
The correlation between academic stress and emotion regulation

APRI KASMAN^{1*}, DONY DARMA SAGITA², SARI WARDANI SIMARMATA³, ADE CHITA PUTRI HARAHA⁴, AZIZAH BATUBARA⁵, ARMITASARI,⁶ AND RAHMILAWATI RITONGA⁷

Abstract

Academic stress is a common experience among university students and significantly affects their emotional and psychological well being. Emotion regulation, the ability to manage and respond to emotional experiences, is critical in coping with academic related stress. This study examines the correlation between academic stress and emotion regulation strategies among students. Using a quantitative correlational design, data were collected from 100 High School Students in Padang City through standardized instruments: the Academic Stress Scale (ASS) and the Emotion Regulation Questionnaire (ERQ), which measures cognitive reappraisal and expressive suppression. The results revealed a significant negative correlation between academic stress and cognitive reappraisal, and a significant positive correlation between academic stress and expressive suppression. These findings suggest that students who experience higher levels of academic stress are more likely to engage in maladaptive emotion regulation strategies. The study emphasizes the value of promoting adaptive emotional coping mechanisms to reduce stress and improve students' academic and mental health outcomes.

Keywords

Academic stress, cognitive reappraisal, emotion regulation

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¹ Universitas Terbuka, Banten, Indonesia, Corresponding author: apri.kasman@ecampus.ut.ac.id.

² Universitas Terbuka, Banten, Indonesia

³ Universitas Terbuka, Banten, Indonesia

⁴ Universitas Islam Negeri Sumatera Utara, Medan, Indonesia

⁵ STKIP Budidaya, Medan, Indonesia

⁶ Universitas Negeri Medan, Medan, Indonesia

⁷ Universitas Negeri Medan, Medan, Indonesia

Introduction

The increasing demands for academic performance have led to growing concerns about stress among students. Academic stress refers to the psychological distress associated with academic-related demands that exceed an individual's adaptive capabilities. Simultaneously, emotion regulation plays a crucial role in how individuals manage stress and maintain psychological well-being. Previous research has demonstrated that poor emotion regulation can exacerbate the negative impact of stress (Gross & John, 2003). However, limited studies have explored the specific link between academic stress and the types of emotion regulation strategies students employ. This study investigates this correlation to inform better support systems for students' mental health and academic success. Academic stress is the psychological distress from academic demands exceeding a student's adaptive resources (Wilks, 2008). It commonly arises due to exams, assignments, time management issues, and pressure to achieve high academic performance (Pascoe et al., 2020). Research has shown that excessive academic stress can lead to adverse outcomes such as anxiety, depression, sleep disturbances, and decreased academic achievement (Sharma & Sidhu, 2011).

Academic stress is the psychological distress from academic-related demands and expectations that exceed a student's adaptive capacities. According to Misra and McKean (2000), academic stress can be caused by various factors, including heavy workloads, time constraints, peer competition, and fear of failure. Prolonged exposure to academic stress can lead to decreased academic performance, emotional exhaustion, and mental health problems such as anxiety and depression (Pascoe et al., 2020). Academic stress has increased recently, particularly among high school and college students. Tanner and Arnett (2016) emphasized that adolescence is a critical period during which academic performance is heavily emphasized by both schools and families, contributing significantly to stress levels.

Academic stress has become a growing concern among students worldwide in the context of higher education. The pressures associated with coursework, examinations, deadlines, competitive academic environments, and future career expectations often result in elevated stress levels. According to Misra and McKean (2000), academic stress refers to the psychological distress resulting from academic-related demands that exceed the adaptive resources of an individual. When prolonged or intense, academic stress can harm students' mental health, academic performance, and overall well-being. University students, particularly during adolescence to early adulthood, are in a critical period of emotional and cognitive development. During this stage, they are expected to succeed academically while managing various life changes, including increased independence, financial pressures, and social demands. This unique combination of academic and personal challenges can increase stress levels. If not managed effectively, academic stress may lead to anxiety, depression, burnout, and disengagement from academic activities. Emotion regulation is one of the most important psychological mechanisms influencing individuals' coping with stress. Gross (1998) defined emotion regulation as the processes by which individuals influence which emotions they have, when they have them, and how they experience and express these emotions. Two widely studied strategies of emotion regulation are cognitive reappraisal and expressive suppression. Cognitive reappraisal involves changing the way one thinks about a situation to alter its emotional impact, while expressive suppression refers to inhibiting emotional expressions.

