

Relationship Between Academic Stress and Self-Regulated Learning Among Secondary School Students

Kurmapu Madhuri

Principal Vignan Steel City Public School Duvvada Visakhapatnam Andhra Pradesh, India

Abstract: *Academic stress is an important concern among secondary school students, as they may experience academic demands, examinations, competition and expectation from parents and teachers. At the same time self-regulated learning plays an important role in helping students plan, monitor and regulate their learning activities. Studying academic stress and self-regulated learning, helps the psychologists, educators and students understand how to transform academic stress into mental resilience, enhanced focus and peak performance. The research aimed to determine the interplay between academic stress and self-regulated learning among the secondary school students. The study employed a quantitative, correlational design and drew its samples from 100 secondary school students in class IX and X. Data collection was carried out utilizing two primary instruments, Academic Stress Scale (ASS) and Self-Regulated Learning Scale. (SRLS). By using Pearson's Product Moment correlation coefficient, the relationship between academic stress and self-regulated learning was determined. The data indicated a negligible inverse correlation between academic stress and self-regulated learning with a correlation coefficient of -0.079. however, the relationship was found to be statistically non-significant ($p=0.432$). The results demonstrate that there was no noticeable correlation between academic stress and self-regulated learning.*

Keywords: Academic Stress, Self-Regulated Learning, psychologists, correlational design, coefficient

1. Introduction

Education plays a pivotal role in the holistic development of individuals by equipping them with the knowledge, skills, values, and competencies required to lead productive and meaningful lives. It is also important to note that a child's ability is significantly influenced by psychological, emotional, and behavioural factors. Students today encounter numerous academic demands, including examinations, assignments, competitive expectations, parental aspirations, peer comparison, and career – related uncertainties. While these challenges can motivate students to strive for excellence, they may also create substantial psychological pressure, resulting in academic stress.

Academic stress has emerged as one of the most significant concerns among school – going adolescents. The secondary school stage is primarily important because it experiences a time where there is rapid physical growth, change in emotional behavior, cognitive and social development. During this phase, students are expected to adapt to increasing academic responsibilities while simultaneously coping with developmental changes. When academic demands exceed an individual's perceived ability to manage them effectively, stress may arise. Excessive academic stress can adversely affect student's emotional well-being, learning behaviour, motivation, academic performance, decision-making ability, and overall quality of life.

However, not all students respond to academic stress in the same manner. Some students successfully organize their learning, regulate their emotions, manage their time efficiently, and adopt effective learning strategies despite experiencing academic challenges. Such adaptive behaviours are closely associated with self – regulated learners are generally more independent, motivated, resilient, and capable of overcoming academic difficulties.

Self-regulated learning has gained considerable importance in educational psychology these days because it emphasizes their own role in managing their own learning process. Students possessing higher levels of self-regulated learning are better equipped to cope with academic demands, utilize appropriate learning strategies, maintain motivation, and effectively manage stress. Consequently, self-regulated learning is considered one of the key competencies required for academic success in the twenty-first century.

The connection of academic stress and self-regulated learning has attracted an increasing attention among educational researchers. Although academic stress is an unavoidable aspect of students' educational experiences, its impact may vary depending upon the learner's ability to regulate their own learning behaviour. Understanding the relationship between these two psychological constructs is therefore essential for educators, school counsellors, parents, and policy makers who seek to promote students' academic achievement and psychological well-being.

In the Indian educational context, secondary school students experience frequent academic pressure due to examinations, parental expectations, curriculum demands, and competition for higher education opportunities. Despite the growing recognition of academic stress and self-regulated learning as important determinants of student success, relatively few studies have comprehensively examined their relationship among secondary school students. This highlights the need for systematic research to understand how these variables interact within the school environment.

Therefore, the present study entitled "Relationship between Academic Stress and Self-Regulated Learning among Secondary School Students" has been undertaken to examine the relationship between these two variables and to contribute to a better understanding of students' academic and

psychological functioning. The findings of this study is expected to provide valuable insights for teachers, school administrators, counsellors, parents, and educational planners in developing appropriate interventions to reduce academic stress and promote effective self-regulated learning among adolescents.

