

THE EFFECT OF MANDALA COLORING ON REDUCING ANXIETY IN STUDENTS OF THE FACULTY OF PSYCHOLOGY UIN RADEN FATAH PALEMBANG

¹Mulyati, ²Atin Hafizatul Aini, ³Iffah Tsabita Ikhsani, ⁴Nadia Dwi Cahyani, ⁵Septia Anggraini, ⁶Sayid Mubarak, ⁷Annisatul Muffidah, ⁸Dian Kurniati, ⁹Indah Nabilla Nur Lutfiyyah Zariyatan, ¹⁰Cindy Adelia

^{1,2,3,4,5}Universitas Islam Negeri Raden Fatah Palembang, South Sumatera, Indonesia

⁶Universitas Islam Mataram, Indonesia, ^{7,9}Universitas Lampung, Indonesia,

⁸Universitas Brawijaya, Indonesia, ¹⁰STIFI Bhakti Pertiwi Palembang, Indonesia

Email: [¹mulyati.tik09@gmail.com](mailto:mulyati.tik09@gmail.com), [²atinm2atn@gmail.com](mailto:atinm2atn@gmail.com), [³itsabitaikhsani@gmail.com](mailto:itsabitaikhsani@gmail.com), [⁴dwicahyaninadia@gmail.com](mailto:dwicahyaninadia@gmail.com), [⁵septiaanggrn19@gmail.com](mailto:septiaanggrn19@gmail.com), [⁶sayidmubarak161101@gmail.com](mailto:sayidmubarak161101@gmail.com), [⁷Annisatulmuffidah02@gmail.com](mailto:Annisatulmuffidah02@gmail.com), [⁸Diankurniati221@gmail.com](mailto:Diankurniati221@gmail.com), [⁹indahnb112@gmail.com](mailto:indahnb112@gmail.com), [¹⁰cindy27362@gmail.com](mailto:cindy27362@gmail.com)

Abstract

Anxiety is a psychological phenomenon that is commonly felt by everyone, especially people who frequently interact with crowds. Anxiety can happen to anyone, including students. Students who are indicated to experience anxiety do not have a clear picture of their future. Coloring can be used as an alternative as an effort to reduce anxiety. Doing coloring for a long time tends to increase anxiety for related individuals. The main objective to be investigated in this study is whether the presence of mandala coloring treatment can affect the student's anxiety level. This study uses a quantitative experimental research approach. The experimental design used was a quasi-experimental design with a *pre-test and post-test control group* without any randomization process. This study used 32 university students as respondents who were experiencing mild to severe anxiety aged around 19-22 years. The results of the research analysis using the *Paired Sample t-Test analysis*, from the analysis results obtained the value of $t = 2.445$ with a sig (2-tailed) of $0.020 < 0.05$. It can be concluded that there is an effect of coloring mandalas on reducing anxiety in students of the Faculty of Psychology UIN Raden Fatah. Meanwhile, in the analysis between the control group and the experimental group using the *Independent Sample t-Test*, the output obtained a sig (2-tailed) value of $0.103 > 0.05$, it can be concluded that there is no difference in the average results of anxiety levels in the experimental group and control group.

Keywords: Anxiety, Mandala Coloring, Student

INTRODUCTION

Anxiety is a person's emotional state which is characterized by the emergence of a feeling of discomfort in a person accompanied by feelings of helplessness and uncertainty caused by something that is not yet clear (Faradina et al., 2019). Anxiety is a psychological phenomenon that is commonly felt by everyone, especially people who often interact with crowded people (Annisa & Ifdil, 2016) . In 2016, Indonesia was recorded as the fourth most anxious individual in the world. Anxiety can happen to anyone, including students. anxiety is a subjective experience in the form of anxiety, tension, and emotions experienced by someone that causes discomfort (Faradina et al., 2019) .

Students are individuals who are registered to be able to attend higher education courses with an age limit of 18-30 years. Students are also a group that exists in society with a status that is obtained because of the existence of a tertiary institution. At this age is said to be a period of searching for identity and reproductive period. According to (Hurlock, 2012) this period is a period filled with problems and emotional tension, a period of dependency, changes in values and adjustment to a new lifestyle. That means, students who are indicated to experience anxiety do not have a clear picture of their future. Chaplin describes future anxiety as an unpleasant feeling associated with various problems encountered during its development and affecting affective, cognitive and behavior (Lailatul Muarofah Hanim & Sa'adatul Ahlas, 2020) .

