

Exploring Mandala – Art as a Form of Therapy

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ABSTRACT

The declining trend of mental well-being among university students is a serious concern. Finding ways to curb the issue before it becomes out of hand is the main objective of this study as it assesses the effectiveness of using Mandala art as a therapeutic method in reducing the symptoms of depression, anxiety, and stress among students. Art has been around for thousands of years, and this study tests the claim specifically on the effectiveness of Mandala art as an emerging field of psychotherapy. This study uses quasi-experimental quantitative research method. Meanwhile, 72 participants from University Malaysia Sarawak (UNIMAS) are recruited and the participants are administered the Depression, Anxiety, and Stress Scale (DASS-21) before and after the Mandala colouring activities. The effectiveness is measured in terms of the pre- and post-scores of DASS-21 through paired sample *t*-test using the SPSS v26.0. Results of the research showed a significant difference between the mean of the pre- and post-test scores ($p < 0.05$). The findings of this research supported the hypothesis that involving oneself in therapeutic art activity can reduce depression, anxiety, and stress symptoms.

Keywords: anxiety, art as therapy, DASS-21, depression, Mandala, stress

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INTRODUCTION

A majority of the world population is at risk of having mental health problems. Due to the Covid-19 pandemics, in the first year of its outbreak, the prevalence of mental illness has experienced a 25% spike globally (World Health Organisation, 2022). As of today, living with psychological problems lead to a life that is less fulfilled with disrupted daily basic routine. This situation affects people from various walks of life which includes university students. University students are known to juggle with a lot of obstacles during their time attending to lessons and daily routines. Moreover, the workload, expectations, family issues, and financial problems that the students experience also contribute to pressure and stress. Hajra and Saleem (2021) suggest that among students, their overall psychological well-being is greatly affected with the presence of anxiety, stress, and depression. Psychological problems that the students experience will also affect their competencies and performances (Zahit et al., 2022). Hence, it is no denying the fact that the rise of mental health problems among students are at an alarming rate and quick decisions need to be taken to resolve the problems. One of the ways that might help students in their mental well-being is through having therapeutic hobbies. Finding things that one enjoys doing help them to become happier and unwind from daily strenuous asks. A study done by Jenkins *et al.*, (2019) has highlighted that students who are able to pursue their hobbies are less stress, and have better work-life balanced compared to those who do not. The study also highlighted that having hobbies is one of the supports that protects students from overwhelming stress and better mental health.

In recent years, art therapy is a new and progressive way to deal with mental health problems through having hobbies and art-making. Art has been around for approximately 300,000 years, and it has been explored and utilised for different purposes in various cultural and religious expressions. However, in this research the term art as therapy is used instead of art therapy. The term art as therapy is defined as therapeutic art-making which primary goal is to make beautiful appealing artwork that indirectly helps the doers to be relaxed and gain catharsis (Worden, 2020). Art therapy on the contrary is an evidence-based intervention that integrates the use of art and creative processes while being assisted by an art therapist within a psycho-therapeutic relationship (American Art Therapy Association, 2017). Art as therapy and art therapy are two terms that are commonly used interchangeably despite having different meanings. Hence, this research will be highlighting on the former term which is art as therapy. By using art as therapy, it acts as an impeccable route for the less fortunate party who cannot afford to get the expensive mental health treatment. In this research, Mandala art is the focus and the therapeutic tool investigated.

In Sanskrit, Mandala is known as “circle”. Mandala is also viewed as an artistic symbolisation of higher thought and deep meaning presented as geometric symbol and utilised in spiritual, emotional, or psychological treatment to focus attention. (Mark, 2020). Benefits of Mandala has been discussed as a vessel for individuals and groups to practice peace of mind (Mark, 2020) and to be fully present in the moment. The dynamics between utilizing Mandala in art as therapy and the act of mindfulness is very vital in ensuring the effectiveness of the treatment. Abundant number of findings are focusing more on Mandalas in art therapy. Many of the researchers have found that the use of Mandala in art therapy can reduce depression, anxiety, and stress symptoms (Kostyunina & Drozdikova-Zaripova, 2016; Cross & Brown, 2019; Khademi *et al.*, 2021) as Mandala is proposed to provide calmness (Curry & Kasser, 2005) and assist in regulating negative emotions (Babouchkina & Robbins, 2015).

