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Examining Coping Strategies and Academic Resilience among Indonesian Students: The Role of Gender and Domicile

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Abstract

This study investigates the influence of coping strategies (problem-solving, emotion-focused, purpose-oriented) on academic resilience, considering gender and domicile differences. By analyzing data from 398 Indonesian students using MGA PLS-SEM, the study confirms satisfactory validity and reliability of the measurement models. The results reveal significant relationships between coping strategies and academic resilience. The study contributes to understanding the interplay between coping strategies and academic resilience across diverse groups, informing the development of targeted interventions and support systems for student well-being and success.

Keywords: Coping strategies, academic resilience, gender, domicile, Indonesia.

Introduction

Academic resilience, the ability to overcome challenges and thrive academically despite adversity, is a topic of great interest in educational psychology. It is widely acknowledged that various factors contribute to academic resilience, and coping strategies are among the key determinants of an individual's ability to navigate the demanding academic environment while maintaining well-being (Benight & Bandura, 2004; Bonanno, 2008). Coping strategies refer to the cognitive, emotional, and behavioral efforts employed by individuals to manage stressors and adapt to difficult circumstances (Folkman & Lazarus, 1988). This research aims to investigate how coping strategies, specifically problem-solving, emotion-focused coping, and purpose-oriented coping, influence academic resilience. Furthermore, the study explores whether the impact of these coping strategies varies across different groups of individuals based on their gender and domicile.

Research suggests that problem-solving coping plays a vital role in promoting academic resilience. Problem-solving coping involves active engagement in analyzing and seeking solutions to academic challenges. Students who employ problem-solving strategies exhibit a proactive approach to academic difficulties, which enhances their ability to effectively manage and overcome obstacles (Connor-Smith et al., 2000; Li & Che, 2022). They demonstrate higher levels of persistence, adaptability, and self-efficacy, which are critical components of academic resilience (Connor-Smith et al., 2000; Zautra et al., 2010).

Emotion-focused coping strategies, on the other hand, focus on regulating and managing emotional responses to stressful situations. While some studies have found a positive association between emotion-focused coping and academic resilience (Zeidner & Saklofske, 1996), others suggest that relying solely on emotion-focused coping without problem-solving may hinder academic success (Seiffge-Krenke, 2013; Stoeber & Rennert, 2008). Therefore, it is essential to explore the differential effects of emotion-focused coping on academic resilience and identify its interplay with problem-solving coping.

Purpose-oriented coping, characterized by finding meaning, motivation, and a sense of direction in academic pursuits, has gained attention in recent years. Individuals

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who adopt purpose-oriented coping tend to exhibit higher levels of engagement, persistence, and goal-directed behavior (Yeager & Bundick, 2009). Research has shown that purpose-oriented coping is positively associated with academic performance and psychological well-being (Nitzan-Assayag et al., 2015; Steger et al., 2007). However, limited research has examined the specific role of purpose-oriented coping in fostering academic resilience, highlighting the need for further investigation.

Moreover, the impact of coping strategies may differ across various demographic groups. Gender differences, for instance, have been shown to influence coping behaviors. Research has indicated that females are more likely to engage in emotion-focused coping, while males tend to employ problem-solving coping strategies (Tamres et al., 2002; Zeldin et al., 2008). By examining the influence of coping strategies on academic resilience separately for males and females, this study aims to provide insights into potential gender-specific patterns and their implications for educational practices.

Another crucial aspect to investigate is the influence of domicile on coping strategies and academic resilience. Students from different domiciles, particularly those from within the city and those from out of the city, may face distinct challenges and have varying access to resources. The environmental context of domicile can shape coping behaviors and resilience. For example, students from out of the city may experience additional stressors related to adjusting to a new environment, while those from within the city may encounter different academic and social pressures. Exploring how coping strategies contribute to academic resilience across these domicile groups can provide valuable insights into the role of environmental factors in shaping coping behaviors and resilience.

This study seeks to examine the influence of coping strategies, including problem-solving, emotion-focused coping, and purpose-oriented coping, on academic resilience. Additionally, the research will explore how these coping strategies operate within different groups based on gender (male and female) and domicile (within the city and out of the city). By understanding the complex interplay between coping strategies and academic resilience across diverse groups, this study aims to contribute to the development of targeted interventions and support systems that promote students' well-being and academic success.

