

## ***The Role of Cognitive Behavioral Therapy on Self-efficacy and Worry in College Students***

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### **Abstract**

Academic performance is influenced by many factors. Anxiety and self-efficacy are two factors that may contribute to academic performance in college students (Sarirah & Chaq, 2019; DordiNejad et. al, 2011). Students with strongly perceived self-efficacy are more likely to success in academic settings (Sarirah & Chaq, 2019). On the contrary, anxiety acts as barrier for students to perform well (DordiNejad et. al, 2011). As the main component of anxiety, worry is a chain of intrusive thoughts that results in maladaptive behavior. Worry influences student's perception of a situation or their outcomes as threatening. Facilitating students in identifying and altering their cognitive processes may help them in decreasing their worry and increasing their self-efficacy (Smith, Berry, Tart & Powers, 2008; Situmorang, 2018). Cognitive Behavioral Therapy (CBT) method helps the individual to identify their irrational thoughts and alter them into more adaptive. This study aimed to evaluate the impact of CBT on student's worry level and self-efficacy level. CBT was conducted in a group of six college students for five weeks via video conferences. The measurement of student's worry and self-efficacy was carried out three times using Student Worry Questionnaire and General Self Efficacy Scale. Friedman ANOVA analysis was conducted to evaluate the changes that occur within participants ( $X^2(2)=7, p<.05$ ). The main results showed there was a significant change in worry level and there's no significant change in self-efficacy. This finding suggested CBT method has good potential to help college students in overcoming their worry. The limitation and implications of this study are discussed.

Keywords: Worry, Self-Efficacy, Cognitive-Behavioral Group Therapy, College Students

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## 1. Introduction

College life can be stressful for students. As a young adult, they face several changes that demand them to adapt. College students as a young adult are expected to be more independent and responsible for their academic life. Meanwhile the academic burden in this level of education is higher than the previous level. Those challenges may affect student's academic performance in college.

Academic performance is influenced by many factors. Anxiety is one of the predictors of academic performance (Vitasari, Wahab, Othman, Herawan & Sinnadurai, 2010; DordiNejad et. al, 2011; ). Clark and Beck (2010) define anxiety as a complex cognitive, affective, physiological and behavioral response. Anxiety arises when an individual perceives a neutral situation as threat that beyond his control. The diversity of challenges in the academic setting may trigger academic anxiety in college students.

According to a survey in Jakarta, more than 80% college students experiences severe to extreme level of anxiety (El-Matury, Herlina & Lestari, 2020). Anxiety can acts as a barrier for students to perform well when the level is high. Academic anxiety is an intrusive thought that accompanied by physiological and behavioral responses that occur due to worry about the possibility of experiencing an unacceptable poor performance when facing academic responsibility (Ottens, 1991). The main component of cognitive process in anxiety is worry. Worry is a chain of intrusive thoughts that emerge from cognitive process involved in anxiety that serve to maintain certain levels of vigilance for personal threat (Matthews, 1990). In academic setting, worry influences student's perception of a academic situation or their outcomes as threatening. High levels of worry among college students may have a negative impact on psychological conditions and affect their academic performance.

Another factor that contribute to academic performance of college students is self-efficacy. Self-efficacy is one's belief in their capacity to execute certain behavior in order to attain specific performance. One's belief can be the main basis for motivation, effort to achieve, and emotional well-being. College students with strongly perceived self-efficacy are more likely to cope with problems effectively and successfully adapt to new environment. Self-efficacy is also known as a buffer anxiety in the academic environment in students (Nie, Lau, & Liau, 2011). Students with strongly perceived self-efficacy face adversity as challenges that can be mastered, not as a threat (Bandura, 1990). Thus, those who strongly perceived self-efficacy are most likely to have better academic performance (Lent, Brown, & Larkin, 1986; Agustiani, Cahyad & Musa, 2016; Fitri & Kustanti, 2018; Sarirah & Chaq, 2019; Mamesh & Kusmiati, 2019).

