

Original Article

# The Relationship of Motivation, Study Time, and Test Anxiety on Academic Performance

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**Abstract.** This study examined the relationships among academic motivation, study time, test anxiety, and academic performance among senior high school students in selected schools within the DepEd Division of Sultan Kudarat. A quantitative correlational research design was used, with data collected from senior high school students via validated questionnaires assessing motivation, study hours, and test anxiety, and academic performance measured by final grades. Descriptive statistics and correlation analysis were used to analyze the data. Results showed that students demonstrated moderate levels of academic motivation, study time, and test anxiety. Correlation analysis revealed no significant relationship between motivation, study time, or test anxiety and academic performance. These findings suggest that academic performance may be influenced more by other factors not included in the study, such as teaching strategies, cognitive abilities, and students' backgrounds. The study concludes that improving academic performance requires a holistic approach that supports effective study habits and helps students manage test-related stress. Future research should include additional variables and contextual factors that may better explain students' academic achievement.

**Keywords:** Academic performance; Motivation; Senior High School; Study hours; Test anxiety.

High school students' academic performance remains a significant concern for educators and policymakers, especially amid ongoing educational reforms and rising accountability standards. Despite ongoing efforts to improve learning outcomes, many students continue to struggle academically. Research has shown that personal and psychological factors play a key role in shaping students' achievement. Among these factors, academic motivation, study habits, and test anxiety have consistently been identified as strong influences on students' academic performance (Rožman et al., 2025; Yarkwah et al., 2024; Yessimbekova et al., 2025; Putwain et al., 2023). Academic motivation is widely recognized as a crucial factor in student success. Studies show that motivated students tend to be more engaged, persistent, and committed to learning tasks. Both autonomous motivation, driven by personal interest, and controlled motivation, driven by external rewards or pressure, have been found to predict academic outcomes (Santana et al., 2025). While these studies agree on the importance of motivation, they differ in how motivation interacts with other learning-related factors.

Study habits, particularly the number of hours students spend studying, have also been linked to academic performance. Research suggests that students who devote more time to studying generally achieve better outcomes, particularly when effective learning strategies are employed (Rožman et al., 2025). However, some studies emphasize that study time alone does not guarantee success, as poor study practices may limit its impact. This highlights the need to examine study hours alongside other factors that affect learning. In contrast, test anxiety has been consistently shown to hinder academic performance. High levels of anxiety can reduce concentration, impair memory, and lower students' confidence during examinations. Several studies report a negative relationship between test anxiety and academic achievement (Yarkwah et al., 2024; Yessimbekova et al., 2025; Saet & Cabansag, 2024). While motivation and study habits can enhance performance, test anxiety may weaken their positive effects if not adequately addressed (Schutz & Muis, 2023).

In the Philippine context, recent studies have highlighted the challenges faced by senior high school students in achieving academic success. The K-12 curriculum has increased the academic demands on students, requiring them to manage complex subjects, track-specific requirements, and performance-based assessments (Bernardo & Mante-Estacio, 2023; Datu et al., 2022; Labrador et al., 2024; OECD, 2023). In addition, students' academic engagement is increasingly influenced by digital leisure activities outside school, which may reduce available time for study and rest, thereby affecting learning and overall well-being (OECD, 2025). Many students struggle to maintain consistent performance due to curriculum load, limited study resources, and limited access to academic support. These challenges are often compounded by psychological factors such as test anxiety and low motivation, which can significantly influence academic outcomes. Moreover, empirical studies conducted in local Philippine settings indicate that senior high school students' academic performance varies across schools and regions due to differences in instructional quality, learning environment, and socio-economic backgrounds (Dagoc & Oco, 2024). This suggests that understanding the interplay between motivation, study habits, and test anxiety is critical to designing context-specific interventions. Addressing these factors is necessary to enhance student performance and inform evidence-based policies that target the unique needs of Filipino senior high school learners.

