

Research Article

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Predictors of Psychological Well-being among Malaysian EFL University Students: Resilience and Self-Regulation

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Abstract

Background/purpose. The transition to tertiary education presents a critical adjustment period that demands adaptability and resilience from university students. In Malaysian universities, where English is the primary language of instruction, non-native English-speaking students often encounter difficulties in using the language effectively in academic settings. These language-related challenges can increase stress and adversely affect students' psychological well-being. Grounded in the Self-Determination Theory (SDT), this study examines the roles of resilience coping and autonomous self-regulation in predicting psychological well-being among first-year non-native English-speaking university students in Malaysia.

Materials/methods. A cross-sectional survey design was employed with a sample of 404 first-year students from universities in Selangor, Malaysia. Participants completed a confidential self-report questionnaire measuring psychological well-being, autonomous self-regulation, and resilient coping. Data were analyzed using bivariate correlation and hierarchical regression analyses to explore the relationships among the variables.

Results. The results revealed significant positive correlations between psychological well-being and both autonomous regulation and resilient coping. Additionally, a strong association was found between autonomous regulation and resilient coping. Hierarchical regression analysis demonstrated that both predictors significantly contributed to psychological well-being, with resilient coping emerging as the stronger predictor. Autonomous regulation accounted for 15% of the variance in psychological well-being, and together, the predictors explained 29% of the variance.

Conclusion. This study highlights the importance of fostering autonomous motivation and resilience to support the well-being of first-year non-native English-speaking students. While limited by sample diversity, findings suggest broader relevance beyond Malaysia. Future longitudinal and cross-cultural research is needed. By promoting coping skills, universities can help students sustain resilience and psychological health amid academic and language challenges.



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1. Introduction

Students, particularly those whose first language is not English, face significant challenges and opportunities for growth when transitioning to tertiary education (Dardjito et al., 2023; Aziz & Kashinathan, 2021). To navigate the demands of their first university year successfully, they must be equipped with resilience and adaptability. The COVID-19 outbreak further intensified these challenges, requiring students to balance high academic performance while safeguarding their physical and mental well-being (Noman et al., 2021; Rosli & Bakar, 2021). For many English as a Foreign Language (EFL) students, mastering and applying English language skills in academic settings proved particularly difficult, despite English being the primary medium of communication in many Malaysian universities (Sinnasamy & Karim, 2014). Consequently, heightened stress levels and diminished well-being were prevalent among EFL students.

The transition to the post-pandemic period introduced additional challenges to students' academic experiences (Sia et al., 2023). Past studies indicate that many Malaysian students adopted ineffective coping strategies to manage pandemic-related difficulties (Kamaludin et al., 2020), which significantly weakened their ability to self-regulate and meet academic and social demands (Trisnawati & Rahimi, 2022). A recent study highlighted how perceived conditional regard can negatively impact academic performance, underscoring the importance of developing self-regulation and autonomy for students to succeed (Fu et al., 2025). As a result, adaptive coping strategies and resilience have become critical in addressing these challenges, drawing increased scholarly attention. However, limited research has specifically examined the academic adaptability of Malaysian EFL students in the post-pandemic era.

English serves as the primary medium of instruction in many Malaysian higher education institutions. Yet, numerous EFL students struggle with mastering essential linguistic skills, despite graduating with competitive advantages for their future careers. Writing and reading in English pose the greatest challenges, as it is not their native language. Additionally, the predominant use of Malay language in public high schools further complicates their transition to an academic environment with distinct linguistic expectations, such as mastering discipline-specific academic writing conventions, engaging in critical analysis of scholarly sources, adhering to proper citation practices and plagiarism avoidance, and demonstrating proficiency in constructing evidence-based arguments in English. These difficulties can have a negative impact on students' psychological well-being, leading to feelings of perceived isolation, diminished self-confidence, and a decline in academic performance. A recent study highlights resilience as a key mediator between emotional intelligence and stress, indicating that strengthening resilience can enable EFL students to cope more effectively with academic pressures (Gey et al., 2025). Thus, to navigate these challenges, resilience is essential for EFL students to develop effective support mechanisms that enhance both academic achievement and psychological well-being. Greater resilience enables students to manage stress more effectively and maintain motivation.