An appropriate intervention is needed to help college students who have worry problems. The intervention may help students to overcome their worry and at the same time improve or maintain their self-efficacy that will have positive impact on their academic performance. Cognitive-behavior based intervention such as Cognitive Behavioral Therapy (CBT) is an applicable intervention to overcome worry problem and enhance self-efficacy for college students. CBT is based on cognitive model's that emotions and behaviors are influenced by thoughts such as perception of an event. Based on that model, emotional and behavioral changes can be determined by

the perception of an event. Thus, disturbing emotion or behavior can be changed by reconstruct the cognitive process toward a situation (Cully & Teten, 2008; Fenn & Byrne, 2013).

CBT can be applied in a group. CBT group therapy is effective to overcome worry and improve self-efficacy in college students. Both worry and self-efficacy are root on one's belief in their cognitive process. According to Bandura (2010), individual beliefs about their abilities develop from four basic sources of information. The sources consists of mastery experience (The success experience of doing certain performance), social modeling (observing other people who are similar perform certain behavior), social persuasion (assessment, suggestion or input that were given by significant people), and physiological and emotional state. Group therapy provides each its members those basic sources of information to support the member's development.

Rose (1999) said that CBT group therapy refers to a group of approaches that use behavioral (such as modeling and reinforcement), cognitive (such as cognitive modification), relationship relationships, and group procedures to improve the coping abilities and relational abilities. The coping ability refers to a set of behaviors and cognitive aspects that facilitate adaptation to problems and situations that give pressure on daily life.

CBT are mostly consists of cognitive reconstruction and relaxation techniques (Rose, 1999). Cognitive reconstruction encourage someone to think and evaluate their thought effectively when responding to problematic situations. Facilitating students in identifying and altering their cognitive processes may help them in decreasing their worry and increasing their self-efficacy (Smith, Berry, Tart & Powers, 2008; Situmorang, 2018). Cognitive Behavioral Therapy (CBT) method helps the individual to identify their irrational thoughts and alter them into more adaptive. Meanwhile relaxation is a strategy that can be used to help someone cope with strong emotional responses, such as anger, stress, anxiety or depression. This strategy provides group members to practice relaxation techniques such as deep breathing, meditation, and progressive muscle relaxation. Each group member can help other members by providing suggestions and input related to relaxation practices that are carried out by them (Rose, 1999). In order to understand the role of Group-CBT on college's students worry and self-efficacy level, the current study aimed to evaluate the impact of CBT on college student's worry level and self-efficacy level.

## **2. Method**

### **2.1 Participant**

Six college students who experienced academic worry (proven by student's worry questionnaire total score were above 40). All participants were ages 20-22. The participants gave their full consents to participate the group therapy.

## 2.2 Design

The study used quasi-experimental and time series design. The participant's level of worry and self-efficacy were measured in three times, before the intervention (*pre-test*), after the latest session (post-test), and two weeks after the intervention ended (follow-up).

## 2.3 Measurements

This study used *The Student Worry Questionnaire – 30* (SWQ) and *General Self-Efficacy Scale* (GSES). SWQ consists of 30 items that measure student's worry level in academic setting (Osman, Guttierrez, Downs, Kopper, Barrios, & Haraburda, 2001). The participants completed SWQ items using likert-scale. This study used SWQ Indonesian language version that was adapted by Wulandari (2019). This study also used *General Self-Efficacy Scale* (GSES) to measure participant's self-efficacy level. This study used GSES that has been adapted to Indonesian language by Novrianto, Marettih, and Wahyudi (2019). GSES consists of 10 items with likert-scale. According to Schwarzer and Jerusalem (1995) GSES has good reliability (cronbach's alpha= 0.76-0.9). Based on confirmatory analysis, GSES are unidimensional construct (Novrianto, Marettih, & Wahyudi, 2019).

