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Impact of Gender and Type of School on Academic Achievement and Stress among Secondary School Students

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ABSTRACT

Every person who advances in life experiences a variety of shifts and turning points, and "stress" always seems to be a part of the process. Adolescents are especially susceptible to the idea of stress since they are going through both personal and social changes. Academic achievement is impacted by a number of factors, stress included.

Objective of the study: This study was conducted to examine the impact of gender and type of school on academic achievement and stress among secondary school students. Further, this study also focused to study relationship between academic achievement and stress of adolescent students.

Research methodology: The sample of the study consisted of 100 adolescent students including 50 boys and 50 girls selected randomly from schools (Govt. and Private) of Amritsar city only. Data were collected using the Stress Scale by (Lakshmi & Narain; 2014) and marks achieved by students in their previous final examination were considered.

Findings: The findings show that students attending private secondary schools outperform those attending public secondary schools in terms of academic success. Further, females have greater stress levels than pupils who are male on all dimensions i. e. Pressure, Physical stress, Anxiety and Frustration. The results also revealed that there are no appreciable differences in stress levels between secondary school pupils attending public and private institutions. Additionally, a significant and negative relationship between stress and secondary school pupils' academic success was found.

Practical Implications: On the basis of the findings it is suggested that there is a need of improving facilities in government schools and also to enhance the motivation of secondary school male students, so that their academic achievement improves which in turn would help in reducing stress among students. Similarly for female students there is a need of incorporating coping strategies, life skills strategies, workshops on yoga and meditation in the curriculum to help them to manage stress related issues.

Originality/Value: - This research is of great value to the curriculum developers, administrators, educationists and teachers as it pinpoints stress as a major factor for low academic performance and making it imperative for them to integrate stress managing strategies in the curriculum.

Introduction

Academic achievement is a direct reflection of a student's learning, cognitive development, and intellectual progress. The achievement of success or performance in a particular topic, field of study, or course; generally, the consequence of abilities, diligence, and enthusiasm; often summarized in a range of grades, marks, scores, or explanatory notes (Hawes & Hawes; 1982). Academic achievement is the sum of all the knowledge acquired after the completion of a course of study, especially the score on an achievement exam (Kumari, 2001). Academic achievement plays a significant role in a person's success in life. It is a complex phenomenon that depends on a number of factors, including an individual's intelligence quotient (IQ), knowledge depth, attention span, memory capacity, study habits, concentration, structural and functional factors in the college and home environments, the learning arts, exam-taking strategies, mental stability, and anxiety levels, among others (Kocak, Goksu, & Goktas; 2021).

In present days, mental stress has been increasing among the school students. Any demand placed on the body, whether internal or external, causes stress (Dusselier, Wang, Shelly & Whalen, 2005). According to Bernstein, Wakefield, and Loftus (2008), stress is characterized as an adverse physiological, behavioral, cognitive, and emotional process that results from an individual's attempt to manage or react to stressors. Stressors are referred as situations that interfere or threaten to interfere with an individual's ability to go about their daily life and require them to make changes (Auerbach & Grambling, 1998). According to Vermunt and Steensman (2005), stress is the awareness of a discrepancy between the expectations placed on an individual by the environment, or stressors, and their ability to meet these demands. If students experience significant stress or view it adversely, they will suffer both physically and psychologically. Students can reduce stress by engaging in leisure activities, managing their time effectively, getting social support, and

having a positive self-perception (Murphy & Archer, 1996). Academic settings are particularly stressful because of the time constraints and the pressure to perform well on exams or tests. (Erkutlu & Chafra, 2006).

Review of related literature

According to Dixit (1985), girls outperformed boys in terms of academic achievement. Students who reported higher levels of stress also had significantly more physical health problems and were less satisfied with their academic performance, according to Demakis and McAdams (1994). Because they have to study for exams, compete for class honors, and absorb a lot of information in a short period of time, students can occasionally experience high levels of academic stress during each semester (Rawson, Bloomer, & Kendall, 1999). Piekarska (2000) noted that frequent and powerful factors are crucial in the development of stress such as psychological and personality traits. Family environment appeared as a strong predictor of achievement in the case of Indian rural kids (Basanita & Mukhopadhaya; 2001). Stressful life events have been connected to low health-related quality of life, stress, and poor academic performance in college students (Dusselier et al., 2005; Misra & McKean, 2000). There is a strong inverse correlation between secondary students' academic performance and stress.(Dwyer & Cummings, 2001; Bankston & Zhou; 2002; Elias, Ping, & Abdullah; 2011; Kumari & Gartia; 2012; Jassal, 2012; Sathish & Subramanian; 2021). Higher levels of stress among students indicated a poor level of overall adjustment which led to a lower grade point average (Wintre & Yaffe; 2000). No gender differences in stress levels of secondary school students were existed (Eweniyi, 2009); while significant gender differences were reported in stress by Jogaratnam & Buchanan (2004), Misra & Castillo (2004); Moreover boys experience more stress that girls (Porwal & Kumar; 2014). No gender difference in academic achievement of secondary school students was found (Bankston & Zhou; 2002; Eweniyi, 2009). Bisson (2017) reported that stress and depression negatively affect the academic performance of students. A significant gender difference in stress levels of students studying in government and private schools (Dangwal, Dhoudiyal, & Joshi, 2021). There is a significant difference in academic stress between male and female students, with females experiencing higher stress, according to Kumari & Singh's (2022) examination of the differences in the level of academic stress experienced by senior secondary school students based on their gender, type of school, and subject stream. They also revealed that there is no significant difference in stress levels among students from different school types (private, government, missionary) or among students in science, arts, and commerce streams. A study on gender stereotypes of female teenagers in secondary school settings was carried out by Jin (2023). The results show how important it is for parents, teachers, and the media to encourage male and female students in all subject areas.