As of now, research is lacking on the effectiveness of Mandala in art as therapy as most studies only highlighted the effectiveness of the regular art therapy which are conducted by licensed professionals. Past researchers have failed to promote the differences between art therapy and art as therapy which might bring confusion to the readers. Also, most of the available studies on art therapy are mainly focusing on inpatients, and outpatients who are already diagnosed with mental disorders. As an example, Kimport and Hartzell (2015) focuses more on the effectiveness of clay in reducing anxiety among psychiatric facility patients. Though there are some recent researches which uses Mandala in art therapy (Kostyunina & Drozdikova-Zaripova, 2016; Khademi *et al.*, 2021) their focus is not undergraduate students. On the contrary, this research investigates mainly the university students. It is vital for study on undergraduate students to be conducted to figure out ways that might help them to combat the rise in mental disorders. Although art therapy is known to be a flourishing field, there are very limited studies in Malaysia as of now (Rashid *et al.*, 2021). Hence, it is hope that this study can help provide insights on the effectiveness of implementing Mandala in art as therapy to help reduce the symptoms of depression, anxiety, and stress. Table 1 illustrates the objectives, hypotheses, and statistical analysis of the study.

Table 1. Summary of research objectives, hypotheses, and statistical test

Research Objectives	Hypotheses	Statistical Test
To investigate the relationship between gender and the level of depression, anxiety, and stress of the participants.	H ₀₁ There is no significant difference in the level of depression, anxiety, and stress of the participants based on gender.	1. Independent sample <i>t</i> -test. 2. Paired sample <i>t</i> -test
To examine the effectiveness of Mandala art as therapy in reducing the level of depression, anxiety, and stress of the participants.	H ₀₂ There is no significant difference between the level of depression, anxiety, and stress of the participants before and after art activity.	

Shown in Figure 1 is the conceptual framework of the study. Demographic factor is the independent variable while level of anxiety, depression, and stress is the dependent variable. Mandala art as a therapy acts as a treatment in the study.

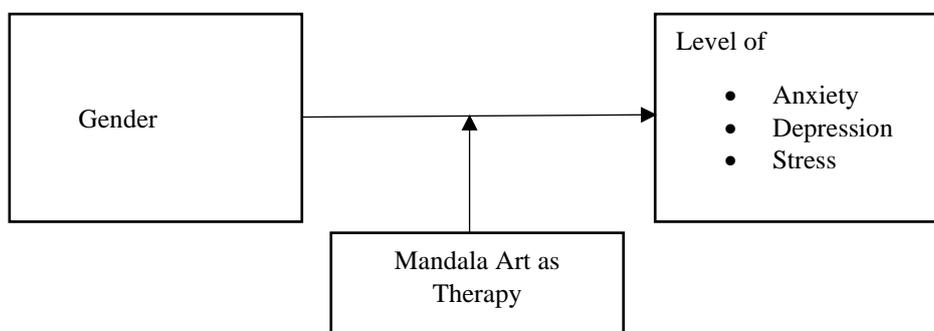


Figure 1. Conceptual framework of the study

MATERIALS & METHODS

This research employs a cross-sectional quantitative method using quasi-experimental design. It employs non-randomised sampling method with integrated pre- and post-experimental studies (Harris *et al.*, 2006). Samples are chosen based on their high scores in the pre-test phase. In this quasi-experimental design, the same group of subjects are tested before and after the experimental procedure was conducted. Data is collected at the University Malaysia Sarawak. Sample size is computed using Krejcie and Morgan (1970), in which 375 samples are collected for the study. There are two phases of the research. The first phase requires the participants to answer DASS-21 forming part of the pre-test scores and a survey through Google form. Participants with high scores (Depression:14+, Anxiety:10+, Stress:17+) are asked to do the Mandala art colouring and they are administered the DASS-21 again to obtain the post-test scores. The survey is divided into two sections:

Section A: Demographic Profile

This section requires the respondents to provide information on their personal background, e.g., age, gender, race, course of study, year of study, and faculty.

Section B: DASS-21 (Lovibond & Lovibond, 1995)

This section consists of the inventory formulated by Lovibond and Lovibond (1995). This self-reported inventory consists of 21 questions that focus on depression, stress, and anxiety. The inventory comprises 3 sub-scales (anxiety, depression, and stress) of 7 items each. The inventory uses a 4-point scale which is 0, 1, 2, 3. 0 indicates “did not apply to me at all”, 1 indicates “applied to me in some degree, or some of the time”, 2 indicates “applied to me to a considerable degree or a good part of time” and lastly 3 indicates “applied to me very much or most of the time”.