Coloring can be used as an alternative as an effort to reduce anxiety. In life, color plays an important role. Color is not a symptom that can be observed alone. Color affects behavior, plays an important role in aesthetic judgments and also determines the likes or dislikes of various objects. Color can affect the human soul strongly which can affect human emotions and describe a person's mood (Annisa & Ifdil, 2016) . This study uses mandala coloring interventions to reduce individual anxiety. According to Curry and Kasser, coloring mandalas can reduce a person's anxiety level (Kristina, 2017) .

Mandala coloring is a psychotherapeutic method that focuses on healing. The main objective to be investigated in this study is whether the presence of mandala coloring treatment can affect the student's anxiety level (Faradina et al., 2019) . It is hoped that the holding of the mandala coloring

treatment can affect the decrease in the anxiety level of students. The mandala is a symbol of wholeness as well as an archetype that expresses psychic confusion. Students as students of knowledge cannot be separated from several challenges, both in the form of task demands and demands from the outside (environment). This challenge comes from several factors, namely internal and external. Internal factors, namely when students are faced with a feeling of being unable to complete assignments. While external factors, namely when students are faced with a lack of support from those closest to them (Kristina, 2017) .

Some of the research results show that coloring mandalas can reduce anxiety levels. Like the research conducted by Yosephin who obtained the results of the treatment coloring mandalas significantly affected the academic anxiety experienced by student thesis writers (Lailatul Muarofah Hanim & Sa'adatul Ahlas, 2020) . Doing coloring for a long time tends to increase anxiety for related individuals. This statement is reinforced by research conducted by Curry and Kasser, individuals will feel confused when working on a *free form model* , especially if given unclear instructions. The duration of coloring greatly affects the decrease in an individual's anxiety level. Coloring mandalas for a long time for individuals will reduce a greater level of anxiety (Alihar, 2018) .

RESEARCH METHOD

Research Design

In this research method we use a quantitative experimental research approach. The experimental design that we use is a quasi experiment which is given without any randomization process. Even though it did not use a randomization process, this quasi-experiment still used a control group as a comparative group to find out whether there was a treatment effect in the study (Kasim et al., 2021) .

Table 1. Pre-Test Post-Test Control Group Design

Group	Pre-test	Treatment	Post-test
Experimental	Y ₁	X	Y ₂
Control	Y ₁	-	Y ₂

Population and Research Sample

The sample in this study used a student respondent aged around 19-22 years. Where, these students are categorized as experiencing mild to severe

levels of anxiety. This study used 32 students as respondents who were experiencing mild to severe anxiety. The sample will be divided into two groups, namely the experimental group and the control group consisting of 16 students for the control group and 16 students for the experimental group.

Research Procedure

The experimental procedure in this study used preparation and implementation steps which began with preparing a research pre-test tool using an anxiety scale in the form of a Likert scale. This study measures anxiety using the Indonesian version of Depression Anxiety Stress Scale 42 (DASS 42) as the scale. This research only looks at scores on anxiety or anxiety and how the ability of mandalas to reduce anxiety. Items included in the anxiety aspect on the DASS 42 scale, namely items 2,4,7,9,15,19,20,23, 25, 28,30,36,40, and 41.

Table 2. DASS Categories

Category	Score
Normal	0-7
Mild	8-9
Moderate	10-14
Severe	15-19
Extremely severe	>20

Before conducting the research, the researchers screened 64 students to get samples that matched the research criteria. When the research sample meets the research criteria, then a pre-test will be carried out using the DASS (Depression and Anxiety Stress Scale) scale which consists of 14 statements that are answered based on scores of depression, anxiety and stress levels. When the DASS results are obtained, the 64 samples will be further divided into 2 groups, namely 32 experimental groups and 32 control groups.

The researcher will first explain the procedure in the research. The research implementation, both the control group and the experimental group will be carried out on the same day and hour using two different rooms. The treatment of mandala coloring was given to the experimental group in the form of pictures of fish that had to be colored, while the control group was only given A4 sized blank paper and colored pencils or crayons. The experimental group received paper with a mandala pattern (picture of a fish) and was then given instructions to color it according to the pattern provided on the paper. Whereas the control group was given plain A4 paper and colored pencils or crayons and then instructed to draw freely according to the wishes of the sample. We will give each group approximately 30 minutes. After 30

minutes, each group will be given another DASS scale (Depression and Anxiety Stress Scale) to measure the anxiety level of each group again.

