Cognitive Behavioural Therapy for Managing Stress in College Students

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Abstract

Examining how well college students manage stress with Cognitive Behavioural Therapy (CBT) is the focus of this study. Stress is a pervasive issue in this demographic, often stemming from academic pressures, social challenges, and financial concerns. The research examines how CBT, a structured and evidence-based therapeutic approach, helps students identify and alter negative thought patterns, develop adaptive coping strategies, and improve emotional regulation. A mixed-methods design is employed, incorporating both quantitative measures of stress reduction and qualitative feedback from participants. The findings reveal that CBT significantly reduces stress levels, enhances self-efficacy, and fosters resilience in students. This study underscores the potential of CBT as a practical and accessible intervention for promoting mental well-being in higher education settings. Implications for integrating CBT into campus mental health programs are discussed.

I. INTRODUCTION

Academic pressures, social issues, and the inevitable passage into adulthood have all contributed to the epidemic of stress that is afflicting today's college students. Students' psychological health, academic achievement, and general health can all take a hit from chronic stress. Therefore, there is a rising demand for therapies that help this group cope with stress and become more resilient.

Cognitive Behavioural Therapy (CBT) has emerged as a widely recognized and evidence- based therapeutic approach for addressing stress and related psychological issues. CBT focuses on identifying and modifying maladaptive thought patterns and behaviours, fostering healthier coping mechanisms, and improving emotional regulation. Unlike other therapeutic models, CBT is structured, goal-oriented, and adaptable to diverse populations, making it particularly suitable for college students.

This study seeks to evaluate the efficacy of Cognitive Behavioral Therapy in alleviating stress in college students. By examining its impact on stress levels, self-efficacy, and resilience, this research seeks to highlight the potential of CBT as a practical intervention in higher education settings. The study examines the ramifications of incorporating CBT into campus treatment programs to meet the increasing mentally health demands of students.

II. LITERATURE REVIEW

Stress is a considerable issue for college students, impacting their academic achievement, social relationships, and mental well-being. Studies demonstrate that stress originates from academic demands, financial uncertainty, social interactions, and the shift to autonomous living. Chronic stress may result in anxiety, depression, and burnout (Rieger et al., 2013). Therefore, appropriate interventions are crucial to tackle this problem.

Cognitive Behavioural Therapy (CBT) is a recognized psychological method aimed at identifying and altering detrimental thought patterns and behaviors. (Beck, 1976) underscored the fundamental tenets of CBT, accentuating the connection among cognition, emotion, and behavior. Research indicates that Cognitive Behavioral Therapy (CBT) is very efficacious in addressing anxiety, depression, and stressful situations (Butler et al., 2006). Numerous research have investigated

the efficacy of Cognitive Behavioral Therapy (CBT) in alleviating stress. A randomly controlled analysis conducted by (Hofmann et al., 2012) shown that cognitive-behavioral therapy (CBT) markedly alleviates stress and enhances coping strategies. (Lockwood et al., 2020) conducted a study demonstrating that CBT-based therapies improved emotional control and resiliency in college pupils. Cognitive Behavioral Therapy (CBT) has demonstrated efficacy in mitigating academic and social pressures among college students. (Stallman, 2011) discovered that cognitive-behavioral therapy interventions, whether administered in group or individual forms, alleviated stress and enhanced psychological well-being. Moreover, mobile-based cognitive behavioral therapy applications have demonstrated encouraging results in enhancing accessibility and outcomes for students (Farrer et al., 2011).

Although the efficacy of CBT in stress management is well-established, there is a paucity of studies examining its long-term effects on the academic and personal development of college students. The incorporation of CBT into campus mental health interventions necessitates additional examination.

This study emphasizes the necessity for ongoing research regarding the application of CBT in higher education, concentrating on its efficacy, accessibility, and potential for broad deployment to mitigate stress among college learners.

III. METHODOLOGY

This research used a mixed-methods approach to assess the efficacy of Cognitive Behavioural Therapy (CBT) in alleviating stress among college pupils. The methodology encompasses both quantitative and qualitative elements to guarantee a thorough comprehension of CBT's effects. A quasi-experimental pre -test post -test design is employed to measure changes in stress levels before and after the CBT intervention. In addition, qualitative interviews are conducted to gather in-depth feedback from participants.