## 2.4 Procedure

The therapy were conducted in five sessions in a group video conferences due to pandemic period. The intervention was carried out for 120 minutes for each session in five weeks. The following table showed the activities that were included in the intervention.

| Session | Duration | Agenda  |
|---------|----------|---|
| 1       | 150'     | <ul style="list-style-type: none"><li>• Group forming</li><li>• Sharing problems</li><li>• Anxiety and Worry in academic setting</li><li>• Introduction ABC models as basic cognitive process</li></ul>   |
| 2       | 100'     | <ul style="list-style-type: none"><li>• Introduction and Identifying <i>Negative automatic thought</i> (NAT) as an intrusive thought</li><li>• <i>Relaxation technique: Deep breathing training</i></li><li>• <i>Grounding technique training</i></li></ul> |
| 3       | 120'     | <i>Evidence hunting and dispute as a strategy to overcome intrusive thoughts</i>  |
| 4       | 120'     | Creating alternative thoughts and mantra as a strategy to overcome intrusive thoughts   |
| 5       | 120'     | <i>Managing setbacks</i>  |

**Table 1: Summary of Intervention Module**

## 2.5 Statistical Analysis

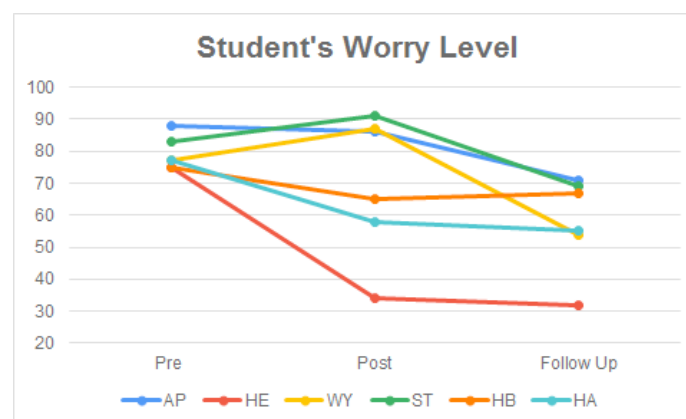
Friedman's ANOVA and Wilcoxon signed rank test were performed to evaluate the impact CBT on participants worry and self-efficacy levels. Wilcoxon signed rank test were used to evaluate the effect size from the CBT in this study.

### 3. Results

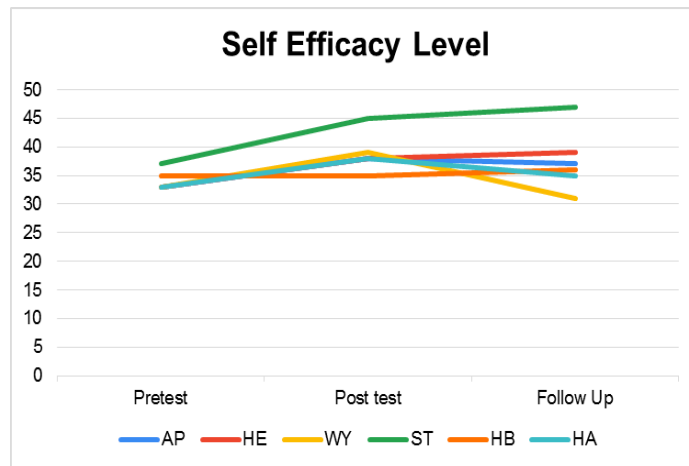
Table 2 showed participant's worry level and self-efficacy level at pre-test, post-test, and follow up. The descriptive analysis showed there's change in mean of participant's worry level and self-efficacy level through the time stamp measurements. At the pre-test the mean score for participant's worry level was 79.17 (SD=5.23), the mean score at the post-test was lower than the pre-test mean score (M=70.17, SD=22.14), and the lowest mean score was found at the follow-up period (M=58, SD=14.64). Participant's mean score for self-efficacy at post-test period (M=38.83 SD= 3.31) was higher than the pre-test period (M=34 SD=1.67). Meanwhile, at the follow-up period the mean score for self-efficacy (M=37.5 SD=5.35) was lower than the post-test. The figure 1 and figure 2 showed that all the participants' worry level and self-efficacy level were changed across the measurement period. Most of the participant's showed lower level of worry at the post-test and follow-up period. Meanwhil for the self-efficacy, the graph showed improvement on participant's score.

