

## The Effectiveness of CBT Group Counseling with Stress Inoculation Training and Cognitive Restructuring Techniques to Reduce Students' Academic Stress

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### Abstract

This study aimed to analyze CBT group counseling with stress inoculation training and cognitive restructuring techniques to reduce students' academic stress. The study used pre-test and multiple post-test design by involving 14 students of Public Senior High School 1 Semarang. Their data were collected using academic stress scale. Meanwhile, the collected data were analyzed by employing mixed ANOVA statistical test. The results showed that CBT group counseling with stress inoculation training and cognitive restructuring techniques were effective to reduce students' academic stress ( $F_{(1,12)} = 22.591$ ,  $p < 0.01$ ). These findings assert that CBT group counseling with stress inoculation training and cognitive restructuring techniques is effective to reduce students' academic stress.

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## INTRODUCTION

Academic stress is experienced that is most often faced by students. According to Abouserie (Misra, and Mckean, 2000) the sources of students' academic stress in every semester come from the study they did before examinations, within examinations, grade competition, and a lot of material to understand. Kinantie (2012) explain that there are 30.05% of students experience academic stress before facing the National Examination. This percentage belongs to high category.

The academic stress experienced by students is related to appraisal. Beck, and Judith (2011) argue that academic stress that occurs in students is a result of the students' subjective assessment on a particular condition. Through the appraisal, the academic stress is inevitably experienced by students and influence their performance in carrying out a task which further can decrease academic achievement (Stallman, 2010; Talib, and Zia-ur-Rehman, 2012). Thus, there is a need for an intervention to assist students in dealing with this problem.

An intervention that can be done by counselors in finding out students' needs in achieving development and becoming assistance in dealing with academic stress is by conducting group counseling. Wibowo (2019) mentions that group counseling is aimed at personal development, and fostering problem-solving with the help of group members in the form of healing as well as facilitating students' development (Kurnanto, 2013). Based on these backgrounds, this study employed group counseling as an intervention that is doable for counselors to overcome academic stress.

Sharf (2012) says counseling which can understand the nature of the emotional situation, behavior changes, and focused on the cognitive aspects of students' reaction is cognitive behavior therapy counseling. The cognitive behavior therapy approach (CBT) helps students to change their mindsets, beliefs, attitudes, assumptions, and wrong relationships between situation and their habits in reacting to problems. Corey, M. S., and Corey, G. (2013) states that cognitive

behavior therapy (CBT) is counseling that emphasizes cognitive improvements that deviate due to events that harm someone both physically and psychologically. This is supported by Khoshniyat, Raz, and Mousavi (2016) in their study that cognitive behavior therapy is effective to reduce stress and self-efficacy.

Cognitive behavior therapy (CBT) group counseling with stress inoculation training is used to do the systematized process, cognitively overcome cognitive-based stressor and establish adaptive behaviors by learning coping skills that are applicable in the various situation that students may face in the future (Erford, 2016; Cormier, Nurius, and Osborn, 2009). This is in line with Jamshidifar, Moghadam, and Mohammadzadeh study (2014) that stress inoculation training is effective in reducing stress by focusing on coping skill in identifying negative self-talk in a stressful situation. However, another study by Flaxman, and Bond (2010) show that the provision of stress inoculation training contributes fewer changes to psychological flexibility and cognitive dysfunctional in facing stress. This will affect coping skill strategies so that it is difficult to deal with a stressful situation.

The use of cognitive restructuring technique covers learning to focus attention on efforts to identify and change irrational thoughts or beliefs (Erford, 2016; Cormier, Nurius, and Osborn, 2009). This is supported by Nia, Tahmasebian, and Kakabaraee study (2014) asserting that cognitive restructuring is effective to reduce anxiety by focusing self-centralization on efforts to identify and change negative thoughts into the positive ones so that students will realize every thought that causes anxiety. Unfortunately, Johnco, Wuthrich, and Rapee study (2014) show that the provision of cognitive restructuring is less effective against worse cognitive flexibility in reducing emotional stress. This will affect students in certain situations and will overreact to the problems experienced.

Based on the explanation above, this study examined CBT group counseling with stress inoculation training and cognitive restructuring techniques to reduce students' academic stress. In this academic study stress is one of the problems

usually experienced by students during learning activities in school. This was necessary to carry out because the previous studies only emphasized the reduction of stress perception (Jamshidifar, Moghadam, and Mohammadzadeh, 2014) while this study focused more on stressors and reactions from academic stress stressors experienced by students.

