

## Effect of Cognitive Behavioral Therapy on Stress among Students appearing for Competitive Exams

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### ABSTRACT

Adolescents is a transitional phase in which an individual deals with enormous amount of physical, mental and emotional and academic stress such as stress to look good, to maintain healthy relationships with others, to perform well in exams etc. During this roller coaster ride, there comes a peak point which decides an individual's future i.e. the phase of competitive exams. The stress faced by an adolescent is highest at this point of time which must need to be altered or reduced in order to avoid any mishappenings. So, a therapeutic technique namely Cognitive Behavioral Therapy (CBT), a client centered therapy is used in order to reduce the stress among adolescents appearing in competitive exams. The aim of the present research is to study the effect of cognitive behavioral therapy on stress among those students who are appearing in competitive exams. In this research study, a standardized test namely, Perceived Stress Scale (PSS) developed by Sheldon Cohen is used which is possessing high reliability and validity. The test was conducted on 60 students purposively selected from various educational institutions of Udaipur city. Out of them, 20 students were randomly selected in order to provide CBT intervention in a pre-decided fashion. It was found that there is a significant positive effect of cognitive behavioral therapy on stress among students appearing for competitive exams and also the difference between pre-post testing was found significant. This research study is found to be distinctive and helpful in order to study and compare the effects of CBT over stress and also to reduce it.

**Keywords:** *Cognitive Behavioral Therapy, Stress, Adolescents, Competitive exams*

**P** psychological stress is a state where a person's circumstances are seemingly beyond the person's ability to handle and threatens the well-being of self or others. Presently, the intact humankind is witnessing stress and its effects.

Bernstein (2008) analyzed stress as "a negative emotional, cognitive, behavioral and physiological method that happens as someone attempts to alter to or address stressors". The effect of stress is understood in many walks of life with varied population particularly among students.

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Richlin-Klonsky (2003) described that “stress has lessened academic performance, hinder with a pupil's capability to involve in and add to campus life and enhance the possibility of substance abuse and different potentially detrimental behaviors”.

Rawson (1999) highlighted that “many students reported their experience of high academic stress at expected times which have resulted from preparing and taking examinations, class ranking competition, and mastering enormous amount of syllabus in a relatively very small amount of time”.

Fairbrother (2003) recognized that “academic stress as stressors which take place as a result of different reasons such as too many homework, assignments and competitions with other students, failures and deprived relationships with other students or teachers”.

Erkutlu (2006) opined that “pressure to execute well in the assessment or examination and time allocated makes educational environment very stressful and demanding. One of the major impacts of stress is that it affects radically the psychological functions in turn mental health of people”.

### **Cognitive-behavioral therapy**

Cognitive-behavioral therapy (CBT) refers to a class of interventions that share the fundamental premise that mental problems and psychological misery are maintained through cognitive factors. The core premise of this treatment approach, as pioneered through Beck (1970) and Ellis (1962), holds that maladaptive cognitions contribute to the preservation of emotional distress and behavioral issues. According to Beck's version, these maladaptive cognitions encompass standard ideals, or schemas, about the arena, the self, and the destiny, giving upward thrust to precise and automatic thoughts in particular situations. The basic model posits that healing techniques to trade those maladaptive cognitions lead to changes in emotional misery and difficult behaviors.

Cognitive behavior therapy (CBT) includes behaviorally based strategies involve the conceptualization of anxious symptoms in terms of conditioned responses to stimuli, with corresponding interventions emphasizing the blocking and extinction of avoidance behavior through exposure. Cognitive therapeutic strategies includes monitoring of mind, feelings, and behavior and cognitive restructuring, aimed at editing anxiety-associated thought and procedures to produce changes in anxiety signs and symptoms (Kendall 2000).

## **REVIEW OF LITERATURE**

Khanekhesi, A. (2014) in his study investigated the effectiveness of cognitive behavior therapy (CBT) on academic stress among high school students. Initially 400 students (Boys=193 and Girls=207) from 10th, 11th, and 12th grade had given academic stress scale. Out of 400 students, 130 students (63 Boys and 67 Girls) fulfilled the cut off score criteria used for the study. Cut off score criterion based on research instrument for choosing subjects for intervention on academic stress was the score of 15 and beyond (15 to 30). For the main study out of 130 students (who met cut off score criteria) 5 Boys and 5 Girls each from 10th, 11th, and 12th grade were randomly selected and assigned to experimental group (15 Boys and 15 Girls) and control group (15 Boys and 15 Girls). Experimental group was subjected to individual CBT interventions (including problem solving training, positive thinking, cognitive restructuring, assertive training, and time management) for 13 sessions, and control group didn't receive any intervention. The design of this study was a pre-test, post-test design with control group. A scale for assessing academic stress (Sinha et al., 2001) was used for

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collecting the data. The collected data analyzed with repeated measure analysis of variance and effect size calculation. Results showed that 1) the effects of interventions in decreasing academic stress and its subscales were statistically significant. 2) There was a significant difference between 2 groups in scholastic stress in post intervention. 3) The communication of time group in relation to the effectiveness of CBT interventions in declining academic stress was significant and noteworthy. But, gender and rank had no significant outcome on academic stress. As a conclusion, findings demonstrate the efficacy of CBT in alleviating academic stress symptoms among high school students.