Another crucial factor influencing the academic and psychological well-being of EFL students is autonomous self-regulation, which involves taking ownership of one's learning and setting personal academic goals (Leow et al., 2022). A strong sense of autonomy and competence fosters both academic success and mental health. Higher education institutions can support this development through targeted language support programs that equip EFL students with essential writing and reading skills. Additionally, peer mentoring offers guidance from experienced students, helping newcomers adjust to academic and social expectations. Collaborative learning activities further encourage meaningful engagement with peers, fostering language development in a social context. Summarily, Malaysian EFL students face complex academic and social challenges. A holistic approach that incorporates peer mentoring, language support, collaborative learning, and mental health

services is essential for creating an inclusive and supportive environment that promotes both academic success and overall well-being.

Accordingly, this study seeks to appraise resilience and coping strategies among Malaysian first-year EFL university students in the post-COVID-19 period by applying Self-Determination Theory (SDT) to predict psychological well-being. Specifically, the following hypotheses would delineate the interaction between self-regulation, resilience, and psychological well-being:

Hypothesis 1 (H1): Autonomous self-regulation will be positively associated with psychological well-being.

Hypothesis 2 (H2): Resilient coping will be positively associated with psychological well-being.

Hypothesis 3 (H3): Resilient coping will be more strongly associated with psychological well-being than autonomous self-regulation.

2. Literature Review

2.1. University Students' Resilience and Mental Well-being

Resilience is regarded as a key factor in developing coping strategies for stressful and traumatic experiences. It refers to an individual's ability to recover from challenges (Denckla et al., 2020; Dyer & McGuiness, 1996; Smith & Yang, 2017) or to adapt positively and function effectively despite adversity (Kunzler et al., 2020; Niemiec, 2020). Previous research has extensively explored resilience to identify protective factors that enhance positive adaptation, coping strategies, cognitive problem-solving, and reflective thinking, while also fostering supportive peer relationships (Manjula & Srivastava, 2022; Panagou & MacBeth, 2022; Sinclair & Wallston, 2004). A resilient individual is regarded as exhibiting a positive outlook and managing stress effectively by adapting to multiple alterations and negative events, such as traumatic life circumstances, mental and chronic illness, and socioeconomic disadvantages (Riepenhausen et al., 2022; Wu et al., 2020). Thus, resilience has been proposed as a protective factor against negative psychological outcomes, particularly in the context of the COVID-19 pandemic (Ye et al., 2020; Zhao et al., 2021).

More empirical evidence has demonstrated the significance of resilience and effective coping mechanisms in alleviating the negative psychological outcomes experienced by university students due to stress (Chue & Cheung, 2023; Gey et al., 2025) or following several adverse life circumstances (Leow et al., 2023). The COVID-19 pandemic has negatively impacted the long-term mental well-being of university students (Che Rahimi et al., 2021; Rosli & Bakar, 2021; Zainal Badri & Wan Mohd Yunus, 2022). Malaysian university students without effective coping mechanisms experienced more depressive symptoms triggered by pandemic-related stressors (Luo & Mohammed, 2023), which underscored the imperativeness of exploring the roles of resilience and self-regulation against the negative impacts of stress for higher mental health and overall well-being (Haydon & Salvatore, 2022). Thus, understanding of the connections between resilience, coping strategies, and psychological outcomes is essential for designing targeted interventions to improve students' mental health in the post-COVID-19 period.

In the Malaysian context, empirical research has highlighted specific cultural and contextual factors that shape resilience among students. For instance, Che Rahimi et al. (2021) found that social support networks, particularly from family and peers, play a crucial role in buffering stress and fostering psychological resilience among Malaysian undergraduates. Similarly, Rosli and Bakar (2021) demonstrated that students who engage in proactive coping strategies, such as spiritual practices and community involvement, reported lower levels of anxiety and depressive symptoms during the pandemic. These findings underscore how cultural values emphasizing collectivism and family cohesion uniquely reinforce resilience in Malaysia.