**METHODS**

This study was given to the Tenth Grade students of Public Senior Hig School 1 Semarang. One hundred thirty-eight students were asked to fill the academic stress scale for the pre-test. From the results of this pre-test, the researchers chose 14 students to be the research subjects using random assignment. These 14 students had a high level of academic stress measured using the criteria prepared by the researchers in advance. The selected subjects received an intervention in the form of CBT group counseling with stress inoculation training and cognitive restructuring techniques.

There were some steps carried out by the researchers — first, the provision of pre-test to measure students’ academic stress before the intervention. Second, the provision of stress inoculation training to the experimental group as many as six meetings with a time allotment of 2x45 minutes for each, and cognitive restructuring technique to the experimental group amounted to six times with time allotment of 2x45 minutes for each session. Third, the researchers conducted post-test for the experimental group to see the reduction of academic stress experienced by the research subjects. To do so, the researchers conducted follow-up activities to the experimental group within two weeks after the post-test. The data collected from the pre-test, post-test, and follow-up were analyzed using repeated-measures ANOVA to see the students’ academic scale reduction.

The academic stress data were collected by using academic stress scale developed by the researchers using Morris theory (1990). This scale consisted of 21 statement items and used Likert

scale with five criteria, namely Very Appropriate (SS), Appropriate (S), Less Appropriate (KS), Inappropriate (TS) and Very Inappropriate (STS). The results of the instrument validity test stated that the items that passed the validation test had  $r_{xy}$  range between 0.317-0.773, and 0.882 alpha coefficient.

**RESULTS AND DISCUSSION**

The data analysis of CBT group counseling with stress inoculation training and cognitive restructuring techniques were done by using mixed ANOVA. This technique was used to examine the effectiveness of cognitive behavior therapy group counseling with stress inoculation training and cognitive restructuring techniques to reduce students’ academic stress in the pre-test, posttest, and follow-up.

**Table 1.** The Description of Data

	Pre-test		Post-test		Follow-up	
	M	SD	M	SD	M	SD
SIT	80.14	1.67	40.42	1.98	35.57	3.69
CR	80.43	1.39	44.85	1.95	42.85	1.95

Based on table 1, the data description of the experimental group with stress inoculation training technique and the experimental group with cognitive restructuring technique showed a reduction in the mean of students’ academic stress in the pre-test, post-test, and follow-up.

**Table 2.** The Results of Mixed ANOVA Analysis

Effects	F	df	P
Time	1928.39	2.24	< 0.01
Group	22.591	1.12	< 0.01
Time * Group	11.501	2.24	< 0.01

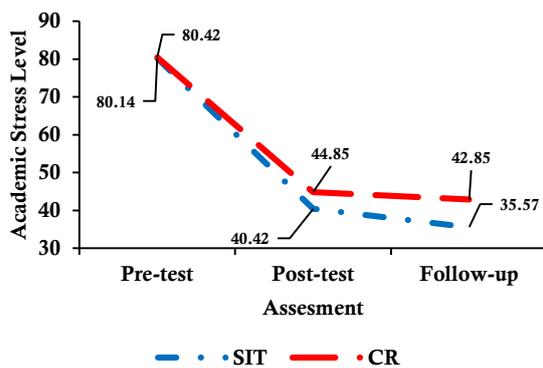
According to table 2, the analysis results of mixed ANOVA showed the influence of time on the reduction of academic stress ( $F_{(2,24)} = 1928.39$ ,  $p < 0.01$ ). Another result was that there was an effect of group on academic stress reduction. It can be seen from the significant changes found in the experimental group with stress inoculation training and cognitive restructuring technique, namely ( $F_{(1,12)} = 22.591$ ,  $p < 0.01$ ). It proved that CBT group counseling with stress inoculation training and cognitive restructuring techniques was effective to reduce academic stress.

Additionally, there was also an effect of the interaction of time and group toward the reduction of academic scale ( $F_{(2,24)} = 11.50$ ,  $p < 0.01$ ).

**Tabel 3.** The Results of Pairwise Comparisons of Stress Inoculation Training Technique and Cognitive Restructuring Technique

	Time	MD	SE	P
Stress inoculation training tehcnique	T <sub>1</sub> -T <sub>2</sub>	39.741	0.853	< 0.01
	T <sub>1</sub> -T <sub>3</sub>	44.571	1.403	< 0.01
	T <sub>2</sub> -T <sub>3</sub>	4.857	0.731	< 0.01
Cognitive restructuring technique	T <sub>1</sub> -T <sub>2</sub>	35.571	0.853	< 0.01
	T <sub>1</sub> -T <sub>3</sub>	37.571	1.403	< 0.01
	T <sub>2</sub> -T <sub>3</sub>	2.000	0.731	< 0.01

Based on table 3, the comparison results of the time effects (T<sub>1</sub>-T<sub>2</sub>), (T<sub>1</sub>-T<sub>3</sub>) and (T<sub>2</sub>-T<sub>3</sub>) from stress inoculation training techniques and cognitive restructuring techniques showed a reduction. It meant that there was a reduction of students' academic stress occurred in each measurement phase.