Pasaribu, P.E., & Zarfiel, M.D. (2019) conducted a research which focuses on student stress. The participant reported stress symptoms which were affecting her ability to maintain focus while doing tasks and interfered with her self-motivation and learning performance. The participant's problems seemed to indicate a lack of self-acceptance. She evidenced false perceptions of herself and society, and this produced negative cognitions, emotions, and behaviors. Altering the participant's fake insight will therefore, facilitate lessen pessimistic or negative stress response prototype. Cognitive behavioral therapy was shown to be an effective treatment for stress. This single-subject design case study examines the effectiveness of CBT treatment for improving self-acceptance and decreasing a negative stress response in a 20-year-old female college student. The research used a three-stage assessment design: pretest, intervention, post-test. The intervention consisted of four 120-min sessions and two follow-ups. The effectiveness of the intervention was determined using a behavioral checklist, a pretest, and a posttest. The results showed an improvement in the participant's self-acceptance. The participant's stress responses decreased, and she had thoughts about herself and her world that improved her emotions and behaviors.

Crystal L. Park et. al. (2017) of their observation examined the feasibility and differential efficacy of cognitive-behavioral stress management (CBSM) and yoga for first year college going students to reduce pressure and enhance mental and bodily health. 34 in coming first-year lady students had been assigned to eight weeks of yoga, CBSM, or a wait-listing control. Assessments have been made at baseline, cease of intervention, and four months after intervention end. Both CBSM and yoga produced salutary adjustments in psychosocial and behavioral health in addition to health-related measures of physical function and interest relative to the control group. Stress-management interventions are possible and distinctly appeared via first-yr ladies and show promising consequences.

As per the research conducted by Leslie R.Rith-Najarian et. al. (2019), the current meta-analysis aimed to (a) examine the effects of youth CBT at post-treatment, 1-month, 3-month, 6-month, 1-year, and long-term (2 + years) follow-up as well as (b) discover research-related variables that relate to effects. Using a random effects model across 110 child and adolescent CBT groups, within-group effect sizes were large at post-treatment ( $g = 1.24$ ) and from 1-month through long-term follow-up ( $g = 1.23-1.82$ ) and effect sizes did no longer significantly vary by using treatment goal (such as anxiety, stress, depression etc.). However, availability of outcome data for effect sizes dwindled across later follow-up assessments. Moreover, effect sizes were significantly associated with outcome respondent type across assessment timing, with outcome measures from caregiver and youth respondents associated with smaller effect sizes ( $B = -0.97, p < 0.001$ ) relative to outcome measures that were evaluator-reported. The outcome present primary support for the stability of treatment effects for youth CBTs as well as draw attention to the significance of several confounding variables. Ayman M Hamdan- Mansour (2009) administered a research study which examined the effectiveness of cognitive behavioral therapy (CBT) with university students suffering from

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moderate to severe depressive symptoms in Jordan. Eighty-four university students were recruited and assigned randomly to control and intervention groups. Intervention impact was assessed on measures of depressive symptoms, perceived stress, and coping strategies at three time points; baseline, post-intervention, and 3-months post-intervention. The interventional model used was changed into the Modified Teaching Kids to Cope (MTKC), and the manage group acquired no treatment. Overall, using CBT confirmed a significant development within the final results measures. At post-intervention, students had lower rankings on perceived stress, decrease depressive signs, less use of avoidance coping techniques, and extra use of method coping techniques. The findings are discussed in phrases of treatment implications and recommendations to be used at educational and health care settings.

### ***Objectives***

The objectives of present research are as follows:

- To study the stress level of students appearing for competitive exams.
- To see the effect of cognitive behavioral therapy on stress among students appearing for competitive exams.

### ***Hypothesis***

- The hypothesis for the present study is *“There is a significant positive effect of cognitive behavioral therapy on stress level of students appearing for competitive exams”*.

### ***Test Description***

The Perceived Stress Scale (PSS) is a classic stress assessment instrument given by Sheldon Cohen. This tool, whilst at first developed in 1983, stays a popular choice for supporting us understand how extraordinary situations have an effect on our emotions and our perceived strain. The questions on this scale ask about your feelings and thoughts over the past month. In every case, you will be asked to indicate how regularly you felt or concept a certain manner. Although some of the questions are comparable, there are differences among them and you should deal with every one as a separate question. The great method is to reply fairly quickly. That is, do not try and be counted up the range of times you felt a selected way; alternatively indicate the opportunity that seems like an affordable estimate.

The scoring pattern of Perceived Stress Scale (PSS) was based on 5 point scale (Likert scale) containing 0 – never, 1 - almost never, 2 – sometimes, 3 - fairly often and 4 - very often.