2. Objective

To examine the relationship between academic stress and self-regulated learning among the secondary school students.

3. Methodology

The present study follows descriptive- correlational research design. The descriptive part of the design helps the research to understand the levels of academic stress and self-regulated learning among secondary school students. The correlational part helps to examine whether there is a relationship between academic stress and self-regulated learning. The study also compares the academic stress and self-regulated learning of the students of class IX and X. This design is suitable for the present study because the researcher studies the variables as they naturally occur without making any changes.

The study consisted of 100 secondary school students studying in Class IX and X. For selecting the participants, the study uses the Convenience Sampling Techniques. Based on the availability and accessibility for participation in the study, the secondary school students of class IX and X from Green City English Medium School were selected. The participants were included based on their willingness and the predetermined criteria of research.

The study employed two standardized assessment tools to collect data from the participants. The first tool was used to assess academic stress while the second tool was used to assess self-regulated learning. The tools were selected based on their relevance to the variables under investigation and were administered to the secondary school students as per the instructions

The Academic Stress Scale (ASS) developed by Ghoshal and Banerjee is used to assess the level of academic stress among the secondary school students. The scale measured academic stress related to workload, examinations, Parental expectations, competition and other school-related demands.

The Self-Regulated Learning Scale developed by Gupta and Mahtani was used to assess the self-regulated learning of secondary school students. The scale measures students' ability to plan, monitor, regulate and evaluate their learning process in relation to their academic goals. According to the instructions provided in the test manual, the scale was administered and the responses were generated according to the according to the prescribed scoring procedure. The scale covers dimensions such as self-awareness, planning and goal setting, self-control, self-modification and self-motivation.

Under suitable consistent conditions the two psychological tools were administered to the selected students. The researchers classified the instructions and attended to any procedural doubts raised by the students without influencing

their responses. After completing the questionnaires, the response sheets were collected and checked for completeness. The data obtained was aligned systematically, recorded and prepared for statistical analysis.

4. Statistical Analysis

Descriptive statistics such as frequency, percentage, mean and standard deviation were used to summarize the data obtained from the participants and to describe the levels of academic stress and self-regulated learning Pearson Product-Moment Correlation coefficient (r) was used to examine the relationship between academic stress and self-regulated learning among secondary school students. This statistical technique was used for testing the first null hypothesis (H_01)

The independent sample t-test was used to examine the difference between class IX and X students in academic stress and self-regulated learning. The test was used for testing hypothesis two and three (H_02 and H_03). The level of statistical significance for testing the hypothesis was set as 0.05.

Descriptive Statistics

Descriptive statistics were used to summarize and describe the data obtained from the participants. In the present study descriptive statistics were calculated for the two variables, academic stress and self-regulated learning. To describe the scores obtained from the participants, the mean and the standard deviation were used.

Descriptive Statistics of Academic Stress and Self-Regulated Learning

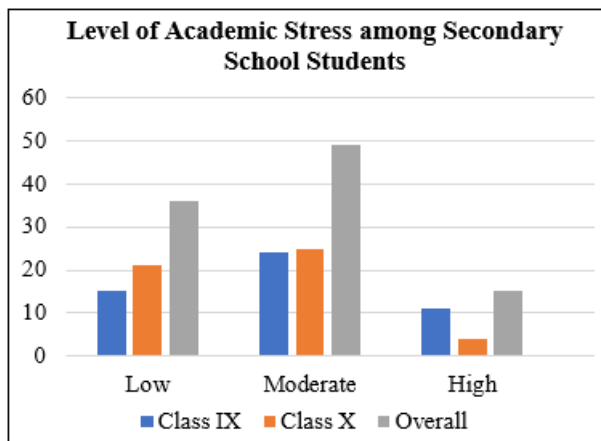
Variable	N	Minimum	Maximum	Mean	SD
Academic Stress	100	41	77	57.68	8.82
Self-Regulated Learning	100	64	209	164.08	28.14