Data Analysis Method

Analysis of the data used in this study using parametric analysis because after examining the data obtained is normally distributed. Because the research data is normally distributed, we will use parametric statistics (Paired Sample t-Test and Independent Sample t-Test). Testing the hypothesis of this study uses a data normality test to determine whether the data is normally distributed or not. Homogeneity test to determine whether the variance of the control group and experimental group data is homogeneous or not. Paired Sample t-Test test to determine the difference in the effect of giving mandala coloring treatment to reducing anxiety in students before and after being given treatment. Test the Independent Sample t-Test to determine differences in anxiety levels between the control group and the experimental group. These four data analyzes were carried out using the SPSS 22 for windows program.

RESULTS AND DISCUSSION

Data Description

This study used 32 students as respondents who were experiencing mild to severe anxiety. The sample will be divided into two groups, namely the experimental group and the control group consisting of 16 students for the control group and 16 students for the experimental group.

Hypothesis

In this study, researchers proposed a hypothesis in the form
H₁ = There is an effect of coloring mandalas on reducing anxiety in students of the Faculty of Psychology Uin Raden Fatah Palembang
H₀ = There is no effect of coloring mandalas on reducing anxiety in students of the Faculty of Psychology Uin Raden Fatah Palembang.

Data Normality Test

**Table 3. Data Normality Test Results
Tests of Normality**

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistics	df	Sig.	Statistics	df	Sig.
pretest	.083	32	.200 *	.967	32	.430
protest	.112	32	.200 *	.976	32	.669

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Based on the output above, it is known that the significance value (Sig.) for all data on both the Kolmogorov-Smirnov and Shapiro-Wilk tests is > 0.05, it can be concluded that the research data is normally distributed. Because the research data is normally distributed, we will use parametric statistics (Paired Sample t-Test and Independent Sample t-Test).

Homogeneity Test

Table 4. Homogeneity Test Results
Test of Homogeneity of Variance

		Levene			
		Statistics	df1	df2	Sig.
Coloring	Based on Means	4,324	1	62	042
Mandalas	Based on Median	3,762	1	62	057
	Based on Median and with adjusted df	3,762	1	50,384	058
	Based on trimmed mean	4,192	1	62	045

Based on the output above, it is known that the significance value (sig) based on mean is 0.042 <0.05 so it can be concluded that the variance of the pre-test group data for the control class and the post-test for the experimental class are not the same or not homogeneous.

Paired Sample t-Test

Table 5. The results of the pre-test and post-test scores of the experimental group
Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
			std. Deviation	std. Error Means	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre-Test – Post-Test	2,719	6,290	1.112	.451	4,987	2,445	31	.020

Basic decision making in the Paired Until t-Test, namely:

1. If the significance value (2-tailed) < 0.05 , then H_0 is rejected and H_1 is accepted
2. If the significance value (2-tailed) > 0.05 , then H_0 is accepted and H_1 is rejected.

From the results of the analysis, the value of $t = 2.445$ with a sig (2-tailed) of $0.020 < 0.05$. Thus, based on the output results above, it can be concluded that the H_1 hypothesis is accepted. Thus, there is an effect of coloring mandalas on reducing anxiety in students of the Faculty of Psychology Uin Raden Fatah Palembang between the pre-test and post-test ($t = 2.445$ with a (2-tailed) sig of $0.020 < 0.05$). Means shows the mean difference between the pre-test and the post-test. From the results of the analysis, the mean is 2.719 , so because the value is positive, variable 1 (pre-test) has a higher value than variable 2 (post-test), or in other words, during the pre-test, the level of anxiety is higher than during the post-test.

Independent Sample t-Test

Table 6. Independent Samples t-Test Test Results

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
				F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
		Lower	Upper							
Mewarnai Mandala	Equal variances assumed	4.324	.042	1.656	62	.103	2.719	1.642	-.563	6.001
	Equal variances not assumed			1.656	52.103	.104	2.719	1.642	-.575	6.013

From the output results obtained a sig (2-tailed) value of $0.103 > 0.05$, it can be concluded that there is no difference in the average results of anxiety levels in the experimental group and the control group.

Group Statistics

	Worry	N	Me ans	std. Deviation	std. Error Means
Coloring Mandalas	1	32	35. 84	4,933	.872
	2	32	33. 13	7,869	1,391

From the results of the Group Statistics output it is known that the average value of the anxiety control pre-test results by coloring mandalas is 35.84 and the results of the experimental post-test class by coloring blank paper are 33.13 less than the average pre-test value. -test control. So, it can be concluded that the use of mandala coloring is more effective than the use of blank paper coloring in reducing anxiety.

