

The Honors College at the University of Missouri-Kansas City

Art and the Healing Process-Improving Mental Health

Katrina Jean LaCombe

11 May 2017

Written under the direction of Professor Ricardo Marte

Psychology

A thesis submitted in partial fulfillment of the requirements to graduate as an

Honors Scholar from the University of Missouri-Kansas City

### Art and the Healing Process- Improving Mental Health

#### **Abstract**

This study aims to find what art processes have been used to help with mental dysfunctions in a variety of populations. While many dysfunctions and many interventions were included in the paper, the main focus was to find a relationship between the levels of anxiety in college students and their participation in art activities. This paper proposes justification on why further research must be done to determine how students can most effectively reduce their anxiety by using art activities, specifically by using coloring sheets for adults. Current studies show inconclusive results if mandalas have the greatest reduction on stress compared to plaid designs when using colored pencils. Research has not explored how popular culture references being included in a coloring page might reduce anxiety compared to mandalas or plaid designs. This paper shows how this is an important feature that needs to be examined due to the rise in adult coloring book sales featuring many different references, ranging anywhere from movies to animals. By expanding this knowledge, students can find the most effective means to reduce their anxiety that is also accessible and affordable. Any data present for the proposed study is what the researchers suspect will be seen after collecting all data.

### **Significance**

Mental dysfunctions involving anxiety and depression are common in first-world countries. Anxiety disorders are the most common mental disorders throughout the developed world (Burden of Mental Illness, 2013). Specifically, 6.7% of adults in the United States have experienced depression, and 15% have experienced an anxiety disorder (Burden of Mental Illness, 2013). Other studies show much larger numbers. Within a 12-month period, 18.1% of the United States adult population has experienced an anxiety disorder, of which 22.8% of those cases were severe, and 60% were women (Any Anxiety Disorder Among Adults). With nearly one-fifth of the population experiencing these disorders, a solution needs to be found. The numbers are much more severe when the topic is broadened to daily stressors. Specifically, on college campuses, 80% of students say they experience daily stress, while 34% say they have experienced depression within the previous three months of the survey (Facts, 2016). This case can be quite severe, with 13% being diagnosed with a mental disorder, and 9% considering suicide (Facts, 2016). This problem needs to be addressed, considering that many students in higher education are experiencing persistent stress.

### **Research Questions**

Art therapy and art activities have been utilized to help those suffering from different psychological dysfunctions. Research has explored the effects of art therapy on evoking emotion, anxiety, short-term mood repair, burnout in end-of-life care workers, sexual trauma, and recidivism in prisoners (Broek, Kuelin-de Vos, and Bernstein, 2011; Aaron, Rhinehart, and Ceballos, 2010; Drake, Coleman, and Winner, 2010; Potash, Ho, Chan, and Wang, 2014; Pretorius, and Pfeifer, 2010; Tascano and Martinez, 2014). For

example, Broek, Keulin-de Vos, and Bernstein (2011) explored the effects of various art therapies on evoking emotions in forensic patients. This is different from studies by Aaron et al. (2010) because the population Broek et al. (2011) was college students, which is a much larger percentage of the population than forensic patients. They wanted to know what the effect of the art therapy was on those patients in comparison to schema focused therapy. This form of therapy aims to help clients identify schemas, develop emotional awareness of those schemas, and then create a behavioral change to improve functioning.

This research has not only been limited to actions by art therapists, but also psychologists interested in art. These researchers have investigated the effects of art activities on stress, anxiety, and affect levels (Curl, 2008; Curry and Kasser, 2011; Mercer, Warson, and Zhao, 2010). Curl (2008) discovered that utilizing art activities has a cathartic effect on participants, and thus helps people reduce stress when focusing on a positive situation. The researcher here wanted to know if art activities help people problem solve when doing a negative focus, or if the art served as a cathartic activity shown with a positive focus for the project. Typically, these studies compare the effects of the art to some different therapy or medium. This consisted of examining the effects of art activities to examining the effects of participating in an academic project not involving art, receiving schema focused therapy, and writing rather than drawing (Aaron et al., 2010; Broek et al., 2011; Drake et al., 2011). More specifically, Drake et al. (2011) found that drawing increases levels of short-term mood repair in comparison to writing as method of distraction. In reference to stress, Aaron et al (2010) found that art is more successful than academic activities to reduce stress.

