

Examining the Relationship between Academic Stress, Maladaptive Perfectionism and Trauma-related Responses among University Students

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Abstract

Academic stress is a significant concern among university students, frequently contributing to maladaptive perfectionism and trauma-like responses. While perfectionism can enhance performance, its maladaptive variant may be exacerbated by academic stress which can induce trauma-like responses. This study investigates the correlation between academic stress, maladaptive perfectionism and trauma-like responses. Validated self-report measures were used in a quantitative, correlational study involving 101 university students. Linear regression analysis and Kendall's Tau-B correlation were used because of non-normal data distribution.

The results showed that maladaptive perfectionism and academic stress were significantly correlated ($\tau = 0.315$, $p < 0.001$). The strongest correlation was found between academic stress and parental expectations & criticism ($\tau = 0.342$, $p < 0.001$). There was a weak yet significant correlation between trauma-like responses and maladaptive perfectionism ($\tau = 0.149$, $p = 0.030$), while trauma-like responses correlated significantly with academic stress ($\tau = 0.148$, $p = 0.032$).

These relationships were further corroborated by regression analysis, which showed that the model explained 22.9% of the variation ($R^2 = 0.229$, $F(2, 97) = 14.4$, $P < 0.001$). The findings underline the necessity of focused interventions in academic contexts by demonstrating the substantial influence of academic stress on maladaptive perfectionism as well as trauma-like responses.

Keywords: Maladaptive Perfectionism, Academic Stress, Trauma-related responses.

INTRODUCTION

Academic Stress: Academic stress, has become a major psychological burden for university students, which is brought on by demanding coursework, high performance standards and competitive environments. While moderate stress can enhance motivation and productivity, excessive academic

stress can result in negative psychological effects such as anxiety, burnout, and lower academic engagement. Research suggests that students who frequently suffer from increased discomfort as a result of the pressure to maintain grades, satisfy high academic standards and ensure future employment possibilities, have detrimental effect on their mental health and overall well-being [1].

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Academic Stress in Asian Culture: Academic success is closely linked to social standing & family honour in many Asian societies. Children are frequently brought up believing that their accomplishments demonstrate both their own skills and the standing of their family. This creates tremendous stress to do well, which makes the

children put their academic achievement ahead of their own welfare. Student's stress levels are greatly influenced by parental expectations, especially in Indian households. According to research, children, who grow up in high-achieving schools are more likely to suffer from anxiety and depression as a result of parental criticism and a fear of disappointing their family. This stress is exacerbated by the strict focus on competitive exams, and landing a prominent job, frequently at the expense of one's emotional well-being and sense of value [2].

Maladaptive Perfectionism: Often perceived as a positive quality, perfectionism may backfire when it becomes maladaptive. Maladaptive perfectionism is typified by an unrelenting pursuit of unachievable standards, self-criticism and an overwhelming fear of failure, in contrast to adaptive perfectionism which fosters resilience and progress. (Flett & Hewitt, [10]2022)

Factors contributing to Maladaptive perfectionism:

- **Parental expectations and criticism:** Many students internalise high parental expectations because they believe that approval and affection are dependent on performance.
- **Concern over mistakes:** Anxiety, avoidance and procrastination are caused by a fear of making mistakes.
- **Doubt about actions:** Students who experience ongoing self-doubt begin to distrust their own talents, which feeds a vicious cycle of insecurity.

Trauma-like responses: Recent studies suggest that prolonged academic stress can induce trauma-like responses, including emotional numbness, hypervigilance and withdrawal. When academic demands repeatedly trigger the body's stress response system, the resulting physiological and psychological repercussions are similar to those observed in trauma-survivors. This frequently disregarded phenomena emphasize the significant negative effects of ongoing academic stress on student's mental health [3].

Theoretical Framework:

- **Stress-Diathesis Model (Monroe & Simons, [12] 1991):** The theoretical foundation of this study is rooted in this model as it suggests that individuals with predisposing vulnerabilities-such as perfectionistic tendencies-are more likely to experience maladaptive responses under chronic academic stress. This model explains why certain students develop trauma-like responses in high- pressure academic settings.
- **Transactional Model of Stress and Coping (Lazarus & Folkman, [13] 1984):** According to this model, people get stressed when they believe that their coping mechanisms and the demands of their circumstances are not aligned. This approach applies to academic stress as students constantly assess their academic difficulties and coping skills, which results in a range of stress reactions.
- Long term exposure to academic stress may trigger trauma-like reactions, impacting student's mental health and cognitive abilities according to theories of chronic stress and trauma.

