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The effect of social support on academic resilience among Indonesian university students: The mediating role of emotion regulation strategies

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Abstract

University students often face challenges to their resilience due to factors like academic pressure. These stressors can lead to mental health issues like anxiety and depression, highlighting the need for resilience-building strategies. Previous studies in Indonesia and worldwide have demonstrated that social support and emotion-regulation strategies significantly influence academic resilience among university students. However, no study has explored the mediating role within the interrelationships among these variables, particularly the mediating role of multi-aspect emotion regulation constructs, namely cognitive reappraisal and expressive suppression. This study aims to evaluate the mediating roles of these two aspects of emotion regulation in the relationship between social support and academic resilience among Indonesian university students. The respondents consisted of 219 students aged between 17 and 33 years *(M = 21.219, SD = 2.013).* These respondents were recruited using a nonprobability sampling technique. They completed instruments measuring social support, emotion regulation, and academic resilience. The correlational analysis provided initial evidence supporting the relationships among social support, emotion regulation, and academic resilience. Path analysis showed that mediation analysis revealed cognitive reappraisal significantly explained the variance in the relationship between social support and academic resilience through partial mediation. In contrast, expressive suppression did not show a significant mediating role. Overall, the results suggest a relationship between social support and academic resilience, indicating that positive social support enhances cognitive reappraisal and thereby increases students' academic resilience. The implications of this study suggest that social support and emotional regulation are crucial factors in improving the academic resilience of Indonesian students, and these findings can serve as a valuable reference for educators and policymakers.

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INTRODUCTION

Challenges, such as overwhelming workload, poor performance, or pressure to perform, apprehension towards the future, sleep disturbance, loneliness, and/or financial difficulties (Acharya et al., 2018; Alsaleem et al., 2021; Satpathy et al., 2021; Shah et al., 2010; Slimmen et al., 2022), characterize the university experience for several students. These challenges could heighten risks of neglected academic obligations, poor performance, and even dropping out (Martin & Marsh, 2009; Sharp & Theiler, 2018). Students who persevere and succeed despite such challenges could be said to have academic resilience.

Academic resilience refers to the processes and outcomes associated with a person who succeeds academically despite challenges, obstacles, or hardships that typically prevent success for most individuals (Morales & Trotman, 2004). According to Cassidy (2016), academic resilience originated as a context-specific type of individual psychological resilience, whereas Colp (2015) suggests that it was developed to provide

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better evaluation and prediction specificity in resilience research. Academic resilience is closely related to individual psychological resilience, which examines the capacity to cope with challenges and adversity. It is defined as "a capacity to overcome acute and/or chronic adversity that is seen as a major threat to a student's educational development" (Martin & Marsh, 2009).

Indeed, students with higher academic resilience have demonstrated greater learning engagement (Guo et al., 2005) and academic performance (Elnaem et al., 2024; Masten et al., 2004). Numerous interventions (Arif & Mirza, 2017; Ebrahimi & Kakabaraei, 2024; Hashemzadeh et al., 2023) have demonstrated that academic resilience can be strengthened by enhancing protective factors. Multiple interventions (Arif & Mirza, 2017; Ebrahimi & Kakabaraei, 2024; Hashemzadeh et al., 2023) have demonstrated that enhancing protective factors can strengthen academic resilience. Accordingly, this study aimed to identify potential protective factors of academic resilience in Indonesian university students.

Perceived social support, a potential protective factor, holds promise in facilitating resilience. It refers to an individual's cognitive assessment that supports that relevant others would be available and adequate during times of need (Amreen et al., 2024; Barrera, 1986). According to the buffering model, there are two ways through which perceived social support could facilitate resilience (Cohen & Wills, 1985; Cutrona & Russell, 1990). The first step is to take place before evaluating a situation as stressful. By fostering the impression that others are available to help, perceived social support may enhance a person's belief in their ability to cope, thereby preventing them from perceiving the situation as stressful.

The second way through which perceived social support could facilitate resilience takes place after an individual has appraised a situation as stressful, where perceived social support could prevent harmful outcomes by guiding an individual towards productive courses of action, altering their perception of the problem, or by soothing their adverse emotional reaction (Cohen & Wills, 1985). Recent findings support these theoretical propositions, demonstrating significant positive associations between perceived social support and academic resilience (Julaihah et al., 2024; Pitzer & Skinner, 2017; Saleem & Zia, 2024; Yoelianita et al., 2023).