Research Objective:

To examine the impact of gender and type of school on academic achievement and stress among secondary school students

To study relationship between academic achievement and stress of adolescent students

Hypotheses

1. There is no significant gender difference in the academic achievement of secondary school students.
2. There is no significant difference in secondary school students' academic achievement based on their type of school.
3. There is no significant gender difference in the stress levels of secondary school students.
4. There is no significant difference in secondary school students stress levels based on their type of school.
5. There is no significant relationship between secondary school students' stress levels and their academic achievement.

Research Methodology

The present study falls under the domain of descriptive research. The survey method was employed in this study.

- Study Sample: A random sample of 100 adolescent students from Amritsar city's government and private schools—50 males and 50 females—was chosen to participate in the study.
- **Tools Used:**

I. Stress Scale developed by (Lakshmi & Narain; 2014) was used. This scale consists of 40 items which measure the following four dimensions: Pressure, Physical stress, Anxiety and Frustration.

II. The grades students received on their previous final test were taken into consideration in order to obtain information about their academic achievement.

Analysis and Interpretation of data

I. Analysis of Academic Achievement Scores on the basis of gender and type of school

For the comparison of academic achievement of secondary school students, Mean, SD, and t-value were computed for gender (male and female) and type of school (government & private):

Table 1: Showing Mean, S.D and t-value of Academic Achievement Scores on the basis of gender and type of school

Category		**N**	**Mean**	**SD**	**t-value**
Gender	Male	50	72.90	13.66	0.33
	Female	50	71.95	15.01	
Type of School[1]	Government	34	64.59	13.41	4.26
	Private	66	76.46	13.07	

According to the results in Table 1, the mean and standard deviation for male students is 72.90 and 13.66, while the mean and standard deviation for female students is 71.95 and 15.95. It is discovered that the t-value is 0.33, which is not significant. It follows that there is no significant gender difference in the academic achievement of secondary school students. Therefore, the null hypothesis 1, which states that 'there is no significant gender difference in academic achievement secondary school students' is not rejected. According to the results in Table 1, students enrolled in government schools have a mean and standard deviation of 64.59 and 13.41, whereas those enrolled in private schools have a mean and standard deviation of 76.46 and 13.07. It is discovered that the t-value is 4.26, significant at the 0.01 confidence level. As a result, it is evident that adolescents' academic achievement varies significantly depending on the type of school. Moreover, academic achievement is higher in private schools than in government schools for students. As a result, the null hypothesis 2, which states that there is a significant difference in secondary school students' academic achievement depending on the type of school, is rejected.

II. Analysis of Stress Scores on the basis of gender

For the comparison of stress of secondary school students, Mean, SD, and t-value were computed for gender (male and female):

Table 2: Showing Mean, S.D and t-value of Stress Scores of male and female students

Variable	**Gender**	**N**	**Mean**	**SD**	**t-value**
Pressure	Male	50	6.84	1.29	13.10
	Female	50	9.78	0.91	
Physical stress	Male	50	1.82	0.66	9.85
	Female	50	3.12	0.65	
Anxiety	Male	50	6.38	1.21	9.65
	Female	50	8.92	1.41	
Frustration	Male	50	4.56	1.24	10.96
	Female	50	7.12	1.08	
Total	Male	50	19.60	2.28	21.30
	Female	50	28.94	2.09	

According to Table 2 results, male students' Mean and S.D. for pressure scores (a dimension of stress) are 6.84 and 1.29, whereas female students are 9.78 and 0.91. It is discovered that the t-value is 13.10, significant at the 0.01 confidence level. Male students' mean and standard deviation for their physical stress scores (a measure of stress) are 1.82 and 0.66, while female students' mean and standard deviation are 3.12 and 0.65. At the 0.01 level of confidence, the t-value, which is 9.85, is considered significant. Male students' mean and standard deviation for their anxiety scores (a dimension of stress) are 6.38 and 1.21, while female students' mean and standard deviation are 8.92 and 1.41. It is found that the t-value is 9.65, significant at the 0.01 confidence level. Male students' mean and standard deviation of their frustration scores (a measure of stress) are 4.56 and 1.24, while female students' mean and standard deviation are 7.12 and 1.08. It is discovered that the t-value is 10.96, significant at the 0.01 confidence level. Consequently, it is evident that male and female students experience stress in very different ways (all four dimensions). The mean scores clearly show that female students are more stressed than male students. As a result, the null hypothesis 3, which states that there is a gender difference in the stress levels of secondary school students, is rejected.

