

Mandala Drawing for Reducing Test Anxiety in College Student

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ABSTRACT

Test anxiety is a set of cognitive, physiological, and behavioral responses that are accompanied by concerns about the possible negative consequences of failure on the test or similar evaluative situations. High level of test anxiety can lead to negative impacts such as poor school performance, poor exam performance, psychological distress, cognitive impairment, and poor health. One effective therapy to overcome anxiety is art therapy. Art therapy is a form of therapy that involves art as a way to express feelings and communicate problems. Art therapy has many forms, one of which is mandala. Mandala is a form of art therapy that has been known to have therapeutic effects. The aim of this study is to investigate the reduction of test anxiety in college student by drawing mandala. The participants of this study were nine female college students, who are currently undergoing undergraduate study. This study used a quasi-experimental approach with one group pretest – posttest design. In this study participants were asked to take a mandala drawing session for six weeks, with one meeting session per week. Spielberger's Test Anxiety Inventory were used as the instrument for measuring the test anxiety level. The instrument was given before and after the intervention to determine the differences before and after treatment. The results show seven out of nine participants experienced significant reduction in test anxiety scores, one participant experienced an increase in scores, and one participant did not experience a change in score.

Keywords: *test anxiety, mandala, college student*

1. INTRODUCTION

Anxiety is a normal emotion and can be found in everyday life [1]. Almost everyone experiences anxiety at some point in their lives, affecting their performance and effectiveness in certain situations [2]. Anxiety can affect individuals for example to help individuals to anticipate and avoid danger [1,2]. Normal level of anxiety can be adaptive and can help individuals to prepare certain behavioral responses such as preparing responses to possible future threats [1,3] For some people anxiety can motivate to encourage individuals to perform better [2]. However, on the other hand anxiety also prevents some people from performing well [1].

In general, anxiety disorders have the highest prevalence compared to other mental health disorders in the world [4]. Based on 2016 data, around 4% or equivalent to 275 million people of the world population experience anxiety disorders. In Indonesia itself, based on 2018 data,

the prevalence of individuals experiencing emotional health disorders - which is shown in symptoms of depression and anxiety; reaching around 26.5 million people [5]. This number has increased by 4% over the past five years, from around 14 million people [5,6].

In general, the average anxiety disorder emerges around the age of 21.1 - 34.9 years [7]. According to Predelli et al., most of mental health problems have their peak to onset during young adulthood [8]. This is likely due to the demands towards adulthood that have changed as seen from the general age of marriage, having children, and education levels [9]. For example, the age of marriage in 1960 which is generally 21 years old, now shifts at least 6 years longer [10]. This can also be seen in education setting, which usually after graduating from high school, individuals will look for work, but now education continues for several years longer [9, 10]. For example, following a bachelor program - which took an

average of 4 years; and maybe continue up to graduate programs or vocational schools [10].

Kessler found that mental health challenges often onset or shortly before college age – in general [11]. At this time individuals or students are very vulnerable to psychological pressure, which may be caused by a transition period marked by self-exploration, instability, and new challenges [10, 11]. According to January et al., college students have a higher level of anxiety than other populations [12]. Globally, it is estimated that 20-25% of students experience stress and 50% of them experience it in the form of anxiety [13]. Anxiety that occurs in college students can disrupt their academic performance and quality of life [11, 12].

Some factors that influence college student's anxiety are academic pressure, task demands, health concerns, competition with academic colleagues, the need to excel, social problems, sleep disorders, financial problems, or abuse of students. [12, 13]. One factor that also causes anxiety in students is examinations or assessments [14]. Exams and evaluative situations are strong stressors because they underlie important decisions relating to the status of student's academic [15].

In education setting, assessment or examination is an inseparable thing. Examination is useful for various purposes for example to provide responses to students or even so that teachers know the condition of knowledge possessed by their students. The results of this exam have their own impact. When a student fails an exam, he will usually be allowed to repeat. However, repeated failures can cause losses such as time losses due to delayed graduation or until the worst effects are expulsion from the study. So examination or test can be a stressful condition and cause anxiety for students. This anxiety is called test anxiety (TA) [14].

TA refers to the fear of failure or threat to the ego if there is a failure in judgment or examination [16]. For some students this condition can motivate themselves but for others this condition actually causes distress which can affect the progress of their studies [14]. TA is described as a crucial factor responsible for various unfavorable outcomes for students including poor cognitive, low school performance, psychological pressure, and poor health [15, 17]. TA causes pressure on students and also disrupts test performance. In addition, this can also lead to bias against the tests undertaken or cause the results of individual cognitive testing is invalid.

TA has been proven to have a negative relationship with school achievement and ability at both the high school

and college level [15, 18]. High TA also increases the level of concern and cognitive problem, thereby causing disturbances in attention capacity, short-term memory, problem solving, and other cognitive processes needed for good test completion. TA also causes aversive patterns of motivation, coping, and learning strategies that interfere with learning and performance. As a result, it causes disruption of competence, self-efficacy, and can cause further anxiety. So that these conditions cause prolonged problems.