Further, Zainal Badri and Wan Mohd Yunus (2022) provided evidence that resilience mediated the relationship between academic stress and psychological well-being in Malaysian higher education students, suggesting that interventions to strengthen resilience can mitigate academic burnout. Another study by Leow et al. (2023) extended this by showing how resilience not only supported coping with pandemic-related challenges but also enhances self-regulation skills, contributing to better academic outcomes. Together, these empirical studies reinforce the importance of contextualizing resilience research within Malaysia, where cultural, familial, and spiritual resources interact with psychological factors to shape students' adaptive capacities.

2.2. Self-Determination Theory: Autonomous Self-Regulation

Self-regulation was measured in the present study by applying the self-determination theory (SDT) to differentiate between autonomous and controlled self-regulation. Autonomous self-regulation is defined as the sense of volition and choice, whereas controlled self-regulation is motivated by external pressures and demands (Guay, 2022; Roth et al., 2019). Students with autonomous self-regulation will allocate more time and effort to personal learning. In contrast, students driven by extrinsic demands, rewards, or ego involvement will practice non-autonomous or controlled self-regulation (Ginanjar et al., 2021). The SDT postulates that individuals are intrinsically motivated to engage in optimally challenging, interesting, and inherently satisfying activities for personal development (Ryan & Deci, 2020). Black and Deci (2000) also proposed that students can be intrinsically motivated by personal values and perceived choices, or extrinsically motivated due to feelings of pressure or coercion. Therefore, the theory outlines a motivational process of self-regulation that fulfills psychological needs for autonomy, competence, and relatedness (Ryan & Deci, 2020; Deci & Ryan, 2000; Vansteenkiste et al., 2020).

The need for autonomy encompasses a sense of choice, endorsement, and willpower in initiating, sustaining, and terminating specific behaviors. The need for competence is the feeling of effective interactions with the social or physical environment. Meanwhile, the need for relatedness is met through warmth and care from other individuals, fostering a sense of belonging (Ryan & Deci, 2020). Ryan and Deci (2020) posited that low perceived autonomy in learning would lead students to exhibit lower self-assurance in personal capacities to master necessary knowledge, skills, and behaviors (competence) or perceive inadequate belongingness (relatedness) with diminished intrinsic motivation. The SDT delineates individuals' inherent predispositions to explore situated environments and develop an interest in grasping additional knowledge. Nonetheless, environments with more external influencing factors frequently reduce intrinsic curiosity and motivation (Ryan & Deci, 2020), especially following the pandemic. Thus, students' self-regulated demeanors in increasing resilience are essential (Zamroni et al., 2022) to effectively resolve disruptions to academic routines with high uncertainties.

Zamrani et al. (2022) postulated that students with high autonomous self-regulation would proactively regulate their personal emotions, motivation, and cognitive processes, thereby being well-equipped to resolve pandemic-related challenges. Resultantly, multifaceted academic and psychosocial demands can be fulfilled more effectively. Nevertheless, the role of resilience among EFL university students has been scarcely assessed, despite resilience being extensively studied in multiple settings (Champ et al., 2023; Gey et al., 2025). Notwithstanding, existing studies highlight the crucial role of self-regulation in elevating resilience. Students with effective self-regulation are well-prepared for academic challenges, which can help minimize the risk of psychological distress while ensuring positive academic and social outcomes (Brown & Ryan, 2015). Therefore, self-regulation skills are vital to increasing resilience among first-year EFL university students.

Previous researchers have discovered that students who highly demonstrate self-regulated behavior actively engage in personal learning (Munshi et al., 2023) by setting realistic goals, managing

time efficiently, monitoring personal progress, sustaining personal motivation, and seeking required support (Zimmerman et al., 2023). The multiple approaches indicate students' abilities to navigate academic intricacies and adapt to different learning settings. Simultaneously, Ragusa et al. (2023) highlighted the importance of self-regulation and resilience in achieving academic success by effectively addressing the encountered challenges. Moreover, Nakhostin-Khayyat et al. (2024) underscored the significance of positive adaptation to various adverse events through self-regulation and resilience.

