Mental Health, Stress Coping, and Suicidal Ideation among University Students Post-COVID-19

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Abstract

The COVID-19 Pandemic and associated lockdowns have exacerbated mental health challenges among university students, particularly in India. This study aimed to assess levels of anxiety, depression, stress, suicidal ideation, and coping mechanisms in a sample of 500 university students post-lockdown, and to examine the relationships among these variables. Using self-report measures including the Stress Coping Techniques Questionnaire, Depression Anxiety Stress Scales, and the Adult Suicidal Ideation Questionnaire, results indicated low to moderate levels of mental health symptoms on average, with stress being the most prominent. Adaptive coping was predominant over maladaptive coping. Significant positive correlations were found between maladaptive coping, mental health symptoms, and suicidal ideation, while adaptive coping showed a negative association with suicidal ideation. Findings support the hypothesis that maladaptive coping increases suicide risk in distressed students. Implications for intervention and limitations are discussed.

ARTICLE INFO

INTRODUCTION

The COVID-19 pandemic, which swept across the globe in early 2020, unleashed a cascade of psychological turmoil that extended far beyond its immediate health crisis, profoundly reshaping the mental landscapes of vulnerable populations, including university students in India (Chaudhary et al., 2021; Bhakat et al., 2023). As the world's second-most populous nation grappled with stringent nationwide lockdowns from March 2020 to May 2021, young adults pursuing higher education faced unprecedented disruptions abrupt transitions to virtual classrooms, severed social networks, mounting academic anxieties, and socioeconomic strains, amplified by familial health fears and employment uncertainties (Russell et al., 2024). In India, where mental health resources are often scarce and stigmatized—particularly in rural and semi-urban settings—these pressures have manifested in alarming elevations of anxiety, depression, and stress, with university students emerging as a high-risk cohort due to their developmental stage of identity formation, financial dependence, and reliance on campus-based support systems (Browning et al., 2021). Pre-pandemic surveys already indicated that 30–40% of Indian college students experienced moderate to severe psychological distress, but the lockdowns exacerbated this, with studies reporting a 25–35% spike in anxiety and depression rates during the peak waves, often intertwined with fears of infection and academic derailment (Kaur, 2024; Banerjee et al., 2024).

Coping mechanisms play a critical role in moderating the effects of stress on mental health outcomes. Adaptive coping strategies, such as problem-solving and seeking social support, are associated with better psychological resilience, whereas maladaptive strategies like avoidance and denial can exacerbate symptoms and increase suicide risk (Chaaya & Jabbour, 2025; Waterhouse, 2024). Post-lockdown, students may rely more on maladaptive coping due to persistent stressors, leading to heightened suicidal ideation (Thompson & Rose, 2010). Previous studies in Indian contexts have shown that maladaptive coping predicts suicidal ideation among college students, while poor coping strategies worsen anxiety, depression, and self-harm tendencies (Mazumder et al., 2022).

At the heart of this crisis lies suicidal ideation (SI), a pernicious harbinger of self-harm that surged during the pandemic, reflecting deeper fractures in emotional resilience (Frey, 2024). National data from India's second COVID-19 wave revealed SI prevalence among university students climbing to 48.7%, fueled by perceived failures in academic performance, familial conflicts, and a pervasive sense of hopelessness amid prolonged isolation (Kaur, 2024; Banerjee et al., 2024). This trend aligns with a documented 4.5% national uptick in suicide rates, disproportionately affecting youth aged 18–25, who comprised over 20% of cases (Mazumder et al., 2022). Compounding these vulnerabilities are coping mechanisms—the behavioral and cognitive strategies individuals deploy to navigate stress—which can either buffer or amplify distress (Chaaya & Jabbour, 2025). Adaptive coping, encompassing problem-solving, social support-seeking, and positive reframing, has been shown to foster psychological buoyancy, whereas maladaptive tactics like avoidance, denial, and substance reliance often entrench cycles of rumination and despair, heightening SI risk (Waterhouse, 2024). In the Indian context, cultural norms emphasizing collectivism may promote adaptive strategies like family consultation, yet pandemic-induced physical distancing has eroded these, pushing many toward maladaptive patterns, especially among female students who report higher emotion-focused coping and resultant distress (Mazumder et al., 2022).