Prior research has consistently shown that cognitive reappraisal is generally associated with more positive psychological outcomes, including lower stress, better academic

performance, and improved interpersonal relationships (John & Gross, 2004). On the other hand, expressive suppression is often linked to increased psychological distress, poor memory performance, and reduced social functioning. These findings suggest that students' emotion regulation strategy significantly influences how they experience and cope with academic stress. Despite the growing recognition of the importance of emotion regulation in managing stress, relatively few empirical studies have specifically investigated the correlation between academic stress and emotion regulation strategies among university students in non-Western contexts, particularly in Southeast Asia. Cultural values and norms may shape how individuals perceive stress and regulate emotions, exploring this correlation in diverse cultural settings.

Furthermore, in many academic institutions, stress management interventions are often generic and may not consider the role of individual emotional regulation patterns. Understanding how specific emotion regulation strategies correlate with academic stress can help educators, counselors, and policymakers develop more targeted psychological support and mental health programs for students. Emotion regulation refers to the processes by which individuals influence the emotions they experience, when they experience them, and how they express them (Gross, 1998). Adaptive emotion regulation strategies, such as cognitive reappraisal and problem-solving, are associated with better psychological health and lower stress levels. Conversely, maladaptive strategies like rumination or suppression are linked to heightened stress and mental health problems (Aldao et al., 2010).

Therefore, the study investigates the correlation between academic stress and emotion regulation among undergraduates. Specifically, this study examines how cognitive reappraisal and expressive suppression are associated with perceived academic stress levels. By identifying the emotional coping strategies that contribute to either the alleviation or intensification of stress, the findings of this study are expected to inform the development of more effective interventions to support students' academic and emotional well-being. A growing body of research suggests that emotion regulation is vital in managing academic stress. Students with strong emotion regulation skills tend to interpret academic challenges as manageable rather than overwhelming (Compas et al., 2001). Anggraini and Widyastuti (2022) found a significant negative correlation between emotion regulation and academic stress, indicating that students who manage their emotions well are less likely to experience high academic stress. Similarly, Dzulfikri and Affandi (2023) reported that emotion regulation strongly predicted adolescent academic stress, especially in high-pressure academic environments. Moreover, studies in different cultural contexts confirm the generalizability of these findings. For example, Lee and Larson (2000) observed that Korean adolescents with higher emotional control experienced less academic strain, and similar patterns were noted in American and European student populations (Snyder et al., 2013). In addition to its impact on mental health, academic stress can impair students' ability to concentrate, retain information, and perform well in exams, ultimately affecting their academic outcomes. The stress-performance correlation is often described using the Yerkes-Dodson Law, which suggests that moderate stress levels may enhance performance, but excessive stress leads to a decline in functioning (Tiwari, 2011). However, maintaining this optimal stress level largely depends on how effectively individuals regulate their emotions. Emotion regulation strategies are shaped by personality traits and influenced by environmental, cognitive, and cultural factors. In collectivist societies such as Indonesia, there is often a stronger emphasis on emotional restraint and social harmony, which may encourage expressive suppression over cognitive reappraisal (Matsumoto et al., 2008). This cultural tendency could affect how students experience and respond to academic stress, making exploring the contextual dynamics of emotion regulation in non-Western populations

crucial. The theoretical basis of this study is grounded in Gross's (1998) process model of emotion regulation, which outlines the stages at which regulation can occur in the emotion-generative process. According to this model, cognitive reappraisal occurs early in the process. It modifies emotional responses by altering cognitive appraisals, whereas expressive suppression occurs later and focuses on inhibiting behavioral expressions of emotion. This distinction is important, as early-stage strategies like reappraisal are more effective in reducing negative emotional experiences and are associated with better psychological adjustment.