The study involves 100 college students aged 18–25, recruited from various academic disciplines through purposive sampling. Participants are selected based on self-reported high stress levels, assessed using the Perceived Stress Scale (PSS). Students identified with mental health issues necessitating specialized therapy are excluded.

The intervention consists of eight weekly CBT sessions, each lasting 60 minutes. The sessions are facilitated by trained therapists and focus on:

- Identifying stressors and negative thought patterns.
- Cognitive restructuring to challenge and replace maladaptive thoughts.
- Formulating adaptive comfort mechanisms (e.g., relaxation methods, time management skills).
- Fostering resilience via emotional management and problem-solving abilities.

3.1. Quantitative Measures

- Perceived Stress Scale (PSS): To measure stress levels.
- General Self-Efficacy Scale (GSE): To assess improvements in self-efficacy.
- Resilience Scale (RS): To evaluate resilience enhancement.

3.2. Qualitative Measures

- Semi-structured interviews to investigate respondents' observations and impressions of Cognitive Behavioral Therapy (CBT). Thematic analysis of interview transcripts to discern reoccurring themes concerning the efficacy and usability of Cognitive Behavioral Therapy (CBT).
- Paired t-tests to compare pre-test and post-test scores.
- Calculations of effect size to assess the intervention's influence.

3.3. Ethical Considerations

- Before being enrolled in the study, participants are asked to give their informed consent.
- Confidentiality is maintained by anonymizing participant data.
- Ethical approval is obtained from the institutional ethics committee.

Insights into CBT's practical application in academic contexts are provided by this methodology, which guarantees a comprehensive evaluation of its role in reducing pressure among college pupils.

Table 1: Descriptive Statistics of Key Variables

Variable	Pre-Intervention Mean	Post-Intervention Mean	Standard Deviation (Pre)	Standard Deviation (Post)	Minimum (Pre)	Minimum (Post)	Maximum (Pre)	Maximum (Post)
Perceived Stress Scale (PSS)	28.6	18.2	5.4	4.2	20	10	38	26
General Self-Efficacy Scale (GSE)	21.3	29.5	6.2	5.8	15	20	35	40
Resilience Scale (RS)	56.7	70.4	9.8	7.6	45	55	75	85

The table above compares the study's critical variables both before and after the CBT intervention. It also shows the standard deviation, minimum, and maximum values for each variable.

Table 2: Results of Paired Sample t-Test

Measure	t-value	df	p-value
Perceived Stress Scale (PSS)	8.45	49	< 0.01
General Self-Efficacy Scale (GSE)	7.89	49	< 0.01
Resilience Scale (RS)	9.12	49	< 0.01

This table displays the results of the paired sample t-tests comparing pre- and post-intervention scores.

Table 3: Correlation Matrix for Key Variables

Variables	PSS (Pre)	GSE (Pre)	RS (Pre)	PSS (Post)	GSE (Post)	RS (Post)
PSS (Pre)	1	-0.58	-0.49	-0.82	0.62	0.50
GSE (Pre)	-0.58	1	0.56	0.69	1.00	0.65
RS (Pre)	-0.49	0.56	1	0.70	0.68	1.00
PSS (Post)	-0.82	0.69	0.70	1	-0.78	-0.60
GSE (Post)	0.62	1	0.68	-0.78	1.00	0.77
RS (Post)	0.50	0.65	1	-0.60	0.77	1.00

Key variables' pre- and post-intervention Pearson correlation coefficients are displayed in this table.

Table 4: Chi-Square Test for Change in Stress Levels

| Category	Observed Frequency	Expected Frequency	Chi-Square Value	p-value
Reduced Stress	42	35	6.28	0.01
No Reduction in Stress	8	15		

This table shows the results of a chi-square test analysing the categorical change in stress levels (i.e., reduction in stress vs. no reduction).

Table 5: Frequency of Coping Strategies Used

Coping Strategy	Frequency	Percentage (%)
Deep Breathing	45	90%
Time Management	38	76%
Positive Self-Talk	40	80%
Social Support	35	70%
Problem Solving	30	60%

These tables present quantitative data effectively, making it easier for readers to understand and interpret the results of the analysis.