III. Analysis of significance of Stress scores on the basis of type of school

For the comparison of stress of secondary school students, Mean, SD, and t-value were computed for type of school (government & private):

[1] Total schools selected =100, total sample size=100. It means one respondent is taken from one school. But one candidate can not represent the whole school. How your sample size is relevant.

Table 3: Showing Mean, S.D and t-value of stress scores government and private school students

Variable	Gender	N	Mean	SD	t-value
Pressure	Government	34	8.79	1.57	1.90
	Private	66	8.06	1.94	
Physical stress	Government	34	2.62	1.01	1.15
	Private	66	2.39	0.87	
Anxiety	Government	34	7.88	2.10	0.91
	Private	66	7.53	1.67	
Frustration	Government	34	6.00	1.63	0.66
	Private	66	5.73	1.78	
Total	Government	34	25.29	5.45	1.42
	Private	66	23.74	4.98	

According to Table 3 results, students studying in government schools have Mean and S.D. of Pressure scores (a dimension of stress) is 8.79 and 1.57, while those enrolled in private schools have Mean and S.D. Pressure scores of 8.06 and 1.94. As 1.90 is the t-value, it is not significant at the 0.01 confidence level. Students attending government schools have mean and standard deviations for physical stress scores (dimension of stress) of 2.62 and 1.01, while students attending private schools have mean and standard deviations of 2.39 and 0.87. As 1.15 is the t-value, it is not significant at the 0.01 confidence level. Students attending government schools have mean and standard deviation of anxiety scores (dimension of stress) of 7.88 and 2.10, while those attending private schools have mean and standard deviation of 7.53 and 1.67. At a confidence level of 0.01, the t-value of 0.91 is not significant. Students attending government schools have a mean and standard deviation of 6.00 and 1.63 for the frustration scores (a stress dimension); students attending private schools have a mean and standard deviation of 5.73 and 1.78. The 0.66 t-value is found to be not significant at the 0.01 confidence level. It follows that there is no significant difference between students attending government secondary schools and those attending private ones in terms of stress (all four dimensions). As a result, the null hypothesis 4, which states that there is no significant difference in secondary school students' stress levels based on their type of school, is rejected.

IV. Analysis of Relationship between Stress and Academic Achievement

To examine the relationship between academic achievement and stress among secondary school students, Pearson Correlation Coefficient was calculated:

Table 4: Relationship between Academic Achievement and Stress

Variable	Pearson Correlation Coefficient (r)
Stress	-.80
Academic Achievement	

At the 0.01 confidence level, the correlation coefficient between secondary school students' academic achievement and stress is -.80, indicating statistical significance. This indicated that academic achievement increases among the students if they possess low level of stress. Thus, the null hypothesis 5, "There exists no significant correlation between stress and academic achievement of secondary school students", is rejected.

Discussion and Conclusions

This study aimed at exploring the academic achievement and stress of adolescent students with respect to their gender and type of school. The analysis of academic achievement of male and female secondary school students revealed that gender has no impact on academic achievement. This result coincides with the result reported by Bankston & Zhou (2002) and Eweniyi (2009).The analysis of academic achievement of adolescent students studying in government and private schools revealed that the government school students have lower academic achievement in comparison to private school students. This could be because of the poor functioning mechanism, inadequate infrastructure resources and unregulated environment. The gender differences on the various dimensions of Stress viz. pressure, physical stress, anxiety and frustration was found. This result coincides with the result reported by Jogaratnam & Buchanan (2004). Furthermore, females have higher level of stress in comparison to male students. The important factors for higher stress in females are social stress, emotional and family stress, as females experience less freedom and autonomy than males (Mishra, Singh, Maravi, & Verma; 2023). Further, the study revealed significant negative correlation between stress and academic achievement. The findings of this study are in line with Dwyer & Cummings, 2001; Bankston & Zhou; 2002; Elias, Ping, & Abdullah; 2011; Kumari & Gartia; 2012; Jassal, 2012; Sathish & Subramanian; 2021. In order to reduce stress among school students, counselling cells must be developed in every school and counsellors may develop intervention programmes keeping these findings into their consideration to deal with issues.The teachers are also required to understand their role in facilitating the stress-free environment in the classrooms. Students with stress should be identified and for alleviation of their pressure group therapy should be organized to reduce the pressure. The finding of study support the need to introduce the structured stress management program, awareness camps on mental health and hygiene, seminars and conferences on developing coping strategies for school students.

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