Although the correlation between stress and emotion regulation has been explored in various psychological contexts, few studies have directly examined how these constructs interact in academic environments. Existing studies often focus on general stress or emotional disorders without isolating academic stress as a unique and measurable form of psychological strain. Furthermore, much of the literature on this topic has been conducted in Western contexts, leading to a lack of representation from diverse educational and cultural backgrounds. This gap in the literature demonstrates the importance of studies that investigate academic stress in tandem with emotion regulation strategies among universities in underrepresented regions. Such research is essential for theoretical advancement and the practical development of culturally sensitive mental health interventions in educational settings. Given this background, the present study sets out to answer the following research questions:

- a. What is the correlation between academic stress and cognitive reappraisal among university students?
- b. What is the correlation between academic stress and expressive suppression among university students?
- c. To what extent do emotion regulation strategies predict levels of academic stress?

By addressing these questions, this study aims to contribute to a deeper understanding of how students emotionally manage academic challenges and how these mechanisms can either buffer or exacerbate stress. The findings are expected to offer insights into designing psychoeducational programs, stress reduction workshops, and campus-based counseling services tailored to the emotional needs of students in higher education. This study is grounded in Gross's (1998) Process Model of Emotion Regulation, which differentiates between antecedent-focused strategies (e.g., reappraisal) and response-focused strategies (e.g., suppression). According to this model, adaptive regulation strategies can buffer the emotional impact of academic stressors. Additionally, Lazarus and Folkman's (1984) Cognitive Appraisal Theory supports that individuals' evaluation of stressors plays a key role in their stress responses and coping mechanisms.

Methodology

Research design

This study employed a quantitative correlational research design to investigate the correlation between academic stress and emotion regulation among high school students. The correlational design was chosen to determine the direction and strength of the correlation between the two variables without manipulating them.

Participants and instruments

The sample consisted of 100 high school students (50 males and 50 females), aged between 15 and 18 years, selected using simple random sampling from two public high schools

in Padang. Participation was voluntary, and informed consent was obtained from students and their guardians. *Academic stress scale*, academic stress was measured using the Academic Stress Inventory (ASI), adapted from the tool developed by Kohn and Frazer (1986). It consists of 30 items rated on a 5-point Likert scale (1 = Never, 5 = Always). Higher scores indicate higher levels of academic stress. The study's reliability coefficient (Cronbach's alpha) was $\alpha = 0.87$.

Emotion regulation questionnaire (ERQ), emotion regulation was assessed using the Emotion Regulation Questionnaire (Gross & John, 2003), which measures two dimensions: *cognitive reappraisal* and *expressive suppression*. It contains 10 items on a 7-point Likert scale (1 = Strongly Disagree, 7 = Strongly Agree). The reliability coefficient in this study was $\alpha = 0.81$.

Data collection procedure and analysis

Data were collected during regular school hours with prior approval from school authorities. Participants completed printed questionnaires in their classrooms under supervision to ensure clarity and prevent external influence. The process took approximately 20–30 minutes per participant. Data were analyzed using SPSS Version 26. Descriptive statistics (mean, standard deviation, minimum, and maximum) were calculated for both variables. Pearson correlation analysis determined the correlation between academic stress and emotion regulation. A significance level of $p < 0.05$ was used.

Ethical considerations

Ethical approval was obtained from the research ethics committee of Universitas Terbuka. All participants were assured of the confidentiality and anonymity of their responses. Participation was voluntary, and participants could withdraw at any time without penalty.

Results

Descriptive statistics

To begin the analysis, descriptive statistics were calculated to determine the general trends in academic stress and emotion regulation among the participants. The results are presented in Table 1.

Table 1. *Descriptive statistics for academic stress and emotion regulation*

Variable	N	Minimum	Maximum	Mean	Standard deviation
Academic stress	100	35	90	65.40	12.15
Emotion regulation	100	50	95	72.85	10.42

Academic stress had a mean of 65.40 and a standard deviation of 12.15. This indicates that the average student in the sample experienced moderate academic stress. The wide range (35 to 90) suggests considerable individual differences in perceived academic stress levels.

Emotion regulation had a mean of 72.85 with a standard deviation of 10.42, implying that the participants, on average, possessed relatively good emotional regulation abilities. However, variability was still present across individuals. These findings suggest that, despite

moderate stress levels, students have maintained relatively practical emotion regulation skills, which may help them cope with academic demands.

