Enhancing Students’ Resilience: Comparing The Effect of Cognitive-Behavior And Strengths-Based Counseling

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Abstract—This randomized control trial study was aimed to compare the effect of cognitive-behavioral counseling and strengths-based counseling models towards the resilience students. The 99 students participants of the study were assigned randomly into three different conditions as follows; 32 students in cognitive-behavioral counseling group; 33 students in the strengths-based counseling group; and 34 students as the waiting-list control. The data was gathered by using the 14 items of the psychological resilience scale. The data of the study was analyzed using RM-ANCOVA. The results of the study indicated that: (1) there are statistically significant of enhancing the resilience of both participants in cognitive-behavioral counseling and strengths-based counseling group, and (2) the resilience of the students in the cognitive-behavioral counseling group is significantly higher than students in the strengths-based counseling group or in the waiting-list control group. The conclusion is that the cognitive-behavioral counseling is more effective than the strengths-based counseling model.

Keywords—resilience; school counseling; cognitive-behavioral counseling; strengths-based counseling.

I. INTRODUCTION

Struggles and obstacles encountered by students in following academic and social life activities are likely caused depression. If they cannot handle it properly, it can give a negative impact on their academic results and psychological development[1].

A number of previous studies had found that human can successfully manage their obstacles. This process is called with resilience [2,3]. A new perspective gives an analogue for resilience as a protective shield to prevent any damage to individual psychological health and happiness[4,5].

In educational scope, resilience is defined as a positive capability of the students to be a success in academic and life despite any difficulties that might be encountered[6,7,8,9,10]. The result of the previous studies also shows that students with high resilience are associated with higher academic achievement[11,12,13,14].

The resilience of the students can dynamically develop through their interaction with environments[15]. It can also be done through the education which facilitates the students to develop their cognitive, social and emotional skills and abilities [16,17,18]. Reformulating the school curriculum in order to support the development of students’ resilience and psychological healthiness is needed. One of the foundations to grow students’ resilience at school is by establishing the role of school guidance and counseling[19]. Therefore, we need to examine the most effective model, strategy or method that can be used to achieve the goal.

The intervention from counseling or psychological therapies based on cognitive-behavioral is the most typical model to be used in the integrated educational program or extra-curricular activities at school [20]. Cognitive-behavioral therapy (CBT) which was developed by Aaron T. Beck, is a counseling model focused on the treatment for psychological problems, such as depression and anxiety[21]. In the previous studies show that the cognitive-behavioral therapy is useful to cure the students from the panic attack, insomnia, depression, phobia and many others[22,23,24]. Also, it was shown that the positive effect of cognitive-behavioral counseling model can be preserved after the intervention was terminated [25,26,27].

The current 21st-century paradigm of school guidance and counseling services is no longer focused on curing the psychological problems of the students, but to develop the students’ potencies that can be used as an asset or power to help them achieve best, especially in academia [28]. It is called as a comprehensive and developmental school guidance and counseling [29,30].

Strengths-based counseling model is focused on the efforts to support students in developing internal and external sources to be optimum and gaining success in academic and life [31,32]. This model is relatively new in school counseling practices [33,34]. The emergent of this model hales from the theory of positive psychology and integration of theories which views students as the individual with potencies and sources [35]. Strengths-based counseling is aimed to substitute the traditional counseling model which focused on deficit
condition and problems in individual mental illness and symptoms and be cured by remedial and clinical treatment with the counselor as the centre of the activities [36,37].

The meta-analysis study revealed that there are 12 variants of interventions developed based on the positive psychology [34]. In accordance with that, the previous study also found that the effectiveness of strengths-based counseling model is still limited [20]. Therefore, a further study on this topic is needed.

The model of strength-based counseling is carried out by ten steps of counseling strategy which is integrated from the theories of strength, positive psychology, need and motivation, logo, and resilience theory [38]. This model is also supported by the psychological techniques which focused on the development of students’ potencies and powers. It is predicted that the different perspectives and techniques between cognitive-behavior and strength-based counseling can be contributed to different effect towards the students’ improvement on the resilience.

II. METHOD

This experimental research used control trial randomized design, conducted in three groups, namely cognitive-behavioral counseling group, strengths-based counseling group and waiting-list control group.