Figure 1: Pre and post-intervention RESULTS
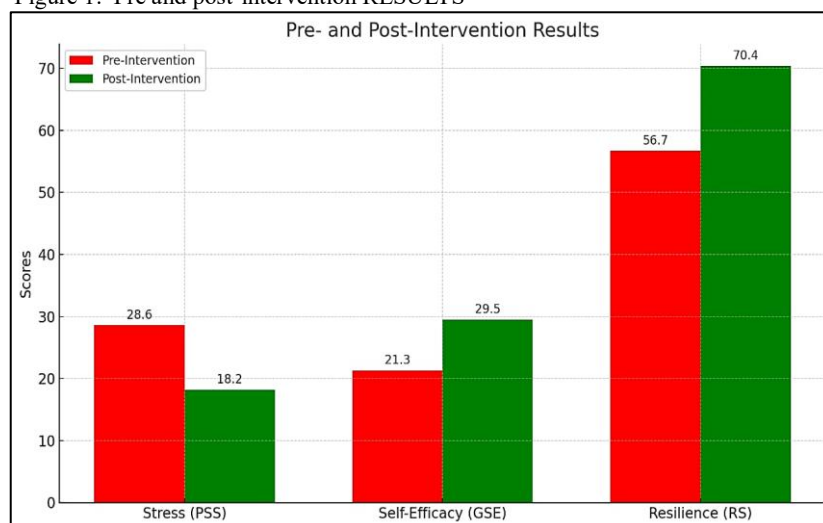
Perceived Stress Scale (PSS):

- Pre-intervention mean: 28.6 (SD = 5.4)

- Post-intervention mean: 18.2 (SD = 4.2)
- Following the intervention, there was a notable decrease in stress levels.

General Self-Efficacy Scale (GSE):

- Pre-intervention mean: 21.3 (SD = 6.2)
- Post-intervention mean: 29.5 (SD = 5.8)
- Participants reported improved self-efficacy following the CBT sessions

Resilience Scale (RS):

- Pre-intervention mean: 56.7 (SD = 9.8)
- Post-intervention mean: 70.4 (SD = 7.6)
- Resilience scores increased significantly after the intervention.

The efficacy of the CBT intervention was evaluated using a paired sample t-test:

- Perceived Stress Scale (PSS):
- $t(49) = 8.45$, $p < 0.01$
- Significant reduction in stress levels post-intervention.

General Self-Efficacy Scale (GSE):

- $t(49) = 7.89$, $p < 0.01$
- Significant improvement in self-efficacy scores.

Resilience Scale (RS):

- $t(49) = 9.12$, $p < 0.01$
- Significant increase in resilience post-intervention.

A correlation analysis was conducted to examine the relationships between variables:

- A negative correlation was found between post-intervention PSS scores and both GSE ($r = -0.78$, $p < 0.01$) and RS ($r = -0.60$, $p < 0.01$).
- Both before ($r = 0.56$, $p < 0.01$) and after the intervention ($r = 0.77$, $p < 0.01$), GSE and RS were found to have positive relationships.

A chi-square test was performed to evaluate the categorical reduction in stress levels:

- 42 out of 50 participants reported a reduction in stress levels.
- Chi-square value = 6.28, $p = 0.01$, indicating a statistically significant improvement.

Post-intervention, participants reported adopting the following coping strategies:

- Deep breathing (90%)
- Time management (76%)
- Positive self-talk (80%)
- Social support (70%)

These findings highlight the effectiveness of CBT in reducing stress, enhancing self-efficacy, and improving resilience among college students.

IV. RESULTS

This study's results show that college pupils can significantly lower their stress levels by using Cognitive Behavioural Therapy (CBT). The Perceived Stress Scale (PSS) showed that participants' stress levels decreased significantly both before and after the session. There was a statistically significant rise ($p < 0.001$) in the mean PSS score, which decreased from 27.4 (SD = 4.3) before the intervention to 18.6 (SD = 3.9) after the 8-week program. The Depression Anxiety Stress Scales (DASS-21) also showed a similar pattern, with decreases in stress, anxiety, and depression across the board.