The two ways perceived social support facilitates academic resilience mirror two emotion regulation strategies. Emotion regulation has become a pressing issue in the field of psychology. Emotion regulation includes two dimensions (Zhang & Bian, 2020). The first dimension reflects cognitive reappraisal, an intriguing emotion regulation strategy that involves adjusting one's interpretation of a situation before it occurs and steering its emotional impact (Gross & John, 2003). Cognitive reappraisal may facilitate resilience by preventing the rise of negative emotions, which can hinder creative, flexible, and open-minded problem-solving (Fredrickson, 2001). Empirical findings support these propositions by demonstrating positive associations between cognitive reappraisal and resilience (Cui et al., 2024; Mouatsou & Koutra, 2021; Narukurthi et al., 2017). The second dimension is expressive suppression, which involves attempting to suppress, hide, or reduce emotional expression (Gross & John, 2003).

Perceived social support may facilitate cognitive reappraisal by inducing the acknowledgment that other people will be available to offer necessary aid. This increases confidence in one's ability to manage

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situations, preventing a negative appraisal and emotional stress response (Cohen & Wills, 1985; Gross & John, 2003). Extant studies support the proposition that perceived social support facilitates cognitive reappraisal (D'Arbeloff et al., 2018; Li et al., 2021; Sachs-Ericsson et al., 2021). However, there has yet to be a study investigating whether cognitive reappraisal is one pathway through which perceived social support facilitates academic resilience. This study will address this gap.

The second way perceived social support facilitates academic resilience overlaps with expressive suppression, another emotion regulation strategy that occurs following emotional impact and involves inhibiting behavioral expressions of emotion (Gross & John, 2003). Perceived social support may open a path for expressive suppression by guiding individuals toward productive courses of action (Cohen & Wills, 1985). Expressive suppression may then be triggered in the form of inhibiting existing destructive behaviors or reactions that have been triggered by negative emotions (Gross & John, 2003), such as procrastination (Wang et al., 2022).

However, findings about the relationship between expressive suppression, perceived social support, and academic resilience are inconsistent. Studies vary in their observations of the relationship between expressive suppression and resilience, with some showing non-significant positive associations (Cui et al., 2024; Narukurthi et al., 2017) and others exhibiting negative associations (Mouatsou & Koutra, 2021). Accordingly, this research examined the relationship between expressive suppression and academic resilience among Indonesian university students. Similarly, findings on the relationship between expressive suppression and perceived social support are mixed, with some observing a negative association (D'Arbeloff et al., 2018) and others a non-significant positive association (Li et al., 2021). Hence, this study aimed to clarify whether expressive suppression is one of the pathways through which perceived social support facilitates academic resilience.

This study aimed to investigate the significant impact of social support and emotion-regulation strategies on academic resilience. This research is important as it seeks to explore any indirect effects or mediating roles that the two aspects of emotion regulation may have in the relationship between social support and academic resilience among university students in Indonesia. In line with the theoretical propositions and empirical evidence presented earlier, five hypotheses have been developed that will be examined through path analysis.

H1: There is a positive effect of perceived social support on academic resilience.

H2: Cognitive reappraisal has a positive effect on academic resilience.

H3: Expressive suppression is positively affecting academic resilience.

H4: Cognitive reappraisal mediates the effect of perceived social support on academic resilience.

H5: Expressive suppression mediates the effect between perceived social support and academic resilience.

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METHOD

Participants

Participants in this study were 219 university students from various universities in Indonesia. The age range of participants was 17-33 years (mean age = 21.219 years; SD age = 2.013 years). The type of university whose students comprised the sample of this study was limited to modern public and private universities. The sampling technique used was quota sampling with a sample size of 200 respondents. The final sample (N = 200) comprised undergraduate students from 112 post-secondary institutions, geographically located in 24 provinces of Indonesia. The sample size of 200 respondents was sufficient for path analysis (see Wolf et al., 2013). All participants spoke Indonesian, and informed consent was obtained before the commencement of data collection.

Instruments

Academic Resilience Scale

The "Academic Resilience Scale" employed in this study consists of 30 items adapted from the original scale developed by Cassidy (2016). Examples of the items include "I would seek help from my tutors" (Item 22) and "I would stop myself from panicking" (Item 23). Responses were assessed on a 5-point Likert scale, ranging from 1 ("completely disagree") to 5 ("completely agree"), with higher scores reflecting greater academic resilience. The scale's reliability was strong, as evidenced by its internal consistency, with a Cronbach's alpha of 0.867.