Although previous studies have examined academic motivation, study habits, and test anxiety individually, few studies have examined how these factors interact to influence academic performance. Moreover, limited research has focused on senior high school students in local Philippine contexts. This gap limits the development of context-based interventions that respond to students' actual needs. In response to this gap, the present study aims to examine the relationships among academic motivation, study hours, test anxiety, and academic performance of senior high school students in selected schools. Specifically, it seeks to determine the levels of these variables, identify their relationships, and determine which factor best predicts academic performance. The findings of this study are expected to provide valuable insights for teachers, school administrators, and policymakers in designing programs that strengthen student motivation, improve study practices, and reduce test anxiety, thereby supporting better academic outcomes.

## **Methodology**

### **Research Design**

This study employed a quantitative correlational research design to examine the relationships among academic motivation, study hours, test anxiety, and academic achievement of senior high school students in selected public schools in the Philippines. This design was appropriate because it allows measurement of the degree and direction of relationships among variables without manipulating them and supports statistical analysis to determine predictive relationships.

### **Research Participants**

The participants were 90 senior high school students enrolled in selected public schools in the DepEd Division of Sultan Kudarat during Academic Year 2025–2026. A simple random sampling technique was used to ensure equal probability of selection across gender, age, class section, and socioeconomic background. Students were included if they were officially enrolled, able to read and understand the questionnaires, and willing to provide informed consent. Permission to conduct the study was obtained from the Division Superintendent and the school heads of participating schools.

**Table 1.** *Demographic Profile of Senior High School Students*

Demographic Variable	Category	Frequency (f)	Percentage (%)
Gender	Male	45	50%
	Female	45	50%
Age	16-17	25	28%
	18-19	55	61%
	20+	10	11%
Grade Level	Grade 11	48	53%
	Grade 12	42	47%
Strand / Track	Academic Track	80	89%
	Technical-Vocational Track	10	11%
Parents' Highest Education	Elementary	20	22%
	High School	40	44%
	College	25	28%
	Postgraduate	5	6%

Note: Data are based on responses from selected senior high school students in the study.

### Research Instruments

The study used standardized, validated instruments adapted from prior research. Academic motivation was measured using the Academic Motivation Scale (AMS), which assesses intrinsic and extrinsic motivation. Test anxiety was measured using the Test Anxiety Inventory-Short Form (TAI-SF), which captures emotional and cognitive aspects of anxiety. Study hours were measured using a researcher-modified questionnaire that asked participants to report their average weekly study time. Academic achievement was measured using the students' final grades from the most recent semester. All instruments had established validity and reliability in prior studies, and pilot testing was conducted to confirm clarity and suitability for the local context.

### Data Gathering Procedure and Analysis

Formal approval to conduct the study was secured from the DepEd Division Superintendent and the concerned school heads. The researchers explained the study's purpose, procedures, and confidentiality to the participants. Questionnaires were administered either in print or online, depending on school resources and participants' preferences. Participation was voluntary, and responses were checked for completeness before data encoding. Collected data were coded and analyzed using statistical software. Descriptive statistics, such as the mean and standard deviation, were used to summarize the variables. Pearson product-moment correlation was employed to determine the relationships among academic motivation, study hours, test anxiety, and academic achievement. All inferential tests were conducted at the 0.05 significance level.

### Ethical Considerations

The study followed standard ethical guidelines for research involving human participants. Written informed consent was obtained from all participants, and parental consent was secured for minors. Participation was voluntary, and respondents were informed of their right to withdraw at any time without penalty. Confidentiality and anonymity were maintained by excluding personal identifiers and securely storing all data. Approval for the study was granted by the appropriate institutional authorities prior to data collection.

## Results and Discussion

### Academic Motivation

Table 2 indicates that students exhibit a moderate level of academic motivation, with mean subscale scores ranging from 2.92 to 3.12 and moderate standard deviations. These findings suggest that while academic motivation is present among students, it is not strongly pronounced. Specifically, intrinsic motivation to know ( $M = 2.93$ ), to accomplish ( $M = 3.09$ ), and to experience stimulation ( $M = 2.97$ ) reflects a moderate degree of enjoyment and satisfaction derived from learning activities. However, students' interest and engagement do not appear consistently high across domains. The extrinsic motivation subscales – identified regulation ( $M = 2.94$ ), introjected regulation ( $M = 3.06$ ), and external regulation ( $M = 2.99$ ) – all fall within the moderate range, indicating that external rewards, expectations, and goal structures influence students. However, these external factors may not be sufficient to sustain consistent academic engagement. Additionally, the amotivation score ( $M = 3.12$ ) is comparatively higher, suggesting that a subset of students may experience disengagement or a lack of perceived purpose in their academic activities.