A. PARTICIPANTS

The population of this study is the seventh-grade students of SMP Lab. UNDIKSHA and SMPN 3 Singaraja (12-years-old in average) in academic year 2016/2017. From the total of 284 students who followed the resilience measured, 102 students were chosen based on the criteria of having low and moderate resilience. Initially, the sample was assigned to three groups of conditions, each group composed of 34 students in cognitive-behavioral counseling, strengths-based counseling and the waiting-list control. Two students in cognitive-behavioral counseling model have not completed the eight 55-minutes counseling session and therefore we only count 32 participants there (21 girls and 11 boys).

The number of participants who fully followed the strengths-based counseling model is 33 students (15 girls and 18 boys). In addition, there are 34 students (15 girls and 19 boys) in the waiting-list control group. Therefore, the total number of participants in this study are 99 students (42 girls and 57 boys). The recruitment and retention of the participants in the study as shown in figure 1.

B. INSTRUMENTS

1) Cognitive-Behavioral Counseling Protocol

The cognitive-behavioral counseling is implemented based on the protocol of the cognitive-behavioral counseling procedures in the school context[39]. The integration of the cognitive and behavioral theories is considered as the major technique of the rational-emotive counseling by Ellis[40], which aims at formulating the counseling techniques which focused on the development of a person’s way of thinking, feeling and a new effective behavior which indicates high resilience.

![Fig. 1. Recruitment and Retention of the Participants in the Study](image)

The focus of the cognitive-behavioral counseling in the recent study is to train the students in order to change their negative thinking that leads them to the distraction of their self-development in order to be a positive thinking that can help them to feel healthy and happy, physically and mentally. In harmony with it, this counseling model concern about how to manage the distress and difficulties encountered by a person, in the past or in current live[21,23]. The cognitive reconstruction is applied by involving the self-talk analysis and ABCs exercises[41,42]. Furthermore, to handle the student’s distortion, a relaxation also be used to manage their anxiety, panic, fear and worry.

Participants in this group are also trained employing socio-drama and role-playing techniques which focus on improving social skills, especially for communicating, working together and showing empathy to others; whereas brainstorming and group discussion techniques are used to encourage problem-solving and decision-making skills. Furthermore, the assertive training is applied to develop skills dealt with social conflicts and to decrease social anxiety. This counseling procedure integrates cognitive, behavioral and rational emotive counseling strategies into a formulation of counseling procedures have similar to that of the Penn Resilience Program [43,44].

There are three steps of cognitive-behavioral counseling, including preliminary, main and terminating [21,23]. The preliminary step is done by creating the counseling relationship and identifying students’ condition. In the main
step, the focus is on these three activities: (1) assessing students’ current ability and condition, (2) creating an agreement which counseling technique that will be used, and (3) implementing the selected techniques. Last, in the terminating step, are as follows: (1) resuming the counseling results, (2) evaluating the students’ homework from outside the counseling session, and (3) giving feedback a positive reinforcement.

2) Strengths-Based Counseling Protocol
Strengths-based counseling protocol in the current study is adapted from Smith [38]. This model integrates the positive psychology and resilience, strength, desire-fulfillment, need and motivation, and also supported by the psychological techniques which focused on the development of students’ potencies and strengths.

The steps used in strengths-based counseling model as follows: (1) creating a warm and positive counseling relation, (2) identifying the powers of students, (3) assessing and serving the problems, (4) motivating and encouraging the students’ hope, (5) drawing the solution, (6) building the students’ strength and competencies, (7) empowering, (8) changing (through the process of defining and framing), (9) building the resilience and (10) evaluating the results of counseling and finishing.

3) Resilience Scale
In this study, resilience is defined as a dynamic process of students’ ability to adapt positively with obstacles, struggles and difficulties to successfully achieving optimal academic outcomes. Resilient students are characterized by a set of capabilities, namely social competencies, problem-solving skills, self-efficacy, self-awareness, and goals aspirations [15].