Emotion Regulation Questionnaire

The Emotion Regulation Questionnaire (ERQ; (Gross & John, 2003) and an Indonesian version by (Radde et al., 2021) is a 10-item Likert-Scale (from 1 = "Strongly Disagree" to 7 = "Strongly Agree") that measures the use of two emotion regulation strategies: cognitive reappraisal (6 items) and expressive suppression (4 items). For this study, we used the subscale expressive suppression (e.g., "I keep my emotions to myself") ($\alpha = 0.83$, $\omega = 0.83$), which measures the extent to which participants inhibit the expression of both pleasant and unpleasant emotions, and the subscale cognitive reappraisal which measures an antecedent-focused strategy and often tries to reinterpret events positively (e.g., When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm).

Multidimensional Scale of Perceived Social Support

The Multidimensional Scale of Perceived Social Support (MSPSS) and an Indonesian version by Sulistiani et al, (2022) comprises 12 items on a 6-point Likert scale (from 1 = "Strongly Disagree" to 6 = "Strongly Agree") divided into three subscales (4 items each) tapping three different sources of social support: significant other (e.g., There is a special person in my life who cares about my feelings"), family (e.g., "I get the emotional help and support I need from my family"), and friends (e.g., "My friends try to help me"). The

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mean of all items forms the perceived social support total score, the variable used in this study. In the current study, the MPSS demonstrated good internal consistency ($\alpha = 0.88$, $\omega = 0.83$).

Scale Adaptation Procedure

Two translators with backgrounds in psychology independently translated three instruments into Indonesian. A professional translator, who did not have a psychology background, then retranslated these Indonesian versions back into English. A moderator, who is an expert in psychology and also proficient in English, facilitated discussions about the equivalence of the translations and retranslations. This process aligns with the instrument adaptation guidelines recommended by Gudmundsson (2009) and other widely accepted frameworks, such as those by Guillemin et al. (1993), commonly used in psychological research. In essence, this stage followed the language and cultural adaptation process for measuring instruments outlined by Gudmundsson (2009), which includes the following steps: (1) The two translators independently translated the instruments from English into Indonesian. (2) Their translations were then reviewed for equivalency in discussions led by the moderator, resulting in a draft of the Indonesian version of the instrument. (3) This draft was retranslated into English by a professional translator. (4) The accuracy of the retranslation was verified by comparing it with the original version of the instrument.

Data Analysis

The JASP software was used for data processing and analysis, employing the path analysis method. The analysis proceeded with descriptive statistics, followed by the calculation of Pearson correlations for all variables. Subsequently, both direct and indirect effects were interpreted to assess the mediating roles of emotion regulation strategies —specifically, cognitive reappraisal and expressive suppression —in the relationship between social support and academic resilience. This process was conducted using the robust maximum likelihood estimation method (MLM estimator), with a 95% confidence interval (CI) employed to identify significant effects.

RESULTS AND DISCUSSION

Descriptive Statistics and Correlations

Before conducting the path analysis, descriptive and correlation analyses were performed on the data, with the results presented in Table 1. Based on the skewness values for all variables, which range from -1 to +1, the normality assumption in this study was met, as the skewness values indicate that the data are approximately normal.

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Table 1. Descriptive statistics and correlation matrix

No.	Variables	Mean	SD	Skewness	Correlations			
1.	Academic Resilience	113.936	12.662	0.704	1.000			
2.	Social Support	5.444	1.044	-0.590	0.458	1.000		
3.	Cognitive Reappraisal	32.772	5.991	-0.544	0.532	0.419	1.000	
4..	Expressive Suppression	22.667	3.629	-0.698	0.505	0.433	0.784	1.000

Furthermore, through correlation analysis, it was found that the three study variables significantly correlated with each other. However, the direction of the correlation was not uniform. First, a positive correlation was found between academic resilience and social support ($r = 0.458$, $p < 0.001$). This finding aligns with the theoretical basis and nature of the two constructs. Second, a positive correlation was found between cognitive reappraisal and academic resilience ($r = 0.532$, $p < 0.001$). This finding aligns with the theoretical basis, which suggests that the more positive the family functions, the lower the loneliness is, or vice versa. Third, a positive correlation was also found between expressive suppression and academic resilience ($r = 0.505$, $p < 0.001$). Fourth, a positive correlation was also found between expressive suppression and academic resilience ($r = 0.505$, $p < 0.001$). Fifth, a positive correlation was also found between expressive suppression and academic resilience ($r = 0.505$, $p < 0.001$). Lastly, a positive correlation was found between expressive suppression and academic resilience ($r = 0.505$, $p < 0.001$). This finding provides initial insights into the relationship between variables, which will be further explained by applying path analysis.

