

STRESS AND ACADEMIC ACHIEVEMENT IN PHYSICS

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ABSTRACT

The present study intended to find out the level of Stress and Academic Achievement among the Higher Secondary School Students. The present study belongs to the Normative Survey Method and the sample selected for the study was 177 Students. The Stratified Random Sampling Technique was followed to select the sample for the study. The Statistical techniques such as the Mean, Standard Deviation, 't'-test and Correlation were used to analyze the data. The salient findings of the study were: (i) The Stress was found to be high whereas Academic Achievement in Physics was average (ii) The Urban Students were significantly higher level of Stress than the Rural Students (iii) There is no significant relationship between Stress and Academic Achievement in Physics among the Higher Secondary School Students.

INTRODUCTION

Stress is considered as a state of individuals that result from their interaction with the environment that is perceived as too demanding and a threat to their well-being. The stressors are not only physical, but may also involve emotions. Many people experience stress as they combine busy lives and the demands of study and or work while trying to also save time for friends and family. For some people, stress becomes almost a way of life.

Stress can come in different ways in an individual's daily life. Stress is also viewed as the body's reaction, both neurologically and physiologically, to adapt to a new condition (Franken, 1994). When there is a change in life, we adjust ourselves to fit in the new condition. A sudden change in life may affect a person's life style or even one's physical and mental health. The impact of a stressor leaves on a person depends on how the person takes the tension. If the person takes the event positively by accepting it as a part of challenge in life and find ways to deal with it, the stress will fade away and gone when one's gets over it. Conversely, the consequence may leave the person a prolonged emotional disturbance.

NEED FOR THE STUDY

Education is a process and acts also as an instrument to bring out the innate behaviour of the every individual person. The destiny of a nation lies in its classrooms. The strength of our nation depends on the teacher's ability to rear well educated, responsible, well-adjusted youth who will step forward when the adult generation passes on to retirement. The students of today are the youths of tomorrow and future citizens of the country, therefore it is the responsibility of teachers, society and government to see that they are physically, mentally, emotionally and educationally healthy. It is believed that the teachers are having a significant role on the student's life. The development of the self-dependence of the teachers is depending on many reasons such as family, socio-economic status, mental health, school environment, emotional state, adjustment with course, students and so on. Hence the investigators wanted to find out the influence of the concept "Stress" on the Academic Achievement in Physics. Therefore the study has been entitled as "*Stress and Academic Achievement in Physics among the Higher Secondary School Students*".

OBJECTIVES OF THE STUDY

The objectives of the study are as follow.

- i. To find out the level of Stress and Academic Achievement in Physics among the Higher Secondary School Students.
- ii. To find out the level of significant difference between Stress and Academic Achievement in Physics among the Higher Secondary School Students with respect to their background variables such as Gender and Locality.
- iii. To find out the level of significant relationship between Stress and Academic Achievement in Physics among the Higher Secondary School Students.

HYPOTHESES OF THE STUDY

The Null Hypotheses have been framed and they are as follow.

- i. The level of Stress and Academic Achievement in Physics among the Higher Secondary School Students are low.
- ii. There is no significant difference between Stress and Academic Achievement in Physics among the Higher Secondary School Students with respect to their background variables such as Gender and Locality.
- iii. There is no significant relationship between Stress and Academic Achievement in Physics among the Higher Secondary School Students.

METHODOLOGY OF THE STUDY

The present study belongs to normative survey method and stratified random sampling technique.

i) Tool Used:

Two types of tools were used in the present study. One of which was standardized tool on Stress Scale was standardized by Dr. (Km.) Abha Rani Bisht (1971), and the other tool on Academic Achievement Test in Physics (AATP) was developed by the investigator. The objective types of questions with 4 alternative answers were taken from the 2 units of the 11th standard physics text book. The drafted objective type of questions were given to two subject experts, one was 11th standard teacher who handles physics portion and the other was a teacher educator. After the suggestions, students are asked to make a tick mark for the correct answer in a separate answer sheet. It was decided to give one mark for the correct answer and no mark for wrong (or) unmarked items. The reliability of the tool determined by split half method, Correlation coefficient was found out. As the r value was found to be 0.82, which revealed that the developed Academic Achievement Test in Physics (AATP) tool was highly reliable.

ii) Selection and Size of the Sample

The investigators have selected a sample of 177 Higher Secondary School Students from various Higher Secondary School Students at Vellore Districts in Tamil Nadu.

iii) Data analysis

The Statistical Techniques used to analyze the collected data were Mean, Standard Deviation and 't'-test and Correlation.