**Table 2. Level of Students' Academic Motivation**

Subscale	Mean	SD	Interpretation
Intrinsic - To Know	2.93	0.16	Moderate
Intrinsic - Toward Accomplishment	3.09	0.11	Moderate
Intrinsic - Experience Stimulation	2.97	0.15	Moderate
Extrinsic - Identified Regulation	2.94	0.06	Moderate
Extrinsic - Introjected Regulation	3.06	0.05	Moderate
Extrinsic - External Regulation	2.99	0.19	Moderate
Academic Motivation	3.12	0.21	Moderate
<b>Column Mean</b>	<b>3.01</b>	<b>0.26</b>	<b>Moderate</b>

Legend: 1.00-1.80 = Very Low; 1.81-2.60 = Low; 2.61-3.40 = Moderate; 3.41-4.20 = High; 4.21-5.00 = Very High

Overall, the findings reveal a balanced but suboptimal motivational profile, with an overall mean score of 3.01. This pattern suggests that although students demonstrate moderate levels of both intrinsic and extrinsic motivation, these levels may be insufficient to sustain optimal academic engagement and performance. These results are consistent with prior research. For instance, Calo and Salvaña (2024) reported that intrinsic academic motivation is a significant predictor of academic resilience and achievement, while Rožman (2021) found that although both intrinsic and extrinsic motivation influence academic performance, intrinsic motivation is a more reliable predictor of sustained engagement and long-term success. In line with these findings, enhancing intrinsic motivation by fostering interest, relevance, and learner autonomy may be more effective in improving academic performance than reliance on external incentives alone.

### Study Hours

Table 3 indicates a moderate level of study engagement among students across all measured variables. Mean daily study hours ( $M = 2.16$ ,  $SD = 1.73$ ) suggest considerable variability in students' study routines, with some maintaining regular study habits. In contrast, others report minimal or no daily study, reflecting inconsistencies likely associated with differences in self-discipline and time management. Weekend study hours are moderately higher ( $M = 3.21$ ,  $SD = 2.70$ ); however, the significant standard deviation indicates substantial variation, with some students increasing their study time on weekends while others do not.

**Table 3. Level of Students' Study Hours**

Indicator	Mean	SD	Interpretation
Daily Study Hours	2.16	1.73	Moderate
Weekend Study Hours	3.21	2.70	Moderate
Weekly Total Hours	11.23	7.71	Moderate
<b>Column Mean</b>	<b>5.53</b>	<b>2.70</b>	<b>Moderate</b>

Legend: 0-5 hrs = Low; 6-10 hrs = Moderate; 11-15 hrs = High; above 15 hrs = Very High

On average, students report studying 11.23 hours per week ( $SD = 7.71$ ), indicating a moderate but uneven level of commitment to academic work. While some students devote substantial time to studying, others invest considerably less. Overall, these findings suggest that the study is present but lacks intensity and consistency, highlighting opportunities to strengthen structured, sustainable study habits. Consistent with prior research, these results underscore the importance of effective study habits and sustained time investment for academic success. Nelson (2025) found that students who adhere to structured study routines demonstrate improved information retention and preparedness, leading to stronger long-term academic performance. Similarly, Setapa et al. (2021) emphasized that while study time contributes to educational outcomes, the quality of study strategies is equally critical. In addition, Calo and Salvaña (2024) reported that high-achieving students often engage in collaborative study practices, driven by strong motivation and effective learning strategies. Such behaviors may foster a positive academic environment that encourages peer engagement and supports improved performance among other students. Overall, although the overall performance trend appears favorable, the wide variability in study engagement suggests that students who struggle academically may benefit from additional support, including interventions to improve study skills, enhance motivation, and manage academic anxiety.