**Figure 1.** The Graph of Stress Inoculation Training Technique and Cognitive Restructuring Technique in Reducing Academic Stress

Based on figure 1, it was known that stress inoculation training technique contributed to the lowest reduction on academic stress compared to cognitive restructuring technique. It could be concluded that CBT group counseling with stress inoculation training was more effective than the CBT group counseling with cognitive restructuring technique, although both techniques contributed benefits in reducing students' academic stress.

The application of CBT group counseling with stress inoculation training has proven to be effective to reduce students' academic stress. It was seen from the mean of pre-test, post-test, and follow-up showing that stress inoculation training

technique has reduced academic stress. It was possible because stress inoculation training helped students improving skills to overcome the problem by modifying beliefs and self-statements through cognitive structuring. In this way, individual personality started to develop. Moreover, what made stress inoculation training technique effectively successful was that because it involved negative components that focused on assisting individuals in modifying their self-instruction to overcome any problems they face to be more effective (Erford, 2016).

This is consistent with the results of a study conducted by Jamshidifar, Moghadam, and Mohammadzadeh (2014) which investigated the effectiveness of group counseling with stress inoculation training technique to reduce stress. The treatment in this study was successful because stress inoculation training techniques were focused on skills in problem-solving specifically emphasized the skills to identify negative self-talk in stressful situations. Similarly, Szabo, and Marian study (2012) proves that stress inoculation training technique statistically contributes positive and significant effect on the stress being experienced. It worked by developing better skills to face stress and building up strategies to implement in various stress situations so that individuals would feel better. This was done based on the principles of stress inoculation training that individuals should change their own beliefs about stress behaviors and negative self-talk as well as how to cope with stress, particularly academic stress.

Furthermore, the results of the mean of pre-test, post-test, and follow-up of CBT group counseling with cognitive restructuring also

showed reduction. It was caused by the use of cognitive restructuring technique that helped individuals to be aware of their negative thoughts that impacted on their behaviors. As a result, the implementation of cognitive restructuring was effective because it assisted students to recognize and identify negative thoughts or irrational thoughts which caused anxious feeling, and then try to replace them with new more positive and realistic thoughts (Erford, 2016).

The above findings are in line with the results of Hains, and Szyjakowski study (1990) that cognitive restructuring technique is effective to overcome stress and other forms of negative emotional stimulus. Through this technique, individuals learn how to identify and observe cognition that drives stress, restructure cognition become more adaptive by using independent instructions to control any self-statements that drive stress, practicing as well as applying the skills acquired.

Based on the results of the study, it was known that the subjects could be a proof that when individuals want to change negative thoughts about academic stress, it is important to prepare guidance and counseling strategies that enable to reach cognitive aspects. This is the same as what was stated by Khoshniyat, Raz, and Mousavi (2016) a namely behavioral cognitive model can be used to define stress caused by stressors that burden individuals, make them feel threatened, have negative thoughts, have guilty emotion, anxious, and result in negative behavior like burnout. Further, counseling service strategies that can reduce academic stress help students overcome negative thoughts about stressor and the reaction of stressor, which would allow them to have a higher level of confidence in what they already have.

The use of stress inoculation training and cognitive restructuring techniques in CBT group counseling would facilitate individuals to improve their ability in coping with academic stress coming from negative beliefs they have. Meanwhile, in this study, stress inoculation training technique was more effective to reduce students' academic stress than cognitive restructuring technique. It happened because the

implementation of stress inoculation training technique did not only help students to change their negative thoughts but also taught them to have specific skills in facing academic stress as well as applicable in daily life.

The implication of these findings to counselors is that they can reduce students' academic stress by providing CBT group counseling with stress inoculation training and cognitive restructuring techniques. Besides, another thing to consider by the counselors in conducting this counseling is the availability of time to modify students' cognition. When the counselors use these techniques, the important aspects to include are cognitive components, so there is a need for a session to structure students' cognition (Corey, M. S., and Corey, G., 2013).

## CONCLUSION

Based on the findings, it can be concluded that CBT group counseling with stress inoculation training and cognitive restructuring techniques is effective to reduce the academic stress of the students of SMA N 1 Semarang. For more, it was also found that stress inoculation training technique was more efficient to reduce students' academic stress than cognitive restructuring technique. Also, this study only provided a follow-up to the subjects for two weeks. Therefore, future studies are expected to give more than two weeks in providing follow-up for students.

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