Self-regulated learning (SRL) denotes "an active, constructive process whereby learners set goals for their learning and attempt to monitor, regulate, and control their cognitions, motivation, and behavior, guided and constrained by their goals and the contextual features in the environment" (Pintrich, 2000, p. 453). Students demonstrating highly self-regulated demeanors will proactively engage in personal learning through emotional, motivational, and cognitive domains (Schunk & Zimmerman, 2023). Autonomy, which serves as a pivotal aspect of self-regulation during adolescence, allows individuals to make appropriate decisions and pursue achievable goals via self-control over mental processes and environmental adaptability (Champ et al., 2023; Wesarg-Menzel et al., 2023). Academic self-regulation, also known as SRL, involves the systematic activation and maintenance of cognition, behaviors, and emotions to achieve learning objectives (Schunk & Zimmerman, 2023).

Limited findings were discovered on the significance of resilience and self-regulation in the Malaysian educational context, despite numerous studies being conducted on university students' experiences in the period following the pandemic (Che Rahimi et al., 2021; Rosli & Bakar, 2021; Zainal Badri & Wan Mohd Yunus, 2022). Thoroughly understanding university students' resilience and coping mechanisms is crucial to mitigating negative psychological outcomes during the academic journey as society transitions into the endemic period. Therefore, this study aims to examine resilience and coping strategies among first-year Malaysian EFL university students in the post-COVID-19 context, employing Self-Determination Theory (SDT) as a framework to predict psychological well-being.

3. Methodology

3.1. Research Participants

The study recruited 404 participants with a gender distribution of 54% females and 46% males from a private university in Selangor, Malaysia. The participants were first-year EFL university students aged between 18 and 29 years old. The participants were primarily Chinese (71.8%), followed by Indians (9.4%), Malays (6.6%), Punjabis (1.4%), and individuals from other ethnicities (10.8%). The participants were enrolled in business (45%), psychology (30%), and communication studies (19%), with a smaller proportion in other fields (6%).

3.2. Procedures

Ethical approval was obtained from the institutional ethics committee prior to data collection. Participants were fully informed about the voluntary nature of their participation and provided informed consent before completing the questionnaire. The minimum required sample size was calculated using G*Power software. A medium effect size ($f^2 = 0.15$) was assumed, with two predictors included in the model and a desired statistical power of 0.80. Based on these parameters, the analysis indicated that a minimum of 68 participants was necessary to ensure sufficient power.

This study employed a convenience sampling method, with participant recruitment conducted through advertisements shared across multiple social media platforms, including Facebook, Instagram, WhatsApp, and LinkedIn. Participants were invited to participate in the study through these online networks on a voluntary basis. To be eligible, individuals were required to (a) be between

18 and 30 years of age, and (b) be currently enrolled in a local university or college. Exclusion criteria included incomplete or irrelevant responses, such as participants aged over 31 or instances of straightlining, where respondents selected the same option throughout without apparent attention to the item content. All participants completed the instruments in full and were thanked for their contribution at the conclusion of the study.

3.3. Measures

The measures used in this study were adopted from previously developed and validated measurements. Participants' demographic information, including age, gender, and educational background, was incorporated as control variables. The outcome variable was psychological well-being, with autonomous self-regulation and resilience being explanatory variables.

Ryff & Keyes (1995). Psychological Wellbeing Scale (18 items) was used to measure students' psychological well-being in the online learning environment during the COVID-19 pandemic. Participants were asked to rate their agreement with the statements regarding their psychological well-being (e.g., 'I judge myself by what I think is important, not by the values of what others think is important') by using a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). Negatively worded items were reverse-coded prior to all analyses. Scores were calculated as the average of the responses. The internal consistency reliability, as estimated by Cronbach's α , for this scale is high, with Cronbach's $\alpha = 0.78$.

The autonomous self-regulation (AR) measuring students' learning autonomy during this COVID-19 pandemic was adopted from Black and Deci (2000), the Learning Self-Regulation Questionnaire (SRQ-L). A total of 5 items on a 5-point Likert scale, ranging from 1 (not at all true of me) to 5 (very true) (e.g., 'Because a solid understanding of the course/ subject is important to my intellectual growth'). The internal consistency reliability using Cronbach's alpha also indicated a reliable convergence, Cronbach's $\alpha = 0.77$.

