Stress and Achievement in Science of Secondary School Students from disadvantaged Group

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ABSTRACT

Academic stress involves mental distress regarding anticipated academic challenges or failure or even an awareness of the possibility of academic failure. During the school years, academic stressors may show in any aspect of the child's environment: home, school, neighborhood, or friendship. The impact of academic stress is also far-reaching: high levels of academic stress have led to poor outcomes in the areas of exercise, nutrition, substance use, and self-care. Furthermore academic stress is a risk factor for psychopathology. For example, fourth, fifth and sixth-grade girls who have higher levels of academic stress are more likely to experience feelings of depression.Keeping this thing in mind the Investigator studied on Stress and Achievement in Science of Secondary School Students from Disadvantaged Group. The purpose of this study is to Study the Stress and Achievement in Science of Secondary School Students from Disadvantaged Group. The purposive sampling technique was used to select 480 Secondary School Students from Disadvantaged Group of Samastipur,Vaishali and Patna district. A standardized tool was used for Adjustment and a self-constructed and validated tool was used to measure achievement in science of secondary School Students from Disadvantaged Group. For data analysis percentage, mean, SD and t-value were calculated. In the present study it was found that there is a significant difference in mean scores of stress on the basis of medium of instruction of secondary school students and there is a significant difference in mean scores of achievement in science on the basis of medium of instruction as well as gender of secondary school students while no significant difference found in mean scores of stress on the basis of gender of secondary school students.

Key words : *Stress, Achievement, Science and Disadvantage*

Introduction

Academic stress involves mental distress regarding anticipated academic challenges or failure or even an awareness of the possibility of academic failure. During the school years, academic stressors may show in any aspect of the child's environment: home, school, neighborhood, or friendship. The impact of academic stress is also far-reaching: high levels of academic stress have led to poor outcomes in the areas of exercise, nutrition, substance use, and self-care . Furthermore academic stress is a risk factor for psychopathology. For example, fourth, fifth and sixth-grade girls who have higher levels of academic stress are more likely to experience feelings of depression. According to Sindhu (2016), stress is considered as a state of individual that result from their interaction with the environment that is perceived as too demanding and a threat to their well-being. It means to say that the stressors are not only physical, but may also be cognitive and psychological. Stress was found to be a part of students' life and could give impact on how students cope with the demands of academic life. Jary and Jary (1985) defined stress as a state of tension produced by pressures

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or conflicting demands with which person cannot adequately cope. Stress has become a part of student's academic life because of several factors. Stress cannot be considered as harmful, but it may seriously affect those who react to it badly. Everyone react to stress in different ways. Due to academic stress students may get frustrated and result in depression, anxiety or other psychological disorder. Education is an inevitable factor for economic and social development. It is necessary for building human capabilities and employment opportunities. Thus it is important for the academic institutions to maintain well balanced academic environment for better learning. As per the study conducted by National Institute of Mental Health and Neuroscience (NIMHANS) about the growing number of suicides in India among school and college going students, 11 percent of college students and 7 to 8 percent of high school students have attempted suicide. UNESCO (2010) estimates that approximately 171 million people could be lifted out of poverty if all students in low income countries learn basic reading skills in schools. Over 50% of the World's children are brought up in stressful conditions

When one tries to measure the amount of success of a person in a specific field or area of accomplishment, then it said to be his or her achievement –this may be in a school situation, or in a bank or in a company or in a factory or in any sort of academy, and achievement tests are those tests that measure the amount of success of an individual in a given set of accomplishment. An achievement Test is essentially a tool or device of measurement that helps in ascertaining quality and quality of learning attained in a subject of study or group of subjects after a period of instruction by measuring the present ability of the individual concerned.

Background Of The Study:

David (2011) studied on stress, coping strategies, and psychological distress among

Secondary School Teachers in Hong Kong. The results indicated that the meditational model with coping strategies mediating the effects of stressors on psychological distress represented an adequate fit to the data.

