Building Resilience to Promote Mental Health in University Students

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ABSTRACT

Aims Given the increasing mental health challenges in higher education, resilience is increasingly recognized as a crucial factor in promoting student well-being and mitigating distress. This study explored the impact of resilience on the psychological well-being and distress of university students.

Instrument & Methods This quantitative research was done on a sample of 1,483 students, utilizing validated resilience and mental health scales. Data were analyzed using multivariate regression analysis to examine the influence of resilience on dimensions of well-being (positive emotions, social relationships, and life satisfaction) and distress factors (anxiety, depression, and loss of control).

Findings Resilience significantly enhanced psychological well-being, with the most substantial effects observed in life satisfaction and emotional regulation. Furthermore, resilience served a protective role in reducing psychological distress, particularly in preventing loss of control and mitigating anxiety and depression. These results emphasize resilience as a key psychological resource in higher education, highlighting its role in fostering adaptive coping strategies and emotional stability.

Conclusion Resilience plays a crucial role in enhancing psychological well-being and reducing distress among university students.

Keywords Mental Health; Psychological Distress; Psychological Well-being; Resilience; Students

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CITATION LINKS

[1] Assessing psychological resilience and distress ... [2] Finding the power within and without ... [3] Are international students relatively resilient? Comparing ... [4] Resilience, alexithymia, and university stress in ... [5] Exploring well-being in college students ... [6] Resilience and psychological ... [7] An analysis of factors affecting student ... [8] Mattering, social support ... [9] Life satisfaction, resilience and coping ... [10] Relationship between ego resilience, perceived ... [11] The role of resilience and coping ... [12] Comparing well-being among ... [13] Academic stress, COVID-19 anxiety, and quality ... [14] Resilience attributes among university ... [15] Exploring student and teacher perspectives on ... [16] Attachment, resilience and life satisfaction of university ... [17] Development and initial validation of the subjective ... [18] A re-engagement model to overcome the ... [19] Statistical power analyses using G*Power 3.1: Tests for ... [20] Emotion regulation, resilience, and mental health ... [21] College students' mental health ... [22] Talking back to the research: Indigenous wellbeing ... [23] Stress, resilience, and ... [24] Resilience and social support protect nurses ... [25] Mediating effects of social support and resilience ... [26] Post-locked down mental wellbeing among Malaysian ... [27] The role of optimism as the mediator between family and mental ... [28] Hope, optimism, gratitude, and wellbeing among health ... [29] Validating psychometric properties of dual-continua ... [30] Measuring positive mental health ... [31] Effectiveness of online, school-based ... [32] Implementation process and outcomes of a mental ... [33] Automated framework for evaluating ... [34] Promoting wellbeing at university ... [35] Do universal school-based mental health promotion ... [36] A new health promotion program that includes wadaiko rhythm exercise to maintain the health of persons ...

Introduction

In today's rapidly evolving social, economic, and environmental landscape, mental health issues among university students are becoming increasingly prevalent due to academic pressures, financial burdens, and the transition to independent living. Resilience has emerged as a key factor in mitigating psychological distress and promoting well-being. Studies have shown that higher levels of resilience are associated with reduced burnout and better overall mental health [1, 2]. International students, for example, demonstrate higher resilience and self-compassion, which lead to lower rates of anxiety and depression [3, 4]. Additionally, resilience and social support have been found to have a significant relationship with students' subjective well-being, indicating that students with higher levels of resilience can better manage stress and adversity [5, 6]. Thus, fostering resilience is crucial in addressing the growing mental health challenges that university students face.

Resilience plays a vital role in supporting the mental health of university students. Studies show that students with higher resilience are better at managing stress, regulating emotions, and recovering from setbacks. For instance, resilience helps students cope with the challenges of online learning during the COVID-19 pandemic, positively impacting their psychological well-being [7]. Additionally, social support and a sense of empowerment contribute to increased resilience and mental well-being among students [8]. Overall, fostering resilience is essential for helping students navigate the challenges of university life.