Normality test

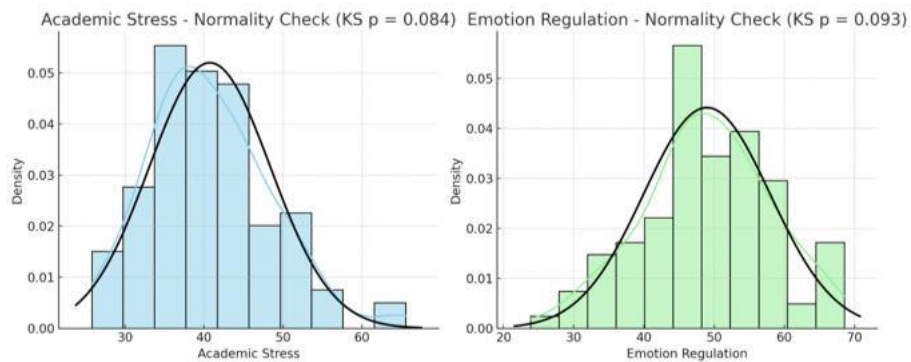
Before conducting parametric tests, a normality check using the Kolmogorov-Smirnov test was performed. The results are shown in Table 2.

Table 2. *Normality test results*

Variable	Kolmogorov-Smirnov p-value
Academic stress	0.084
Emotion regulation	0.093

As both p-values are greater than 0.05, the distribution of scores for both academic stress and emotion regulation was normal. Thus, the data fulfilled one of the assumptions for Pearson correlation analysis.

Figure 1. *Normality check*



Here is the visualization of the normality test results for both variables:

- Academic Stress (KS p = 0.084)
- Emotion Regulation (KS p = 0.093)

The histograms show that both distributions approximate the normal curve, supporting the assumption of normality for parametric analysis.

Categorization of participants

To better understand the distribution of students' academic stress and emotion regulation levels, participants were categorized into three groups: low, moderate, and high, based on their scores.

Table 3. *Distribution of academic stress and emotion regulation levels*

Category	Academic stress (n)	Emotion regulation (n)
Low (Score < 60)	30	25
Moderate (Score 60-75)	45	50
High (Score > 75)	25	25

About 30% of students experienced low academic stress, while 25% had low emotion regulation abilities. 45% of students fell into the moderate academic stress category, the largest group. 25% experienced high academic stress. Regarding emotion regulation, half of the students (50%) had moderate regulation abilities, while the other half were split between low and high. This suggests that while most students experience moderate academic stress and emotion regulation, a significant minority faces either high stress or poor emotion regulation, potentially putting them at risk for adverse academic or psychological outcomes.

Correlation analysis

Pearson's correlation test examined the correlation between academic stress and emotion regulation. The results are presented in Table 4.

Table 4. *Pearson correlation analysis*

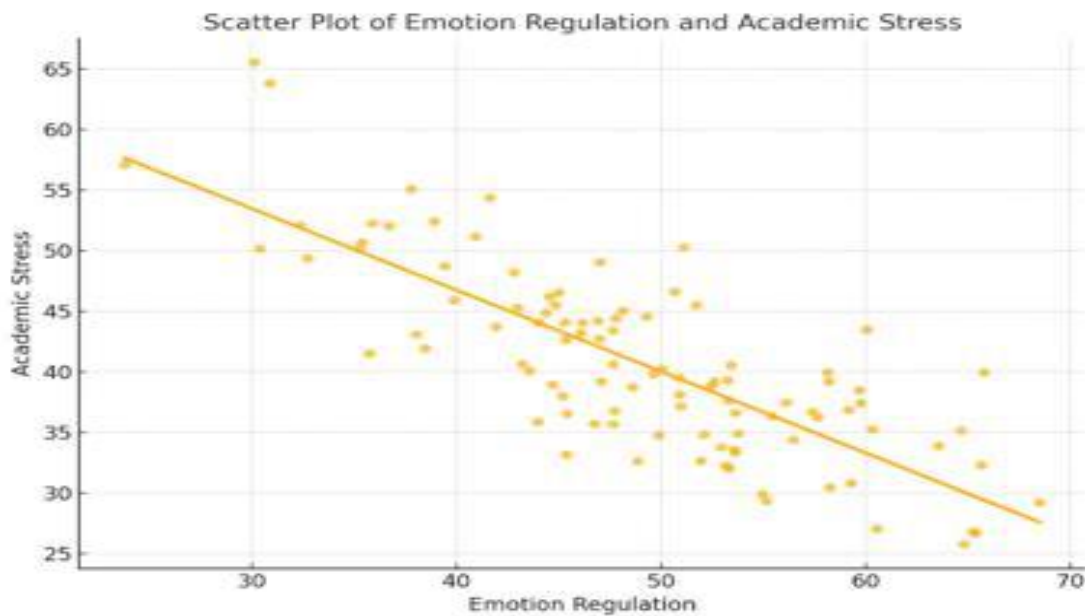
Variables	Academic stress	Emotion regulation
Academic stress	1.00	-0.453**
Emotion regulation	-0.453**	1.00