Testing the Direct Effects

In the measurement part of the model (see Figure 1), it can be seen that all path coefficients were statistically significant, as their confidence intervals did not include zero. First, the standardized path coefficient from social support to academic resilience was 0.265, indicating a significant positive effect. Similarly, the path from cognitive reappraisal to academic resilience had a standardized coefficient of 0.299, demonstrating a significant positive relationship. Further, the path from expressive suppression to academic resilience had a standardized coefficient of 0.156, demonstrating a significant positive relationship. Additionally, the standardized path coefficients from social support to cognitive reappraisal were 0.419 and 0.433 for expressive suppression, indicating a significant positive effect.

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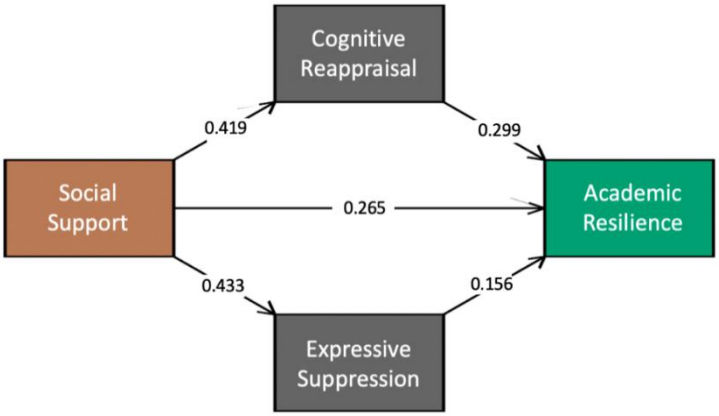

Figure 1. Path diagram of path analysis

Testing Emotion Regulation as a Mediator

Regarding the indirect effects estimated on the model, it was found that the indirect effect of cognitive reappraisal on the relationship between social support and academic resilience was significant (indirect effect = 0.125, SE = 0.499, z = 3.042, p < 0.010). However, the indirect effect of expressive suppression on the relationship between social support and academic resilience was insignificant (indirect effect = 0.068, SE = 0.479, z = 1.711, p > 0.050). Despite the significant indirect effect on the cognitive reappraisal, the direct effect between social support and academic resilience remained significant, indicating that the mediation was only partial for the cognitive reappraisal. However, expressive suppression is concluded to have no mediator role in the models. To conclude, we found that all hypotheses except one mediating effect are significant.

Furthermore, from the model in Figure 1, three R-squares were produced: 35.9% for academic resilience, 17.5% for cognitive reappraisal, and 18.7% for expressive suppression. All R-squares were also found to be significant. This finding indicates that all research hypotheses, direct effects, and mediation roles have been explained. Furthermore, this finding will be discussed in more detail in the following subsection.

This study examines the mediating role of emotion regulation on the effect of social support on academic resilience among Indonesian university students. Furthermore, the study found that this prediction was confirmed: emotion regulation mediates the relationship, albeit in a form of incomplete mediation. This study investigates how emotion control influences the effect of social support on academic resilience among Indonesian university students. Finally, we discovered that this prediction was confirmed: emotion regulation mediates in the form of incomplete mediation.

This study observed a significant positive relationship between perceived social support and academic resilience in Indonesian university students. This observation suggests that Indonesian university students with greater perceived social support are also likely to possess higher academic resilience. Recent studies echo this observation (Julaihah et al., 2024; Saleem & Zia, 2024; Yoelianita et al., 2023). Perceived social support may facilitate academic resilience by enhancing an individual's belief in their ability to cope with a potentially stressful situation, as they perceive that others will be available to provide necessary aid (Cohen & Wills,

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1985). Perceived social support may also prevent harmful outcomes following a stressful situation by guiding individuals towards productive courses of action, altering one's perception of the predicament, or relieving negative emotions (Cohen & Wills, 1985)

This study also observed a significant positive relationship between emotion regulation strategies and academic resilience in Indonesian university students. This finding suggests that students with a greater tendency to use cognitive reappraisal and expressive suppression are also likely to possess higher levels of academic resilience. The positive relationship between cognitive reappraisal and resilience has been observed in prior studies (Cui et al., 2024; Mouatsou & Koutra, 2021; Narukurthi et al., 2017). By modulating a person's perception of a situation, cognitive reappraisal prevents the rise of negative emotions (Gross & John, 2003), removing obstacles to creative, flexible, and open-minded problem-solving (Fredrickson, 2001).

