Study of academic stress and academic achievement across certain demographic variables

Dr. Md. Mahmood Alam	Assistant Professor, MANUU College of Teacher Education, Sambhal - (U.P.)

Abstract

This study was conducted to examine academic stress as predictors of academic achievement. The sample of 400 10th class students was selected from government high schools of Sambhal district affiliated to U.P. Board. Tools for collecting the data included Scale of Academic Stress (SAS) by Abha Rani Bisht (1998). The data were analyzed using descriptive, correlational and differential statistics. The findings of the present study revealed that academic stress is significantly and inversely related to academic achievement of secondary school students. It is also found that there is a significance difference between boys & girls and rural & urban on the variable academic stress. However no significant difference is observed between boys & girls and rural & urban on the measure of academic achievement. The findings of the study could help in designing programs and strategies to face, manage, and handle the academic stress efficiently which may result into enhanced academic performance.

I.   INRODUCTION

Stress is psycho - neurological reaction to adapt or adjust with stressors. It is the body's nonspecific response mechanism to cope with environmental threats, challenges and adapt to the new condition. It results when an individual fail to develop a rapport between expectations and performances. Whitman et al., (1985) cites stressful events can be appraised by an individual as "challenging" or "threatening" (Lazarus 1966). Stress in academics can have both positive and negative consequences. It can be a powerful motivator and useful in the 'fight or flight' response (Selye, 1979). When students appraise their education as a challenge, stress can bring them a sense of competence and an increased capacity to learn. The 21st century is a competitive era where students encounter varieties of stressors, such as excelling in academics, adjusting into the college

environment and expectations of parents and teachers. As a result they are deprived from enjoying their life and come under stress in general and academic stress in particular. Academic stress is particularly severe because students are expected to pursue academic success to achieve respect, family pride, and social mobility (Gow, Bella, Kember, & Hau, 1996), resulting in extremely high academic demands and extraordinary pressure on school-aged children and adolescents (e.g., Bossy, 2000; Ho, 1996). Williamson, Birmaher, Ryan, and Dahl (2005) reported that stressful life events could lead to low performance in academics. It has been found that students' performance in school is influenced by stress (Dusselier, Dunn, Wang, Shelly, & Whalen, 2005), and anxiety (Anson, Bernstein, & Hobfoll, 1984) which could lead to difficulties in concentration and lack of motivation and interest. The literature is supportive of the fact that stress places demands on an individual, and in response to the stress, the body attempts to adapt to the stressful experience to maintain a sense of normalcy (Selye, 1974).

Academic stress is the product of a combination of academic related demands that exceed the adaptive resources available to an individual (Wilks, 2008). It is a mental and emotional pressure, tension, or stress that occurs due to the specific demands of the student life. It may come from being exposed to new educational concepts, adjusting to new social settings, and taking on the larger workload. Academic stress is the student's perception of the extensive knowledge base required and the perception of inadequate time to develop it (Carveth, Geese, & Moss, 1996). The pervasive sense of urgency to learn all those things which are related to or prescribed by the educational institution brings academic stress for the students. Verma and Gupta (1990) first defined academic stress as mental distress resulting from the feeling of frustration regarding poor academic performance and the anticipation of it, and the awareness of a predicted possible failure. Academic stress has also been explained as a student's perceived feelings of stress related to academic events (Akram & Khan, 2012). Academic stress has been shown to be associated with a number of health conditions affecting both physical health (e.g., somatic symptoms) and mental health (depression) (Gillihan, Samter, & Macgeorge, 2005). Zhang (2014) found that the main sources of academic stress of the students were high levels of self-expectation, the fear of poor academic performance, the embarrassment of a lower ranking, pressure from parents, and competition with peers. This could be summarized as the pressure of the fierce competition with peers and high expectations from both themselves and their parents as being associated with academic stress. Given the adverse consequences of academic stress, it is important to delineate factors that may help students when they experience the stress. Therefore, it is a humble endeavour to explore the relationship and difference between academic stress and academic achievement in case of gender and locale of senior secondary school students.