Note: $p < 0.01$ (2-tailed)

The analysis revealed a moderate negative correlation between academic stress and emotion regulation ($r = -0.453$, $p < 0.01$). This finding indicates that the ability to regulate emotions decreases as academic stress increases. Conversely, students with better emotion regulation skills tend to report lower levels of academic stress.

The strength of the correlation ($r = -0.453$) falls into the moderate range according to Cohen et al. (2007) guidelines, meaning that while emotion regulation significantly impacts academic stress, other factors may also contribute.

Figure 2. *Pearson correlation analysis Scatter Plot*



Here is the scatter plot showing the relationship between Emotion Regulation and Academic Stress. As visualized, there is a moderate negative correlation. Students with higher emotion regulation scores tend to report lower levels of academic stress.

In-depth interpretation

The results of this study support the hypothesis that emotion regulation plays an essential role in academic stress management. Specifically:

- a. Students who utilize adaptive strategies such as cognitive reappraisal are more likely to perceive academic challenges as manageable, thus reducing their subjective experience of stress.
- b. Conversely, students who rely on expressive suppression or fail to employ effective regulation strategies are more vulnerable to heightened levels of academic stress.

Moreover, categorizing students highlights that those in the high academic stress group predominantly belong to the low or moderate emotion regulation groups, confirming that difficulties in managing emotions may intensify perceived academic burdens. These findings are consistent with prior studies (e.g., [Compas et al., 2001](#); [Gross & John, 2003](#)), emphasizing that emotion regulation protects against various forms of psychological stress, including academic demands.

Discussion

This study investigated the correlation between academic stress and emotion regulation among high school students. The results indicated a moderate negative correlation between academic stress and emotion regulation, suggesting that students who experience higher levels

of academic stress are more likely to have difficulties regulating their emotions. In this section, the researchers discuss the findings in the context of existing literature, explore the implications for educational practice, and reflect on potential directions for future research.

Interpretation of the correlation between academic stress and emotion regulation, the study's negative correlation between academic stress and emotion regulation indicates that students with higher stress tend to exhibit poorer emotion regulation. This result is consistent with the theoretical framework of emotion regulation proposed by Gross (1998), who suggested that when individuals face stressors, their ability to manage emotional responses can either buffer or exacerbate the impact of stress. In the case of academic stress, those who struggle to regulate their emotions may perceive academic challenges as more overwhelming, which may heighten their stress levels. One possible explanation for this finding is that students who lack practical emotion regulation skills might use maladaptive strategies, such as avoidance or rumination, when confronted with academic stressors (Nolen-Hoeksema, 2000). These strategies may worsen or prolong stress instead of reducing it. In contrast, students with better emotion regulation skills are more likely to use adaptive strategies, such as reappraisal, to reinterpret academic challenges as manageable, thereby reducing their stress perception (Gross & John, 2003).