In order to get the scores, the score of positive questions are to be added directly whereas the scores of negative questions (such as Question 4<sup>th</sup>, 5<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup>) will be reversed as 0 = 4, 1 = 3, 2 = 2, 3 = 1, 4 = 0. Finally, the scores from all the ten questions need to be totaled.

Individual scores on the Perceived Stress Scale (PSS) can range from 0 to 40 with higher scores indicating higher perceived stress.

- Scores varying from 0-13 would be considered having low stress.
- Scores varying from 14-26 would be considered having moderate stress.
- Scores varying from 27-40 would be considered having high perceived stress.

## METHODOLOGY

### Design

The single group pre-post test design is used for the present study.

Pre-Test Group 1 N = 20	Cognitive Behaviour Therapy Intervention	Post-Test Group 1 N = 20
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### Locale

All the respondents were selected from the urban areas of Udaipur city, Rajasthan.

### Sample

A sample size of 60 respondents from 5 schools was purposefully selected. Out of them, 20 students who were having moderate and high perceived stress were randomly selected for CBT intervention. All the respondents were from English medium school, preparing for competitive exams and their age ranges from 16 to 19 years.

### Method of Data Collection

In order to collect data from all the respondents, a self report measure namely Perceived Stress Scale (PSS) by Sheldon Cohen was administered and manual of PSS was used for the scoring purpose.

### Intervention

In order to reduce the effect of stress among students appearing for competitive exams, a psycho-social interventional therapy namely cognitive behavioral therapy (CBT) is used. This therapy focused on challenging and changing unhelpful cognitive distortions such as stress, anxiety, depression etc. The CBT was aimed for modification of behaviors through improving emotional regulation with development of personal coping strategies that target problem solving approach.

The therapy was conducted in a three session programme which was given in a gap of ten days to four groups of five students each.

### Statistical Techniques

Basic statistical tools such as mean, standard deviation (S.D.) paired 't' test and Chi-Square Test were used. All the calculations were done through SPSS Version 21.0.

## ANALYSIS OF RESULT AND DISCUSSION

Table 1, Comparing Stress Scores of Students in Pre and Post Testing

	Mean	N	Std. Deviation	Std. Error Mean	'r'	Mean Difference	't'	p value
Pre Test (Before CBT Intervention)	28.85	20	4.870	1.089	0.705	5.10	6.341	.000
Post Test (After CBT Intervention)	23.75	20	4.447	0.994				

Table 1 shows that the mean stress scores at the time of pre-test situation (before CBT intervention) was found to be  $28.85 \pm 4.870$  (Mean  $\pm$  S.D) while the mean stress scores at the time of post-test situation (after CBT intervention) was found to be  $23.75 \pm 4.447$  (Mean  $\pm$  S.D). The 't' score was found to be 6.341 which is significant at 0.01 level ( $p = .000$  ;

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$p < 0.01$ ). It infers that there is significant difference in stress scores of pre-testing and post-testing. It clearly highlights the impact of Cognitive Behavioural Therapy. Furthermore, the mean scores reflect that there is significant positive impact of cognitive behaviour therapy in reducing stress among students.

The skewness of the stress scores in pre-testing situation (before CBT intervention) was found to be 0.453. Therefore, the Chi-square test was applied and the results are presented in table 2.

**Table 2, Association between Category of Stress Scores and Testing Situation**

		Category		Total	Chi-Square (P value)
		Moderate Stress	High Stress		
Pre Test	F	7	13	20	6.465 (0.012)
	%	35.0%	65.0%	100.0%	
Post Test	F	15	5	20	
	%	75.0%	25.0%	100.0%	

Table 2 illustrates that out of total 20 students 7 students (35 %) were having moderate stress and rest of 13 students (65 %) were having high stress in pre-testing situation (before CBT intervention) while out of those total 20 students 15 students (75 %) were found to having moderate stress and rest of 5 students (25 %) were having high stress in post-testing situation (after CBT intervention). The Chi-square value was found to be 6.465 which is significant at 0.05 level ( $p = .012$ ,  $p < 0.05$ ). It infers that there is significant effect of Cognitive Behavioural Therapy intervention on reduction of stress.

It may be due to that the cognitive behavioural therapy able to lessen cognitive distortions and improving emotional regulation and facilitating students for developing individual coping strategies which helps in stress control or stress reduction. The present study results are supported by Pasaribu, P.E., & Zarfiel, M.D. (2019), Crystal L. Park et. al. (2017) and Khanekeshi, A. (2014).

## CONCLUSION

Therefore, from the given result tables and interpretation, it can be concluded that there is a significant positive effect of cognitive behavioral therapy on stress level of students appearing for competitive exams. The hypothesis for the present study “*There is a significant positive effect of cognitive behavioral therapy on stress level of students appearing for competitive exams*” is accepted.

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### ***Conflict of Interest***

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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