II. CONCEPTUAL FRAMEWORK

2.1 Academic Stress: Concept and Definition

Academic stress is conceptualized as a state of distress induced by a student's appraisal of excessive academic demands (e.g., overloaded homework, examinations; Lee &

Larson, 2000; Lou & Chi, 2000), often resulting in negative effects on student's mental and physical health (e.g., Clark & Rieker, 1986; Felsten & Wilcox, 1992), as well as their school performance (e.g., Struthers, Perry, & Menec, 2000). Stress makes a significant contribution to the prediction of subsequent school performances and act as a negative predictor of academic performance in school children (Endler et. al, 1994). It has become a source of immediate concern as it contributes to academic, social and emotional problem. In the context of school, academic stress is a pervasive sense of urgency to learn all these things which is related to or prescribed by the school (Shah, 1988).

2.2 Academic Achievement: Concept and Definition

Academic achievement is an index of children success affected both by the individual's ability to adjust to his environment and partly by his intelligence, aptitude and partly by the intensity of drives and motives which serve as the impelling force for his activities. Academic achievement, according to Good (1955), is defined as "knowledge attained or skills developed in the school subjects, usually designed by test scores or by marks assigned by teachers, or by both". Trow (1956) defined academic achievement as "knowledge attaining ability or degree of competence in school tasks usually measured by standardized tests and expressed in a grade or units based on pupils' performance". Thus, academic achievement refers to the degree of level of success and that of proficiency attained in some specific area concerning scholastic and academic work. In the present study academic achievement is the aggregate marks obtained by the secondary school students in their annual examination.

III.   REVIEW OF RELATED LITERATURE

Malik and Balda (2006) reported significantly negative correlation between academic achievement and all types of stress except existential stress. Kumari and Gartia (2012) noted a positive correlation between stress and academic achievement. A study by Md Aris Safree Md Yasin and Mariam Adawiah Dzulkifli (2010) indicated that the students' performance in school is influenced by stress. Sohail (2013) conducted a study to determine the relationship of stress and academic performance in first year medical students and to identify sources of stress, levels of stress and relevant coping strategies. The results also show that higher level of stress is associated with poor academic performance. Monika et al. (2016) conducted a study on the relationship between stress and Mathematics achievement of high school students. They found that boys have more stress than girls. Zhang's (2014) found gender differences to be associated with academic stress, where female students reported higher levels of academic stress. Sulaiman et al. (2009) have showed the rate and types of stress among the female students are more than male due to their emotional and sensitive characters and attitude to their environment. Hawabieh and Qaisy, (2012) have noted that females experience greater stress than males. Prabu (2015) reported that males & females and rural & urban students do not differ significantly on the measure of academic stress. Vijaylakshmi & Lavanya (2006) found that urban students experienced more stress as compared to rural students. Biplob et al. (2014) in their study on "Stress and Anger of Rural and Urban Adolescents"

observed that the stress of urban adolescents was greater than rural adolescents. These reviews of researches indicate the inconsistencies in the findings of the earlier researches. This compels the present researcher to carry this investigation to ascertain the relationships and differences between the variables in hand. The present investigation will fill the void of knowledge.

IV. OBJECTIVES

1. To study the relationship between academic stress and academic achievement of secondary school students.
2. To compare secondary school boys and girls (both rural and urban) on the measure of academic stress and academic achievement.

V. HYPOTHESES

Based on the review of literatures and aforementioned objectives the present study formulated the following hypotheses:

H_1: There is no significant relationship between academic stress and academic achievement of secondary school students.

H_2: There is no significant difference between boys and girls of secondary school students in respect of their academic stress.

H_3: There is no significant difference between boys and girls of secondary school students in respect of their academic achievement.

H_4: There is no significant difference between rural and urban secondary school students in respect of their academic stress.

H_5: There is no significant difference between rural and urban secondary school students in respect of their academic achievement.

VI. DELIMITATIONS OF THE STUDY

1. The study is delimited to secondary school students studying in 10th class of Sambhal district of U.P.
2. The study is delimited to schools affiliated to U.P. Board only.
3. The study is delimited to certain demographic variables viz., Gender (boys and girls) and Locality (rural and urban).
4. The study is delimited to academic stress as dependent variable.
5. The study is delimited to the following tool to gather the data:
   - Scale of Academic Stress (SAS) by Abha Rani Bisht (1998)

VII. METHODOLOGY

This study utilized survey techniques due to its descriptive nature. This section is comprised of sample, research tools and procedure of the data collection.