This study aims to address a research gap by examining the influence of coping strategies on academic resilience. It explores this relationship not only for the overall sample but also in terms of sex and domicile differences. The study holds significance as the education sector, particularly higher education, often overlooks the importance of students' mental well-being, specifically their academic resilience. Many higher education institutions tend to prioritize student learning outcomes at the expense of their overall well-being.

Method

Research Design and Sample

This study employed a survey research design as its methodology. This methodology was choosen because the researchers wanted to gather information on coping strategies and academic resilience across different groups. Survey research designs are commonly used in quantitative research to gather information about attitudes, opinions, behaviors, or characteristics of a population by administering surveys to either a sample or the entire population (Creswell, 2012). Specifically, a cross-sectional survey design was utilized in this study, which involves collecting data at a single point in time (Creswell, 2012). The sample for this study was selected through convenience sampling, a non-probability sampling procedure. The authors determined the sample size by following the recommendations provided by (Hair Jr et al., 2016). It was determined that the sample size should align with the statistical power, and to calculate the required sample size and statistical power, the authors utilized G*Power Software, as suggested by Faul et al., (2007). The authors set the error measurements for type one and type two at $\alpha = 0.05$ and power $(1 - \beta) = 0.95$, respectively, while considering an effect size of 0.15 as the minimum threshold for a medium effect size (Cohen, 2013; Hair Jr et al., 2016). Based on these calculations, it was determined that a minimum sample size of 89 participants was required for this study.

Instrumentation and Data Collection

The instrument utilized in this study had previously undergone validation through prior research. To assess the coping strategies variable, the researchers employed a brief version of the COPE inventory developed by Charles (1997). Additionally, the Academic Resilience variable was measured using an instrument developed by Dalimunthe et al., (2021). All variables were measured using a five-point Likert scale, ranging from strongly disagree to strongly agree. Data collection was conducted through a web-based survey targeting Indonesian students. The researchers obtained a total of 398 completed questionnaires, exceeding the minimum sample size requirement calculated using the G*Power application (89 samples), see Figure 2.

Sample Demographic Background

Table 1 presents the background information of the sample participants in this study. The sample, consisting of 398

Table 1: Sample Demographic Background

Demographic		*Frequency*	*Percent*
Sex	Male	64	16.1
	Female	334	83.9
Domicile	From within city	174	43.7
	From out of city	224	56.3

individuals, is categorized by sex and domicile. The majority of participants were female, accounting for 83.9% of the sample, while the remaining 16.1% were male. Regarding domicile, the distribution is relatively balanced, with 174 samples (43.7%) residing within the same city as the university, and 224 samples (56.3%) originating from outside the city.

Data Analysis Procedure

The authors employed hierarchical component models (HCMs) within Partial Least Square Structural Equation Modelling (PLS-SEM) for data analysis due to the complexity of the constructs being examined, which consist of two layers of constructs. HCMs comprise a higher-order component (HOC) that captures the more abstract higher-order entity and lower-order components (LOCs) that capture the subdimensions of the higher-order entity (Hair Jr et al., 2016). In this study, reflective-formative type models (Type II) of HCMs were used.

There are three approaches to estimating parameters in HCMs models using PLS-SEM: the repeated indicator approach (Lohmöller, 2013; Wold, 1982), the two-stage or sequential approach (Ringle et al., 2012; Wetzels et al., 2009), and the hybrid approach (Becker et al., 2012; Ciavolino & Nitti, 2013). However, in this study, the authors utilized the repeated indicator approach with Mode B formative measurement to estimate the parameters in HCMs. The advantage of the repeated indicator approach is its ability to assess all constructs simultaneously instead of separately evaluating lower-order and higher-order dimensions (Becker et al., 2012). The choice of Mode B for the repeated indicator is also deemed more appropriate based on Becker et al., (2012). Furthermore, the structural model was evaluated across groups (sex and domicile) through a multi-group analysis, as outlined in Hair et al., (2016).

PLS-SEM was selected for this research due to its exploratory and predictive nature (Hair Jr et al., 2016; Henseler et al., 2016). Additionally, PLS-SEM allows researchers to approximate complex models with multiple constructs, indicators, and structural paths without relying on distributional assumptions, as it is non-parametric in nature (Hair Jr et al., 2016). The analysis of the results involved three main steps: (1) evaluation of measurement models for first-order constructs, (2) evaluation of the first-order constructs on the second-order constructs, and (3) evaluation of the structural model, as explained by Becker et al., (2012), Hair et al., (2016), and Henseler et al., (2015). Detailed explanations of these evaluations will be provided in the following section.