## Method

Researchers have explored this topic using both experimental and quasi-experimental designs. The experiments explored a variety of independent variables, including using an art group compared to an academic control group, art therapy group paired with Schema Focused Therapy, coloring a structured mandala or pattern compared to a free-draw on blank paper, and art therapy or rehabilitation (Aaron et al., 2010; Broek et al., 2011; Curry and Kasser, 2011 [Replicated by Van de Venet and Serice, 2010]; Toscano and Martinez, 2014). More specifically, Aaron et al. (2010) used three groups in their experiment. They had an individual art project where participants were given instructions to make lines and patterns on their paper after taking a test evaluating anxiety, and they were given as much time as they needed to finish (Aaron et al., 2010). The second group also took the anxiety test, they were given the same art activity as the first experimental group, but they were asked to work in groups of two to five. The third group took the pre-test as well, but they were given the option of completing Sudokus or word puzzles for 20 minutes in groups of two to five (Aaron, Rinehart, and Ceballos, 2010). Each group then took a post-test to measure the differences in anxiety (Aaron et al., 2010). Van der Venet and Serice (2012) also used three groups, consisting of a mandala coloring group, a plaid design coloring group, and a free form coloring group. They gave all participants a variation of the Strait Anxiety Inventory before and after participating in the art activities (Van der Venet and Serice, 2012). They were given twenty minutes to do the activity. It is

important to note that both studies used pre-and post-tests, thus the change in score is what researchers are most interested in.

In addition to the experiments, many quasi-experiments focused on similar independent variables, such as positive or negative focus when drawing or collaging, venting, or distracting while writing or drawing, structured art activities, art therapy groups and skill based interventions, and art therapy groups with a counseling group (Curl, 2008; Drake et al., 2011; Mercer et al., 2010; Potash et al., 2014; Pretorius and Pfeifer, 2010). For example, Potash et al. (2014) used sessions of group art therapy as well as a skills-based invention as their dependent variables. They had 67 participants in the art group and 63 in the skill-based group, which were self-selected by participants (Potash et al., 2014). The art group was held over a six-week period, consisted of groups of 25 or less each, and each week they were given a different theme and different art project (Potash et al., 2014). The skill based group met three consecutive days for six hours each, where they covered six themes centered on skills needed as an end-of-life care worker (Potash et al., 2014). All participants took the Maslach Burnout Inventory-General Survey, Five Facet Mindfulness Questionnaire, and Death Attitude Profile-Revised before the first session and after the last (Potash et al., 2014). Therefore, like the experiments discussed earlier, the researchers are focusing on the delta score between test one and test two. Pretorius and Pfeifer (2010) randomly assigned two homes to the art therapy intervention and two homes to the counseling intervention. This approach reduced the need to travel, even though randomly assigning girls within the home to the treatment would be scientifically preferable. They were all given the Trauma Symptom Checklist for Children and the human figure drawing (a projective task where children

are asked to draw a figure then talk about it with a therapist) before and after the interventions (Pretorius and Pfeifer, 2010). A key difference between these quasi-experiments is how the groups were selected. Both the use of self-selection and the assignment of groups are threats to internal validity.

There was also a general trend between some of the studies that focused on college level students, both undergraduate and graduate levels. This included studying their levels of anxiety, researching if art is cathartic or venting in nature, stress levels, and short-term mood repair (Aaron et al., 2010; Curl, 2008; Curry and Kasser, 2011; Drake et al. 2011; Mercer et al., 2010). If the art process is cathartic, then that means the participant is releasing emotions in a healthy way. If the art provides a mean to vent, that means a person can express in a detailed way what is bothering them, which could provide relief. For example, Mercer et al. (2010) studied how art journaling could help medical students in all the following areas: affect levels, anxiety, and stress. They took a pretest to measure what levels the students were before the treatment. The intervention, or treatment, involved a guided art activity by the researcher to help think of peaceful times in the individuals' lives. They were given the test again immediately after. Participants then were given detailed instructions to continue these activities for two weeks. At the end of this interval, all participants returned to the lab and were given the test again (Mercer et al., 2010). This example shows more long-term effects, while the other studies focused on short term effects. Drake et al. (2011) studied how art can help short-term mood repair in undergraduate students. They had to measure themselves on an affect grid, and then were exposed to a video designed to evoke negative emotions. They then measured themselves again on the affect grid. After this, participants either drew or

wrote for 10 minutes, being randomly assigned to a positive or negative focus group as well as randomly assigned to the writing or drawing groups. Once again participants had to place their mood on the affect grid. This study was all done at one time, meaning this could only see the short-term impacts of this intervention. This key difference in the method is important to distinguish because clinicians need to know what solutions are temporary and which are lasting.

