PSYCHOLOGY AND COGNITIVE SCIENCES

OpenJournal

Openventio
PUBLISHERS

Original Research

Relationship between Academic Stress and Emotional Intelligence in High School Students

Naman Jassal, BA*

Department of Applied Psychology, University of Delhi, Bhim Rao Ambedkar College, New Delhi, Delhi 110094, India

***Corresponding author**
Naman Jassal, BA
Department of Applied Psychology, University of Delhi, Bhim Rao Ambedkar College, New Delhi, Delhi 110094, India; E-mail: namanjassal99@gmail.com

ABSTRACT

Background
Academic stress is a mental distress originated from the anticipated frustration associated with academic failure. Whereas, emotional intelligence (EI) is a characteristic of an individual that determines the degree, and intensity with which they are able to understand and accept one's own emotions as well as that of others.

Aim and Objective
The broad aim of the present study was to investigate an empirical-based examination of the relationship among academic stress and EI in high school students. The objectives of the study were to ascertain if there exist any gender, family structure and single child differences between academic stress and EI.

Method
This study is based on a quantitative analysis of the data. To collect validated data, purposive sampling was taken from varied streams and family structure of the age group 16 to 18-years; with no gender disparity. Student Academic Stress Scale (SASS) and emotional intelligence test (EIT) were used in this research. The data obtained was further validated through statistical techniques of correlation and analysis of variance (ANOVA) methods.

Results
The results showed an inverse correlation between EI and academic stress in high school students. The study also revealed single child and family structure factors are associated with the level of EI and showed an impact on academic stress of high school students.

Keywords
Academic stress; Emotional intelligence; High school students; Family structure.

INTRODUCTION

Stress

Stress is a negative emotional experience associated with biochemical, physiological, cognitive, and behavioral changes that occur when a person tries to manage or deal with the stressors.[1] We perceive stress as an inescapable joint in our life that is equally valuable for everyone because without having some stress, we are lethargic and easygoing creatures. Stress is not always a "*bad thing*". It is subjective in interpretation. A stressor for some may not be stressful for someone else. For example, studying for an examination at the end moment may act as a motivator resulting in optimum stress levels for some students to study whereas, the same scenario may trigger anxiety which results in heightened stress for someone else rendering the student's inability to perform the simplest tasks. Some stressors may motivate us to change our behaviors and move us closer to our chosen goals, dreams, and aspirations. If we felt no stress, we would not be compelled to act in ways that bring about meaningful change.[2] Such a stressor that acts as a motivator, is called Eustress. It improves one's performance, drive and helps us in focusing our energy in the right direction. It helps us to believe in our capabilities and feels invigorating. Distress, on the other hand, are those stressors that are demotivating and displaces our energy. It causes anxiety, depression, worry, and concern; may also cause physical illness, mental health issues, and/or emotional depletion. It generally feels unpleasant and painful.

Distress, whether acute or prolonged, decreases the overall performance and abilities of an individual.

Academic Stress

Academic stress refers to the unpleasant psychological situations that mostly occur due to environmental factors, such as educational expectations from parents, teachers, peers, and family members, pressure for academic achievement, the burden of homework, etc. Academic stress is mental distress with respect to some anticipated frustration associated with academic failure or even an awareness of the possibility of such failure.[3] Student's interaction with the academic stress can be conceptualized by interaction with environmental stressors, cognitive appraisal and coping strategies of the academic related stressors, and psychological or physiological response to the stressors.[4] Students face a lot of academic pressure, for example, school examination, showing progress in school subjects, answering questions in class, working in tuition classes to score well, competing with other classmates, fulfilling teachers' and parents' academic expectations. Thus, managing these demands students, under this threat face stress, since the demand is to reach the goal of academic achievement.

Academic Stress among High School Students

Academic stress among students have long been researched, and the studies show stressors as too many assignments, failures and poor relationships, competitiveness among students, high expectations by parents and many more as mentioned above. Stressful events that occur in families, like divorce, intrapersonal conflicts or maternal depression can lead to stress in adolescents which deteriorates functioning.[5]

Paternal Support on a Child Facing Academic Stress

According to some studies, parents play a significant role in the cognitive, social and emotional development of their children. Their role develops socialization to cultural and societal norms and the morals inherited in their children built them to combat future difficulties.[6] Studies revealed that parents play a positive or negative influence on a child's academic aspirations and achievements. Molnar[7] reported that a parent's education and home environment influence a child's academic achievement and after not achieving them they are accused of being dull and lazy which induces a sense of inferiority among adolescents and sometimes the situation worsens in the form of mental disorders, depression, stress and even suicides.