N= Number of Participants; SD= Standard Deviation

Table 1 present the descriptive statistics for academic stress and self-regulated learning among the 100 secondary school students. The mean and the standard deviation indicate the central tendency and variability of the scores obtained by the participants. The academic stress scores ranged from 41 to 77 with a mean of 57.68 and a standard deviation of 8.82. The self-regulated learning scores ranged from 64 to 209 with a mean of 164.08 and standard deviation of 28.14. These findings provide an overall description of the scores obtained for the two major variables included in the study.

Level of Academic Stress among Secondary School Students

Academic Stress Level	Class IX (n=50)	Class X (n=50)	Overall (N=100)
Low	15 (30%)	21 (42%)	36 (36%)
Moderate	24 (48%)	25 (50%)	49 (49%)
High	11 (22%)	4 (8%)	15 (15%)
Total	50 (100%)	50 (100%)	100 (100%)

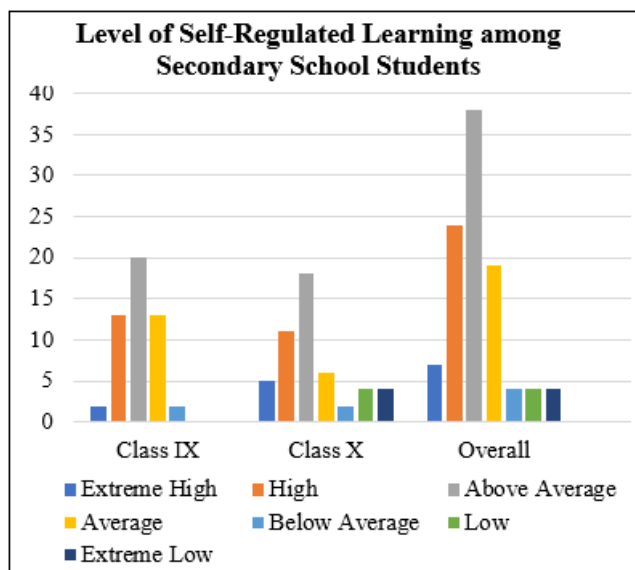


The table shows the level of academic stress among the secondary school students. Out of 100 students, 36 students (36%) had low academic stress, 49 students has moderate academic stress, and 15 students (15%) had high academic stress. The findings indicate that the largest proportion of students belonged to the moderate academic stress category. The overall mean academic stress was 57.68 with a standard deviation of 8.65.

4.3 Analysis of Self-Regulated Learning

Table 4.2: Level of Self-Regulated Learning among Secondary School Students

Self-Regulated Learning Level	Class IX (n=50)	Class X (n=50)	Overall (N=100)
Extreme High	2 (4%)	5 (10%)	7 (7%)
High	13 (26%)	11 (22%)	24 (24%)
Above Average	20 (40%)	18 (36%)	38 (38%)
Average/ Moderate	13 (26%)	6 (12%)	19 (19%)
Below Average	2 (4%)	2 (4%)	4 (4%)
Low	0 (0%)	4 (8%)	4 (4%)
Extremely Low	0 (0%)	4 (8%)	4 (4%)
Total	50 (100%)	50 (100%)	100 (100%)



The table shows the level of self-regulated learning among the secondary school students. Out of 100 students, 7 students (7%) had extremely high self-regulated learning 24 students (24%) had high self-regulated learning, and 38 students (38%) had above average self-regulated learning. Further 19

students (19%) had average or moderate self-regulated learning, while 4 students (4%) each had below average, low and extremely low self-regulated learning. The findings show that the largest proportion of students belongs to the above average category of self-regulated learning. The overall mean SRLS score was 164.08, with a standard deviation of 26.18.