Rationale of the Study

The increasing prevalence of academic stress and its psychological effects necessitate deeper exploration. Although achieving academic success is often prioritized, its effects on mental health are still not understood. By filling this knowledge vacuum, our study aims to better understand how academic stress influences, maladaptive perfectionism and impacts trauma-like responses.

Academic stress is a long-term psychological issue, causing trauma-like responses. This study encourages university support systems prioritizing student well-being alongside academic achievement, emphasizing the need for focused interventions. Recognizing and reducing the negative effects of academic stress is crucial for fostering resilience and long-term performance in students [4].

REVIEW OF LITERATURE

Kahn, J. H., Fishman, J.I., Galati, S., L., & Meyer, D.M. (2023) [3] This study investigates the predictive role of perfectionism in academic stress among university students. Findings suggest that increased levels of maladaptive perfectionism is associated with an increase in academic stress. The authors call for interventions to help students manage perfectionistic tendencies to reduce stress and enhance academic performance.

Rivera Gomez, A.K. [1] (2023) The study evaluated the effects of prolonged academic stress on perceived stress levels and pro-inflammatory cytokines among health science students. The findings indicated that morphology students experienced increased stress indicators throughout the academic period. The research highlights the potential impact of chronic academic stress on immune system dysregulation among students in health science fields.

Cengiz, S. [2] (2023) This research studies the relation between fear of failure, perfectionism and academic stress in students. The study finds that high academic expectations contribute to maladaptive perfectionism, which in turn increases stress levels. The authors recommend adopting balanced academic expectations to mitigate negative psychological effects.

Beckum, N.M. [7] (2023) This study examines the association between childhood trauma, perfectionism and psychological distress. The authors find that individuals with a history of trauma are more likely to develop maladaptive perfectionism as a coping mechanism, which can lead to increased anxiety and emotional pain, reinforcing the need for targeted therapeutic interventions.

Kalmakis, K.A., Kent, N.M., Alhowaymel, F. et al., [6] (2021) This study explored the relationship between perceived stress, fatigue symptoms and posttraumatic stress disorder (PTSD) symptoms among young adult college students. The authors found that higher levels of perceived stress were strongly associated with increased fatigue and PTSD symptoms. The research highlighted that the cumulative academic pressure and stress that students face could result in long-term mental health challenges, including fatigue and PTSD-like symptoms.

Research Gaps

While research has explored academic stress, perfectionism and trauma-related responses, key gaps remain in understanding their interconnectedness. The majority of the research ignores how academic settings support maladaptive perfectionism in favour of concentrating on perfectionism as an individual attribute. Furthermore, research on whether long-term academic stress causes trauma-like responses, such as CPTSD symptoms, is limited [5].

There is a knowledge vacuum on how cultural differences, especially in high-pressure settings like those in Asia, affect student's well-being because a large portion of the material currently in publication is centred on western contexts.

To investigate the causal links between academic stress and perfectionism, longitudinal research is required [6].

Additionally, studies of academic stress and perfectionism have not completely included trauma theory, and self-report measures that are frequently employed in research may not adequately capture the range of symptoms associated with trauma-like responses [7].

METHODOLOGY

Aim: This study aims "To examine the relationship between Academic stress, Maladaptive Perfectionism and Trauma-like responses among University students."

Objectives

To examine the correlation between Academic Stress and Trauma-like responses among university students.

- To investigate the correlation of maladaptive perfectionism and trauma-like responses among University Students.
- To analyse the correlation between maladaptive perfectionism and its dimensions i.e., Concern over mistakes, Parental expectations & criticism and Doubt about actions with academic stress among university students.
- To examine the predictive role of Academic stress and Trauma-like responses in maladaptive perfectionism among university students [8].

Hypotheses

- **H1:** There will be a significant correlation between Academic stress and Maladaptive perfectionism among university students.
- **H2:** There will be a significant relation between Trauma-like responses and Academic Stress among university students.
- **H3:** There will be a significant relationship between Maladaptive perfectionism and Trauma-related responses.
- **H4:** There will be a significant correlation between Academic Stress and the dimensions of Maladaptive perfectionism i.e., Concern over mistakes, Parental expectations & criticism and Doubt about actions among university students.
- **H5:** Academic stress and Trauma-like responses significantly predict Maladaptive Perfectionism among university students.