Busch et.al (2009) studied on associations between stress and migraine and tension-type headache. Results from a school-based study in adolescents from grammar schools in Germany and obtained the result that tension-type headache, migraine and co-existing migraine plus tension-type headache were found in 48.7%, 10.2% and 19.8% of the participants. In subjects with migraine or co-existing migraine plus tension-type headache, high increases in stress scores were found in all investigated dimensions, whereas much weaker and inconsistent associations were found in subjects with tension-type headache only.

Passchier and Orlebeke (1985) studied on headaches and stress in school children and found that Menarche and social class had little bearing in relation to the headache variables. From all reported causes of headache, stress was mentioned most frequently in both elementary and secondary schools.

Significance of The Study

The prime function of education is to draw out the potentialities of the child and develop them to meet the challenging situation in life. Proper education will help the child to understand the society and to adjust with the social environment. It is in the school that positive attitude towards life and work is developed. Personality development is the concern of every individual of the society and of the world at large. The home is the first institution which forms the base for the child's character and personality. Next to school, teacher is the guardian who helps the child to mould the personality. In the case of scheduled caste students parents and guardian are not in the condition to guide due to illiteracy, poverty and lack of time. Therefore, the investigator inclines to study the

variables adjustment, stress and achievement of secondary schools students coming from disadvantaged background.

Statement Of The Problem

After 72 years of Independence, the condition of disadvantage group is not upto the mark while our government has already given legal priority for upliftment of the group. Education is the only tool for upliftment of any society. So, it is the need of the hour in the field of education to pay attention to these important aspects in the society. So, the investigator wants to explore how far the adjustment, stress and achievement of scheduled caste secondary schools students are related to one another.

Operational Definitions

Stress: Stress is the body's reaction to a change that requires a physical, mental or emotional adjustment or response.

Achievement: Something accomplished successfully, especially by means of exertion, skill, practice, or perseverance.

Disadvantage group: Any of the historically disadvantaged Indian castes of low rank, now under government protection.

Secondary School: institution after middle school and before senior secondary , particularly grades nine and ten.

Students: A student is a learner, or someone who attends an educational institution.

Research Objectives

1. To find whether there is any significant difference in the mean score of stress level between male and female secondary school students from the disadvantaged group.

2. To find whether there is any significant difference in the mean score of stress between English Medium and Hindi Medium secondary school students from the disadvantaged group.

3. To find whether there is any significant difference in the mean score of achievement in science between male and female secondary school students from the disadvantaged group.

4. To find whether there is any significant difference in the mean score of achievement in science between English and Hindi medium secondary school students from the disadvantaged group.

Null Hypotheses

1. There is no significant difference in the mean scores of stress level between male and female secondary school students from the disadvantaged group.

2. There is no significant difference in the mean scores of stress between English Medium and Hindi Medium secondary school students from the disadvantaged group

3. There is no significant difference in the mean scores of achievement in science between male and female secondary school students from the disadvantaged group.

4. There is no significant difference in the mean scores of achievement in science between English and Hindi medium secondary school students from the disadvantaged group.

Tools Proposed To Be Use

The following tools were used for data collection.

1. Stress Inventory for School Students (SISS) developed by Rani and Singh.(1947)

2. Self constructed and validated Achievement tests in Science for secondary school students were used for data collection.

Method Proposed

The investigator used descriptive survey method for the present study.

Population For The Study

According to Best and Kahn (2003), A population is any group of individuals who has one or more characteristics in common that are of

interest to the researchers. The population for the study will be the disadvantaged secondary schools students of Vaishali, Samastipur and Patna Districts.

Sample

According to Best and Kahn (2003) "A sample is a small proportion of a population selected for observation and analysis by observing the characteristics of the sample, one makes certain inferences about the characteristics of the population from which it is drawn. Contrary to some population opinion, samples are not selected haphazardly; they are chosen in a systematically random way so that chance or the operation of probability can be utilized."

The investigator will use 480 secondary school students from disadvantaged group randomly selected for sample.

Statistical Techniques Used

For analyzing the data percentage analysis and t-test were used for data analysis.