|                     | <i>Pre-test</i> |       |      | <i>Post-test</i> |       |       | <i>Follow-up</i> |       |       |
|---------------------|-----------------|-------|------|------------------|-------|-------|------------------|-------|-------|
|                     | N               | Mean  | SD   | N                | Mean  | SD    | N                | Mean  | SD    |
| Worry level         | 6               | 79.17 | 5.23 | 6                | 70.17 | 22.14 | 6                | 58.00 | 14.64 |
| Self Efficacy Level | 6               | 34    | 1.67 | 6                | 38.83 | 3.31  | 6                | 37.50 | 5.35  |

**Table 2: Descriptive analysis results**



**Figure 1: Participant's Worry Level**



**Figure 2: Participant's Self-Efficacy Level**

Table 3 showed there's significant changes in in participant's worry level ( $X^2(2)=7$ ,  $p<.05$ ) The additional analysis using Wilcoxon's test showed that the most significant improvement of worry occurred between pre-test to follow up period ( $Z=-2.2$ ,  $p<0.05$ ,  $r=.64$ ). Meanwhile, there's no significant change in self-efficacy ( $X^2(2)=5.3$ ,  $p>.05$ ). Table 4 showed that the effect sizes of CBT intervention on participant's worry level were ranged from moderate to large.

| Variables     | Statistical Test | Degree Of Freedom | Asymptotic Sig. (2-sided test) |
|---------------|------------------|-------------------|--------------------------------|
| Worry         | 7,00             | 2                 | 0.03*                          |
| Self-efficacy | 5,3              | 2                 | 0.07                           |

**Table 4 Wilcoxon's test of parcticipant's worry level**

| Measurement      | Z     | p-value | Effect Size (r) |
|------------------|-------|---------|-----------------|
| Pre – Post       | -1.05 | .29     | 0.30            |
| Pre – Follow Up  | -2.20 | .03*    | 0.64            |
| Post – Follow Up | -1.89 | .06     | 0.55            |

**Table 3: Friedman ANOVA analysis**

Table 4 showed that there were also belief changes within participant's after the CBT intervention in this study. Based on follow-up results, most of the participants evaluated the intervention as helpful and useful for them. All the participants practiced the strategies that were learnt in the therapy independently after the last session ended. All the participants reported they feel calmer, know themselves better, and feel confident they can overcome the intrusive thoughts. The deep breathing was nominated as the most helpful techniques by the participants. The participants also reported the presences of others in the group therapy helped them to learn new perspectives and feel supported.

| <b>Participant</b> | <b>Old Belief</b>   | <b>New Belief</b>   |
|--------------------|---|---|
| <b>AP</b>          | “My grade didn’t show any improvement. If I didn’t meet certain standard it means I’m a failure.”   | I’m a human not God, I’m not perfect. I realized I improved in several courses, I’m not a failure.”   |
| <b>HE</b>          | “I can’t finish my study because the E-Learning isn’t effective. I’ll fail to finish my study”  | “Things that I worry before didn’t happen at all. I realized worry is common and I have control to overcome it.”  |
| <b>HB</b>          | “I’m in wrong major and wasting my time. It’s too late to just realize it now. I can’t fulfill the expectations from my parents and lecturer” | “I realized the time and effort that I spent in this major is not a waste. I believe there must be a reason for something that happen in my life”                     |
| <b>HA</b>          | “I’m a perfectionist. I have to get perfect scores for all courses and I have to finish all assignments according to my plan.”                | “There’s situation that are beyond my control, I accept that. At least there’s something that I can learn.”   |
| <b>ST</b>          | “I’m not competent to do this exam or academic activities”  | “I just don’t feel confidence about myself. I can be more focus on myself than someone’s accomplishment. There are things that I can’t change and beyond my control.” |
| <b>WY</b>          | “I’m a procrastinator because I don’t have enough confidences. I’ll fail, it’s better to depend on my friend’s assignment”                    | “It’s okay If I failed. One becomes an expert after they keep on trying.”   |