## **Results**

Research has found that participating in art studies can effectively reduce anxiety, provide cathartic relief, reduce stress, improve mood repair, reduce affect levels and stress, and reduce anxiety in students (Aaron et al., 2010; Curl, 2008; Curry and Kasser, 2011; Drake et al., 2011; Mercer et al., 2010; Van der Vennet and Serice, 2012). For example, Curry and Kasser (2011) found that coloring mandalas reduced anxiety on average -17.10 on the Strait Anxiety inventory within college students, which is a meaningful change. This was compared to the free-form coloring group, which had no significant change in anxiety with only a .07 difference on average (Curry and Kasser, 2011). In addition, Mercer et al. (2010) found comparable results in their study with medical students. They found that anxiety levels and stress decreased from the pre-test to the post-test. However, the average difference for the group was not significantly different between the two tests, which was most likely due to the small sample size (Mercer et al., 2010). They also found that this art intervention did not yield a significant difference on affect levels (Mercer et al., 2010). Once again, the small sample size may

account for these numbers. These studies yielded positive results when an art activity or art intervention was used.

Other research found the effects of art therapy helped evoke emotion in forensic patients, reduce death anxiety in end-of-life care workers, reduced depression levels and trauma, and reduce anxiety and depression (Broek et al., 2011; Potash et al., 2014; Pretorius and Pfeifer, 2010; Toscano and Martinez, 2014). For example, Toscano and Martinez (2014) found significantly reduced scores for the Strait Anxiety Inventory and the Beck Inventory after participating in art therapy when testing on prisoners. The scores show a greater change for those who participated in the art group than those who were in the traditional interventions (Toscano and Martinez, 2014). This study was done in a prison in Spain, implying art therapy may be useful in extension to other cultures. In addition to this study, Broek, Kuelin-de Vos, and Bernstein (2011) found that art therapy helped evoke more healthy states and healthy emotions than traditional verbally based therapies. The forensic patients who participated in the art therapy showed greater improvements than those who participated in the Schema Focused therapy, which only helped evoke vulnerable emotional states (Broek, Keulin-de Vos, and Bernstein, 2011). Therefore, art therapy has also been shown to be effective in improving mental states in a variety of settings. Both studies focused on populations outside of academia, which means it may be effective in many populations.

### **Findings**

The many studies researched have found that participating in art activities reduces anxiety in college students, psychology students, students in a liberal Midwestern college, and medical students (Aaron et al., 2010; Curl, 2008; Curry and Kasser, 2011; Mercer et

al., 2010; Van der Venet and Serice, 2012). For example, Aaron et al. (2010) found that both art intervention groups lowered the scores on the anxiety test, which was compared to the scores on the Sudoku and word puzzle groups which showed no difference. This implies that the art activity had a causal relationship with decreasing anxiety in the college students. However, this study was limited in that the sample was chosen for convenience, and had no control for anxiety levels experienced at the initial test (Aaron et al., 2010). It is possible that anxiety levels were just different between individuals. This information also may not apply to the larger population because students were recruited in some classes, not all that were offered at that university. Curl (2008) found similar results when testing psychology students in college. The researcher concluded that art activities must include catharsis because when people focused on the positives of the situation, there was a greater reduction in stress, despite the medium involved (Curl, 2008). The negative focus group had a very slight change in levels, resulting in no significant difference. This research was limited in that this only tested short-term levels of anxiety. A long-term analysis may better show which of the options has a lasting effect (Curl, 2008). The researchers also note that while not scientifically preferred, they would in future experiments permit participants to choose their own medium. This would be more like experiences in art therapy (Curl, 2008). However, this method is not preferred to make internal validity more likely. Even with their limitations, both these studies would suggest a causal relationship between the art project and the anxiety levels in the individual or at the minimum there is a relationship between the two.