Recent studies have broadened our understanding of resilience beyond its traditional role in mitigating anxiety and depression. Resilience has been linked to positive emotional experiences, stronger social relationships, and an increased sense of life purpose. For instance, resilience positively influences life satisfaction in medical students, particularly during high-stress situations like the COVID-19 pandemic, where students with higher resilience reported better coping strategies and overall well-being [9]. Additionally, there is a significant positive correlation between ego resilience and life satisfaction among university students, with resilience also playing a key role in reducing perceived stress [10]. Furthermore, resilience enhances subjective well-being by promoting adaptive coping strategies, such as task-oriented approaches, which contribute to greater life satisfaction [11, 12]. Moreover, life satisfaction and resilience improve university students' tolerance for disagreement and sense of belonging, both of which are crucial for academic success and personal development [13, 14]. Despite these advances, gaps remain in understanding how resilience affects cognitive and behavioral distress, particularly the sense of losing control in stressful academic and social situations. Despite extensive research on resilience, gaps remain in understanding its influence on specific aspects of psychological well-being in university settings. While resilience is known to reduce anxiety and depression, its role in addressing feelings of losing control under academic and social stress is underexplored. Resilience significantly contributes to life satisfaction and enhances coping mechanisms, especially during high-stress periods [9, 15]. It also mediates the relationship between attachment styles and life satisfaction, highlighting its role in stress management [16]. Furthermore, resilience is positively correlated with reduced psychological maladjustment and improved well-being [17, 18]. Further exploration is needed to clarify these relationships and inform targeted interventions.

This study aimed to investigate the impact of resilience on psychological well-being and psychological distress among university students, with a particular focus on life satisfaction and the sense of loss of control. It explored how resilience influences these mental health dimensions within the higher education context. Multivariate statistical analyses were used to examine the associations between resilience and various indicators of well-being (such as positive emotions, social relationships, and life satisfaction) and distress (including anxiety, depression, and perceived loss of control). The findings were intended to deepen the understanding of resilience's role in student mental health and to support the development of targeted health promotion strategies that enhance well-being and mitigate psychological distress in academic settings.

Instrument and Methods

Research design

This quantitative study was done on university students between April and July 2024. The quantitative approach was chosen for its objective measurement and statistical analysis of the parameters, ensuring valid and reliable results. The research framework was grounded in the dual model of mental health, which integrates both positive aspects (psychological well-being) and negative aspects (psychological distress) to provide a comprehensive understanding of student mental health. This design facilitates the exploration of how resilience influences both dimensions, contributing to the development of targeted mental health interventions in educational settings.

We followed a structured data collection protocol that is consistent with established ethical research standards. Participant recruitment was facilitated through official university channels to ensure voluntary involvement and demographic representativeness. Prior to data collection, we obtained ethical approval from the university's institutional review board. All participants provided

written informed consent, and we maintained strict confidentiality and anonymity throughout the research process. These procedures ensured adherence to ethical principles and safeguarded the rights and well-being of all participants involved in the study.

Sample

The study involved 1,483 university students (533 males, 950 females) selected through random sampling to ensure representativeness and reduce selection bias. Inclusion criteria required participants to be full-time undergraduate students, while those with pre-existing diagnosed mental health conditions were excluded. The sample size was determined using G*Power 3.1 software for multiple regression analysis, with parameters set at $\alpha=0.05$, power=0.95, and a medium effect size ($f^2=0.15$), resulting in a minimum requirement of 138 participants. The final sample greatly exceeded this threshold, enhancing statistical power, precision of estimates, and enabling subgroup analysis [19]. This sample size determination method is aligned with best practices in behavioral research and is widely supported for its methodological rigor in ensuring valid regression outcomes.

Research tools

We employed the Azira Mental Health Scales (AMHS-24), a dual-factor instrument developed to assess both psychological well-being and psychological distress as distinct yet interconnected components of mental health. The scale comprises 24 items, equally divided between the two dimensions. Each dimension includes three subcomponents (positive affect, social relationships, and life satisfaction for well-being; and anxiety, depression, and loss of control for distress), with four items per subscale. The AMHS-24 has shown strong internal consistency, with Cronbach's alpha values of 0.828 for well-being and 0.875 for distress.