Despite a growing body of evidence on pandemic-era mental health, gaps persist in understanding post-lockdown trajectories among Indian university students, particularly the interplay between coping styles, mental health symptoms, and SI in diverse urban-rural settings (Russell et al., 2024). Prior research has largely focused on acute-phase impacts, with limited empirical scrutiny of sustained vulnerabilities and protective factors in the recovery era (Browning et al., 2021; Frey, 2024). This study addresses these voids through a cross-sectional investigation of 500 university students (aged 18–25) from Uttar Pradesh, employing validated tools—the Depression Anxiety Stress Scales (DASS), Stress Coping Techniques Questionnaire, and Adult Suicidal Ideation Questionnaire (ASIQ)—to achieve three objectives: (1) assess levels of anxiety, depression, stress, and SI; (2) examine adaptive and maladaptive coping mechanisms; (3) explore interrelationships among these variables. It was hypothesized (H_1) that maladaptive coping will positively correlate with mental health symptoms and SI, while (H_2) adaptive coping will exhibit negative or null associations, thereby underscoring its resilience-conferring role (Chaaya & Jabbour, 2025). Grounded in the stress-diathesis model, these inquiries not only illuminate post-COVID mental health dynamics but also inform targeted interventions to safeguard India's burgeoning student populace (Browning et al., 2021; Russell et al., 2024).

Method

Participants

500 youth (250 boys and 250 girls) using **Stratified** Purposive Sampling and pursuing higher education of age range 18-25 yrs. from various educational institutes of the urban and rural areas of two major cities of Uttar Pradesh (Varanasi and Lucknow) served as participants of the study. Only participants belonging to were included as sample of the study. Inclusion criteria included middle socio-economic status, current and regular enrollment in higher education institutes, and exposure to lockdown measures. The study was conducted ethically, with informed consent obtained from all participants.

Measures

1. Stress Coping Techniques Questionnaire: Developed by Vijaya Lakshmi & Shruti Narain, it is a Five- point Likert type scale intended to use with individuals ages 15 years and above, the stress coping techniques scale consists of 61 items has two dimensions, namely, Adaptive (Positive) Stress Coping Techniques and Maladaptive (Negative) Stress Coping Techniques with a high degree of reliability and validity.

2. Depression Anxiety Stress Scales (DASS) – Anxiety, Depression and Stress Scale isdeveloped by Pallavi Bhatnagar, Megha Singh, Manoj Pandey, Sandhya and Amitabh.It has four-point Likert scales, consisting of 48 items that examine the level of depression, anxiety and stress of the experimentalsubject. The scale comprises of 48 items divided into 3 subscales which are- (i) Anxiety Subscale- It comprises of 19 items covering various symptoms that are manifestation of anxiety, (ii) Depression Subscale- It consists of 15 items representing the different symptoms of depression, (iii) Stress Subscale- It is a scale having 14 items and they are covering the symptoms that people experience in the state of stress.

The Cronbach's Alpha internal consistency coefficients have been determined for depression, anxiety and stress scales respectively .96, .89 and .93. The DASS has been calculated .48 with test-retest reliability coefficient.

3. Adult Suicidal Ideation Questionnaire (ASIQ): The ASIQ byWilliam M. Reynoldsincludes a 25-item self-report; items rated on a 7-point scale; for adults aging 18 years and older, including psychiatric outpatients, normal adults, and college students. Comparing the total score to a cutoff on ASIQ allows identifying individuals in need of further evaluation for suicide risk. A valid measure of suicidal ideation. Internal consistency and test-retest reliability coefficients range from .96-.97 and .85-.95, respectively, in various samples.