Gender Differences in Stress

The concept of stress and its perception based on gender is a fascinating undertaking because findings of studies conducted regarding stress with references to gender are somewhat conflicting. For instance, in a study by Mishra et al,[8] it was revealed, "*that men and women differ in their perceptions and reactions to stress*" while Jogaratanam et al[9] found differences between male and female students to be significant when it came to the time pressure dimension of stress. Likewise, Sulaiman et al[10] found in their study that "*female students have different stress compared to male students, because may be female students*

tend to be more emotional and sensitive toward what is happening in their surroundings".

Emotional Intelligence

The skill to identify and articulate your own emotions while considering the emotions of others is called emotional intelligence (EI).[11] Emotional intelligence is generally said to include at least three skills: emotional awareness, or the ability to identify and name one's own emotions; the ability to harness those emotions and apply them to tasks like thinking and problem solving; and emotional regulation, which is the ability to manage emotions, which includes both regulating one's own emotions when necessary and helping others to do the same.

Emotional intelligence is the ability to determine, examine and analyze your emotions, and realize how your emotions are impacting people around you. It also involves your perception of others; how other people are feeling or expressing their emotions in a particular situation and allows you to mediate for a healthy relationship. However, various researchers have engaged themselves in finding relationships between EI and academic performance.[12,13] Results predict a positive relationship between EI and academic performance and other cognitive outcomes.[14]

Goleman's Competency Model for Emotional Intelligence: Daniel[15] focuses on EI as a wide array of competencies and skills that drive leadership performance and consists of five areas: self-awareness: it is an important trait of EI. People with high EI are usually more self-aware. These people understand their own strengths and weaknesses, and their impact on others. Self-regulation: people having high EI do not allow themselves to become pugnacious or petulant by others. They do not even make decisions in a hurry or careless manner, rather follow a more pragmatic way. Motivation: high emotional intelligent people are more self-motivated and are not amenable to other people. Empathy: this trait shows a helping nature to other people's concern. Social skills: high emotional intelligent people build a trustable relationship with others. They do not possess a prevaricate behavior, rather they are shown a venerated attitude by other people in their community/society.

Impact of Emotional Intelligence on Academic Performance

Currently, the concept of EI is having a considerable impact on every person's thoughts, relations and emotions, and a very significant influence on their decision making.[16] Some of the studies are, Influence of EI on Student's Academic Achievements; aim was to investigate a student's EI level and using the dimensional approach, to what extent EI influences students' academic achievements.[17] Another study explored the relationship of EI and creativity with academic achievement of second period high school students. This was a descriptive-correlational study. Results indicated a significant correlation between EI and academic achievement. There was also a significant and positive relationship between creativity and academic achievement. Additionally, no gender difference was found considering their academic achievement.[18]

HYPOTHESIS AND OBJECTIVES

The primary hypothesis of the study was to examine EI and how it relates to academic performance/stress. In the presence of the information gathered these are objectives:

Objective 1. There exists no relation between the academic stress of high school students with their EI.
Objective 2. There exists a gender disparity in the level of academic stress and EI.
Objective 3. There is no difference in the strength of relationship between EI and academic stress in the single child.
Objective 4. There is no significant relationship between academic stress in the joint family and nuclear family.

METHODOLOGY

Participants

Randomly a Delhi school was taken into account, where students were selected randomly from all the three streams i.e. science, commerce, and humanities respectively. A sample of 50 students was taken, 15 students from science stream, 15 students from commerce stream and 20 students from humanities stream. Purposive sampling type was used to gain the appropriate data for the research.

Design

In the present study 2×2 factorial design has been employed wherein gender was studied as an independent variable and academic stress and EI were studied as the dependent variables.

Tools

Student Academic Stress Scale (SASS) by Busari et al[19]: The SASS is a self-assessment scale which includes various domains such as environmental, cognitive, behavioural, and physiological that might impact the student's life in the form of a stressor (like academic work). The scale used a 5-point Likert scale. Higher scores indicate a greater stress response. The SASS produced allover significant reliability using Cronbach alpha for the overall SASS scale and subscales. All alphas were above 0.80. This indicates that the SASS is a reliable measure of academic stress response.

Emotional intelligence test: The EIT is a valid scale that measures EI by looking at the factors like motivation, empathy, self-awareness, and handling relationships. This scale measures the data using the Likert scale of five-point. In EIT, content validation and criterion validity were used. Construct validity was also used to make the test standardized.