Variables

Independent Variable (IV): Academic Stress

Independent variable (IV): Trauma-related responses

Dependent Variable (DV): Maladaptive Perfectionism

Research Design: The study employed a quantitative, correlational research design by utilizing standardized self-report questionnaires to measure academic stress, trauma-like responses and maladaptive perfectionism among university students. (Table 1)

Sample: A total of 101, young adults (18-25 years old) student enrolled in undergraduate or postgraduate programs, were chosen using convenience sampling was used to ensure representation of students facing varying levels of academic stress and trauma-related responses [9].

Inclusion Criteria: Consenting young adults enrolled in some university who were not diagnosed with any physical or mental impairment.

Exclusion Criteria: Students diagnosed with mental or physical impairments and who fail to complete the survey entirely or inconsistently.

Table 1. Description of Research Instruments Used in the Study

Tool Name	Developer	Purpose	Reliability & Validity
Academic Stress Scale (ASS)	R. Balaji Rao <i>et al.</i> (2000)	Measures the level of academic stress experienced by students.	Reported Cronbach's alpha= 0.78, Factor analysis supports construct validity.

Tool Name	Developer	Purpose	Reliability & Validity
Frost Multidimensional Perfectionism (FMPS)	Randy O. Frost <i>et al.</i> (1990)	Assesses different dimensions of perfectionism.	Cronbach's alpha= 0.90 for total scale. Strong construct validity.
International Trauma Questionnaire (ITQ)	Marylene Cloitre <i>at al.</i> (2018)	Assesses trauma symptoms based on ICD- 11 criteria for PTSD and CPTSD.	Cronbach's alpha= 0.85-0.95 indicating reliability. Strong convergent validity.

Procedure: The study employed a quantitative, correlational design was used in the research to examine the correlation between trauma-like responses, maladaptive perfectionism and academic stress. Using convenience sampling, 101 students (ages 18-25 years old) from various universities were chosen. Data collection was done in both online and offline mode (using Google forms and in hard copy) to guarantee accessibility and reduce bias. Anonymity was preserved and informed consent was acquired. The survey covered demographics, self-report measures of maladaptive perfectionism, academic stress and trauma-related responses. Using Kendall's Tau-B correlation analysis, linear regression and descriptive statistics, the data was analysed using Jamovi software. This methodological approach ensured a rigorous and ethical investigation of the complex interplay between academic stress, trauma-related responses and maladaptive perfectionism. (Figure 1)

Result: To gain an overview of the dataset, mean (M), standard deviation (SD) and range values were computed for the three variables.