**Table 4: Participant’s belief changes**

#### **4. Discussion**

This study aimed to evaluate the impact of cognitive behavioral group therapy on college’s student worry level and self-efficacy level. The results of this study showed that the majority of participant’s worry level after the therapy were lower than the pre-therapy period. The results also showed the improvement on participant’s self-efficacy level after the therapy. The statistical analysis showed that the changes on participant’s worry level in this study were significant and the pre to follow-up period as the most significant changes occurred. Meanwhile, the statistical analysis results showed that participant’s self-efficacy level changes were not significant. The participants in this study reported the change of belief after the group therapy. The participants also reported positive experiences during group therapy in this study.

In this study, The participants had lower worry level after participated in group therapy. These changes cannot be separated from the existence of cognitive reconstruction and relaxation as strategies used in the group CBT approach (Rose, 1999). Cognitive reconstruction occurs through the process of identifying disturbing thought patterns and turning them into self-statements that can facilitate adaptive behavior and reduce anxiety (Rose, 1999).

The negative reconstruction process is followed by relaxation strategies that can be applied to deal with their anxiety. According to Rose (1999) relaxation techniques are strategies that can help participants cope with strong emotions such as anxious emotions. In this study, participants learnt and practiced deep breathing and grounding techniques. The majority of participants rated deep breathing as the most

helpful relaxation technique. Deep breathing techniques are considered more practical and provide a direct relaxing effect than grounding technique.

Besides changes in the participants' academic anxiety levels, there was an increase in the self-efficacy scores of all participants. Although the statistical analysis results showed there was no significant changes on participant's self efficacy level. This can be due to the fact that in this study, the intervention focuses more on managing worry in an academic context. Therefore, after the therapy ended the participants reported they feel more confident in their ability to face difficult situations only in an academic context. In addition, the insignificant changes could be caused by the mastery experience factor that was not fully obtained by the participants in this study. According to Bandura (2010) mastery experience is the most effective way to instill a strong belief in individual abilities. Mastery experiences cannot occur because the participants are not directly dealing with their anxiety triggers. Despite the statistical insignificant on self-efficacy level, the improvement of participants 'self-efficacy scores was in line with the decrease in the participants' worry levels. This is in line with Situmorang's (2018) statement that high self-efficacy in students has an impact on reducing disturbing thoughts which directly reduces the level of academic anxiety.

Based on the qualitative evaluation, the participants reported positive experiences during the therapy session. Participants reported that they got support and new perspectives of their problems from the therapy session. This evaluation is inseparable from the presence and role of participants to participate in group therapy which triggers other participants to openly share their problems. Group therapy with the CBT approach allows participants to get input on how they deal with problems and to introspect on these ways. Even with various backgrounds and characteristics, the presence of other people in group therapy provides benefits for individuals who are involved in the group. According to Forsyth (2018) group therapy gives individuals the opportunity to get support and become more active in playing a role in overcoming their problems and achieving their goals.

## **5. Conclusions**

The results of this study showed CBT gave positive impact on college's student worry and self-efficacy level. The mental health provider in university may consider to apply CBT for their college students who experience worry or anxiety problems. This study showed that CBT is applicable in virtual setting with quiet satisfying results. The online delivery method can be an alternative options for mental health professionals, particularly in pandemic period where student's vulnerability to psychological problems might increase.

There are several suggestions for further study. First, regarding the delivery method in this study. Online delivery through video conferences were made as an adjustment based on pandemic situation during the therapy period. Further study is needed to evaluate the effect of therapy with online delivery. Second, further study may use more group samples to evaluate the effect of CBT on worry and self efficacy. Experimental design with control group is recommended to evaluate the effectiveness CBT method in decreasing worry level and increasing self-efficacy of college students.



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