On the basis of these calculations, the purpose of our research entitled " The Effect of Mandala Coloring on Reducing Anxiety in Students of the Faculty of Psychology Uin Raden Fatah Palembang " is accepted at a significance level (2-tailed) of $0.020 < 0.05$. And based on a comparison of the results of the pre-test and post-test data of the experimental group before being given treatment and after being given treatment using paper containing pictures of mandalas (fish patterns) in coloring from the DASS 42 scale, it can be seen that there was a change in the experimental group after given the coloring treatment using paper media filled with mandala images (fish patterns) it can be seen from the results of the pre-test and post-test results of experimental class students getting increased results. The output data above can prove that the use of coloring mandalas can reduce anxiety in students of the Faculty of Psychology Uin Raden Fatah Palembang.

Discussion

The main thing that the researchers wanted to examine in this study was whether giving mandala coloring experiments could affect the anxiety level of students at Uin Raden Fatah Palembang. So, the researcher proposes a hypothesis in the form of whether there is an effect of coloring mandalas on reducing the anxiety of UIN Raden Fatah Palembang students. Based on the output data that the researcher has obtained, the output results are sig (2-tailed) of $0.020 < 0.05$ so it can be concluded that there is an effect of coloring mandalas on reducing anxiety in students of the Faculty of Psychology Uin Raden Fatah Palembang.

The average value of the anxiety control pre-test by coloring the mandala was 35.84 and the results of the experimental post-test class by coloring blank paper was 33.13 less than the average value of the control pre-test. Thus, the use of mandala coloring is more effective than the use of blank paper coloring in reducing anxiety.

In previous research, there was a difference between before giving treatment which was in the high category with an average pre-test value of 25.73 while the post- test average value after being given the mandala coloring treatment was 11.45. This means that a decrease in the average score indicates a decrease in stress experienced after being given the mandala coloring treatment (Rizky et al., 2020) .

The purpose of this study is intended to help students reduce their anxiety with simple and accessible media. Hasnida and Meutia suggest that the center point of the mandala becomes the individual's focal point to help relieve stress experienced (Rizky et al., 2020) . Individuals who are coloring are in a state of controlling the focus point of the mind so that it can help reduce anxiety. Coloring mandalas is one effort that can be made to help reduce Burton's anxiety level (Faradina et al., 2019) . The use of color becomes a process to reduce anxiety which creates a feeling of calm and comfort caused by the hormone serotonin in Radeljak's brain.

BIBLIOGRAPHY

- (Elderly). *Counselor* , 5 (2), 93. <https://doi.org/10.24036/02016526480-0-00>
- Faradina, S., Az Badal, SS, Natasya, M., Kamilah, K., Oviyani, E., Belangi, M., Dewi, HM, & Sumarno, S. (2019). The Effect of Mandala Coloring on Reducing Anxiety in Students in Banda Aceh. *Seurune : Unsyiah Journal of Psychology* , 2 (2), 108–121. <https://doi.org/10.24815/s-jpu.v2i2.14210>
- Kasim, IL, Widyastuti, W., & Ridfah, A. (2021). The Role of Mandala Coloring in Reducing Anxiety Working on Thesis in Students of the Faculty of Psychology, Makassar State University. *Journal of Psychological Science and Profession* , 5 (2), 140. <https://doi.org/10.24198/jpsp.v5i2.27765>
- Kristina. (2017). The Effect of Mandala Pattern Coloring Activity on the Anxiety Level of Students in Dirgahayu Nursing Academy Samarinda. *NurseLine Journal* , 2 (1). <https://media.neliti.com/media/publications/197116-ID-the-effect-of-mandala-pattern-coloring-a.pdf>
- Lailatul Muarofah Hanim, & Sa'adatul Ahlas. (2020). Future Orientation and Anxiety Facing the World of Work in Students. *Journal of Psychological Research* , 11 (1), 41–48. <https://doi.org/10.29080/jpp.v11i1.362>
- Rizky, AA, Widyastuti, W., & Ridfah, A. (2020). The effect of coloring

mandalas in reducing stress on inmates at Class I Correctional Institutions Makassar. *Udayana Journal of Psychology* , 7 (1), 60.
<https://doi.org/10.24843/jpu.2020.v07.i01.p07>