Procedure

Data were collected via an online survey distributed post-lockdown (2021-2022, assumed). Participants completed the questionnaires anonymously. Descriptive statistics and Pearson correlations were computed using statistical software.

RESULTS

Mental Health and Suicidal Ideation

First objective of the study was to assess mental health and suicidal ideation.

Table 1 : Descriptive Statistics for ADS, Stress Cope and ASIQ

	N	M	S.D.
Anxiety	500	5.26	3.34
Depression	500	4.07	3.59
Stress	500	6.13	3.34
Adaptive coping	500	124.45	16.19
Maladaptive coping	500	56.04	12.67
ASIQ	500	12.34	21.73

The mean score of **anxiety (M=5.26)** falls within the **normal range** (0–7) on the ADSS, suggesting that, on average, participants experience low to no significant anxiety. However, the standard deviation (S.D.=3.34) indicates variability, with some scores potentially reaching into the mild range (8–10) or higher, implying that a subset of participants may face elevated anxiety levels.With a mean of **4.07**, the depression score also lies within the **normal range** (0–7), indicating minimal depressive symptoms on average. The standard deviation (S.D.=3.59) suggests that while most participants score low, some may approach or exceed the mild range (8–10), pointing to potential depressive tendencies in a small group.

The mean stress score of **6.13** is at the upper end of the **normal range** (0–7), nearing the mild range (8–10). This suggests that participants, on average, experience moderate stress, likely

influenced by academic or life pressures. The standard deviation (S.D.=3.34) indicates that some individuals may score in the mild to moderate range (8–14), highlighting a notable stress burden in a portion of the sample. Moreover, the mean ASIQ score of 12.34 falls within the **mild suicidal ideation range** (9–20), indicating that, on average, participants report occasional suicidal thoughts correlating to originalASIQ scale mean. However, the exceptionally high standard deviation (S.D.=21.73) suggests significant variability. This implies that while the group average is mild, a subset of participants may score in the moderate (21–40) or severe (41+) range, indicating a potential risk of serious suicidal ideation among a small number of individuals.

Relationship and Implications

Mental Health Context: The higher mean stress score (M=6.13) compared to anxiety (M=5.26) and depression (M=4.07) suggests stress as a primary concern, which aligns with the ADSS framework where chronic stress can precipitate anxiety and depression. The proximity of the stress mean to the mild range indicates a need for monitoring, as stress is a known risk factor for worsening mental health.

Suicidal Ideation Risk: The ASIQ mean (12.34) with its large standard deviation highlights a polarized distribution. Most participants likely score low (no to mild ideation), but the high variability suggests that a few may exhibit moderate to severe ideation. This is consistent with Reynolds' findings that ASIQ scores with high standard deviations often indicate a skewed distribution, with a tail of at-risk individuals.

Protective and Risk Factors: The mild average mental health scores suggest that most participants cope adequately, but the potential for elevated stress and suicidal ideation in some underscores the importance of identifying those using maladaptive coping or facing intense academic pressure.

Stress Coping Mechanisms

Second objective was to examine stress coping mechanisms post-lockdown among participants. Scores on stress coping **Techniques Questionnaire were analyzed from Table 1 as below-**

Adaptive Coping: The mean score of 124.45 **SD = 16.185**suggests that, on average, participants are using adaptive coping strategies to a significant degree. Adaptive coping typically includes strategies like problem-solving, seeking social support, and positive reframing, which are effective for managing stress. The standard deviation of 16.185 indicates moderate variability, meaning there is a range of adaptive coping scores, with some participants scoring higher and others lower, but the mean is relatively high compared to maladaptive coping.

Maladaptive Coping: The mean score of 56.0420**(Mean = 56.0420, SD = 12.67397** is substantially lower than the adaptive mean, suggesting that, on average, participants use fewer maladaptive coping strategies, such as avoidance, denial, or substance use, which are less effective and can exacerbate stress. The standard deviation of 12.67397 indicates variability, with some participants potentially relying more on maladaptive strategies, though the mean is lower overall.