7.1 Sample: The present study was conducted on a representative sample of 200 10th class students (100 boys: 50 rural & 50 urban; 100 girls: 50 rural & 50 urban randomly

selected from government schools of Sambhal district. The ages of the students ranged from 15 to 16 years.

7.2 Tool Used: The following tools were used for collecting the data to measure the variables of the study.

7.2.1. Scale of Academic Stress (SAS) by Abha Rani Bisht (1998)

Scale of Academic Stress is an 80 items 5 points scale to measure four components of academic stress viz. frustration, conflict, pressure and anxiety. Three types of reliabilities— dependability, i.e. short-term test-retest correlations (.87), stability i.e. retest after a longer interval (.82) and internal consistency i.e., split-half correlation (.88) was calculated with the help of split-half method. Content validity and construct validity were calculated for all the scales.

7.2.2. Academic Achievement

Aggregate marks secured by students in the annual examination of class 10th were taken as the academic achievement of the students. These marks were collected from the office records of the concerned schools and used in the analyses of the data.

7.3 Procedure of Data Collection

The researcher collected the data personally with prior permission of the schools and concerned teachers. The administration of the tool viz., Scale of Academic Stress (SAS) by Abha Rani Bisht (1998) was completed following the instructions given by the author of the tool.

7.4 Analysis of the Data

The collected data was analyzed using descriptive analysis (Mean, Standard Deviations), correlational analysis (Coefficient of Correlation 'r'), differential analysis ('t'- test). The hypotheses were tested at varying level of significance.

VIII. RESULTS AND DISCUSSION

1. Correlation of Academic Stress and Academic Achievement of the   Secondary School Students

The correlation was calculated using Pearson's Product Moment Coefficient of Correlation between these variables. Results of the correlation coefficients between home environment, self- concept and occupational aspiration of the students are presented in Table No. 1

H_1: *There is no significant relationship between academic stress and academic achievement of secondary school students.*

Table 1: Correlation Matrix of Home Environment, Self-Concept and Occupational Aspiration

Variables	Academic Stress	Academic Achievement
Academic Stress	*	- 0.203 (.05)
Academic Achievement	- 0.203 (.05)	*

Perusal of table-1 establishes that there is an inverse relationship between academic stress and academic achievement. This means that lesser academic stress will result into, better

academic achievement and vice-versa. The reason for the lesser academic stress resulting into better academic achievement may be due to proper planning, stress coping skills & strategies and other positive reframing and taking the necessary steps to overcome the academic stress. Similar result is also reported by Malik & Balda (2006) and Sohail (2013). Thus the null hypothesis H_1 is rejected and it is reframed as **there is significant relationship between academic stress and academic achievement of secondary school students.**

2. Comparison between gender (boys and girls) on the selected variables.
The comparison between the samples on the selected variables was done by testing the significance of difference between their means by using t-tests. The results are presented in the following tables.

H₂: *There is no significant difference between boys and girls of secondary school students in respect of their academic stress.*

H₃: *There is no significant difference between boys and girls of secondary school students in respect of their academic achievement.*

Table 2: Comparison between gender (boys and girls) on the selected variables

Variables	Gender				t - value
	Boys (200)		Girls (200)		
	M_1	σ_1	M_2	σ_2	
Academic Stress	58.57	7.49	60.27	8.18	2.17 (.05)
Academic Achievement	359.57	55.31	356.14	53.81	0.63 (N.S.)