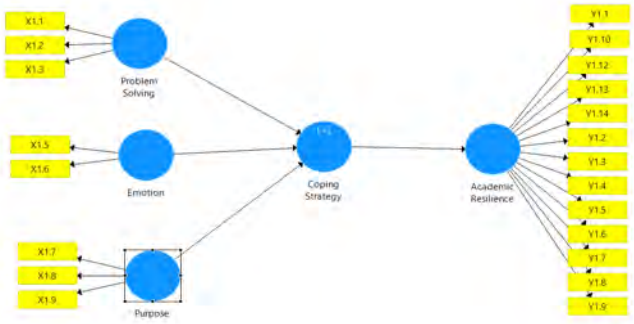

Fig. 1: Research Model

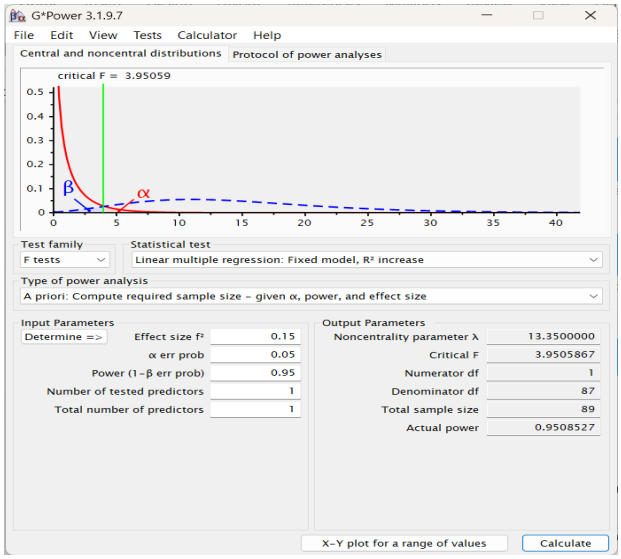

Fig. 2: Power Results for Required Sample Size

Findings

Evaluation of Measurement Models for First-order Constructs

The first-order constructs in this study are reflective constructs. The evaluation of reflective constructs includes assessing convergent validity, internal consistency reliability, and discriminant validity (Hair Jr et al., 2016). Convergent validity measures the extent to which a measure correlates with other measures of the same construct and requires both loading factors and Average Variance Extracted (AVE) to exceed 0.5 (Hair Jr et al., 2016). Internal consistency reliability, on the other hand, examines the similarity of scores among items measuring a construct. It necessitates composite

reliability and Cronbach's alpha values above 0.6 (Hair Jr et al., 2016). The evaluation of measurement models for first-order constructs also includes assessing discriminant validity.

While various approaches exist for evaluating discriminant validity, such as cross-loading (Henseler et al., 2009), the Fornell-Larcker criterion (Fornell & Larcker, 1981), and the Heterotrait-Monotrait ratio (HTMT) (Henseler et al., 2015), the HTMT method is considered more accurate as it overcomes some limitations of cross-loading and the Fornell-Larcker criterion in recognizing discriminant validity issues (Henseler et al., 2015). The HTMT confidence interval should not include 1, and a conservative threshold of 0.85 is suggested (Henseler et al., 2015).

However, the results presented in Table 2 are from the second analysis run. In the first analysis, measures that did not meet the requirements were removed, specifically X1.4 and Y1.11. X1.4 belonged to the coping strategy construct, while Y1.11 belonged to the academic resilience construct. Table 2 demonstrates that all constructs exhibit satisfactory levels of convergent validity, internal consistency reliability, and discriminant validity. However, for detailed HTMT results, please refer to Table 3. Once it is confirmed that the evaluation of measurement models for first-order constructs is satisfactory, the evaluation can proceed to the assessment of second-order constructs.