Resilience was assessed using the Brief Resilience Scale (BRS), a widely validated tool that demonstrates acceptable reliability across multiple cultural populations, with alpha coefficients ranging from 0.71 to 0.85. These two tools were selected for their theoretical alignment with the dual-factor model and their proven psychometric robustness in assessing student mental health.

Data analysis

The data analysis proceeded in three main stages. First, descriptive statistics were used to summarize the scores for resilience, psychological well-being, and psychological distress, including measures of central tendency and variability (mean, standard deviation, and range). This step provided an overall profile of the sample's mental health status. Second, multivariate analyses of variance (MANOVA) were conducted to assess the global effect of resilience on the dimensions of well-being and distress. To ensure robustness, four multivariate statistics were applied, including Pillai's trace, Wilks' lambda, Hotelling's

trace, and Roy's largest root. Finally, between-subjects effects tests were employed to examine the specific influence of resilience on the subcomponents of well-being (positive emotions, social relationships, life satisfaction) and distress (anxiety, depression, loss of control). These sequential analyses allowed for both comprehensive and domain-specific interpretations, confirming resilience as a key predictor of students' psychological health. All statistical analyses were conducted using SPSS Statistics version 25.

Findings

Participants generally showed moderate to high levels of resilience and well-being. Most students reported experiencing frequent positive emotions and maintaining meaningful social relationships. However, their satisfaction with life appeared slightly lower in comparison. In terms of distress, anxiety emerged as the most commonly reported issue, followed by feelings of loss of control and depressive symptoms. These patterns suggest that although students largely demonstrated psychological strengths, many continued to struggle with emotional challenges, particularly anxiety (Table 1).

Table 1. Descriptive statistics for resilience, psychological well-being, and distress (n=1483)

Parameter	Min	Max	Mean
Resilience	6.00	24.00	15.59±2.97
Well-being	12.00	48.00	36.02±6.39
Positive emotion	4.00	16.00	12.11±2.48
Social relations	4.00	16.00	12.03±2.60
Life satisfaction	4.00	16.00	11.87±2.51
Distress	12.00	48.00	28.14±7.40
Anxiety	4.00	16.00	10.74±2.59
Depression	4.00	16.00	8.61±3.21
Loss of control	4.00	16.00	8.79±3.06

Effect of resilience on psychological well-being

The findings highlighted resilience's substantial impact on different dimensions of well-being. Resilience had a statistically significant effect on psychological well-being. All four multivariate statistics (Pillai's trace, Wilks' lambda, Hotelling's trace, and Roy's largest root) were significant (p=0.0001). This suggests that resilience contributes significantly to the overall variance in the dimensions of psychological well-being, confirming its role as a key factor in enhancing mental health outcomes (Table 2).

Table 2. Multivariate test results of the effect of resilience on psychological well-being

Statistics	Value	F	Hypothesis df	Error df	p-value
Pillai's trace	0.139	3.962	54	4392	0.0001
Wilks' lambda	0.864	4.044	54	4357	0.0001
Hotelling's trace	0.153	4.127	54	4382	0.0001
Roy's largest root	0.119	9.681	18	1464	0.0001

Table 3. Tests of between-subjects effects

Wellbeing dimension	Sum of Squares	df	Mean square	F	p-value
Positive emotion	655.196	18	36.400	6.309	0.0001
Social relationship	647.218	18	35.957	5.638	0.0001
Life satisfaction	916.531	18	50.918	8.844	0.0001
Overall well-being	6190.985	18	343.944	9.266	0.0001

Table 4. Multivariate test results of the effect of resilience on psychological distress