Data Analysis

Data collected is analysed using the descriptive and inferential analyses using IBM Statistical Package for the Social Sciences (SPSS) v26.0. Statistical test used to determine the mean differences in gender is independent samples *t*-test while the effectiveness of the Mandala art as therapy is tested using paired sample *t*-test.

Validity and Reliability

In many past research, DASS-21 has been consistently shown to be reliable (Cronbach’s alpha). Jiang *et al.* (2020) perform a reliability test for DASS-21 in a study on Chinese health workers’ mental health. It reports a Cronbach’s alpha value of more than 0.70 suggesting good reliability. Another study by Le *et al.* (2017) also concludes that DASS-21 has high reliability and internal consistency between all the items with a score of 0.906 for the Cronbach’s alpha for its overall scale. DASS-21 has a high construct validity and it measures the dimensions of anxiety, depression, and stress (2005). For this study, the Cronbach’s alpha is 0.781 for the pilot study and recorded 0.802 for the actual study.

RESULTS & DISCUSSION

Demographic Information

Table 2. Gender of participants

Gender	Frequency (<i>n</i>)	Percent (%)
Female	55	76.4
Male	17	23.6
Total	72	100.0

The required sample size of the study is 375 samples. However, only 72 participants participated in the study. This is due to the difficulty to recruit participants as it requires about an hour to complete. Most of the participants

are found through events and functions organized within the university. As shown in Table 2, most of the participants are female students (76.39%) compared to their male counterparts (23.61%).

Hypothesis Testing

H₀₁ There is no significant difference in the level of depression, anxiety, and stress of the participants based on gender

Table 3. Independent sample *t*-test

Domains		M	<i>t</i>	df	<i>p</i>
Depression	Female	2.40	1.382	70	0.171
	Male	1.94			
Anxiety	Female	3.18	0.488	70	0.627
	Male	3.00			
Stress	Female	2.00	1.375	70	0.232
	Male	1.65			

The independent *t*-test is used to determine the mean difference in depression, anxiety and stress score based on gender. For depression, $t(70)=1.382$, $p=0.171$, hence null hypothesis fails to be rejected at 0.05 significance level. As for anxiety, $t(70)=0.488$, $p=0.627$, suggesting that the mean is not statistically significant as the *p*-value is larger than the significant value. Lastly for stress, $t(70)=1.375$, $p=0.232$, suggesting that the test is not statistically significant ($0.232 > 0.05$).

This study finds no significant difference in the mean level of depression, anxiety, and stress between male and female participants. This suggests that the levels of depression, anxiety, and stress are not statistically different between male and female of the sampled population. These results do not align well with most past research. In a study focusing on the factors that determine the differences between male and female, women are reported to experience more symptoms of stress, anxiety, and depression in 11% of the populations compared to its male counterparts which makes up 8% in the population (Viertiö *et al.*, 2021). However, Altemus *et al.* (2014) highlight that it cannot be concluded with certainty factors that might contribute to females' prevalence in affective disorders like depression and anxiety as more in-depth study needs to be conducted. Though an immense number of past findings contradict the hypothesis of this research (Altemus, et al. 2014; Parker & Brotchie, 2014; Viertio *et al.*, 2021), a study in Malaysia by Shamsudin *et al.* (2013) on university students is almost consistent with the hypothesis of this study as depression and anxiety are insignificant by gender though the prevalence of anxiety is found higher in women than men. Moreover, the finding of this study contradicted most past findings probably due to circumstances such as the unequal number of female and male participants. The number of male and females in this study is not on par and this imbalance may have led to the insignificant finding.

H₀₂ There is no significant difference between the level of depression, anxiety, and stress of the participants before and after art activity.

