, M. S., & Gramling, E. S. (1998). Stress Management: Psychological Foundations (1st ed.). Upper Saddle River, N.j: Prantice Hall.
11. Misra, R., & Mckean, M. (2000). College Students' Academic Stress and its relation to their Anxiety, time management, and Leisure Satisfaction. American journal of health studies, 16(1), 41-51.