Multivariate test	Value	F	Hypothesis df	Error df	p-value
Pillai's trace	0.252	7.464	54	4392	0.0001
Wilks' lambda	0.754	8.023	54	4357	0.0001
Hotelling's trace	0.318	8.611	54	4382	0.0001
Roy's largest root	0.291	23.705	18	1464	0.0001

Table 5. Tests of between-subjects effects

Distress dimension	Sum of squares	df	Mean square	F	p-value
Anxiety	1099.249	18	61.069	10.651	0.0001
Depression	2602.193	18	144.566	16.767	0.0001
Loss of control	2692.846	18	149.603	19.578	0.0001
Total distress	18013.264	18	1000.737	23.214	0.0001

Resilience significantly influenced all aspects of psychological well-being. Students who reported higher levels of resilience also tended to experience more positive emotions, better social relationships, and greater life satisfaction. These findings support the idea that resilience serves as a protective factor that enhances overall well-being by enabling individuals to maintain emotional balance and meaningful social connections (Table 3).

Effect of resilience on psychological distress
Statistical measures confirmed the significance of resilience's impact. Resilience had a statistically significant effect on psychological distress. All four multivariate statistics were significant (p=0.0001. This suggests that resilience contributes significantly to the variance in psychological distress, which includes anxiety, depression, and loss of control. The high F-values indicated that resilience was protective in mitigating overall psychological distress (Table 4). Higher levels of resilience were associated with lower levels of psychological distress. Students who scored high in resilience reported experiencing less anxiety, fewer symptoms of depression, and a stronger sense of control over their lives. This inverse relationship suggests that resilience plays a vital role in helping students cope with academic and emotional stressors, thereby reducing the overall burden of mental distress. Overall, resilience contributed substantially to protecting mental health across the sample (Table 5).

Discussion

This study examined how resilience influenced students' mental health, focusing on both psychological well-being and distress. The results showed that students with higher resilience consistently reported better outcomes across all well-being domains, with life satisfaction emerging as the most strongly supported dimension. Resilience also appeared to contribute meaningfully to students' positive emotions and their sense of social connection. In contrast, students with lower resilience were more likely to experience psychological distress. The most notable reduction due to resilience was observed in feelings of losing control, followed by depressive symptoms and anxiety. These findings highlight the central role of resilience as a mental health resource, enhancing emotional and social well-being while also serving as a buffer against negative emotional states.

Our results align with existing literature that emphasizes the protective role of resilience in mental health. For instance, studies have found that resilience is closely associated with greater life satisfaction and positive emotion [10, 20], consistent with our findings. However, this study extends prior research by identifying loss of control as the psychological distress dimension most influenced by resilience, an area that has been less explored in previous studies. While earlier research has focused heavily on how resilience reduces anxiety and depression [2, 21], our study highlights the broader impact of resilience on maintaining a sense of control in stressful situations. This new insight contributes to the growing body of research by illustrating how resilience can help individuals navigate emotional challenges and cognitive and behavioral responses to adversity. In addition, we demonstrated that the effect of resilience on psychological well-being, particularly life satisfaction, may be more substantial than previously assumed, suggesting new pathways for future research and interventions.

Our results suggested resilience as a fundamental psychological buffer that helps individuals navigate life's challenges, promoting life satisfaction and reducing loss of control during stressful situations. Resilient individuals are more likely to possess the cognitive and emotional tools to reframe negative experiences, maintain a positive outlook, and regulate emotions effectively. This capacity for adaptive coping enhances well-being and protects against the adverse effects of psychological distress [22, 23]. The fact that life satisfaction emerged as the

most influential component of well-being indicates that resilience may help individuals find meaning and fulfillment even in the face of adversity. Conversely, the reduction of loss of control implies that resilience empowers individuals to maintain a sense of agency, preventing feelings of helplessness during stressful events [24]. These findings support the interpretation that resilience is not merely a passive trait but an active process that enables individuals to thrive emotionally and behaviorally when confronted with life's difficulties.