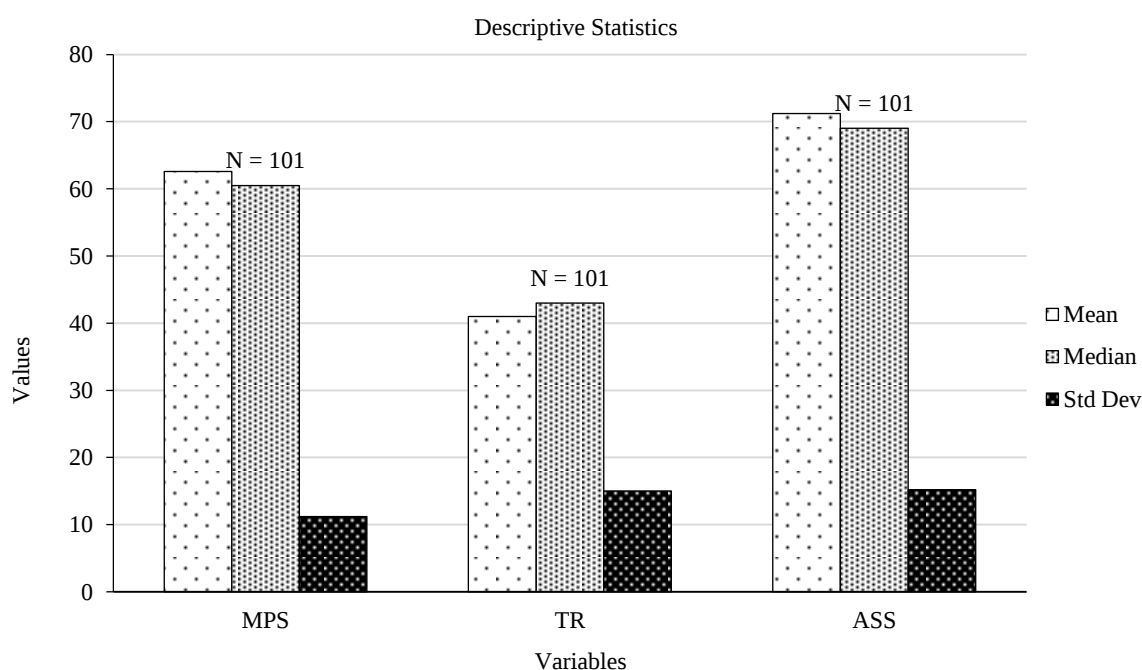


Figure 1. Graph showing descriptive statistics

Table 2. Descriptive Statistics, demonstrating mean, median, standard deviation of three variables.

:	ASS	TR	MPS
N	101	101	101
Mean	62.6	41	71.2
Median	60.5	43	69
Sd	11.2	15	15.2

The descriptive analysis indicates moderate academic stress ($M = 62.6$, $Mdn = 60.5$) with some individual variation ($SD = 11.2$). Trauma-related response show greater variability ($M = 41.0$, $SD = 15.0$), suggesting differing distress levels among students. Maladaptive perfectionism is notably high ($M = 71.2$, $Mdn = 69$, $SD = 15.2$), highlighting strong perfectionistic tendencies. (Table 2)

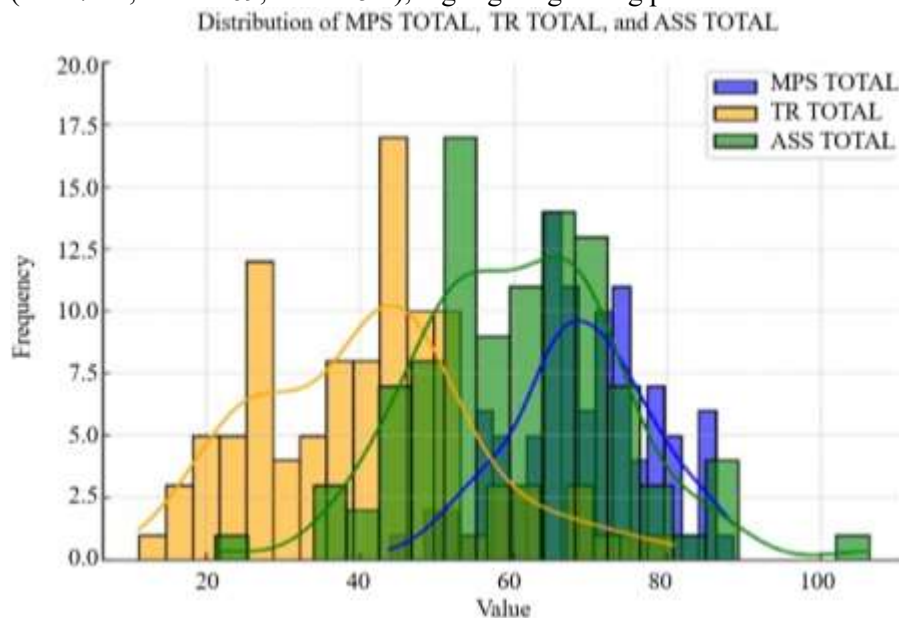


Figure 2. Data distribution graph for academic stress, maladaptive perfectionism and trauma-related stress.

Figure 2, shows the data is not normally distributed with noticeable skewness in academic stress (ASS) and Trauma-like responses (TR). Academic stress is moderately right-skewed. Trauma-related responses are highly skewed. Maladaptive perfectionism is closer to normal.(Figure-2)

There is a moderate significant correlation between Maladaptive perfectionism and Academic stress ($\tau = 0.315$, $p < 0.001$), as seen in Table 4, the strongest correlation is between Parental expectations & criticism and Academic stress ($\tau = 0.335$, $P < 0.001$), concern over mistakes is also significantly correlated with academic stress ($\tau = 0.282$, $p < 0.001$), along with doubt about action ($\tau = 0.221$, $p = 0.002$).(Table 4)

Table 3. Correlation coefficient between Academic stress and Trauma-related responses