The role of emotion regulation in buffering academic stress, emotion regulation has long been identified as a key factor in determining how individuals respond to stress. The ability to regulate emotions is closely linked to emotional resilience, which enables individuals to recover from adversity (Min et al., 2013). In this study, the finding that emotion regulation negatively correlates with academic stress suggests that students who can better regulate their emotions are more likely to perceive academic tasks as less stressful. This aligns with Tamir (2016), who found that individuals skilled in emotion regulation tend to engage in more problem-solving behaviors when confronted with stress. By managing their emotional responses to stress, these individuals are less likely to become overwhelmed, enabling them to maintain focus on their academic tasks and perform better. Furthermore, effective emotion regulation may reduce the stress' physiological and psychological impacts, such as anxiety and burnout, which are common in students facing academic pressures (Collin et al., 2020). Therefore, promoting emotion regulation skills could protect against the detrimental effects of academic stress.

Academic stress as a multidimensional construct, it is important to note that academic stress is not a monolithic construct; various factors, including workload, time management, expectations from teachers and parents, and peer competition, influence it. These factors can vary significantly across students, which may explain the wide range of stress levels observed in the sample. Some students may cope with stress more effectively due to intrinsic factors such as personality traits, previous coping experiences, or external support systems. In contrast, others may be more susceptible to stress due to a lack of resources or poor coping strategies (Friedman et al., 2010).

Thus, while the study found a significant correlation between academic stress and emotion regulation, it is important to recognize that the correlation is likely complex and influenced by other mediating factors. For example, previous research identified social support as a key buffer against stress (Cohen et al., 2007). Future studies should explore the role of external factors, such as family support, peer relationships, and teacher-student interactions, in moderating the correlation between academic stress and emotion regulation.

Practical implications for education, the findings of this investigation emphasize the value of fostering emotion regulation skills in students. Since academic stress is inevitable in the educational experience, teaching students' effective emotion regulation strategies could help

them navigate stress more effectively. Schools should consider integrating emotional intelligence programs into their curricula to enhance students' ability to manage academic and social stressors. Programs focusing on cognitive reappraisal, mindfulness, and stress management techniques could be particularly beneficial. For example, teaching students how to reframe academic challenges as opportunities for growth, rather than threats, may improve their emotional responses to stress (Johnston-Wilder et al., 2020). Mindfulness practices, which involve staying present and nonjudgmentally observing one's thoughts and emotions, have also been shown to reduce stress and enhance emotion regulation (Zeidan et al., 2010).

Furthermore, school counselors could be pivotal role in identifying students at risk for academic burnout or emotional difficulties. Early interventions focused on strengthening emotion regulation and providing coping strategies could prevent students from experiencing prolonged periods of stress that negatively affect their academic performance and well-being.

Limitations and future research directions, while this study provides helpful conclusions about the correlation between academic stress and emotion regulation, several limitations should be considered. First, the study employed a **cross-sectional design**, which only captures a snapshot of the correlation between the variables at one point. Future research should use **longitudinal designs** to examine how emotion regulation develops over time and its role in mitigating the long-term effects of academic stress. Additionally, this study relied on **self-report measures** subject to biases such as social desirability and inaccurate self-assessment. Incorporating **objective measures** (e.g., teacher ratings of student behavior, physiological stress indicators) would provide a more comprehensive understanding of how stress and emotion regulation manifest in students. Finally, future research should explore the mediating factors influencing the correlation between academic stress and emotion regulation. Variables such as coping strategies, self-esteem, and perceived control over academic tasks may influence how stress affects emotion regulation and vice versa.

Conclusion

This study explored the correlation between academic stress and emotion regulation among high school students. The findings reveal significant insights into how these psychological factors influence students' academic experiences and emotional well-being. Based on the results, the researchers can draw several key conclusions.

Moderate levels of academic stress, the data indicated that students generally experience moderate levels of academic stress. While stress is an expected part of the academic journey, the results suggest that most students cope with it at a manageable level. However, the variability observed in stress levels—from low to high—suggests that academic stress is experienced differently by individuals. Some students may find specific academic demands challenging, while others may thrive under similar conditions. Coping strategies, social support, and individual perceptions of academic pressure could account for these differences.

Although the mean stress score was moderate, it is important to consider that prolonged or escalating stress levels can adversely affect students' mental health and academic performance. Research has shown that chronic stress can lead to burnout, anxiety, and depression (Steinhardt et al., 2011), which can negatively impact academic achievement (Roeser et al., 2000). Therefore, even moderate levels of academic stress, if persistent, warrant attention from educators, mental health professionals, and policymakers.