### Test Anxiety

Table 4 indicates that students report a moderate to high level of test anxiety, with an overall mean of 3.45 ( $SD = 0.27$ ). Mean scores across individual items range from 3.28 to 3.70, suggesting that anxiety is a consistent emotional response among learners, particularly in situations involving potential failure or evaluation by others. Specifically, higher anxiety is observed in items related to fear of failing and social judgment, including worrying about others' perceptions of failure ( $M = 3.70$ ) and feeling tense before an exam ( $M = 3.61$ ). Physical manifestations of anxiety

are also evident, as reflected in increased heart rate during exams ( $M = 3.51$ ). These findings indicate that external performance pressures significantly affect students' emotional and physiological responses.

**Table 4. Level of Students' Test Anxiety**

Test Anxiety Indicator	Mean	SD	Interpretation
I feel confident during exams. ( <i>reverse</i> )	3.28	0.91	Moderate
I worry about failing the test before I even start it.	3.50	0.72	High
I feel relaxed and have nothing to worry about taking a test. ( <i>reverse</i> )	3.44	0.79	Moderate
Thoughts of doing poorly interfere with my concentration.	3.28	0.90	Moderate
I get nervous when I think about an upcoming test.	3.44	0.75	Moderate
My heart beats fast when the test is significant.	3.51	0.80	High
I feel uneasy and upset during exams.	3.36	0.81	Moderate
I worry too much about what others will think if I fail.	3.70	0.66	High
I feel tense and nervous before a test.	3.61	0.73	High
I think about what the consequences will be if I fail the test.	3.37	0.87	Moderate
<b>Column Mean</b>	<b>3.45</b>	<b>0.27</b>	<b>Moderate</b>

Legend: 1.00-1.80 = Very Low; 1.81-2.60 = Low; 2.61-3.40 = Moderate; 3.41-4.20 = High; 4.21-5.00 = Very High

Conversely, items measuring confidence during exams ( $M = 3.28$ ) and the ability to remain calm ( $M = 3.44$ ) suggest that some students can partially manage stress, although not sufficiently to counter overall anxiety. Overall, the data suggest that while test anxiety does not completely incapacitate students, it may interfere with optimal academic performance, including concentration and recall. These findings are consistent with prior research. Badrian et al. (2022) similarly reported that students commonly experience worry, nervousness, and physical stress during examinations. Furthermore, Yarkwah et al. (2024) emphasize that unmanaged test anxiety can adversely affect academic outcomes. Interventions such as relaxation training, counseling, test-taking strategies, and structured academic preparedness programs may help mitigate anxiety and enhance performance.

### Academic Performance

Table 5 indicates that the overall mean academic performance of the students was 83.12 ( $SD = 6.67$ ), indicating generally high achievement. While most students performed well, the relatively wide standard deviation suggests considerable variability in performance, with some students achieving exceptionally high grades and others demonstrating lower academic outcomes. These results are consistent with Setapa et al. (2021), who emphasized the influence of study habits, motivation, and other stable academic behaviors on performance. Similarly, Calo and Salvaña (2024) reported that high-achieving students often engage in collaborative study practices, driven by strong motivation and effective learning strategies, which can foster engagement and encourage peers to improve their performance. Overall, academic performance is trending positively; however, variability in grades indicates that students with lower performance may benefit from targeted interventions, including support for study skills, motivation enhancement, and strategies to manage academic anxiety.

**Table 5. Student's Academic Performance**

Indicator	Mean	SD	Interpretation
General Average	83.12	6.67	High

Legend: 90-100 = Very High; 85-89 = High; 80-84 = Average; 75-79 = Low; below 75 = Very Low

### Relationship Between Academic Motivation, Study Hours, Test Anxiety, and Academic Performance

Table 6 indicates that academic motivation has a very weak positive association with academic performance ( $r = 0.092$ ,  $p > .05$ ). This suggests that students with slightly higher motivation show minimal improvement in their performance. The relationship is neither strong nor statistically significant. Study habits showed a very weak negative correlation with academic performance ( $r = -0.032$ ,  $p > .05$ ), indicating that the time students spend studying has little effect on grades. This finding implies that the quality and effectiveness of study strategies may be more important than study duration alone. Test anxiety also showed a very weak negative correlation ( $r = -0.120$ ,  $p > .05$ ), suggesting that anxiety exerts minimal influence on academic outcomes. While some students experience tension or worry during examinations, this does not appear to affect overall performance significantly.