Table-1

Mean and Standard Deviation scores on the Stress and Academic Achievement in Physics among the Higher Secondary School Students in Total

S.No	Category	Size of the Sample	Mean	SD	Remark
1	Stress	177	222.16	31.95	High
2	AATP	177	56.77	15.65	Average

The table-1 shows that the level of Stress is high, at the same time the level of AATP is average among the Higher Secondary School Students.

Table-2

't' value between the Mean Scores on the Stress among the Higher Secondary School Students with respect to their Gender

Category	N	Mean	SD	't' value
Male	76	221.38	28.96	0.28**
Female	101	222.75	34.15	

**** Not Significant at 0.05 Level**

The table-2 shows that the 't' value 0.28 is Not Significant at 0.05 level. The result reveals that there is no significant difference between the level of Stress among male and female Higher Secondary School Students. Both the male and female students are having similar level of Stress. Hence, the framed null hypothesis is found to be accepted.

Table-3

't' value between the Mean Scores on the Stress among the Higher Secondary School Students with respect to their Locality

Category	N	Mean	SD	't' value
Urban	87	236.26	17.52	6.39*
Rural	90	208.53	36.6	

*** Significant at 0.05 Level**

The above table-3 shows that the 't' value 6.39 is Significant at 0.05 level. The Urban Students are having significantly higher level of Stress than the Rural Students. Hence, the framed null hypothesis is found to be rejected.

Table-4

't' value between the Mean Scores on the Academic Achievement in Physics among the Higher Secondary School Students with respect to their Gender

Category	N	Mean	SD	't' value
Male	76	56.42	16.08	0.26**
Female	101	57.04	15.39	

**** Not Significant at 0.05 Level**

The table-4 reveals that the 't' value 0.28 is Not Significant at 0.05 level. The result reveals that there is no significant difference between the level of Academic Achievement in Physics among male and female Higher Secondary School Students. Both the male and female students are having similar level of Academic Achievement in Physics. Hence, the framed null hypothesis is found to be accepted.

Table-5

't' value between the Mean Scores on the Academic Achievement in Physics among the Higher Secondary School Students with respect to their Locality

Category	N	Mean	SD	't' value
Urban	87	53.57	11.38	2.72*
Rural	90	59.87	18.42	

*** Significant at 0.05 Level**

The above table-5 shows that the 't' value 2.72 is Significant at 0.05 level. The Rural Students are having significantly higher level of Academic Achievement in Physics than the Urban Students. Hence, the framed null hypothesis is found to be rejected.

Table-6

Significant relationship between Stress and Academic Achievement in Physics among the Higher Secondary School Students

Classification	N	'r'
Stress and Academic Achievement in Physics	177	0.05**

**** Not Significant at the level of 0.05 Level**

The above table-6 shows that the 'r' value 0.05 is Not Significant at 0.05 level. It implies that there is no significant relationship between Stress and Academic Achievement in Physics among Higher Secondary School Students. Hence, the framed null hypothesis is found to be accepted.

FINDINGS OF THE STUDY

The findings of the study are briefly given below.

- i. It is found that the Stress is found to be high whereas Academic Achievement in Physics is average.
- ii. The male and female students are having similar level of Stress.
- iii. The Urban Students are having significantly higher level of Stress than the Rural Students.
- iv. The male and female students are having similar level of Academic Achievement in Physics.
- v. The Rural Students are having significantly higher level of Academic Achievement in Physics than the Urban Students.
- vi. There is no significant relationship between Stress and Academic Achievement in Physics among the Higher Secondary School Students.

EDUCATIONAL IMPLICATIONS OF THE STUDY

In the educational scenario, it is found that the teacher education system is a very significant milestone. In order to be a good teacher, it is not only necessary to have a command over the subject matter and the techniques of teaching but it is also imperative for him to understand the students stress. A student with a balanced mental ability can do the learning in the right manner and achieve high. More counseling and guidance training are to be given to the teachers in such a way act as a real guide (or) counselor to the students. They must entertain the students in friendly manner in the classroom. The students and the teachers should be aware of the examination stress and hygiene of the students in order to have an effective teaching-learning process. The guidance and counseling training are to be given to the students in such a way to keep the stress away by practice while they are studying. Moreover the parents are also must undergo awareness class in order to keep the students stress at the time of schooling. It is to be noted that more trainings have been given to the teachers to teach the concept in a systematic and attractive manner to bring the concentration of the students.

CONCLUSION

Stress is a serious and prevalent problem in India. It can lead to mental problems and even suicides of adolescent students. Apart from time management, parental and social support and co-curricular activities are also necessary in helping students to avoid and to deal with academic stress. The Government of Tamilnadu as well as India is taking so many regulations to keep the learning in an unthreatening situation.

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