Evaluation of the First-order Constructs on the Second-order Constructs

The evaluation of second-order constructs follows a similar process to that used for evaluating first-order constructs (Chin & others, 1998). However, since second-order constructs are formative, traditional validity assessments applicable to reflective constructs do not apply (Götz et al., 2010; Hair Jr et al., 2016; Henseler et al., 2009; Petter et al., 2007). Formative models assume that the indicators influence or shape the construct (Hair Jr et al., 2016; Jarvis et al., 2003), leading to

Table 2: Convergent Validity and Internal Consistency Reliability Measures

Laten Variables	*Indicators*	*Loadings* >0.50	*AVE* >0.50	*Composite Reliability* 0.60-0.90	*Cronbach's Alpha* 0.60-0.90	*Discriminant Validity* HTMT confidence interval does not include 1
Academic Resilience	Y1.1	0.60	0.47	0.918	0.90	Yes
	Y1.10	0.73				
	Y1.12	0.68				
	Y1.13	0.69				
	Y1.14	0.73				
	Y1.2	0.67				
	Y1.3	0.75				
	Y1.4	0.66				
	Y1.5	0.67				
	Y1.6	0.75				
	Y1.7	0.70				
	Y1.8	0.51				
	Y1.9	0.68				
Coping Strategy						
Problem solving	X1.1	0.89	0.78	0.92	0.86	Yes
	X1.2	0.88				
	X1.3	0.88				
Emotion	X1.5	0.60	0.59	0.73	0.33	Yes
	X1.6	0.90				
Purpose	X1.7	0.81	0.65	0.85	0.73	Yes
	X1.8	0.76				
	X1.9	0.85				

a different interpretation and evaluation of the measurement (Götz et al., 2010; Hair Jr et al., 2016).

In general, the evaluation of second-order constructs consists of two steps: the indicator level (where the first-order constructs act as indicators) and the second-order constructs (Henseler et al., 2009). In the first stage, we assess whether each first-order construct contributes to forming the second-order construct (Chin & others, 1998; Hair et al., 2011). However, it is important to note that in this case, we treat the paths as weights rather than loading factors. According to Andreev et al., (2009), the weights of the indicators should exceed 0.1. Additionally, bootstrapping should be used to verify the significance (Hair et al., 2011; Henseler et al., 2009). Table 4 demonstrates that all the weights of the first-order constructs exceed 0.10 and have a significant level based on 5,000 bootstrapping, providing empirical support for the construction of the formative second-order constructs (Hair et al., 2011).

Furthermore, it is necessary to assess the nomological validity at the second-order construct level. This validity is manifested in the magnitude and significance of the relationships between the second-order formative construct and other constructs in the model (Henseler et al., 2009). The results in Table 4 indicate a significant relationship between the second-order formative constructs in this study and the other constructs in the model, thereby meeting the nomological validity criterion.

Evaluation of the Structural Model (Inner Model) and MGA

Once the outer model has been established as reliable and valid, it is necessary to examine the inner model estimates to evaluate the hypothesized relationships among the constructs in the model (Hair et al., 2012; Hair Jr et al., 2016). However, it is important to note that PLS-SEM differs from CB-SEM, and the *goodness-of-fit* measures used in CB-SEM may not be fully applicable to PLS-SEM. Therefore, the *goodness-of-fit* of the inner model in this study was evaluated following the approaches of by Chin (1998), Henseler (2009), and Hair (2016) assessing the effect size measures f^2 and Q^2. Additionally, the standardized path coefficients and their significance levels, obtained through 5,000 bootstrapping, were used to test the proposed hypotheses.

While many researchers rely on R^2 to examine the explained variance of endogenous constructs, in the case of second-order constructs in this study's model, which use repeated indicators, the variance will be perfectly explained, resulting in an explained variance of 1. Therefore, an alternative approach known as Stone-Geisser's Q^2 (Geisser, 1975; Stone, 1974) is employed. This approach involves a blindfolding procedure where the omitted part is estimated using the estimated parameters (Vinzi et al., 2010). In this study, the researchers utilized the blindfolding feature in SmartPLS, with an omission distance of 7. This value aligns with the recommendation by Chin (1998) and Henseler et al., (2012) that the omission distance should be between 5 and 10. For interpretation, if $Q^2 > 0$, it indicates the model has predictive relevance, while $Q^2 < 0$ suggests a lack of predictive relevance (Henseler et al., 2009; Vinzi et al., 2010).