Participants completed the 4-item Sinclair and Wallston (2004) Brief Resilient Coping Scale (BRCS). This scale measured the resilience and tendency to cope with stress in online learning during the COVID-19 pandemic (e.g., 'I look for creative ways to alter difficult situations'). Responses were recorded in a 5-point Likert scale, ranging from 1 (does not describe me at all) to 5 (describes me very well). The BRCS demonstrated an acceptable and good reliability, Cronbach's $\alpha = 0.72$.

4. Results

The following section presents the results of the analysis conducted to explore the relationships between psychological well-being, autonomous self-regulation, and resilience coping among university students during the COVID-19 pandemic. The analysis involved both bivariate correlation and hierarchical regression techniques to comprehensively examine the associations between the variables of interest.

4.1. Bivariate Analysis

The results of the bivariate correlation analysis (Table 1) indicate that psychological well-being was significantly correlated with autonomous self-regulation ($r = 0.38$, $p < 0.01$). Additionally, psychological well-being was also significantly correlated with resilience coping ($r = 0.50$, $p < 0.01$). Finally, the results of the analysis also indicated a positive relationship between resilience coping and autonomous self-regulation ($r = 0.40$, $p < 0.01$).

Table 1. Correlations of psychological well-being, autonomous self-regulation, and coping ($N = 404$)

Variables	<i>M</i>	<i>SD</i>	Psychological Wellbeing	Autonomous Self-Regulation	Coping
1. Psychological Wellbeing	3.62	0.70	-		
2. Autonomous Self-Regulation	3.76	0.57	0.40**	-	
3. Resilience Coping	3.54	0.55	0.50**	0.38**	-

Note: * $p < 0.05$, ** $p < 0.01$

4.2. Multivariate Analysis

Table 2 presents the hierarchical regression model predicting the psychological well-being of non-native English-speaking students in the post-pandemic environment. In Step 1 of the hierarchy regression, autonomous self-regulation significantly predicted students' psychological well-being ($\beta = 0.43$, $p < 0.01$). The model accounts for 15% of the variance in students' psychological well-being, $F(1, 402) = 69.165$, $p < 0.01$. In Step 2, autonomous self-regulation and resilience coping significantly predicted higher psychological well-being, $F(2, 401) = 81.230$, $p < 0.01$, and together accounted for 29% of the variance in students' psychological well-being. The results in Step 2 indicated that resilience coping ($\beta = 0.47$, $p < 0.01$) and autonomous self-regulation ($\beta = 0.24$, $p < 0.01$) were significant predictors of psychological well-being. In this sample, resilience coping was a stronger predictor of the outcome than autonomous self-regulation, as indicated by the magnitudes of the respective standardized coefficients.

Table 2. Hierarchical regression analysis predicting student psychological well-being ($N = 404$).

Variable	Step 1			Step 2		
	<i>B</i>	<i>SE-B</i>	β	<i>B</i>	<i>SE-B</i>	β
Autonomous Self-Regulation	0.43**	0.51**	0.38**	0.24**	0.05**	0.22**
Resilience Coping				0.47**	0.05**	0.41**
R^2		0.15**			0.29**	
R^2 change					0.14**	
F-change		69.165			79.746	

Note: * $p < 0.05$, ** $p < 0.01$.

5. Discussion

The present findings contributed significant insights into the significance of autonomous self-regulation and resilience in predicting psychological well-being among EFL students in the post-pandemic period. The results also elucidated the complex interaction between resilience, coping strategies, and psychological outcomes, which contributed to developing tailored interventions that support students' mental health. Beyond statistical significance, the regression model accounted for a moderate proportion of variance in psychological well-being ($R^2 = 0.29$), with resilience demonstrating a larger standardized effect ($\beta = 0.41$) compared to autonomous self-regulation ($\beta = 0.22$). This indicates that the observed relationships are not only statistically reliable but also

practically meaningful in predicting well-being. From an educational policy perspective, such findings underscore the importance of institutional policies that incorporate student well-being indicators, particularly resilience and self-regulation, into program design and national higher education frameworks.