**Table 6. Correlation Analysis**

Variables Correlated with Academic Performance	r	Degree of Relationship	p-value	Interpretation
Academic Motivation	0.09	Very Weak Positive	.447	Not significant
Study Habits	-0.03	Very Weak Negative	.746	Not significant
Test Anxiety	-0.12	Very Weak Negative	.299	Not significant

From a Systems Theory perspective, student performance results from the interaction of multiple subsystems, including instructional quality, school environment, family support, and individual learner characteristics. Consequently, although motivation, study behavior, and test anxiety are theoretically relevant, their personal effects may be attenuated by unmeasured confounding factors. The current results highlight the potential importance of additional variables—such as teaching approaches, home background, cognitive skills, or access to learning resources—in determining academic outcomes.

A multiple regression analysis was conducted to determine the relative contribution of Academic Motivation, Study Habits, and Test Anxiety in predicting Academic Performance. The overall model was not statistically significant ( $R = 0.149$ ,  $R^2 = 0.022$ ,  $p = 0.586$ ), indicating that only approximately 2.2% of the variance in academic performance is accounted for by the three predictors. The remaining 97.8% of variance is likely attributable to other factors not included in the study.

**Table 7. Regression Analysis**

Predictor	Coefficient (B)	Interpretation
Academic Motivation	2.05	Weak positive effect – not significant.
Study Habits	-0.08	Very weak adverse effect – not significant
Test Anxiety	-2.79	Very weak adverse effect – not significant.

The regression coefficients for the individual predictors are presented in Table 7. Test Anxiety had the most considerable absolute effect ( $B = -2.795$ ), indicating a negative association with academic performance: higher anxiety is associated with lower grades. However, this effect is weak and not statistically significant, indicating it does not reliably predict performance. Academic Motivation exhibited a weak positive impact ( $B = 2.058$ ), suggesting that greater motivation may slightly enhance performance; however, this effect was not statistically significant. Study Habits showed the smallest effect ( $B = -0.086$ ), suggesting minimal influence on academic outcomes. The overall model significance ( $\text{Sig. } F = 0.586$ ) confirms that none of the three predictors meaningfully explained variance in academic performance. Although Test Anxiety demonstrated the strongest relative effect among the predictors, its magnitude was too small to serve as a meaningful predictor in practice.

## Conclusion

This study examined the relationships among academic motivation, study hours, test anxiety, and academic performance of senior high school students. The findings indicated that students generally exhibited moderate levels of motivation, study time, and test anxiety, yet demonstrated high academic performance. This suggests that satisfactory academic outcomes can be achieved even when these factors are not at optimal levels, likely due to the influence of other academic and environmental supports. The results further showed no significant direct relationships between academic motivation, study hours, or test anxiety and academic performance. Among the variables examined, test anxiety emerged as the strongest predictor of academic performance; however, its predictive power was limited. This indicates that while test anxiety may influence achievement, it does not independently account for academic success. The findings highlight the multifaceted nature of academic performance and underscore the need for holistic educational approaches that address not only student motivation, study behaviors, and anxiety but also broader instructional and contextual factors. Future research should examine additional variables to provide a more comprehensive understanding of academic achievement among senior high school students.

Despite the absence of significant relationships among academic motivation, study time, test anxiety, and academic performance, this study contributes to the literature by emphasizing the multifactorial nature of academic achievement among senior high school students. The findings suggest that satisfactory academic outcomes may be supported by contextual and instructional factors beyond individual psychological variables. This highlights the importance of holistic academic support programs and provides a foundation for future research that integrates broader educational and environmental predictors.

## Contributions of Authors

The authors attest that they made full and exclusive contributions to the conception, design, conduct, and manuscript preparation of this study.

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## Conflict of Interests

The authors declare no conflicts of interest.

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