Many effects of anxiety make a lot of research conducted to find ways or treatments that are effective to overcome or reduce anxiety [19]. These studies found several effective methods for dealing with TA, for example cognitive therapy [20], mindful breathing [21], and expressive writing [22]. One effective therapy for overcoming anxiety is art therapy (AT) [23]. AT is a combination of interdiscipline from visual art and psychology [24]. AT is a therapy that involves art as a way to express feelings and communicate problems. AT is flexible and easy to use because it can be used by various age groups and does not depend on one's artistic ability [25, 26] In addition, in the process there is no right or wrong way to make art because the goal is to obtain a process of change, development, and acceptance using art media [25, 27].

AT has many forms and one of them is mandala [28, 29]. Mandala is a meditation medium used in various religions, especially Tibetan Buddhism [30]. In its development, the mandala is then used for certain activities such as art therapy. Mandala was first used by Carl Gustav Jung as a medium of self-understanding. Jung revealed that the mandala has a calming and healing effect on the maker. According to him, the mandala has a calming and healing effect on the creator which at the same time facilitates psychological integration and personal meaning in life.

Mandala comes from Sanskrit which means circle [28]. Mandala consists of the word "Manda" which means center and "La" which means achievement [31]. In this case the mandala refers to the individual's achievement of their center and essence. This includes being honest or sincere with oneself and achieving the essence of calm or peace. According to Jung the design of elements in the mandala is an active element in producing psychological changes [32]. Mandala functions as a symbolic representation of the emotional and conflict burden that an individual has, but at the same time also provides a sense of order and integration of this conflict [30]. Mandala allow people to forget the turmoil they are experiencing and help individuals to re-focus themselves to concentrate in the drawing process itself [31].

Mandala has been proven to have a therapeutic effect [28]. According to Kim et al., mandalas have been shown to have a positive impact on various groups such as increasing subjective well-being in students, increasing self-awareness in nursing students, raising mood in normal adults, and increasing self-competence and self-awareness among medical personnel and therapist, and reduce burnout [31]. The use of mandala was also found to be effective in increasing adolescent coping skills and resilience at risk of psychological disorders, and reducing the symptoms of post-traumatic stress disorder, depression, and anxiety in general.

The existence of evidence if a mandala can improve one's condition, encourages researchers to work for preventive and rehabilitative measures to overcome anxiety about the student examination situation by using the mandala approach. In addition, research conducted by [33] found that mandalas can reduce TA significantly. However, in a study conducted by Campbell, no significant results were found in the use of mandalas to reduce TA [34]. Therefore, this study aims to examine whether mandala can reduce TA.

2. METHOD

2.1 Participants and Research Procedures

The participants of this study were 9 individuals who were undergoing undergraduate studies, had high test anxiety scores, and were studying in Jakarta. High TA causes disruption to individual performance [35]. Jakarta was chosen because it is a city that is multicultural and is considered sufficient to represent the existence of cultural diversity. This research is not limited by specific gender, race, culture and religion.

Data collection was performed at one of private university. After preparing the questionnaire, the researcher asked permission from the faculty or lecturer to distribute the questionnaire to students in the classroom. After obtaining permission from the lecturer, the researcher distributes the questionnaire in class to students shortly before taking the exam. Then from the results of the completed questionnaire, the researcher selects individuals who have moderate or high TA levels. This result will also be used as an individual TA level pretest. Furthermore, researchers contact individuals who can become research participants. Participants who are willing to participate in further research are interviewed in relation to the perceived TA and will then be given a series of planned intervention sessions. The intervention is given within a period of 6 weeks with one session per week for each individual. After the implementation of the

intervention session, participants will again be asked to fill in the TA questionnaire, which will be used as a post-test. The post-test questionnaire was filled in on a different day from the last session of the intervention and with conditions just before the test.

2.2 Research Instruments

In this study the questionnaire used to measure the Test Anxiety was the Test Anxiety Inventory (TAI) compiled by Charles D. Spielberger. This questionnaire consists of 20 items that ask respondents about the general picture felt during, before or after the test or assessment situation. The higher the score, indicates the higher the TA and the lower the score, indicates the lower the TA. This measuring instrument was adapted to Indonesian and has been validated using expert judgment.

3. RESULTS

Table 1 Comparison of Pretest and Posttest Test Anxiety

No	Participant	Test Anxiety		Difference
		Pretest	Posttest	
1	P1	62	56	6
2	P2	52	36	16
3	P3	54	54	0
4	P4	53	36	17
5	P5	53	38	15
6	P6	61	51	10
7	P7	56	60	-4
8	P8	58	56	2
9	P9	55	42	13
<i>mean</i>		56.00	47.67	

Based on the table above, seven of the nine participants experienced a decrease in TA scores after undergoing 6 mandala drawing sessions. While there was one participant who experienced an increase in score and one participant did not experience a change in score. Overall, the total TA scores of nine participants decreased from a score of 56 to a score of 47.67. Based on the statistical test nonparametric Wilcoxon Signed Rank Test, TA has the value $Z = -2240$, $p = 0.025 < 0.05$. This shows that drawing a mandala can significantly reduce TA experienced by students.