Table 4. Paired sample *t*-test for pre-test and post-test score for depression, anxiety, and stress

Domains		M	SD	df	<i>t</i>	<i>p</i>
Depression	Pre-test	2.29	1.204	71	3.555	0.001
	Post-test	1.92	1.148			
Anxiety	Pre-test	3.14	1.335	71	5.488	0.000
	Post-test	2.40	1.263			
Stress	Pre-test	1.92	1.058	71	3.185	0.002
	Post-test	1.58	0.946			

Table 4 shows the result of paired sample *t*-test for the level of depression, anxiety, and stress before and after a Mandala colouring activity. The paired sample *t*-test for all the domains yield significant results. For

depression, pre-test scores (M=2.29, SD=1.204) and post-test scores (M=1.92, SD=1.148), $t(71)=3.555, p=0.001$. For anxiety, pre-test scores (M=3.124, SD=1.335) and post-test score (M=2.40, SD=1.263), $t(71)=5.488, p=0.000$. Lastly, for stress, pre-test scores (M=1.92, SD=1.058) and post-test score (M=1.58, SD=0.946), $t(71)=3.185, p=0.002$. Thus, these results indicate that there are significant differences in the level of depression, anxiety, and stress of the participants before and after art activity and the null hypotheses all are rejected.

This study has found a significant difference between the pre- and post-test scores of the participants. Thus, it indicates that there is a mean difference between these scores which denotes the effectiveness of the Mandala colouring activity in this study. This hypothesis is consistent with the findings of a number of past research. Gürcan and Turan (2021) conduct a study on the effectiveness of colouring Mandala among cancer patients and it is proven that the cancer patients who receive Mandala colouring session have elevated mood and it helps reduce the psychological symptoms of anxiety, depression, and stress. This could also explain why symptoms recorded in the post-test of the participants are reduced by their calmness after they have done the colouring activities, hence, producing a lower score in the post-test. Apriyana *et al.* (2020) also study the effectiveness of Mandala colouring on academic stress among first-year students and they discover that colouring activities give the participants a vessel to relieve their stress as they become mindful of what they are doing while colouring. The findings of this current study are also in accordance with the study done by Noor *et al.* (2017) which focuses on Mandala's effect on the state and trait anxiety as Mandala art is proven to have a therapeutic effect in reducing them among students.

Table 5. Summary of analysis

Hypothesis	Result	Past Findings
H₀₁: There is no significant difference in the mean level of depression, anxiety, and stress between the male and female participants.	Ha rejected, Ho accepted.	Females tend to be more affected by symptoms from mood disorders due to few related factors like hormones, psychosocial, and the makeup of their brain (Altemus <i>et al.</i> , 2014).
H₀₂: There is no significant difference between the pre-test and post-test scores of the participants.	Ha accepted, Ho rejected.	Mandala in art therapy helps to decrease symptoms of depression, anxiety, and stress. (Cross and Brown, 2019; Babouchkina & Robbins, 2015; Khademi <i>et al.</i> , 2021).

IMPLICATIONS

The findings of the study has enriched past research done in testing the effectiveness of colouring Mandala. As most past research has only highlighted the use of Mandala in art therapy, this study provides the insight of utilizing Mandala in art as therapy. The current findings help expand the limited number of studies on art as therapy. The findings of this study have also promoted advancements in knowledge as the main findings come aligned with the hypothesis proposed. Other than that, the outcomes support the indication that colouring Mandala does provide a calming effect on the participants of the study. The results of the study can inspire future research, motivate scientists to look into adjacent fields, or inspire them to repeat it using various populations or variables. Empirically, the current finding manages to vary the category of participants being exposed to Mandala colouring. This study focuses on university students, hence, it might be beneficial for other populations are studied as past research has mostly focused on clinically diagnosed patients. On top of that, the outcome of this study aligns well with the SDG 3 (University Strategic Development Goals) which prioritises good health and well-being of the society. The implementation of using Mandala art as a therapy will ensure mental well-being of society. This study highlights the importance of doing something relaxing and calming to enhance physical well-being. Hence, in order to achieve the SDG3 goal fully, emphasizing good mental health should also be one of the initiatives to strive for.

RECOMMENDATIONS AND CONCLUSIONS

Future researchers who are aiming to do a similar study, should carefully plan their data collection procedures to ensure that the data collected in the study are accurate and valid. A study with bigger funds and time can also consider doing the research with a better time frame and more meticulous steps in between the pre-test and post-test period.

Secondly, future researchers can improve the diversity in the research of art therapy by studying the effect of using different art materials on the participants' mood improvement. This study initially wanted to focus on the impact of different art tools and materials, however due to the restriction of time and resources it was undoable. By studying the effect of the different tools and art materials, it can give the therapists more information on a treatment plan that suits their clients best hence a more efficient result in therapy.

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