Statistical Techniques

Mean, Standard Deviation, *t*-test (ANOVA) and correlation are employed to treat the raw scores and arrive at the result using SPSS Software.

RESULTS

Descriptive Statistics

Data is being presented in a tabular form in Table 1.

Table 1. *Descriptive statistics of Academic Stress and Emotional Intelligence*

	SASS	EIT
N (male)	25	25
N (female)	25	25
Mean	154.5200	217.7000
Std. Deviation	42.62712	36.39088
Age range	16-19	16-19

Characteristics of the Sample

Out of the 50 respondents, 50% of them were females, and 50% of them were males. The age group of respondents was between 16-18-years. The age group was constraint because the target sample was drawn from the high school students. Department/stream wise, 30% of respondents were from science stream, 30% of respondents were from commerce stream, and 40% of respondents were from humanities stream.

There exists no relation between the academic stress of high school students with their emotional intelligence: To determine if there was a relationship between EI and academic stress, the test of correlation was conducted (Table 2). The value of pearson correlation (r=-0.668) shows that there is a strong inverse relationship between EI and academic stress. If a respondent's EI is low then their academic stress is high and *vice-versa* ($p<0.05$).

Table 2. *Correlation between Academic Stress and Emotional Intelligence*

		SASS	EIT
SASS	Pearson Correlation	1	-0.668**
	Sig. (2-tailed)		0.000
	N	50	50
EIT	Pearson Correlation	-0.668**	1
	Sig. (2-tailed)	0.000	
	N	50	50

**Correlation is significant at the 0.01 level (2-tailed).*

Table 3. *Oneway analysis of Emotional Intelligence (EIT) and Academic Stress (SASS) by Gender*

		Sum of Squares	df	Mean Square	F	Sig.
EIT	Between Groups	1180.980	1	1180.980	0.890	0.350
	Within Groups	63709.520	48	1327.282		
	Total	64890.500	49			
SASS	Between Groups	4122.320	1	4122.320	2.330	0.133
	Within Groups	84914.160	48	1769.045		
	Total	89036.480	49			

*Openventio*

PUBLISHERS

There exist gender differences between academic stress and emotional intelligence: To explore the difference in the level of EI and academic stress between male and female high school students, ANOVA was run (Table 3). The One-way analysis was unable to reveal a statistical gender difference in male and female high school students. Hence, we did not observe a significant difference between male and female students for EI (EIT) (p=0.350; F(1)=0.890) or for academic stress (p=0.133; F(1)=2.330).

There is no difference in the strength of relationship between emotional intelligence and academic stress in the single child: To test this hypothesis ANOVA test was applied (Table 4). The results show that there is a significant difference between the strength of relationship between EI and academic stress in the single child (p<0.0001; F (df)=49) (Graph 1).

Table 4. *One way analysis of Emotional Intelligence (EIT) and Academic Stress (SASS) by Single Child*

		Sum of Squares	df	Mean Square	F	Sig.
SASS	Between Groups	47995.869	1	47995.869	56.135	0.000
	Within Groups	41040.611	48	855.013		
	Total	89036.480	49			
EIT	Between Groups	34023.787	1	34023.787	52.909	0.000
	Within Groups	30866.713	48	643.057		
	Total	64890.500	49			

Graph 1. *On x-axis-Single Child; YES and NO, On y-axis-Means of SASS, The Associated Correlation r value=0.735*
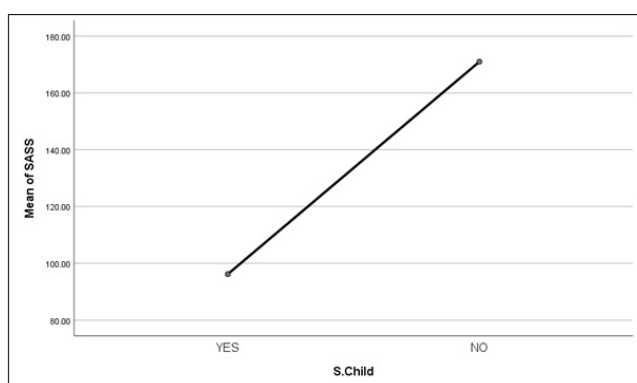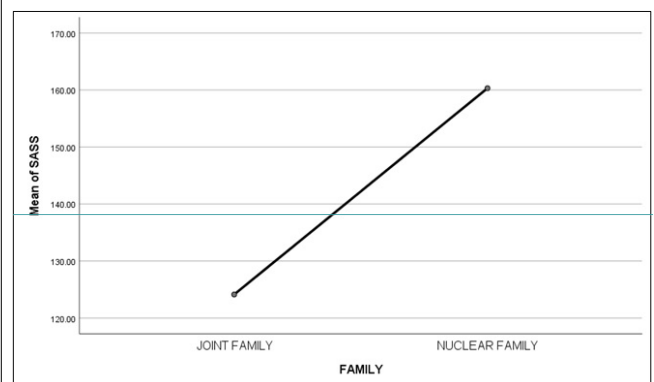