4. DISCUSSION AND SUGGESTIONS

The results of the study of the application of art therapy in the form of drawing mandalas can significantly reduce TA on students. The results showed there was a decrease in TA scores in 7 participants. According to Buchalter the

process of drawing a mandala is useful as a tool for releasing anxiety energy and maintaining positive energy within [29]. Mandala provides a calming and healing effect for the maker, so that it can help individuals in the healing process [30].

On P7 participant, there was an increase in TA scores. After further clarification, P7 said she was worried because the day before he did the posttest, P7 had to work on the final project and also had to study for other course exams. In addition, P7 said that there were exam materials that were not given in her class so she still had to find information from other classes. This made P7 anxious because she felt she was not prepared for the exam. The same thing was experienced by P3. In P3 participants, there was no change in the TA score. P3 said she felt that she was not prepared for the exam due to being too focused on studying one of the materials so that she was afraid that she could not answer the exam questions. According to Weiner and Creighead TA can increase when individuals believe if the exam demands weigh or exceed their intellectual abilities [15].

Furthermore, in the P3 case, P3 also said she was more anxious about the exam when taking the posttest than the other exams because in the previous quiz she had gotten 0 score for making mistakes while working. This is consistent with the statement of Weiner and Creighead which states individuals with TA have a low threshold of resilience to anxiety in evaluative situations and tend to respond with intense emotional reactions when meeting the first sign of failure [15].

The research found a variety of factors that causes TA experienced by participants that are the demands that come from parents, family, or scholarship; less pleasant experience; individual organic or psychological conditions; birth order; social proof; and the chosen majors. Parental demands are the most frequently encountered factor from the results of data collection. Six of the nine participants said one of the factors causing TA was the demands that came from parents. The results of Putwain, Woods and Symes research show that parental pressure is associated with excessive worry, irrelevant thoughts, and heavier body symptoms experienced by individuals in exam situations [36]. This shows that parental pressure is related to increasing TA.

In the case of P2, the condition of TA experienced was influenced by organic factors. P2 said she had undergone chemotherapy treatment. According to Schagen and Wefel, chemotherapy treatment has a long-term impact on individual cognitive [37]. In one study it was found that individuals who underwent cyclophosphamide, methotrexate, 5-fluorouracil (CMF) drug chemotherapy in an average of 20 years had a higher likelihood of experiencing lower memory performance, information processing speed, and psychomotor speed compared to individuals who did not have cancer.

All participants expressed experiencing anxiety before the exam situation for fear of getting bad grades. In addition, TA experienced by participants makes them afraid of not being able to take the exam, afraid of forgetting the material that has been learned, afraid of the material being studied not in accordance with the test that will be conducted. TA experienced by participants is shown in different forms. In this study participant's TA was manifested in the form of heart palpitations, jittery, coldness in all or certain body parts, biting fingers, feeling pain in certain body areas, sweating, trembling, and/or itching in certain body areas. According to von der Embse et al., the diversity of individual TA manifestations depends on biological, psychological, and environmental variables [38].

Some participants experienced further effects from TA in the form of not feeling confident in the ability to take the exam, unable to concentrate on studying, or getting sick. In addition, due to TA there are participants who become negative thinking if they will fail and it cause them lazy to study. This is in line with the statement of Weigner and Graig which states that TA causes an aversive pattern of individual motivation, coping, and learning strategies that disrupt the learning process and individual performance [15].

After undergoing a mandala drawing session participants feel changes such as feeling TA decreasing and being able to adapt better when feeling TA. Drawing mandalas also helps participants to be aware of the conditions and emotions that are being felt. Some participants said the process of drawing a mandala made them feel calm and become more relaxed. According to Buchalter mandalas help individuals to organize their ideas and goals which can then develop psychological growth and restore the individual's inner balance [29]. So that individuals are better at expressing their feelings, thoughts, hopes, fears and dreams which can then reduce the level of individual anxiety.

This study has several limitations. First, in this study all participants were female participants and there were no male participants. That is because when researchers contact participants to participate in a session, many individuals do not answer messages and from some who respond are not willing to take part in research. Secondly, the sampling of student groups is only done in one of the same majors. That is because the initial data retrieval that must be done before the test, making the data collection schedule a little difficult. The initial data collection must adjust to the available class schedule and with the lecturer who allows it.

5. CONCLUSION

Based on the results of the intervention, it can be concluded drawing a mandala can reduce test anxiety in seven participants out of nine participants, one participant

has not changed and one participant has increased test anxiety scores. Statistical test results indicate the decrease in test anxiety is significant.

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