On the other hand, prior studies have only observed non-significant positive (Cui et al., 2024; Narukurthi et al., 2017) or negative (Mouatsou & Koutra, 2021) associations between expressive suppression and resilience. These past findings contradict this study's finding that expressive suppression has a significant positive relationship with academic resilience. Perhaps, within the context of university education, expressive suppression could act as an adaptive emotion regulation strategy by inhibiting destructive behavioral expressions of negative emotions such as procrastination (Wang et al., 2022), thus facilitating academic resilience.

Additionally, it was observed that cognitive reappraisal partially mediates the relationship between perceived social support and academic resilience. This means that cognitive reappraisal is one of the pathways through which perceived social support facilitates academic resilience. Earlier research has observed a positive relationship between perceived social support and cognitive reappraisal (D'Arbeloff et al., 2018; Li et al., 2021). As perceived social support induces the acknowledgment that other people can provide necessary aid, an individual may be able to reappraise a situation as non-threatening cognitively. This cognitive reappraisal, in turn, prevents the rise of negative emotions that may hamper creative, flexible, and open-minded problem-solving (Fredrickson, 2001), thus facilitating academic resilience. Indeed, existing studies have demonstrated positive associations between cognitive reappraisal and resilience (Cui et al., 2024; Mouatsou & Koutra, 2021; Narukurthi et al., 2017).

However, the indirect effect of perceived social support on academic resilience through expressive suppression was found to be insignificant. This finding suggests that expressive suppression does not account for the effect of perceived social support on academic resilience. However, this study found that perceived social support is positively associated with expressive suppression, which is positively related to academic resilience. This combination of observations aligns with the mixed findings in the existing literature regarding the relationship between perceived social support, expressive suppression, and resilience (Cui et al., 2024; D'Arbeloff et al., 2018; Li et al., 2021; Mouatsou & Koutra, 2021; Narukurthi et al., 2017).

There is a possibility that the relationship between perceived social support and expressive suppression is bidirectional (D'Arbeloff et al., 2018) and is dependent on the order in which they show up. When preceded

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by perceived social support, it may guide productive behaviors in a stressful situation. However, if expressive suppression comes first, one may fail to signal to others that they need help (Cutuli, 2014), thus rendering social support incapable of facilitating academic resilience.

CONCLUSION

In conclusion, this study demonstrates that Indonesian university students who experience higher levels of perceived social support and exhibit greater tendencies to use cognitive reappraisal and expressive suppression are more likely to possess higher academic resilience. It was also observed that cognitive reappraisal is one of the pathways through which perceived social support facilitates academic resilience. No prior studies have investigated the mediating role of emotion regulation strategies in the relationship between perceived social support and academic resilience. Therefore, this study has contributed a novel finding, shedding light on one of the pathways through which social support enhances academic resilience.

Perceived social support and cognitive reappraisal facilitate academic resilience by preventing appraisal of a situation as stressful. Minimizing a negative emotional experience may facilitate creative problem-solving and enhance academic resilience. Perceived social support may also guide individuals towards more productive courses of action, which expressive suppression could follow with inhibiting existing destructive behaviors. However, if expressive suppression precedes acknowledgment of existing social support, the facilitation of academic resilience is less specific.

Based on the findings of this study, future research should consider employing a longitudinal design to explore causal relationships and assess the effectiveness of interventions that enhance emotion regulation strategies, particularly cognitive reappraisal, in fostering academic resilience. Expanding the sample to include diverse populations and cultural contexts would improve the generalizability of the results. Investigating potential moderators or additional mediators, such as self-efficacy or coping styles, could further elucidate the mechanisms underlying these associations. Qualitative studies may also provide deeper insights into students' lived experiences of social support and emotion regulation in academic settings. Universities are encouraged to integrate emotion regulation training into student development programs, strengthen institutional support systems, and promote peer-led support networks. Educators and mental health professionals should possess the knowledge and tools to foster perceived social support and guide students toward adaptive emotion regulation strategies, thereby enhancing their academic resilience.

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