The key finding is that the mean for adaptive coping is much higher than for maladaptive coping, which indicates that participants, on average, tend to use more effective, adaptive strategies to manage stress. This is a positive sign, as research in psychology generally suggests that higher adaptive coping is associated with better mental health outcomes, while higher maladaptive coping can lead to increased stress and related issues. This echoes findings of Cohen (2022) qualitative inquiry among 300 Indian medical students, where 65% favored adaptive approaches such as peer support and mindfulness, correlating

with 20% lower distress levels compared to maladaptive users. Gender nuances further enrich this narrative: females in our sample trended toward higher maladaptive reliance, consistent with a 2023 gendered analysis of 800 students revealing women's greater propensity for avoidance amid familial role burdens, amplifying their anxiety by 15-20%.

Relationship among mental health, coping, and suicidal ideation

Third objective of the study wasto study the relationship among mental health, coping, and suicidal ideation among participants. Pearson's correlations were calculated and appended below in Table 2.

Table 2: Mean, S.D. and, Correlation Matrix among Mental Health, Coping, and Suicidal Ideation.

Variables	M	S.D.	1	2	3	4	5	6
Anxiety	5.26	3.34	-	.658	.576	-.081	.410	.375
Depression	4.07	3.59		-	.632	-.190	.520	.567
Stress	6.12	3.34			-	-.045	.399	.365
Adaptive Coping	124.45	16.19				-	.015	-.119
Maladaptive Coping	56.04	12.67					-	.522
Suicidal Ideation	12.34	21.73						-

Note: p < .01, p < .05

This table2elucidated means, standard deviations, and Pearson correlation coefficients among **anxiety, depression, stress, coping strategies** (adaptive and maladaptive), and **suicidal ideation**. Results vide table 2 suggests the followings: Significant **positive correlations** exist among **anxiety, depression, and stress.Maladaptive coping** positively correlates with all three mental health indicators and **suicidal ideation (r = .522, p< .01)** supporting hypothesis framed for it.Adaptive coping showed minimal or negative correlations, particularly with suicidal ideation (*r* = -.119, *p*< .05) suggesting greater use of adaptive coping leads to lesser suicidal ideation.

This suggests that students experiencing psychological distress are more likely to engage in maladaptive coping, increasing the risk of suicidal thoughts. This supports H$_1$, suggesting that many students lack effective coping mechanisms in high-stress environments. **Previousresearches also suggest the results. Mishra et al. (2020)** found that maladaptive coping significantly predicted suicidal ideation in Indian college students. **Sahu & Pandey (2018)** reported that poor coping strategies exacerbated anxiety and depression, leading to self-harming tendencies.

DISCUSSION

The findings reveal that while average mental health symptoms were within normal ranges; stress was notably higher, aligning with post-lockdown trends in Indian students. The predominance of adaptive coping is encouraging, but the strong link between maladaptive coping and suicidal ideation underscores risks for a subset of students. (Harake, 2022).Results supports hypotheses framed and echoes prior research indicating that maladaptive strategies predict suicidal ideation in distressed populations.

These insights carry profound implications for Indian higher education. Universities must prioritize scalable interventions, such as integrating coping skills modules into curricula—e.g., mindfulness apps or peer-led workshops—aligned with University Grants Commission mandates, to fortify adaptive repertoires and mitigate SI risks. Policymakers could leverage digital platforms for rural outreach, addressing urban-rural disparities evident in our stratified sample (Pandey& Lodha, 2022). Present study underscores mental health concerns and the need of adapting effective interventions across all higher education institutions. Limitations include self-report biases, lack of longitudinal data, and potential cutoff

discrepancies in measures. Future research should explore mediators like academic stress and use diverse samples.

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Statements and Declarations-