Delimitations of The Study

1. The present study is limited to three districts only.
2. The secondary schools students are taken as the sample.
3. The sample taken is the disadvantaged group from secondary school students.

Results and Discussion

Null Hypothesis 1 : There will be no significant difference in the mean score of stress level between male and female secondary school students from the disadvantaged group.

TABLE- 1
Mean, SD and t-ratio based on their gender

Gender	N	Mean	S.D.	t-ratio	Remarks
Male	270	78.80	21.61	0.89	NS*
Female	210	80.61	23.94		

(N S* means not significant)

It is inferred from the **table 1** that the t-value is 0.89 which is less than the table value at 0.05 level of significance. Hence the null hypothesis is accepted. It means there is no significant difference in mean scores of stress between male and female secondary school students.

Null Hypothesis 2 : There will be no significant difference in the mean score of stress between English Medium and Hindi Medium secondary school students from the disadvantaged group.

TABLE- 2
Mean, SD and t-ratio based on their medium of instruction

Gender	N	Mean	S.D.	t-ratio	Remarks
Hindi	320	82.74	22.86	4.85	S*
English	160	73.28	18.61		

(S* means significant)

It is inferred from the **table 2** that the t-value is 4.85 which is more than the table value at 0.01 level of significance. Hence the null hypothesis is rejected. It means there is significant difference in mean scores of stress on the basis of medium of instruction of secondary school students. The above table shows that the stress score of Hindi medium students (82.74) is more than the English medium students (73.28).

Null Hypothesis 3 : There will be no significant difference in the mean score of achievement in science between male and female secondary school students from the disadvantaged group.

TABLE- 3
Mean, SD and t-ratio based on their gender

Gender	N	Mean	S.D.	t-ratio	Remarks
Male	270	23.94	4.31	2.50	S*
Female	210	22.45	4.99		

(S* means significant)

It is inferred from the **table 1** that the t-value is 2.50 which is more than the table value at 0.05 level of significance. Hence the null hypothesis is rejected. It means there is significant difference

in mean scores of achievement in science between male and female secondary school students.

Null Hypothesis 4

There will be no significant difference in the mean score of achievement in science between English and Hindi medium secondary school students from the disadvantaged group.

TABLE- 4

Mean, SD and t-ratio based on their medium of instruction

Gender	N	Mean	S.D.	t-ratio	Remarks
Hindi	320	22.64	4.97	6.42	S*
English	160	25.11	3.357		

(S* means significant)

It is inferred from the **table 4** that the t-value is 6.42 which is more than the table value at 0.01 level of significance. Hence the null hypothesis is rejected. It means there is significant difference in mean scores of achievement in science on the basis of medium of instruction of secondary school students. The above table shows that the achievement in science of English medium students (25.11) is much better than the Hindi medium students (22.64).

Conclusion:

On the basis of the findings of present study it is inferred that there is a significant difference in mean scores of stress on the basis of medium of instruction of secondary school students and there is a significant difference in mean scores of achievement in science on the basis of medium of instruction as well as gender of secondary school students while no significant difference found in mean scores of stress on the basis of gender of secondary school students.

References:

1. Anand, C.L. et. al (1983). The Teacher and Education in Indian Society. NCERT, New Delhi.

2. Ashthana, B. et. al (2010). Research Methodology. Agrawal Publication Agra U.P.

3. Best, J.W. and Kahn, J.V. (1992). Research in Education. New Delhi, Sterling Publishers Pvt. Ltd.

4. Best. J. W. (1977). Research in Education. Prentice Hall. New Delhi.

5. James,W.et. al (1996) .Understanding Statistics in Education. F.E.Peacock Publications. Inc.U.S.A.

6. Kaul,L.(2010) Methodology of Educational Research. Vikash Publishing House Ltd. Noida U.P.

7. Kerlinger, F.N. (2005). Foundation of Behavioral Research. Surjeet Publications Delhi.

8. Rao, U.(2008).Advanced educational Psychology. Himalya Publishing House Pvt. Ltd. Mumbai.

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