Resilience Education: Strategies for Coping with Failure and Academic Pressure Among High School Students in Sangihe Islands Regency, North Sulawesi

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Abstrak

Pendidikan resiliensi menjadi semakin relevan dalam menghadapi peningkatan tekanan akademik pada peserta didik, khususnya di jenjang SMA yang menuntut kesiapan kognitif dan emosional secara simultan. Penelitian ini bertujuan menganalisis pengaruh resiliensi terhadap stres akademik dan motivasi belajar siswa SMA Negeri di Kabupaten Kepulauan Sangihe, Sulawesi Utara. Metode penelitian menggunakan pendekatan kuantitatif dengan analisis Partial Least Square Structural Equation Modeling (PLS-SEM) pada 120 responden kelas X, XI, dan XII. Hasil penelitian menunjukkan bahwa resiliensi berpengaruh negatif dan signifikan terhadap stres akademik, serta berpengaruh positif dan signifikan terhadap motivasi belajar. Siswa dengan kemampuan resiliensi tinggi mampu mengelola tekanan akibat kegagalan belajar, menjaga stabilitas emosional, dan mempertahankan pola pikir bertumbuh yang mendorong keterlibatan aktif dalam proses pembelajaran. Temuan ini menegaskan bahwa resiliensi bukan hanya mekanisme pertahanan psikologis terhadap tekanan akademik, tetapi juga motor penggerak motivasi untuk mencapai prestasi. Penelitian ini menekankan pentingnya integrasi pendidikan resiliensi ke dalam praktik pembelajaran dan layanan bimbingan konseling di sekolah guna mendukung kesejahteraan psikologis dan keberhasilan akademik peserta didik, terutama pada wilayah kepulauan yang memiliki keterbatasan sarana pendidikan.

Kata Kunci: *akademik, motivasi, pendidikan, resiliensi, stres.*

Abstract

Resilience-based education has become increasingly relevant in addressing rising academic pressure among high school learners, particularly at the stage where cognitive and emotional demands intersect. This study examines the influence of resilience on academic stress and learning motivation among students of public senior high schools in the Sangihe Islands Regency, North Sulawesi, Indonesia. A quantitative approach was employed using Partial Least Square Structural Equation Modeling (PLS-SEM) with 120 respondents from grades X, XI, and XII. The findings indicate that resilience has a negative and significant effect on academic stress and a positive and significant effect on learning motivation. Students with higher resilience are better able to manage pressure from academic failure, maintain emotional balance, and foster a growth mindset that supports active participation in the learning process. These results show that resilience functions not only as a psychological defense mechanism against academic pressure but also as a motivational driver toward achievement. The study highlights the importance of integrating resilience education into classroom instruction and school counseling services to promote psychological well-being and academic success, especially in island regions with limited educational resources.

Keywords: *academic, education, motivation, resilience, stress.*

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Introduction

High school education is a crucial phase in students' academic and psychological development, as they are confronted with complex cognitive and emotional demands. Academic competition, continuous evaluation pressure, graduation requirements, and preparation for higher education create a learning environment filled with high expectations and potential psychological strain. When learning experiences align with these demands, students may develop positively; however, repeated failure can lead to declining motivation, excessive stress, and even withdrawal from learning. Learning failure, therefore, is not merely an issue of achievement but relates to how students interpret and respond to academic pressure. In this context, resilience functions as a critical protective factor that enables students to manage pressure, recover from failure, sustain motivation, and pursue academic goals (Hendriani, 2018).

These challenges are intensified in island regions such as the Sangihe Islands Regency in North Sulawesi Province. Geographical remoteness, limited educational facilities, restricted internet access, and inadequate learning support systems impose additional burdens on students compared to their urban counterparts. Despite a strong cultural tradition of collective resilience rooted in survival and adaptation (Pelokang et al., 2018), such social resilience does not automatically translate into academic resilience among students.