Emotion regulation as a protective factor, the study also found that emotion regulation was a key to managing academic stress. Students with stronger emotion regulation skills tended to report lower levels of academic stress, suggesting that emotion regulation acts as a protective

buffer against the negative impacts of stress. Students who can effectively manage their emotions are more likely to perceive academic challenges as opportunities for growth rather than overwhelming burdens. This aligns with [Gross and John \(2003\)](#), who highlighted that adaptive emotion regulation strategies, such as cognitive reappraisal, help individuals reinterpret stressful situations to reduce their emotional impact. The ability to regulate emotions allows students to remain calm and focused during stressful academic tasks, such as exams or assignments. It helps them avoid maladaptive responses, like rumination or avoidance, which can exacerbate stress ([Nolen-Hoeksema, 2000](#)). Thus, emotion regulation skills are vital for managing academic stress and promoting overall well-being and academic success.

The negative correlation between academic stress and emotion regulation, a crucial finding of this study is the moderate negative correlation between academic stress and emotion regulation. The results indicate that students' academic stress increases, and their ability to regulate emotions decreases. This correlation suggests the value of teaching students effective emotional coping strategies to help them navigate academic life's stresses.

While stress is an inevitable part of academic experience, it is essential to acknowledge that how students respond emotionally to stress significantly impacts their experience and performance. Students who lack emotion regulation skills may find it difficult to manage the pressure and anxiety that accompany academic challenges, leading to a cycle of heightened stress and poor emotional well-being. On the other hand, students adept at regulating their emotions is more likely to remain resilient in the face of academic stress, ultimately resulting in better psychological outcomes and academic performance.

Implications for educational practices, the findings of this study have important implications for educational practices. Given the significant role of emotion regulation in managing academic stress, schools should prioritize the development of emotional intelligence in students. Integrating programs that teach students how to regulate their emotions could profoundly impact their ability to cope with academic demands and maintain mental health.

Emotion regulation training programs include mindfulness, cognitive reappraisal, and stress management strategies. These programs would help students develop tools to cope with stress effectively and avoid maladaptive coping mechanisms. Schools could also provide resources for students to receive emotional support from counselors, teachers, and peers, as these support networks have been shown to buffer the effects of stress ([Cohen et al., 2007](#)). Additionally, educators should be aware of the different levels of stress students may experience and provide accommodation and resources to help those struggling with high academic stress. Such initiatives include offering time management workshops, providing stress-relief activities, and ensuring students access mental health resources.

In conclusion, this study has demonstrated that emotion regulation is critical in managing high school students' academic stress. The negative correlation between the two variables suggests that students with better emotion regulation skills are less likely to experience high levels of academic stress. This finding emphasizes the importance of fostering emotional intelligence and stress management skills in students to help them navigate the difficulties associated with academic life. Educators, counselors, and policymakers should recognize the significant role that emotion regulation plays in academic success and well-being. By providing students with tools to regulate their emotions effectively, schools can help alleviate the adverse effects of academic stress and promote better mental health outcomes. Future research should continue exploring the complex correlation between stress and emotion regulation, focusing on identifying additional factors influencing how students cope

with academic demands. Ultimately, by supporting students in developing academic and emotional skills, the researchers can create a more balanced and resilient student population that is better equipped to face the pressures of school and beyond.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest.

Use of AI Statement

The authors declared that they had not used any AI tools in their manuscript preparation and submission.

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Biographical Notes

APRI KASMAN is a lecturer at Universitas Terbuka, Banten, Indonesia.

DONY DARMA SAGITA is a lecturer at Universitas Terbuka, Banten, Indonesia.

SARI WARDANI SIMARMATA is a lecturer at Universitas Terbuka, Banten, Indonesia

ADE CHITA PUTRI HARAHAHAP is a lecturer Universitas Islam Negeri Sumatera Utara, Medan, Indonesia

AZIZAH BATUBARA is a lecturer at STKIP Budidaya, Medan, Indonesia

ARMITASARI is a lecturer at Universitas Negeri Medan, Medan, Indonesia

RAHMILAWATI RITONGA is a lecturer at Universitas Negeri Medan, Medan, Indonesia