The level resilience of participants in this study was measured by the Indonesian version of California Healthy Kids Survey (CHKS) psychological subscale for junior high school students. The construct validity of the scale was examined by Exploratory Factor Analysis (EFA) procedure[45]. From five cycles of EFA procedures, there are 14 used from 18 original items to measure five dimensions of resilience, including social skills, self-efficacy, problem-solving, self-awareness and goals. The Alpha Cronbach’s from these 14 items test is 0.777.

The participants of the study choose one of the four alternative responses for each item, which are: (1) not true, (2) a little true, (3) pretty much true, and (4) very much true. While score 1 is given for the not true, score 2 for a little true, score 3 for pretty much true and score 4 for very much true responses[46,47].

C. PROCEDURE
The students in experimental groups followed counseling during the study, while the students in the waiting list control group were not. However, the students in waiting list control group will be given the treatment after the study for an ethical reason [46]. Each of the counseling group (cognitive-behavioral and strengths-based) followed eight session treatments with 55 minutes time allocation.

The group format of counseling had been chosen to give the students an experience to interact with others and to effectively support each other in learning[47]. There are four counselors involved in this research (each counseling model with two counselors). These selected counselors are based on the criteria of having at least 10 years experience in minimum. They also need to follow training sessions to do counseling as is provided in counseling model protocol.

D. Data Analysis
To examine the effect of treatment for both of the experimental groups and the control group, statistical analysis using General Linear Model (GLM) 3×2 Repeated Measures Analysis of Covariance (RM-ANCOVA).

The interaction between pretest and groups also be checked from the homogeneity regression slopes. The comparison of effectiveness between groups is evaluated using the interaction between groups and time. The results which related to the major effect of the groups and time were also reported. The effect size and partial eta squared (\(\eta^2_{\text{partial}}\)) were evaluated for each effect and estimated parameter. The score on \(\eta^2_{\text{partial}}\) illustrated the proportion of total variation caused by involved factors[48]. The Comparisons of the adjusted mean of resilience among the groups were tested using Bonferroni test. All of the aforementioned processes are done by using SPSS V. 22. The significance level used in the present study is 0.05.

III. RESULTS

In the following Table 1, the stable and significant improvement of resilience score of the students in cognitive-behavioral and strengths-based counseling model is given.

<table>
<thead>
<tr>
<th>Time</th>
<th>Group Condition</th>
<th>Mean (SD)</th>
<th>Mean (SD)</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strengths-based Counseling (n=33)</td>
<td>Cognitive-behavioral Counseling (n=32)</td>
<td>Waiting-list Control (n=34)</td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
<td>29.93 (2.99)</td>
<td>29.87 (3.18)</td>
<td>29.91 (3.18)</td>
<td></td>
</tr>
<tr>
<td>Posttest</td>
<td>45.8 (2.99)</td>
<td>47.9 (3.4)</td>
<td>31.8 (2.97)</td>
<td></td>
</tr>
<tr>
<td>Follow-up</td>
<td>48 (1.29)</td>
<td>51.56 (1.48)</td>
<td>30 (1.72)</td>
<td></td>
</tr>
</tbody>
</table>

The score in the cognitive-behavioral group is increasing 18.06 (5.43) from pretest to post-test and 21.68 (3.49) from pretest to follow-up stage. On the other hand, the score in the strengths-based counseling group is increasing 15.87 (3.41) from pretest to post-test and 18.06 (3.27) from pretest to follow-up stage. The aforementioned results confirmed the second and the third hypotheses of this study.

In addition, there is no significant interaction effect between groups and pretest as is shown in Table 2 (F(2, 93) = 3.023, p = 0.053 (p > 0.05). It is indicated that the relation between control variable and dependent variable in each group

The table above illustrates the proportion of total variation caused by involved factors [48]. The Comparisons of the adjusted mean of resilience among the groups were tested using Bonferroni test. All of the aforementioned processes are done by using SPSS V. 22. The significance level used in the present study is 0.05.

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are not significantly different, therefore the assumption for homogeneity regression slopes is adequate. It is also found that the major effect of the group treatment is significant ($F_{[2,93]} = 11.651, p < 0.05$, with effect size on $\eta^2_{\text{partial}} = 0.200$). Meanwhile the major effect of the pretest were not significant ($F_{[1,93]} = 0.449, p > 0.05$, with effect size on $\eta^2_{\text{partial}} = 0.005$).