When academic demands exceed students' coping capacities, academic stress emerges as a physical and psychological response characterized by emotional exhaustion, examination anxiety, task-related tension, and performance pressure. Research indicates that academic stress negatively affects well-being and learning performance, including reduced concentration, avoidance behaviors, and decreased learning consistency (Tus, 2020). However, these effects are not uniform. Students with higher resilience demonstrate greater psychological stability and are better able to cope with academic challenges (KW et al., 2017).

Beyond buffering academic stress, resilience also serves as a driver of learning motivation. Resilient students tend to interpret failure as part of the learning process rather than as evidence of permanent inability. Through adaptive coping strategies, growth-oriented thinking, and long-term academic goals, they maintain persistence and engagement despite obstacles. Empirical studies show that resilience is closely associated with intrinsic motivation, perseverance, and effective learning strategies (Gbollie & Keamu, 2017), highlighting its dual role in mitigating stress while enhancing motivation.

Despite extensive research on resilience, several gaps remain. Most prior studies focus on university students, particularly during the COVID-19 pandemic, limiting developmental generalization to high school populations (Agustin & Handayani, 2021). Additionally, resilience has often been examined separately in relation to academic stress or learning motivation, rather than simultaneously within a single analytical model (Azmy et al., 2017). Moreover, quantitative studies employing structural modeling in Indonesian archipelagic contexts (especially in border regions such as the Sangihe Islands) remain scarce.

Addressing these gaps, this study examines resilience as a dual predictor of academic stress and learning motivation among public high school students in the Sangihe Islands Regency. Grounded in resilience theory, which emphasizes adaptive functioning under adversity (Hendriani, 2018; Beltman & Mansfield, 2018), and academic stress theory, which links stress to perceived imbalance between demands and coping resources (Tus, 2020), this study positions resilience as a psychological buffer. From a motivational perspective, resilient students' perceptions of competence and control strengthen intrinsic motivation and sustained engagement (Gbollie & Keamu, 2017). Accordingly, this study aims to empirically test whether resilience reduces academic stress while simultaneously enhancing learning motivation in geographically disadvantaged educational contexts.

Methodology

This study uses a quantitative approach with a Partial Least Square Structural Equation Modeling (PLS-SEM) model to analyze the simultaneous relationship between resilience, academic stress, and learning motivation. The research population consisted of all public high school students in Sangihe Islands Regency, and 120 respondents were selected as samples using purposive sampling with the criteria of grade X, XI, and XII students who actively participated in the learning process. Data collection was conducted through a 1–5 Likert scale questionnaire based on psychological indicators for each variable: resilience (X) in the form of adaptability, academic self-efficacy, emotion management, and the ability to recover from failure; academic stress (Y1) in the form of symptoms of academic anxiety, emotional tension, task pressure, and learning fatigue; and learning motivation (Y2) in the form of perseverance, commitment to learning, goal orientation, and interest in the learning process.

The SmartPLS analysis process was carried out in two stages. The first stage is the evaluation of the outer model, which includes a convergent validity test using the Average Variance Extracted (AVE) value and a reliability test using Cronbach's Alpha and Composite Reliability (CR) to ensure that the indicators of each construct are reliable and valid. The second stage is the evaluation of the inner model to test the significance of the relationship between variables through the path coefficient, T-statistic, and p-value values with a significance level of 5%. The coefficient of determination (R^2) value is used to measure the predictive power of independent variables on dependent variables. The hypotheses tested in this study are: H1: Resilience has a negative effect on the academic stress of public high school students and H2: Resilience has a positive effect on the learning motivation of public high school students.

Result And Discussion

Respondent Description

A total of 120 public high school students in Sangihe Islands Regency were the respondents in this study. The composition of respondents is as follows:

Characteristics	Category	Frequency	Percentage
Gender	Male	52	43.3%
	Female	68	56.7%
Class	X	38	31.7%
	XI	42	35.0%
	XII	40	33.3%
Age	15 years	24	20.0%
	16 years	41	34.2%
	17 years	39	32.5%
	18 years	16	13.3%

Outer Model Evaluation

The results of the convergent validity and construct reliability tests are shown in the following table:

Construct	Cronbach's Alpha	Composite Reliability	AVE
Resilience (X)	0.879	0.912	0.724
Academic Stress (Y1)	0.861	0.903	0.699
Learning Motivation (Y2)	0.893	0.923	0.749

Interpretation:
All constructs meet the criteria: Cronbach's Alpha > 0.7, CR > 0.7, and AVE > 0.5.This means that the indicators have good validity and reliability, so they can proceed to inner model testing.