The bivariate analysis revealed that autonomous self-regulation and resilience coping were positively associated with psychological well-being, suggesting that students with higher levels of self-regulation and resilience tended to experience positive mental health. In addition, the hierarchical regression analysis highlighted the significance of the predictors, where autonomous self-regulation was found to be a key factor in a student's intrinsic motivation and self-determination in learning, and positively impacted their mental well-being. The results aligned with the SDT (Ryan & Deci, 2020), delineating autonomy as crucial to promoting intrinsic motivation and mental health. Individuals will be intrinsically motivated to participate in optimally challenging, interesting, and inherently satisfying activities, which results in positive personal development (Zamroni et al., 2022). Highly self-regulated EFL students are also well-equipped to resolve the challenges encountered in the first year of university. These results are therefore relevant to policies that encourage universities to embed self-regulated learning skills and autonomy-supportive teaching strategies throughout their curricula to improve retention and overall student well-being.

Resilience was considered a significant predictor of mental well-being, suggesting that EFL students with high resilience as a coping approach could effectively manage stress and challenges in sustaining their mental well-being. Prior academics have also emphasized the importance of resilience and effective coping mechanisms in mitigating adverse outcomes and enhancing mental well-being (Chue & Cheung, 2023; Patangia et al., 2023). Hence, the capability to adapt to stressors not only alleviates the negative impacts of challenging situations but also ensures a more stable and positive mental state (Zhao et al., 2021). Promoting resilience and inculcating adaptive coping strategies should be essential interventions to support students' psychological well-being, effectively addressing current and future challenges. Consequently, targeted programs should be developed to enhance resilience and equip students with practical coping skills to navigate personal challenges and academic complexities in the post-pandemic period. At the education policy level, resilience-building may be embedded into orientation programs, national curriculum guidelines, and accreditation standards to ensure that psychological well-being is treated as an essential outcome of higher education.

The significant association between resilience and autonomous self-regulation highlighted the interconnectedness. Autonomous students are more likely to develop and employ resilient coping mechanisms to maintain their personal mental health and achieve academic success. The present findings supported all the hypotheses and enriched the existing literature by demonstrating resilience as an integral element in improving mental health. Past researchers primarily investigated the current topic before the COVID-19 pandemic, whereas this study corroborates the relevance of the SDT in addressing unprecedented pandemic challenges. Therefore, the SDT is highly instrumental in delineating the collective impact of autonomous self-regulation and resilience on mental well-being, which enables the development of future interventions tailored to academic requirements in the post-pandemic setting. This has clear implications for educational policy, suggesting that policymakers and institutional leaders should embed wellbeing-focused frameworks into teaching practices, faculty training, and student support structures to enhance resilience and autonomy at scale. Furthermore, the current study highlights the importance of educators recognizing and promoting self-regulation among students to help them adapt to and effectively manage academic stressors (Zimmerman et al., 2023). A supportive environment also motivates personal choices and problem-solving, which improves the ability to exhibit productive demeanors, including self-initiative.

Students with high resilience tended to resist stress and attain higher mental well-being. Particularly, resilience could be perceived as a personality trait or a set of assets, including intellectual functioning, that allowed students to thrive despite multiple stressors and adversities (Kunzler et al., 2020). Accordingly, EFL students can more effectively adapt to the challenges of academic difficulties. Resilience is also perceived as an interactive process of biological, psychological, and social support systems, which results in positive mental well-being. The present study found a significant relationship between resilience and mental health, highlighting the importance of equipping students with the necessary resources to enhance their personal coping strategies and mitigate the negative effects of stress and adversity. Applying 10 tailored interventions that elevate resilience could help enhance psychological outcomes and promote overall well-being. Education policymakers can thus use such evidence to justify funding allocations toward resilience-enhancing programs (e.g., peer mentoring and stress management initiatives) as part of holistic student development strategies.

The present study demonstrates the crucial role of resilience in enhancing the mental health of EFL university students. Specifically, resilience was a more significant predictor of students' mental health than autonomous regulation due to the adaptive nature of effectively managing stress and resolving challenges. This suggests that interventions prioritizing resilience building, such as stress inoculation training, mindfulness practices, and peer-support programs, may yield greater improvements in student well-being compared to strategies that solely emphasize autonomous regulation. At the institutional level, integrating resilience workshops within orientation or first-year support programs could provide students with practical coping repertoires to complement their intrinsic motivation. At a broader level, such initiatives align with higher education policy goals of ensuring student well-being, enhancing academic persistence, and preparing graduates with transferable skills and competencies relevant to the workforce.