### Table II. The Main Effect of Group and Interaction Effect Between Group and Pretest with Repeated Measures ANCOVA

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p-value</th>
<th>$\eta^2_{\text{partial}}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>3811.224</td>
<td>1</td>
<td>3811.224</td>
<td>543.31</td>
<td>0.000</td>
<td>0.854</td>
</tr>
<tr>
<td>Group</td>
<td>163.460</td>
<td>2</td>
<td>81.730</td>
<td>11.651</td>
<td>0.000</td>
<td>0.200</td>
</tr>
<tr>
<td>Pretest</td>
<td>3.151</td>
<td>1</td>
<td>3.151</td>
<td>0.449</td>
<td>0.504</td>
<td>0.005</td>
</tr>
<tr>
<td>Interaction effect between Group and pretest</td>
<td>42.404</td>
<td>2</td>
<td>21.202</td>
<td>3.023</td>
<td>0.053</td>
<td>0.061</td>
</tr>
<tr>
<td>Error</td>
<td>652.370</td>
<td>93</td>
<td>7.015</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In Table 3, the major effect of time (two level of time: post-test and follow-up) to the resilience is not significant ($F_{[1,93]} = 1.360, p = 0.247$, with effect size on $\eta^2_{\text{partial}} = 0.014$). Meanwhile, the interaction effect between time and groups is significant ($F_{[2,93]} = 0.417, p < 0.05$, with effect size on $\eta^2_{\text{partial}} = 0.087$). In addition, there is a significant interaction effect between time, group and pretest ($F_{[2,93]} = 5.930, p < 0.05$) with effect size on $\eta^2_{\text{partial}} = 0.113$.

### Table III. The Main Effect Time and Interaction Effect Between Time, Group, and Pretest with Repeated Measures ANCOVA

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p-value</th>
<th>$\eta^2_{\text{partial}}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>6.009</td>
<td>1</td>
<td>6.009</td>
<td>1.360</td>
<td>0.247</td>
<td>0.014</td>
</tr>
<tr>
<td>Interaction effect between time and pretest</td>
<td>2.202</td>
<td>1</td>
<td>2.202</td>
<td>0.498</td>
<td>0.482</td>
<td>0.005</td>
</tr>
<tr>
<td>Interaction effect between time and group</td>
<td>39.044</td>
<td>2</td>
<td>19.522</td>
<td>4.417</td>
<td>0.015</td>
<td>0.087</td>
</tr>
<tr>
<td>Interaction effect between time, group, and pretest</td>
<td>52.422</td>
<td>2</td>
<td>26.211</td>
<td>5.930</td>
<td>0.004</td>
<td>0.113</td>
</tr>
<tr>
<td>Error</td>
<td>411.052</td>
<td>93</td>
<td>4.420</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results showed that means of resilience’s score of students who followed the cognitive-behavior is higher than the students who followed the strengths-based, with score difference equal to 2.840, $p < 0.05$. Also, the means of resilience’s score of the students in cognitive-behavior counseling group is higher than the students in control group, with score difference equal to 18.831, $p < 0.05$. Furthermore, the means of resilience’s score of students in strengths-based counseling group is higher than the students in the control group, with score difference equal to 15.992, $p < 0.05$.

### Table IV. Comparison of Resilience Means Score Between Groups with Bonferroni Adjustment Test

<table>
<thead>
<tr>
<th></th>
<th>(I) Group Factors</th>
<th>(J) Group Factors</th>
<th>Mean Difference (I-J)</th>
<th>p-value</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
<th>95% Confidence Interval for Difference $^b$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strengths-based</td>
<td>Cognitive-behavioral</td>
<td>-2.840*</td>
<td>0.000</td>
<td>-3.972</td>
<td>-1.707</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>15.992*</td>
<td>0.000</td>
<td>14.876</td>
<td>17.108</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognitive-behavioral</td>
<td>Control</td>
<td>18.831*</td>
<td>0.000</td>
<td>17.707</td>
<td>19.956</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$^a$ The mean difference is significant at the .05 level.
$^b$ Adjustment for multiple comparisons: Bonferroni.