In addition to Q^2, scholars such as Hair et al., (2016), Henseler et al., (2009), and Ringle et al., (2020) also recommend evaluating the effect size of each path using f^2 (Cohen's effect size) (Cohen, 2013). Effect sizes between 0.02 and 0.15, 0.15 and 0.35, and over 0.35 represent small,

Table 3: HTMT Values for Discriminant Validity

	Academic Resilience	*Problem Solving*	*Emotion*	*Purpose*
Academic Resilience	-	-	-	-
Problem solving	0.72			-
Emotion	0.37	0.38		-
Purpose	0.65	0.75	0.51	-

Table 4: Weights of the First-order Constructs on the Second-order Constructs

Construct level		Weight	t	Mean	Standard Deviation
Second-order construct	First-order construct				
Coping Strategy	Problem solving	0.61	30.59***	0.61	0.02
	Emotion	0.12	5.63***	0.12	0.02
	Purpose	0.47	31.76***	0.46	0.02

Notes: ***Significant at 0.001 level based on 5,000 bootstraps; **significant at 0.01 level based on 5,000 bootstraps; *significant at 0.05 level based on 5,000 bootstraps

medium, and large effect sizes, respectively (Henseler et al., 2012; Vinzi et al., 2010). The same three levels can also be applied to Q^2 (Henseler et al., 2009).

Table 5 displays the path coefficients and significance levels for the model. In terms of the pooled sample, it is evident that coping strategy has a significant positive effect on academic resilience ($\beta = 0.68$, $p < 0.001$). This finding holds true for both the male sample ($\beta = 0.73$, $p < 0.001$) and the female sample ($\beta = 0.67$, $p < 0.001$). The analysis further explores the applicability of the model to different sample domiciles, namely those from out of the city and those from within the city. For the sample from out of the city, coping strategy also demonstrates a significant positive effect on academic resilience ($\beta = 0.68$, $p < 0.001$). Similarly, this relationship remains consistent for the sample from within the city ($\beta = 0.67$, $p < 0.001$).

To assess whether there are statistical differences in the results across different groups of the sample, a multi-group analysis (MGA) was conducted. The comparison between the male sample and the female sample reveals no significant differences between them (β diff $= 0.06$, $p > 0.05$). Similarly, no significant differences are observed when comparing the

Table 5: Hypothesis Tests and Effect Size Results

		Path Coefficient	*Effect size f2 Coping Strategy*	*Effect size Q2*	
				Academic Resilience	
Pooled	Coefficient	0.68***	0.85***		
	Mean	0.68	0.88		
	Standard Deviation	0.03	0.14	0.45	0.13
	T Values	23.73	6.23		
Male (Group 1)	Coefficient	0.73***	1.15***		
	Mean	0.75	1.37		
	Standard Deviation	0.04	0.37	0.38	0.12
	T Values	16.74	3.12		
Female (Group 2)	Coefficient	0.67***	0.82***		
	Mean	0.67	0.85		
	Standard Deviation	0.03	0.16	0.46	0.13
	T Values	20.08	5.28		
from out of city (Group 3)	Coefficient	0.68***	0.88***		
	Mean	0.69	0.93		
	Standard Deviation	0.04	0.18	0.47	0.12
	T Values	19.49	4.87		
from within the city (Group 4)	Coefficient	0.67***	0.80***	0.42	0.14
	Mean	0.67	0.87		
	Standard Deviation	0.05	0.22		
	T Values	14.29	3.67		
Grp 1 vs Grp 2	Path Coefficients-diff	0.06			
Grp 3 vs Grp 4	Path Coefficients-diff	-0.02			

Notes: ***Significant at 0.001 level based on 5,000 bootstraps; **significant at 0.01 level based on 5,000 bootstraps; *significant at 0.05 level based on 5,000 bootstraps

samples from out of the city and from within the city (β diff = -0.02, p > 0.05). This analysis provides robust evidence that there are no significant variations in the effects of coping strategy on academic resilience across these different groups.

Discussion

The findings of this study offer valuable insights into the connection between coping strategy and academic resilience. The results indicate a significant and positive impact of coping strategy on academic resilience, both for the overall sample and when analyzed separately for males and females. This suggests that individuals who utilize effective coping strategies are more likely to display higher levels of academic resilience. These findings align with the results of a previous study conducted by Meneghel et al., (2019), which also emphasized the significant role of different coping strategies in fostering resilience. Furthermore, the consistency of these findings across genders demonstrates that the relationship between coping strategies and academic resilience applies universally to both male and female students.