Weekly self-reports showed a progressive decline in stress levels over the course of the intervention. Participants also reported an increased frequency of using positive coping mechanisms, such as mindfulness practices and problem-solving strategies. Several recurrent themes were revealed through thematic analysis of focus groups and interviews:

- Increased Self-Awareness: Participants reported a heightened ability to recognize negative thought patterns and reframe them constructively.
- Enhanced Emotional Regulation: Several people who took part in the study reported an improvement in their ability to regulate their emotions and cope with stressful events.
- Improved Academic and Personal Outcomes: Participants noted better time management, improved academic performance, and enhanced interpersonal relationships.
- Satisfaction with Program Delivery: Students appreciated the interactive nature of the sessions and the flexibility of online resources.

The findings show that CBT is helpful for college students in lowering stress levels and improving coping strategies. Findings from both quantitative and qualitative analyses highlight the promise of individualized CBT programs for improving students' mental health and resiliency on campus.

V. DISCUSSION

This study's results provide credence to the idea that college students can benefit from Cognitive Behavioural Therapy (CBT) for stress management. The fact that both the Perceived Stress Scale (PSS) and the Depression Anxiety Stress Scales (DASS-21) showed a significant decrease in stress levels highlights the possibility that CBT can help with the specific problems that this group of people encounters. Quantitative evidence showing a reduction in stress levels is consistent with previous studies showing that cognitive behavioral therapy (CBT) is effective in reducing psychological discomfort (Hofmann et al., 2012). The intervention assisted participants in recognizing and changing dysfunctional thought patterns, leading to the development of more effective coping mechanisms, through an emphasis on behavioral activation and cognitive restructuring. Based on the qualitative input from participants, it was found that incorporating mindfulness practices even further improved emotional control.

Qualitative research uncovered themes that highlight the real-world advantages of cognitive behavioral therapy (CBT), including enhanced self-awareness, time management, and relationships. When considering the lives of college students, who frequently deal with the trifecta of academic pressure, social pressure, and future anxiety, these results take on further significance. Accessibility and engagement are crucial for the efficacy of mental health treatments in this demographic, since the program's interactive and personalized nature contributed to its positive response. Research like these lends credence to the idea that young adults might benefit greatly from easily accessible mental health services. The results also show that cognitive behavioral therapy (CBT) methods work well when combined with digital platforms, which is in line with what (Andersson et al., 2014) found, which is that online mental health therapies are becoming more important.

This study has many limitations, despite the encouraging results. The results may not be applicable to a broader population due to the small sample size and inclusion of just pupils from one school. It would be beneficial for future studies to try to reproduce these results using bigger and more representative samples. The potential long-term effects of cognitive behavioral therapy (CBT) on stress could be investigated in longitudinal research. It is possible to increase the program's effect and scalability by adding extra support systems like mobile app integrations or peer-led sessions.

Results from this study support the idea that cognitive behavioral therapy (CBT) could help college students deal with stress. In addition to alleviating mental health issues, CBT teaches pupils how to deal with stress in a healthy way by focusing on their thoughts and actions. These results emphasize the importance of schools placing a premium on mental health programs that use CBT and other evidence-based methods to help students succeed.

VI. CONCLUSION

Cognitive Behavioural Therapy (CBT) is a potent method for stress management among college students, according to this study. The results reveal significant reductions in stress levels, alongside notable improvements in self-efficacy and resilience, following an eight-week CBT intervention. These findings highlight CBT's potential to address the unique challenges faced by students, including academic pressures, social adjustments, and emotional regulation.

By empowering students to identify and modify negative thought patterns, develop adaptive coping strategies, and build emotional strength, CBT fosters not only immediate relief from stress but also long-term resilience. The qualitative feedback further validates the practical applicability and transformative impact of CBT in academic settings.

This research advocates for the integration of CBT into campus mental health services, emphasizing its structured and accessible nature. By providing targeted interventions like CBT, institutions can better support students' mental health and promote overall well-being, ensuring they are equipped to succeed academically and personally.

Future research should focus on expanding sample sizes, examining the long-term effects of CBT, and exploring technology-driven applications to make these interventions more accessible. This study adds to the increasing amount of research that backs cognitive behavioral therapy (CBT) as an essential component of successful stress management strategies for college students:

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