Inner Model Evaluation

The R-Square values are shown in the following table:

Construct	R^2
Academic Stress (Y1)	0.481
Learning Motivation (Y2)	0.513

Interpretation:

   a. Resilience explains **48.1% of the variance in academic stress**.
   b. Resilience explains **51.3% of the variance in learning motivation**.

   This shows that resilience is a strong predictor for both outcome variables.

These findings directly address the research objectives by demonstrating the dual role of resilience in reducing academic stress while simultaneously enhancing learning motivation among high school students.

   1. **Path Coefficient Significance Test**
      Hypothesis testing results table:

Relationship	Path Coefficient	T-Statistic	p-value	Decision
Resilience → Academic Stress (Y1)	-0.693	11.214	0.000	Supported
Resilience → Learning Motivation (Y2)	0.721	13.037	0.000	Supported

Interpretation of p-values:

Since all p-values are **< 0.05**, both effects are statistically significant.

Additionally, the direction of the coefficients indicates that:

   a. **Resilience has a negative effect on academic stress**
      (the higher the resilience, the lower the students' academic stress)
   b. **Resilience has a positive effect on learning motivation**
      (the higher the resilience, the higher the students' learning motivation)

Resilience as a Factor in Reducing Academic Stress among Public High School Students in Sangihe Islands Regency

The findings show that resilience plays a significant role in reducing academic stress among public high school students in Sangihe Islands Regency. Psychologically, students with high resilience are able to interpret learning pressure as a manageable challenge, rather than a threat to their self-esteem or academic future. Thus, resilience functions as an emotional buffer when students face failure, difficulty understanding subject matter, or exam pressure. This perspective is in line with Hendriani's (2018) view that resilience is a core ability that enables individuals to maintain psychological balance when faced with academic obstacles and pressure. This means that the factor that determines the level of academic stress is not solely the amount of pressure exerted by the school, but how students respond to that pressure. This explains why students faced with the same academic demands can experience very different levels of stress depending on their individual resilience capacity.

The conditions of public high school students in the Sangihe Islands Regency provide an interesting context for understanding the relationship between resilience and academic stress. The learning environment in island regions has structural challenges such as limited access to educational facilities, minimal tutoring facilities, and unstable internet access. This situation has the potential to increase psychological pressure, especially when students are faced with academic targets that must be achieved in order to compete with students from urban areas. From a developmental psychology perspective, adolescents are at a sensitive stage when social and academic assessments play a very important role in the formation of self-identity. Without adequate resilience, academic pressure can develop into psychological problems such as evaluative anxiety, mental fatigue, and excessive fear of failure. These findings are consistent with the research by KW et al. (2017), which confirms that adolescents with low resilience are highly vulnerable to academic pressure, while adolescents with high resilience are able to maintain emotional stability even in stressful learning situations.

Educational psychology literature has long stated that academic stress arises when students perceive learning demands to exceed their capacity. However, this assessment is subjective, depending on emotional regulation, academic self-confidence, and cognitive restructuring abilities in interpreting stress. Students with good resilience have the cognitive skills to view failure as a learning process, enabling them to manage academic pressure adaptively. In this framework, academic stress does not disappear, but it does not develop into a maladaptive form that interferes with academic functioning. The study by Handayani et al. (2024) also proves that adaptive coping strategies, especially those based on the ability to bounce back and adapt are the most important factors in reducing students' academic stress. Thus, the findings of this study reinforce empirical evidence across studies that resilience is the strongest internal determinant of low academic stress.