## IV. Discussions

The findings of this study have confirmed the findings of related previous studies, which stated that the cognitive-behavioral counseling model is effective to improve the psychological competencies (i.e. resilience). This model is also known as the effective treatment to give intervention or to prevent or to cure the psychological problems encountered by students to help them gaining success in their education, career and life. Some countries (such as USA, UK, Australia, China and Portugal) are already implementing the cognitive-behavioral counseling model as a treatment in schools to improve the resilience of the students through a program called PRP [34]. The effectiveness of the implementation of PRP can be reflected from the improvement of resilience score, prevention of depression and development of all aspects of the students[25,43,49,27,50].

There is also a study of the feasibility and effectiveness of the psychosocial intervention of the resilience training group called READY, based on the acceptance and commitment therapy (ACT) strategy and cognitive behavior therapy [51]. The result of the study showed that the READY program is feasible and effective to be implemented as a training of resilience improvement in the group setting to encourage the students’ psychosocial well-being. In addition, the FRIENDS program also showed effectiveness in handling the students’ fears, anxieties and upset in the development of emotional resilience and self-esteem [52,53,54].

The previous studies as in PRP, FRIENDS and READY programs, mostly focus on the measurement of model effectiveness to transform the symptoms or behaviors that reflect the psychological problems, such as depression,
frustration, drug addiction, eating disorder, etc.[22,23,24]. In the current study, the intervention results were measured based on the improvement of resilience, as one of the positive attributes of students’ psychological conditions. Therefore the findings of the current study can be used as a support to establish the appropriate counseling or therapy model in cognitive-behavior psychology. It can benefit, not only to manage the psychological problems or distress but also to develop the positive aspects of students, for instance, resilience, happiness and psychological well-being[55,56].

It is also revealed that the cognitive-behavior counseling has higher effectiveness compared to strengths-based counseling model towards the improvement of students’ resilience. This result is contrary to the study which found that there is no difference between the effectiveness of cognitive-behavioral and positive psychology intervention[57]. Meanwhile, the other study underlined that the positive psychological therapy is more effective than the cognitive-behavior therapy in order to increase the happiness level[58]. They also concluded that both of the approaches significantly give different impact to the management of depression symptoms, psychological well-being, happiness and mental distress.

Basically, the current research also supports empirical evidence about the effectiveness of strengths-based counseling model using the steps developed by Smith towards the improvement of resilience, even though the increasing score is lower than the score from cognitive-behavior counseling model. However, this study is relevant to a number of previous studies which stated that the positive psychology programs are significantly effective to students’ development[59,60,61,62].

As a remarkable note to close, we acknowledge some strengths and limitations of this study. This study enriches the novelty and findings in the present topic. On the other hand, this study is limited in the number of subjects, since it only involved the seventh-grade junior high school students from two schools at Singaraja, Bali. Also, several uncontrolled factors may impact the resilience of the students, such as gender, social-economic condition, intelligence and other factors. Therefore, the generalization of this study needs to be considered. The result of this study can imply practically and theoretically to the development of psychological intervention model used in the school environment. The strengths and limitations of the study can be useful information for the prospective researchers in the related topic.

V. CONCLUSIONS

The results of this study show there are significant differences in resilience after counseling and after five weeks of counseling among students in cognitive-behavioral counseling group, strengths-based counseling group and students who do not follow any counseling or control group. After counseling and five weeks after counseling, students in cognitive-behavioral counseling group with significantly have a higher resilience than students in the strengths-based counseling group. Then, students in strengths-based counseling group have a higher resilience than students in the waiting-list control group. Basically, the recent study shows that the cognitive-behavioral counseling and strengths-based counseling is equal effectively to enhance the resilience of junior high school students. The higher effectiveness is showed by cognitive-behavioral counseling.

The results of this study have implications in practice of the school guidance and counseling in order to develop a student’s resilience. The strengths and limitations of this study have a valuable information for the next researcher who has an interest in conducting the related topic. Based on the findings of this study suggested to the school counselor to implement the cognitive-behavioral counseling in which it can be integrated with the principle of strengths-based counseling model in order to improve students’ resilience.

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