ACADEMIC STRESS	Kendall's Tau-B	—				
	p-value	—				
PARENTAL EXPECTATIONS AND CRITICISM TOTAL	Kendall's Tau-B	0.342	—	.	.	
	p-value	<.001	—	.	.	
CONCERN OVER MISTAKES TOTAL	Kendall's Tau B	0.288	0.537	—		
	p-value	<.001	<.001	—		
DOUBT ABOUT ACTIONS TOTAL	Kendall's Tau B	0.226	0.417	0.582	—	
	p-value	0.001	<.001	<.001	—	
MALADAPTIVE PERFECTIONISM	Kendall's Tau B	0.315	0.747	0.755	0.658	—
	p-value	<.001	<.001	<.001	<.001	—

There is a weak but statistically significant correlation between academic stress and trauma-related response ($\tau = 0.148$, $p = 0.032$). (Table 3)

There is a statistically significant correlation between trauma-related response and maladaptive perfectionism ($\tau = 0.149$, $p = 0.030$).

Table 4. Correlation coefficients examining the relationship between academic stress, maladaptive perfectionism and various dimensions of maladaptive perfectionism.

Correlation Matrix			
Academic stress	Kendall's Tau B	—	
	p-value	—	
Trauma-related response	Kendall's Tau B	0.148	—
	p-value	0.032	—

Table 5. Correlation coefficient between Trauma-related response and Maladaptive perfection

Correlation Matrix			
Trauma	Kendall's Tau B	—	
	p-value	—	
Maladaptive perfectionism	Kendall's Tau B	0.149	—
	p-value	0.030	—

Table 6. Regression analysis between Academic Stress and Maladaptive perfectionism

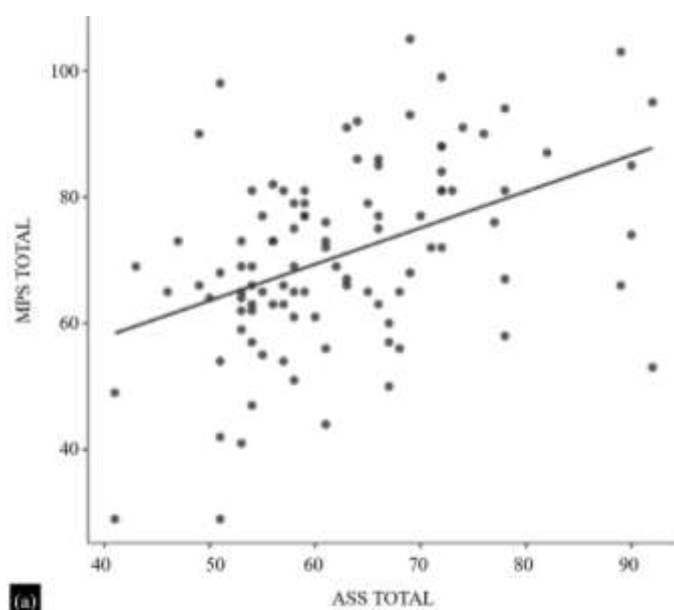
Model	R	R ²
1	0.435	0.190

The result indicates a moderate positive relationship ($R = 0.435$, $R^2 = 0.190$) Between academic stress & maladaptive perfectionism.

Table 7. In between Trauma-related response and Maladaptive Perfectionism regression analysis was run.

Model	R	R ²
1	0.293	0.0858

The result shows a weak positive relationship between trauma-related response and maladaptive perfectionism ($R = 0.293$, $R^2 = 0.0858$)



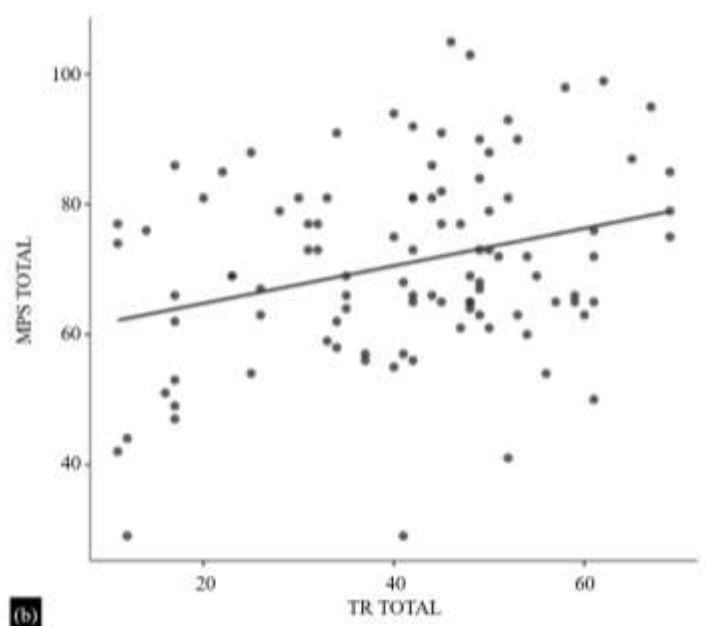


Figure 3. Scatterplot depicting regression analysis:

DISCUSSION

The present study examined the relationship between academic stress, maladaptive perfectionism and trauma-like responses among university students. The findings reinforce previous literature that academic stress can intensify maladaptive perfectionism, while academic stress which is chronic may contribute to trauma-like responses in some individuals. (Figure3)

Normality test Figure 2 indicated that the data was not normally distributed; however, multicollinearity was not an issue and hence, allowing for reliable regression analysis. Descriptive statistics, Table 1 and Figure 1, suggested students generally experience high to moderate levels of stress, substantial variation was seen in trauma-related responses among students and maladaptive perfectionism has the highest variability, indicating that perfectionistic tendencies differ significantly across students. The pattern of increased academic stress, maladaptive perfectionism and trauma-related response is supported by the median scores, which indicate that the majority of the students scored above the midpoint. These findings demonstrate, the psychological toll that academic stress takes and how it might worsen symptoms of trauma and maladaptive perfectionism. (Table 7)

In line with previous research by Flett & Hewitt, [10]2022 that ties high academic expectations to an increase in perfectionistic tendencies, the correlation analysis in Table 2, revealed a moderate significant correlation between academic stress and maladaptive perfectionism, supporting Hypothesis 1. That academic stress is correlated with maladaptive perfectionism. (Table 6)

According to earlier research, prolonged exposure to stress may cause trauma-like response such as intrusive thoughts, emotional dysregulation or hypervigilance. With the substantial correlation between academic stress and trauma-related response, the present study supports the hypothesis 2 that is academic stress is significantly correlated with trauma-related stress, suggesting academic stress may have an impact on student's cognitive health as well as cause similar responses to those of trauma, like fatigue or anxiety. (Table 5)

The relationship between maladaptive perfectionism and trauma-like response further validates hypothesis 3, that trauma-like response is significantly correlated with maladaptive perfectionism. This highlights that cognitive vulnerability can be experienced by maladaptive perfectionistic students, when exposed to high academic expectations [10].

Furthermore, the dimensions of maladaptive perfectionism- parental expectations and criticism, concern about mistakes and doubt about action are significantly correlated with academic stress, supporting the hypothesis 4. According to Limburg *et al.*, [11] 2023, students who have high parental expectations often internalise a fear of failing, which exacerbates perfectionistic anxiety. These researches are consistent with the findings.

The regression analysis further confirmed hypothesis 5, which also indicated that trauma-like response and academic stress predicts maladaptive stress, where academic stress is the stronger predictor as demonstrated through Figure 3. These findings are consistent with the Stress-Diathesis model (Monroe & Simons, [12] 1991), which holds that an increased risk of maladaptive psychological reactions emerge from the interaction of chronic stress with pre-existing vulnerabilities. The current findings support the study that academic stress may operate as a persistent predictor and stressor that can cause trauma-like responses.

CONCLUSION

The study confirms that academic stress is significantly correlated with maladaptive perfectionism and trauma-like responses in university students. Linear Regression analysis indicates that Academic stress is a stronger predictor of maladaptive perfectionism, trauma-related response is a weaker predictor, emphasizing on the personal coping strategies and techniques that enhances a student's well-being. Findings highlight the damaging impact of high academic stress on mental health, reinforcing the need for institutional reforms.

Limitations

- Accuracy may be impacted by self-report bias due to social desirability.
- Establishing causality between variables is impossible without a cross-sectional approach.
- Only university students made up the sample, which limits the applicability and generalizability.

Future Implications

- Longitudinal studies to evaluate the temporal evolution of trauma, perfectionism and academic stress.
- Physiological indicators such as heart rate, cortisol levels to offer unbiased evaluations of stress.
- Studies based on interventions that show how well CBT, Mindfulness and changes to policy can reduce academic stress.
- Cross-cultural research to comprehend the ways in which various educational and cultural systems differ in terms of academic pressure.

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