The results of this study can also be explained through a psychoeducational perspective on the relationship between the learning environment and emotional intelligence. A demanding learning environment increases the urgency of self-regulation skills. Students with high resilience are able to regulate their emotions when experiencing failure, for example by delaying negative emotional reactions, evaluating mistakes objectively, and trying new strategies to solve problems. They are also better able to perform cognitive re-evaluation, which is reassessing threatening situations as opportunities for growth. Conversely, students with low resilience tend to react impulsively, such as withdrawing from learning, avoiding tasks, and dwelling on negative thoughts. Azmy et al. (2017) show that adaptive and maladaptive academic behaviors are largely determined by coping strategy tendencies rooted in resilience. That is why increasing resilience has a direct impact on a systematic and consistent reduction in academic stress.

An important contribution of this research finding lies in its context. Most studies on academic stress are conducted in urban schools with complete learning facilities, so academic pressure is usually more related to competitive performance. Meanwhile, this study shows that in island regions such as Sangihe, academic pressure arises not only from the demands of learning competition, but also from limited educational facilities, access to learning resources, and academic support. In such conditions, resilience is not only a supporting factor, but also a mainstay for maintaining students' psychological health.

Thus, the findings of this study reinforce the position of resilience as a major predictor of low academic stress, while expanding the theoretical perspective on the importance of resilience education

in a non-urban geographical context. These findings also have pedagogical implications. Resilience education should not be left to develop spontaneously, but needs to be instilled through structured learning strategies and school support.

Academic counseling programs, self-regulated learning training, the cultivation of a growth mindset, and problem-solving-based learning activities can be instruments for strengthening student resilience. This is in line with the view of Wosnitza et al. (2018), who emphasize that resilience can be built and enhanced through educational interventions, not just through life experiences alone. By incorporating resilience into school policies and learning systems, academic pressure can be managed more effectively, especially for students in areas with limited educational facilities such as Sangihe.

Overall, this discussion shows that research hypothesis H1: Resilience has a negative effect on students' academic stress is proven not only statistically but also theoretically and conceptually. These findings reinforce that resilience is a psychological foundation that can reduce the emotional burden of academic pressure and make students more resilient in facing the dynamics of learning.

Resilience as a Driver of Learning Motivation for Public High School Students in Sangihe Islands Regency

The research findings show that resilience has a positive and significant effect on the learning motivation of public high school students in Sangihe Islands Regency. Psychologically, students with high levels of resilience have the confidence to face learning difficulties and see challenges as opportunities for growth. Resilience shapes a growth mindset that makes students believe that learning abilities can be improved through effort and the right strategies. With this mindset, failure is not seen as a threat or a sign of permanent incompetence, but rather as a process that must be gone through to achieve academic success. The study by Gbollie and Keamu (2017) reinforces this view by showing that strong intrinsic motivation in students is formed when they feel capable of overcoming obstacles and do not define themselves based on failure. Thus, resilience becomes an internal driving force that encourages students to remain engaged in learning activities, have the determination to achieve academic goals, and not give up easily when facing difficulties.

Learning motivation is a psychological construct influenced by the need to achieve, the inner drive to master knowledge, and a sense of control over the learning process. Resilient students tend to have sufficient emotional resilience to persevere when learning outcomes do not meet expectations. Emotional regulation and high academic self-confidence keep them committed to their learning tasks, even in conditions of limited educational resources. In the context of Sangihe Islands Regency, limited learning facilities, access to teaching assistants, and opportunities to participate in additional training do not necessarily dampen the learning motivation of resilient students because they have a long-term orientation towards academic achievement. This is consistent with the findings of Handayani et al. (2024), who found that adaptive coping strategies oriented toward problem solving have a direct impact on increasing learning motivation and self-confidence in the learning process among middle school students. In other words, learning motivation is not only the result of an ideal learning environment, but also the result of students' ability to maintain academic commitment in challenging situations.