Additionally, the analysis examined whether the relationship between coping strategy and academic resilience varied depending on the participants' domicile (within the city versus out of the city). The results revealed that the relationship held true for both groups, indicating that the influence of coping strategy on academic resilience is not dependent on the participants' geographical location. This finding reinforces the notion that effective coping strategies can enhance academic resilience regardless of the students' residential background. It aligns with the findings of Khawaja and Stallman (2011), which emphasized the importance of understanding the host society's culture, often achieved by students with high coping strategy.

The study also employed a multi-group analysis (MGA) to investigate potential differences in the relationship between coping strategy and academic resilience across various groups. The MGA results indicated no significant differences between male and female students, indicating that the effect of coping strategy on academic resilience is similar for both genders. Similarly, no significant differences were observed when comparing samples from within and out of the city, suggesting that the relationship remains consistent across different residential backgrounds. These results highlight the robust nature of the influence of coping strategy on academic resilience, unaffected by gender or domicile.

The implications of these findings are pertinent to researchers and practitioners in the fields of education and psychology. Recognizing the positive impact of effective coping strategies on academic resilience can guide the development of interventions and programs aimed at promoting student well-being and academic success. Educators and counselors can incorporate coping skill enhancement strategies into their support systems to assist students in navigating challenges and setbacks during their academic journey. This approach aligns with the research conducted by Liang et al (2019). By employing a resilience enhancement (RE)-based project through participatory action research (PAR) as a coping strategy in the learning process, students were able to develop resilience. This method not only enhanced nursing knowledge but also encouraged the practice of positive thinking and behavior among the participants. By equipping students with effective coping strategies, educational institutions can foster a resilient mindset that contributes to improved academic performance and overall well-being.

It is important to note that this study focused specifically on the relationship between coping strategy and academic resilience. Future research could explore additional factors that may interact with or mediate this relationship. For instance, investigating the role of social support or self-efficacy in moderating the impact of coping strategies on academic resilience could provide a more comprehensive understanding of the underlying mechanisms. Additionally, longitudinal studies could be conducted to examine the causal relationship between coping strategies and academic resilience over time.

In summary, the findings of this study emphasize the significance of cultivating effective coping strategies to promote academic resilience among students. By acknowledging the importance of coping skills and their positive influence on students' academic journeys, educators and practitioners can contribute to the creation of a supportive and resilient learning environment.

Conclusion

This research sought to investigate how coping methods, such as problem-solving, emotion-focused coping, and purpose-oriented coping, impact academic resilience. Furthermore, the study explored whether these coping techniques had different outcomes for distinct groups, considering factors such as gender and domicile.

Overall, this study enhances our understanding of how coping strategies impact academic resilience and sheds light on potential gender and domicile differences in coping behaviors, although no significant effects were found for gender and domicile in the model. By recognizing the importance of coping strategies in promoting academic resilience, educational institutions can develop targeted interventions and support systems to improve students' well-being and academic success. Regarding emotion-focused

coping strategies, it is advisable for educators to assist students by offering tailored learning experiences focused on workload management. Moreover, it is crucial to reframe assessments as a means to support authentic, practice-based learning, rather than using them as punitive measures against students (Mawdsley and Willis 2023). Furthermore, since problem solving is one of the transferable life skills (Downey and Downey 2017), educators should prioritize enhancing students' problem-solving skills to foster their academic resilience. Students who develop strong problem-solving abilities are better equipped to succeed in the learning process, especially in contexts characterized by comprehensive and complex structures (Dikmen 2022). Finally, university counseling services should prioritize emphasizing factors directly linked to students' learning outcomes. This includes helping students find their purpose, which can enhance their coping strategies and, subsequently, boost academic resilience, since this factor directly affecting learning outcomes (Aliyev, Akbaş, and Özbay 2021).

In conclusion, this study highlights the significance of coping strategies, specifically problem-solving, emotion-focused coping, and purpose-oriented coping, in fostering academic resilience. The findings emphasize the need for educational institutions to prioritize students' mental well-being and develop interventions that promote effective coping strategies. By doing so, institutions can create an environment that supports students' overall well-being and enhances their academic success.

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