Table-2 presents mean scores of boys and girls of secondary school students for academic stress and academic achievement. Means and S.Ds of boys and girls on the measure of academic stress are 58.57 & 60.27 and 7.49 & 8.18 respectively. When the t-test was applied to compare the mean scores of academic stress of both the groups, t-value is found to be 2.17 which is significant at .05 level of significance, suggesting that there is a significant difference between boys and girls. The boys having least academic stress might be due to their suitable stress coping strategies viz. proper planning including efficient time management, positive reframing and taking the necessary steps to overcome the academic stress in stressful situation. This result is in consonance with the researches of Sulaiman et al. (2009) and Hawabieh and Qaisy, (2012). Thus the null hypothesis H_2 is rejected and it is reframed as **there is significant difference between boys and girls of secondary school students in respect of their academic stress.** On the other hands, comparison of mean scores of boys and girls on the measure of academic achievement yields no significant result. Non-significant result in case of boys and girls on the measure of academic achievement may be due to changing preferential attitudes of parents and providing equal opportunities to both boys and girls. This naturally enhances the level of aspirations which ultimately increases the academic and competitive spirit equally. This result is in line with studies of Kaur and Gill (1993) and Joshi (2000). Thus the hypothesis H_3 is accepted.

3. Comparison between locality (rural and urban) on the selected variables.

The comparison between the samples on the selected variables was done by testing the significance of difference between their means by using t-tests. The results are presented in the following tables.

H_4: There is no significant difference between rural and urban secondary school students in respect of their academic stress.

H_5: There is no significant difference between rural and urban secondary school students in respect of their academic achievement.

Table 3: Comparison between locality (rural and urban) on the selected variables

Variables	Locale				t - value
	Rural (200)		Urban (200)		
	M_1	σ_1	M_2	σ_2	
Academic Stress	53.63	6.55	55.19	7.72	2.18 (.05)
Academic Achievement	362.39	55.75	355.11	56.81	1.29 (N.S.)

Perusal of the table-3 reveals that respective means and S.Ds on the measure of academic stress for rural and urban are 53.63 & 6.55 and 55.19 & 7.72. When the t-test was applied to compare the mean scores of both the groups, t-value is found to be 2.18 which is significant at .05 level of significance, suggesting that locality of the students have significant influence on the academic stress of the students. The larger academic stress in case of urban students may be the result of greater expectations and demand from parents & teachers, the competitive environment in the schools and busy work schedule of parents create more stressful situation. This result is in agreement with the findings of Vijaylakshmi & Lavanya (2006). Thus the null hypothesis H_4 is rejected and it is reframed as **there is significant difference between rural and urban secondary school students in respect of their academic stress**. Means and S.Ds on the measure of academic achievement for rural and urban are 362.39 & 55.75 and 355.11 & 56.81 respectively. When the t-test was applied to compare the mean scores of both the groups, t-value is found to be 1.29 which is non significant, suggesting that academic achievement is not influenced by locality (rural and urban) of the students in this case. Hence the null hypothesis H_5 is accepted.   .

IX. FINDINGS

1. There is significant relationship between academic stress and academic achievement of secondary school students.
2. There is significant difference between boys and girls of secondary school students in respect of their academic stress.
3. There is no significant difference between boys and girls of secondary school students in respect of their academic achievement.

4. There is significant difference between rural and urban secondary school students in respect of their academic stress.

5. There is no significant difference between rural and urban secondary school students in respect of their academic achievement.

X. CONCLUSION

In conclusion, the present study provides significant information pertaining to the relationship between academic stress and academic achievement among senior secondary school students. This study also compares academic stress among secondary school students on the basis of their gender and locality. A sample of four hundred students was taken from different schools of Sambhal district affiliated to U.P. Board. The data were analyzed using descriptive, correlational and differential statistics. The results showed significant negative correlation between academic stress and academic achievement. A significant difference is also noted between boys & girls and rural and urban secondary school students on the measure of academic stress. By knowing and acknowledging the causes of stress, stakeholders will be in better positions to give advice, motivation and/or moral support to reduce the stress factors which could enhance the academic performance of their children.

XI. REFERENCES

[1] Akram, M., and Khan, M. I. (2012), "Assessment of Academic Stress and Problem Solving Among Senior Secondary School Students", Social Science International, Vol.28, No. 2, p. 265.

[2] Anson, A., Bernstein, J. and Hobfoll, S. E. (1984), "Anxiety and Performance in Two Ego Threatening Situations", Journal of Personality Assessment, Vol.48, No. 2, pp. 168-172.

[3] Biplob, K. D., Rahman, A., Bairagi, A. and Roy, K. (2013), "Stress and Anger of Rural and Urban Adolescents", Psychology, Vol. 5, pp. 177-184.