Theoretically, the positive relationship between resilience and learning motivation can be explained through the concept of self-determination, which emphasizes that individuals will be intrinsically motivated when they feel competent, autonomous, and connected to personal goals. Resilience allows for the formation of a perception of competence because resilient students view themselves as capable of overcoming learning obstacles. This automatically increases a sense of autonomy because students feel that academic success is within their control, rather than dependent on external factors. When autonomy and perceptions of competence are established, the drive to persevere in the learning process increases. From this perspective, resilience is not only a protective factor but also a motivational catalyst. The consistency of this theory is also seen in modern educational psychology studies which state that resilience strengthens academic achievement goals, perseverance, and the desire to develop learning abilities even under pressure (Wosnitza & Peixoto, 2018).

Resilience in the context of learning is also closely related to students' ability to engage in self-regulated learning. Resilient individuals are able to plan learning strategies, monitor the learning process, assess learning outcomes, and improve their learning approach when necessary. This ability is

the basic capital for achieving academic goals consistently. In an island education environment such as Sangihe, which has limited facilities, self-regulated learning is key to student success because they cannot fully rely on external support such as tutoring, intensive training, or extensive access to digital libraries. When students have resilience, they do not wait for ideal learning conditions to be motivated, but are able to create productive learning experiences according to the available resources. These findings are in line with Tus's (2020) research, which shows that students with high self-regulation have a direct connection to high learning motivation, and resilience is the root of that self-regulation.

The contribution of these findings is even stronger when compared to previous research on island regions. The geographical characteristics of Sangihe create barriers to access to information and educational facilities, but this study proves that these barriers do not automatically reduce learning motivation. Learning motivation can still develop when students are psychologically prepared to face academic pressure. This provides a new perspective on educational literature that motivation is not only influenced by the physical learning environment but also by internal factors in the form of personality strengths formed through experience and the learning process. Thus, the results of this study broaden the understanding of the role of resilience not only in the context of academic pressure but also in the development of student learning motivation in areas with limited educational resources.

The practical implications of these findings are highly relevant in the context of education. If schools want to increase student learning motivation, learning strategies cannot focus solely on the delivery of subject matter and evaluation systems. There needs to be interventions that instill resilience skills, such as problem-solving training, challenge-based learning, strengthening a growth mindset, academic reflection activities, and goal-based counseling. Wosnitza et al. (2018) emphasize that resilience is not a natural ability that only some individuals possess, but can be developed through structured educational interventions.

When resilience is strengthened through the learning system, learning motivation will increase continuously because students have the psychological ability to maintain their enthusiasm for learning even when facing difficulties. With all these empirical and theoretical arguments, it can be ascertained that research hypothesis H2: Resilience has a positive effect on student learning motivation is not only statistically proven but also consistent with the theoretical basis and previous research findings.

Resilience serves as a key motivational driver for students in overcoming learning obstacles and achieving academic goals, particularly in the context of learning in island regions with limited educational resources such as the Sangihe Islands Regency.

Conclusion

This study confirms that resilience plays a fundamental role in the educational process of public high school students in the Sangihe Islands Regency, North Sulawesi. The SmartPLS analysis shows that resilience functions as a double predictor with different directions of influence on two main psychological outcomes, namely academic stress and learning motivation. Resilience has been proven to significantly reduce academic stress through students' ability to regulate emotions, manage pressure, and interpret failure as a natural part of the learning process. At the same time, resilience significantly increases learning motivation because resilient students have strong goal orientation, academic self-confidence, and perseverance to continue striving for success despite facing obstacles. Thus, these findings indicate that resilience is not only protective against the negative effects of learning pressure but also constructive in encouraging continuous learning motivation.

The academic and practical implications of this study emphasize the need for resilience education as an integral part of learning strategies in schools, especially in island regions with limited educational facilities such as Sangihe. Educational interventions should not only prioritize cognitive achievement but also include strengthening emotional regulation, coping strategies, and growth mindset so that students are psychologically prepared to face academic demands. Teachers, school counselors, and education stakeholders need to design learning and mentoring programs that support resilience development through challenge-based learning activities, self-reflection, academic counseling, and the cultivation of long-term learning goals. By systematically strengthening student resilience, schools can reduce the negative impact of learning pressure while increasing academic motivation, so that the educational process can take place more effectively, sustainably, and with a focus on the psychological well-being of students.

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