4.4 Relationship between Academic Stress and Self-Regulated Learning

Table 4.3: Relationship between Academic Stress and Self-Regulated Learning

Variables	N	Pearson's r	p-value	Significance level
Academic Stress and Self-Regulated Learning	100	-0.079	0.432	0.05

Interpretation

The table shows the relationship between academic stress and self-regulated learning among secondary school students. The Pearson Product-Moment Correlation Coefficient was found to be -0.079 with a p-value of 0.432, since the p-value was greater than the 0.05 level of significance, the relationship between academic stress and self-regulated learning was not statistically significant. Therefore, the null hypothesis stating that there is no significant relationship between academic stress and self-regulated learning among secondary school students is retained.

4.5 Comparison of Academic Stress between Class IX and Class X students

Table 4.4: Comparison of Academic Stress between Class IX and Class X students

Group	N	Mean	SD	t- value	df
Class IX	50	59.48	8.90	2.075	98
Class X	50	55.88	8.44	--	--

Interpretation

The table shows the comparison of academic stress between class IX and class X students. The mean academic stress score of class IX students was 59.48 with a standard deviation of 8.90, whereas the mean score of class X students was 55.88 with a standard deviation of 8.44. The obtained t-value was 2.075 with 98 degrees of freedom and the p-value was 0.041. Since the p-value is less than the 0.05 level of significance, the difference in academic stress between class IX and class X students is statistically significant. Therefore, the null hypothesis stating that there is no significant difference in academic stress between class IX and X students is rejected.

4.6 Comparison of Self-Regulated Learning between Class IX and X Students

Table 4.5: Comparison of Self-Regulated Learning between Class IX and X Students

Group	N	Mean	SD	t- Value	df
Class IX	50	168.84	16.59	1.708	98
Class X	50	159.32	35.75	-	-

The table shows the comparison of self-regulated learning between class IX and X students. The mean self-regulated learning score of class IX students was 159.32 with a standard

deviation of 37.75. The obtained t-value was 1.708 with 98 degrees of freedom and the p-value was 0.091. Since the p-value was greater than the 0.05 level of significance, the difference in self-regulated learning between class IX and X students is not statistically significant. Therefore, the null hypothesis stating that there is no significant difference in self-regulated learning between class IX and X students is retained.

The findings of the present study were based on the data obtained from 100 secondary school students studying in Class IX and X. The study examined two major variables, namely academic stress and self-regulated learning and further investigated the relationship between these variables.

The first objective of the study was to assess the level of academic stress among secondary school students. The descriptive analysis indicated that the majority of the secondary school students experienced a moderate level of academic stress. Out of the total 100 students, 49 students (49%) were found to have moderate academic stress, while 36 students (36%) had low academic stress and 15 students (15%) had high academic stress. The overall mean academic stress score was 57.68 with a standard deviation of 8.82. The findings suggest that academic stress was present among the students at varying levels, with moderate academic stress being the most commonly observed level in the present sample.

The second objective of the study was to assess the level of self-regulated learning among secondary school students. The findings of the present study indicate that the largest proportion of the secondary school students had an above-average level of self-regulated learning. Out of the total 100 students, 38 students (38%) were in the above-average category, followed by 24 students (24%) in the high category and 19 students (19%) in the average/moderate category. A smaller proportion of students were found in the below-average, low, and extremely and extremely low categories. The overall mean self-regulated score was 164.08 with a standard deviation of 28.14. These findings indicate that the students in the present sample generally demonstrated above-average self-regulated learning.

The third objective was to examine the relationship between academic stress and self-regulated learning. The findings of the present study show that there was a very weak negative relationship between academic stress and self-regulated learning among secondary school students. The Pearson Product-Moment Correlation Coefficient was found to be -0.079, with p-value of 0.432. Since the p-value was greater than the 0.05 level of significance, the relationship was not statistically significant. Therefore, the findings indicate that academic stress and self-regulated learning were not significantly related in the present sample.

The findings of the present study revealed a statistically significant difference in academic stress between Class IX and Class X students. The mean academic stress score of Class IX students was 59.48, whereas the mean score of Class X students was 55.88. The obtained t-value was 2.075 with 98 degrees of freedom and the p-value was 0.041, which was less than the 0.05 level of significance. Therefore, the

difference in academic stress between the two groups was statistically significant. In the present sample, class IX students had a higher mean academic stress score than class X students.