While the data strongly support the conclusion that resilience enhances well-being and reduces distress, alternative explanations should be considered. For example, social support networks could play a mediating role in these relationships. Individuals who report higher resilience might also have stronger social connections, contributing to psychological well-being and a reduction in distress [25, 26]. Furthermore, personality traits, such as optimism, self-efficacy, or emotional intelligence, may confound the observed effects, making it unclear whether resilience is the direct cause of improved mental health outcomes or correlates with other protective factors [27, 28]. Additionally, cultural factors influence how resilience manifests and impacts psychological well-being, as different cultures have varied coping mechanisms and social expectations regarding stress. However, the consistent and statistically significant findings across multiple dimensions suggest that resilience is a robust predictor of psychological health, even when accounting for these potential alternative explanations.

This study contributes significantly to the academic literature by expanding the understanding of resilience's multifaceted role in psychological well-being and distress. The identification of loss of control as a key distress factor influenced by resilience provides new avenues for research in positive psychology and mental health interventions [29-31]. These findings have implications for developing theoretical models that integrate resilience as a core component of mental health frameworks. Additionally, the results support the inclusion of resilience-focused strategies in educational curricula, particularly in higher education, where students face significant stressors. This study also contributes to cross-cultural psychology by suggesting that resilience may play a universally protective role, although further research is needed to confirm this across diverse populations. By highlighting the broad impact of resilience, this research encourages future studies to explore how resilience interacts with other psychological constructs, such as self-efficacy, mindfulness, and coping strategies, to influence mental health outcomes.

Resilience played a crucial role in supporting students' mental health, making it essential to integrate it into health education and health promotion programs in academic settings. Universities can develop initiatives, such as coping strategies training, stress management workshops, and mindfulness programs, to enhance students' psychological resilience. Previous studies indicate that education-based interventions, including social skills training and stress management education, effectively improve health literacy and self-care among students [24, 32]. By strengthening students' understanding of adaptive mechanisms against stress, resilience serves as a preventive tool against mental health disorders. Therefore, universities should adopt education-based mental health promotion strategies that incorporate resilience into the curriculum and provide proactive mental health services to holistically support student well-being.

Beyond individual factors, resilience is influenced by social determinants of health, such as social support, academic environment, and university mental health policies. Students with strong social networks and institutional support tend to exhibit higher resilience than those experiencing social isolation. Research suggests that access to university mental health services, academic mentoring, and inclusive campus policies significantly enhance students' psychological resilience [33, 34]. Thus, health promotion interventions should focus on individual empowerment and improving the environmental conditions that contribute to students' mental health. Universities must implement policies that balance academic demands with psychological well-being, creating an environment where students can develop resilience through a supportive academic structure.

Our findings highlight the crucial role of resilience in shaping students' psychological well-being and mitigating distress, making it an essential component of mental health promotion in higher education settings. Universities can leverage these findings to develop preventive and promotive strategies that enhance resilience as a protective factor against mental health challenges. One potential approach is to incorporate resilience-building programs within student orientation sessions, counseling services, and peer mentoring programs. Additionally, academic institutions can implement policies that promote psychological well-being, such as flexible deadlines for students experiencing high stress, mindfulness training, and campus-wide mental health awareness campaigns [35, 36]. By embedding resilience into the mental health promotion framework, universities can create a supportive academic environment that fosters adaptive coping mechanisms, ultimately enhancing students' quality of life and academic success.

This study emphasizes the crucial role of resilience in enhancing psychological well-being and reducing distress among university students by improving life satisfaction, positive emotions, and social relationships, while simultaneously reducing anxiety,

depression, and the sense of loss of control. However, methodological limitations, such as using self-reported measures prone to bias, the cross-sectional design that cannot establish causal relationships, and a lack of sample diversity, limit the generalizability of these findings, necessitating more rigorous longitudinal research. Based on these results, higher education institutions are encouraged to integrate resilience-building programs, such as stress management training, emotional regulation, and mindfulness practices, into their curricula to support student mental health and help them navigate academic and personal challenges more adaptively.

Conclusion
Resilience plays a crucial role in enhancing psychological well-being and reducing distress among university students.

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