Self-regulation focuses on internal processes, which may be inadequate for students to resolve the multiple challenges they encounter in their academic and personal lives. Self-regulatory processes may not comprehensively enable effective coping against external stressors (Artuch-Garde et al., 2017). Comparatively, resilience includes various adaptive coping mechanisms catered to specific circumstances (Fullerton et al., 2021). Adaptability can highly equip students with the necessary skills to manage multiple demands and stressors in both academic and daily life. Thus, resilience serves as a holistic mechanism for promoting student well-being, whereas autonomous self-regulation has limited applications. The present results also proposed that resilience was a more effective method of improving students' mental health. Educational institutions should provide relevant programs that promote resilient coping mechanisms, in addition to cultivating autonomous self-regulation. Future researchers can further assess the interaction between the study variables and the collective influence on student well-being across different educational contexts.

5.1. Limitations

Several limitations exist in this study. Particularly, the participants were recruited from a single private university in Selangor, Malaysia, which might limit the generalizability of the study outcomes to other settings. The demographic homogeneity in terms of ethnicity and academic disciplines posited that the findings might not be highly representative of the entire university student population in Malaysia or other nations. This limitation suggests that education policymakers should exercise caution when applying the present results broadly without validation across diverse student groups and institutional contexts. Furthermore, this study employed a cross-sectional design, which may limit the ability to provide causal inferences about the associations between the study variables. As such, while the findings support policy interventions in resilience and self-regulation training, longitudinal research is needed to confirm their long-term impact and cost-effectiveness before large-scale adoption. Resultantly, a deeper comprehension of the causation and the long-term impacts can be established. Meanwhile, self-reported measurements may lead to response biases,

including social desirability or self-perception biases. Participants may have provided responses perceived as socially acceptable or aligned with expectations, rather than responding according to their actual emotions or behaviors. Multiple data collection approaches, such as observational techniques and reports from peers or instructors, could reduce the aforementioned biases while comprehensively assessing the study variables.

6. Conclusion

This study underscores the critical roles of autonomous regulation and resilience coping in enhancing psychological well-being among nonnative English-speaking first-year university students in the post-pandemic environment. By highlighting these mechanisms, the findings demonstrate how strengthening self-regulation and resilience can equip students to manage academic and psychosocial challenges more effectively, thereby promoting their overall wellbeing. Educational institutions should consider implementing programs and interventions that support the development of these skills. By promoting autonomous motivation and equipping students with effective coping strategies, universities can help students develop resilience and maintain their psychological well-being in the face of adversity. Importantly, while this study was conducted within a Malaysian higher education context, the results have broader implications. The emphasis on fostering resilience and autonomous motivation may also be relevant for students in other Asian countries where similar cultural, linguistic, and academic transition challenges exist, and even in diverse international educational contexts. Future research should therefore explore how these findings apply across different sociocultural and institutional settings to strengthen their generalizability.

7. Suggestion

Future research should continue to explore these relationships in diverse educational contexts and examine the long-term impacts of self-regulation and resilience on student outcomes. Understanding the mechanisms through which these factors interact can provide further insights into how to best support students' mental health and academic success in an ever-changing world.

Declarations

Author Contributions. Yueh Yea Lo: Conceptualization, project administration, writing original draft, responses to reviewers' comments and suggestions. Kenneth Leow: Visualization, methodology, data curation, formal analysis, and writing original draft. Serena Leow: Writing and editing. Elizabeth Gilpin: Data collection and investigation. All authors have read and approved the final version of the manuscript.

Conflicts of Interest. The authors declare no conflict of interest.

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Ethical Approval. The study was conducted in accordance with the principles of the Declaration of Helsinki. Participants were informed about the objectives of the study and participated voluntarily, providing their informed consent. Measures were taken to ensure data anonymity, privacy, and confidentiality.

Data Availability Statement. The data supporting the findings of this study are available from the corresponding author upon reasonable request.

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