The findings of the present study reveal that there was no statistically significant difference in self-regulated learning between Class IX and Class X students. The mean self-regulated learning score of Class IX students was 168.84, whereas the mean score of Class X students was 159.32. The obtained t-value was 1.708 with 98 degrees of freedom and the p-value was 0.091, which was greater than the 0.05 level of significance. Therefore, the difference in the self-regulated learning between Class IX and Class X students was not statistically significant.

5. Conclusion

The present study was conducted to examine the relationship between academic stress and self-regulated learning among secondary school students. Based on the findings of the study, it can be concluded that the students experienced academic stress at different levels with moderate academic stress being the most commonly observed level. The students also demonstrated varying levels of self-regulated learning, with above-average self-regulated learning being the most commonly observed level in the present sample.

The findings of the study showed that there was a very weak negative relationship between academic stress and self-regulated learning among the students. However, this relationship was not statistically significant. Therefore, within the present sample, academic stress and self-regulated learning were not found to have a significant relationship. This indicates that variations in academic stress were not significantly associated with variations in self-regulated learning among the students included in the study.

The study also revealed a statistically significant difference in academic stress between Class IX and Class X students, with Class IX students having higher mean academic stress score than class X students. However, no statistically significant difference was found in self-regulated learning between the two classes. Thus, the findings indicate that the two groups differed significantly in academic stress in the present sample, whereas their levels of self-regulated learning did not differ significantly.

References

- [1] Ang, R. P., & Huan, V. S. (2006). Academic expectations stress inventory: Development, factor analysis, reliability, and validity. *Educational and Psychological Measurement*, 66(3), 522–539.
- [2] Bai, B., & Wang, J. (2021). Hong Kong secondary students' self-regulated learning strategy use and English writing: Influences of motivational beliefs. *System*, 96, 102404. <https://doi.org/10.1016/j.sysyem.2020.102404>
- [3] Bedewy, D., & Gabriel, A. (2015). Examining perceptions of academic stress and its sources among university students. *Health Psychology Open*, 2(2), 1–9.

- [4] Bhat, B. A. (2017). Academic stress among secondary school students. *International Journal of Advanced Education and Research*, 2(4), 38–41.
- [5] Deb, S., Walsh, K., & Walsh, A. (2010). Anxiety among high school students in India: Comparisons across gender, school type, social strata, and perceptions of quality time with parents. *Australian Journal of Educational & Developmental Psychology*, 10, 18–31.
- [6] Dent, A. L., & Koenka, A. C. (2016). The relation between self-regulated learning and academic achievement. across childhood and adolescence: A meta-analysis. *Educational Psychology Review*, 28(3), 425–474.
- [7] Gupta, M., & Mehtani, D. (2017). *Self-Regulated Learning Scale*. National Psychological Corporation.
- [8] Kaplan, D. S., Liu, X., & Kaplan, H. B. (2005). School-related stress in early adolescence and academic performance. *Journal of Youth and Adolescence*, 34(1), 3–15.
- [9] Kumari, S., & Jain, S. (2014). Academic stress and adjustment among secondary 12. school students. *International Journal of Science and Research*, 3(5), 234–239.
- [10] Lämsä, J., de Mooij, S., Aksela, O., Athavale, S., Bistolfi, I., Azevedo, R., Bannert, M., Gasevic, D., Molenaar, I., & Järvelä, S. (2025). Measuring secondary education students self-regulated learning processes with digital trace data. *Learning and individual differences*, 118, 102625. <http://doi.org/10.1016/j.lindif.2024.102625>
- [11] Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer Publishing Company.
- [12] Pascoe, M. C., Hetrick, S. E., & Parker, A. G. (2020). The impact of stress on students in secondary school and higher education. *International Journal of Adolescence and Youth*, 25(1), 104–112.