**This graphical representation is from the H3 (Hypothesis 3)

There is no significant difference between academic stress in the joint family and nuclear family: To test this hypothesis ANOVA test was employed after splitting the dataset into two groups of students having joint family and nuclear family. Table 5 shows that there partially existed a significant difference in the level of academic stress in students living in joint families and students living in nuclear families. Results show that there is a significant difference p=0.026; f=0.026; (df)=49 shows that a small relationship existed and the relationship was statistically significant (Graph 2).

Table 5. *Oneway analysis of Joint family and Nuclear family by Academic stress (SASS)*

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8798.629	1	8798.629	5.264	0.026
Within Groups	80237.851	48	1671.622		
Total	89036.480	49			

Graph 2. *On X-axis-Family (Joint Family and Nuclear Family) On Y-axis-means of SASS The Associated Correlation r value=0.026*

**This graphical representation is from the H4 (Hypothesis 4)

DISCUSSION

The results showed that there exists a strong relationship between EI and academic stress experienced by a high school student. We observed an inverse relationship showing that the level of EI is inversely proportional to the academic stress of a high school student. For example, if a student has high EI, that means s/he might have low academic stress. The study also explored gender differences, but results showed there were no significant differences between male and female students' EI score or academic stress scores. Besides gender differences there are two other factors that showed an influence on EI and academic stress, namely, respondents that are single children (one child in a family), and family dynamics (whether a child is brought up in a joint family or nuclear family).

The results showed that the majority of the respondents were not a single child in a family (single child in a family 28% and not a single child in a family 72%) and thus, it does have a significant influence in their level of EI and academic performance. It means a child raising up with siblings might have a social support that helps them in building up their capacity to be aware of, control, and express one's emotions, and at the same time handle interpersonal relationships empathetically. This child rearing with siblings helps them to build their EI that further assists them to comfortably handle their academic stress in schools. Similarly, results of the last hypothesis verify the academic stress of a child living in a joint family (35%) and nuclear family (65%). A statistically significant relationship was founded, and it states that nowadays

Openventio
PUBLISHERS

people prefer living in a nuclear family, that does have an impact on the child's upbringing. Children living in a nuclear family do not have many options for social support because most of the parents are employed. They do have to work to satisfy their family's financial needs, but most of them show an absence when there's a need for the child to have a social supporter around them, which ultimately lacks the child to build up his/her EI and that further affects their major life aspects.

LIMITATIONS

The results should be viewed cautiously as our population sample is limited to one high school in Delhi. However, given the strong correlations presented in this data, this study gives rise to future investigations across a broader population. The second limitation is cross-sectional research design because the data was collected from many different students at the same period of time. Thirdly, the sample collected was also limited and covered only high school students which consist of students from 11th and 12th classes. Thus, the study's result is restricted to a specified sample and not reviewed on a general population. Finally, the questionnaires were very lengthy and took a long time to be filled by the respondents. In our study, the response rate was good. Every student had fully marked the answers, but while coming to the end it became tedious.

SUGGESTIONS FOR FUTURE RESEARCH

In this research study-cross sectional design was used, therefore future research needs to observe the long-term effects or longitudinal effects of emotional and social competency on academic success. Further research should also observe other factors that influence academic stress taking EI as an independent variable, like in this study single child and child family rearing are the factors that showed their influence on EI and academic stress. Future research can also observe how much respondents are aware about their EI and how many schools do provide educational awareness about it.

CONCLUSION

The practical analysis of this study for academia is numerous. For preparing students to cope with stress several stress management techniques are used. Therefore, every school should take some stress management classes for students. These sessions can help students to learn the cognitive, social, and emotional competencies but these competencies are not developed through lectures and discussion, we have to put prime emphasis on theory-based knowledge. Students should know some basic knowledge and skills that will help them to become outstanding or achievable academic performers and comfortable in adapting effective leadership skills.

DECLARATIONS

Not applicable.

ACKNOWLEDGEMENT

This study has been approved by the Institutional Review Board

(IRB).