[4] Bisht, A.R. (1998), "Bisht Battery of Stress Scales", Agra: National Psychological Corporation.

[5] Bossy, S. (2000), "Academic Pressure and Impact on Japanese Students", McGill Journal of Education, Vol. 35, pp.71–84.

[6] Carveth, J.A., Gesse, T., and Moss, N. (1996), "Survival Strategies for Nurse-midwifery Students", Journal of Nurse-Midwifery, Vol.41, No. 1, pp.50-54.

[7] Dusselier, L., Dunn, B., Wang, Y., Shelley, M. C. and Whalen, D. F. (2005), "Personal, Health, Academic, and Environmental Predictors of Stress for Residence Hall Students", Journal of American College Health, Vol.54, pp. 15-24.

[8] Gillihan, S., Samter, W., and Mac George, E. (2005), "Academic Stress, Supportive Communication, and Health", Communication Education, Vol.54, No. 4, pp.365-372.

[9] Gow, L., Balla, J., Kember, D. and Kit, T. H. (1996), " The Learning Approaches of Chinese People: A Function of Socialization Processes and the Context of Learning?", in M Bon (Ed) The Handbook of Chinese Psychology, Oxford University Press, Hong Kong, pp. 109 - 123.

[10] Ho, D. Y. F. (1996), "Filial piety and its psychological consequences, ―in M H Bond (Eds.), The handbook of Chinese psychology, pp.155–165, Hong Kong: Oxford University Press.

[11] Joshi, G. (2000), "Neuroticism, Extraversion and Academic Achievement as Related to Gender and Culture," Indian Psychological Review, Vol.54, Nos.1-2, pp.74-78.

[12] Kaur, R. and Gil, T. K. (1993), "Sex Difference in Academic Achievement in Different Subjects of Rural and urban Students", Indian Psychological Review, Vol.40, No.12, pp.20-24.

[13] Malik, P. R. and Balda, S. (2006), "High IQ Adolescents under Stress: Do they Perform Poor in academics", Anthropologist, Vol. 8, No. 2, pp. 61-62.

[14] Monika, K., Lekh, R., and Sangeeta K.B. (2016), "A Study of the Relationship between Stress and Mathematics Achievement of High School Students", International Journal of Advanced Research in Education & Technology (IJARET), Vol. 3, Issue 2, pp.203-206.

[15] Prabu, P.S. (2015), "A Study on Academic Stress among Higher Secondary Students ", International Journal of Humanities and Social Science Invention, Vol. 4, Issue 10, pp. 63-68.

[16] Selye, H. (1974), "Stress without Distress". McClelland Stewart, Toronto.

[17] Sohail, N. (2013), "Stress and Academic Performance among Medical Students", Journal of the College of Physicians and Surgeons Pakistan, Vol.23, No. 1, pp. 67-71.

[18] Sulaiman, T., Hassan, A., Sapian, V. M., and Abdullah, S. K. (2009), "The Level of Stress among Students in Urban and Rural Secondary Schools in Malaysia", European Journal of Social Sciences, Vol.10, No. 2, pp.179-184.

[19] Verma, S., and Gupta, J. (1990), "Some Aspects of High Academic Stress and Symptoms", Journal of Personality and Clinical Studies, Vol.6, No. 1, pp. 7-12.

[20] Vijaylakshmi, G. and Lavanya, P. (2006), "Relationship between Stress and Mathematic Achievement among Intermediate Students", Education tracks, Vol.7, pp.34-37.

[21] Wilks, S. E. (2008), "Resilience amid Academic Stress: The Moderating Impact of Social Support among Social Work Students", Advances in Social Work, Vol. 9, No. 2, pp.106-125.

[22] Williamson, D. E., Birmaher, B., Ryan, N. D. and Dahl, R. E. (2005), "Stressful life events in anxious and depressed Children", Journal of Child and Adolescent Psychopharmacology, Vol. 15, No. 4, pp. 571-580.

[23] Zhang, P. (2014), "Investigation and Analysis on Secondary School Students' Academic Pressure", Journal of Educational Institute of Jilin Provence, Vol.30, No. 2, pp.84-86.

PAPER CITATION