AVAILABILITY OF DATA AND MATERIAL

Data generated during the study are subject to a data sharing mandate and available in a public repository that does not issue datasets with DOIs.

CONFLICTS OF INTEREST

The author below certify that he has NO affiliations with or involvement in any organization or entity with any financial interest (such as honoraria; educational grants; participation in speakers' bureaus; membership, employment, consultancies, stock ownership, or other equity interest; and expert testimony or patent-licensing arrangements), or non-financial interest (such as personal or professional relationships, affiliations, knowledge or beliefs) in the subject matter or materials discussed in this manuscript.

REFERENCES

1. Bernstein DA, Penner LA, Stewart AC, Roy EJ. *Psychology*. 8th ed. New York, USA: Houghton Mifflin Company Boston; 2008.

2. Davidson RJ, Schwartz GE. Psychobiology of relaxation and related states. In: Mostofsky D, ed. *Behavior Modification and Control of Physiological Activity*. Englewood Cliffs, NJ, USA: Prentice Hall; 1976: 399-442.

3. Gupta K, Khan BN. Anxiety level as a factor in concept formation. *J Psychol Reports*. 1987; 31: 187-192.

4. Mire R, McKean M. College student's academic stress and its relation to their anxiety, time management and leisure satisfaction. *American Journal of Health Studies*. 2000; 120(1): 41-51.

5. Forehand R, Wierson M, Thomas AM, Armistead L, Kempton T, Neighbors B. The role of family stressor and parent relationships on adolescent functioning. *Journal of the American Academy of Child and Adolescent Psychiatry*. 1991; 30(2): 316. doi: 10.1097/00004583-199103000-00023

6. Miller P, Goodnow J. Cultural practices: Toward an integration of culture and development. In: Goodnow J, Miller P, Kissel F, eds. *Cultural Practices as Contexts for Development*. San Francisco, CA, USA: Jossey Bass; 1995.

7. Molnar P. Social and personality conditions of students' requests to continue studies in higher education. *Magyar Psychological Szemle*. 1979; 225-237.

8. Misra R, Castillo LG. Academic stress among college students: Comparison of American and International Students. *International Journal of Stress Management*. 2004; 11(2): 132-148. doi: 10.1037/1072-5245.11.2.132

9. Jogaratnam G, Buchanan P. Balancing the demands of school and work: Stress and employed hospitality students. *International Journal of Contemporary Hospitality Management.* 2004; 16(4): 237-245. doi: 10.1108/09596110410537397

10. Sulaiman T, Hassan A, Sapian VM, Abdullah SK. The level of stress among students in urban and rural secondary schools in malaysia. *European Journal of Social Sciences.* 2009; 10(2): 179-184.

11. Brackett M, Katella N. Emotional intelligence in the classroom: Skill based training for teachers and students. *Journal of Emotional Intelligence.* 2007; 8(2): 1-28.

12. Brackett MA, Rivers SA, Salvoes P. Emotional intelligence: Implications for personal, social, academic and workplace success. *Social and Personality Psychology.* 2011; 10: 88-103. doi: 10.1111/j.1751-9004.2010.00334.x

13. Bronzes A, Militia P. Association between emotional intelligence, socio- emotional adjustment and academic achievement in childhood: The influence of age. *Canadian Journal of School Psychology.* 2014; 29(2): 83-99. doi: 10.1177/0829573514521976

14. Malik SZ, Shahid S. Effect of emotional intelligence on academic performance among business students in pakistan. *Bulletin of Education and Research.* 2016; 38: 197-208.

15. Daniel G. What makes a leader? Harvard business review. New York, USA: Bantam Books; 1998.

16. Nasir M, Masrur R. An exploration of emotional intelligence of the students of IIUI in relation to gender, age and academic achievement. *Bulletin of Education and Research.* 2010; 37-51.

17. Seng NL, Hanafi Z, Taslikhan M. Influence of emotional intelligence on students' academic achievements. *International Journal of Humanities and Social Science Research.* 2016: 2(3): 41-46.

18. Hossein J, Shahidi R, Elhamifar A, Khademi H. Examine the relationship of emotional intelligence and creativity with academic achievement of second period high school students. *World Journal of Neuroscience.* 2015; 5(4): 275-281. doi: 10.4236/wjns.2015.54025

19. Eniola SM, Busari AO. Emotional intelligence in promoting self-efficacy of the visually impaired fresh students of federal college of education (Special) Oyo, Nigeria. *The Social Sciences.* 2007; 2: 152-155.