Research involving art therapy has found a much wider variety of causal relationships, including successfully evoking emotions in forensic patients, reducing

anxiety, depression, and recidivism rates in male prisoners, reducing burn-out and death anxiety in end-of-life care workers, and helping sexually abused girls lower depression and trauma levels (Broek et al., 2011; Toscano and Martinez, 2014; Potash et al., 2014; Pretorius and Pfeifer, 2010). Specifically, Potash et al. (2014) found that in relation to end-of-life care workers, art therapy helped comfort workers in relation to death, promote emotional awareness, and decrease exhaustion. Long term, this could help reduce burn-out in workers. This experiment was limited in that participants self-selected into their experimental groups which weakens internal validity. These groups, while spent the same time in the training, spanned over a different number of weeks, which could have changed the results (Potash et al., 2014). Pretorius and Pfeifer (2010) also found that participating in group art therapy would decrease depression, but found that the depression scores increased with other types of therapies. This is an interesting implication because that suggests that other therapies worsen the girls' psychological states. This data, however, was limited in that the sample size was small, and that each experimental group was divided by shelter (rather than having individual girls randomly assigned to groups). Any differences could be due to the environment the shelter provides, or the location of the intervention. It could also be that the one therapist leading the art therapy group was more effective rather than the actual therapy group (Pretorius and Pfeifer, 2010). Therefore, art therapy has been shown to have a causal relationship within these populations on depression and other mental dysfunctions, despite the struggles in creating traditional experiments to test this.

### **Implications**

This research is important because it has presented workable solutions to reduce anxiety, improve short-term mood repair, lower depression, help heal from trauma, and reduce death anxiety (Aaron et al., 2010; Drake et al., 2011; Toscano and Martinez, 2014; Pretorius and Pfeifer, 2010; Potash et al., 2014). This is important because many people suffer from these mental disorders. Depression and anxiety are very prevalent throughout first-world countries, meaning that a solution must be found. These studies are taking the steps to begin developing the most effective treatment. The research presented has many implications as to what can be done for future research. Both Curry and Kasser (2011) and Van der Venet and Serice (2012) suggest that further studies could examine whether the creation of mandalas would create a greater reduction in anxiety than just coloring them. This could potentially differentiate between the results yielded by the plaid group as well as the mandala group. Understanding this difference would allow researchers to learn whether the mandala itself has healing properties, or if it just the process of creating and coloring a complicated pattern that leads to lower anxiety. It is also important to note that these studies focused on college students. Studies exploring other populations would need to be done to see if this information applies to a more public. Some studies have been done to show that art therapy can be effective in prisons (Toscano and Martinez, 2014), meaning that it is a possibility that creating and coloring mandalas in prisons could be helpful to reduce anxiety. It would also be beneficial to test this in a variety of prisons with a variety of types of offenders. Furthermore, Pretorius and Pfeifer (2010) discuss their limitation being limited on the therapist used. This presents an interesting situation when compared to the research that examines the effects of art creation compared to art therapy. A study could be done seeing if having a therapist in the room,

or even just a declared therapist, effects the results due to prestige bias, or if the art activity would yield the same results if a “therapist” was not present during the intervention.

### **Current Design**

Upon arrival, participants signed a consent form and completed a demographic questionnaire obtaining race, gender, age, and year in school. Then the study began with a variation of the State-Trait Anxiety Inventory (STAI). This initial test was done to establish what levels of anxiety the individual was experiencing before being exposed to the test. The participants were then asked to write about a time where they felt stressed. This was to induce anxiety, insuring that each participant is currently feeling stress when exposed to the treatment. After writing for 5 minutes, participants took the shortened STAI again. Then participants were randomly assigned to one of two groups: The first colored mandalas and the second colored a sheet with a popular cultures reference. These materials were chosen because, as Burns states, “In this sense drawing materials are familiar and nostalgic for adult clients” (2009). Both sheets had approximately 950 areas to color. This method is like the design created by Curry and Kasser (2005). They used a free draw, mandala, and plaid design after inducing anxiety in their participants, where they found both the plaid design and the mandala sheet significantly decreasing anxiety. The current study will follow the same basic design, but instead have two comparison groups of distinct categories.

Participants were instructed to quietly color their sheet for 20 minutes. They were told do not talk to others in the room and to use any of the materials that were available on the table. They were also told that they would not be judged based on the quality of

the coloring. Each person had 12 different colored pencils on their table to complete the task. They were told they did not have to have the entire sheet colored within the 20 minutes.

After 20 minutes, participants were given the same variation of the State-Trait Anxiety Inventory. This second test served to see whatever change in anxiety the test caused. While taking this test, the researchers made a copy of the coloring sheet the participant colored. The participants were given information about campus resources to help cope with anxiety, as well as keep their coloring sheet they were working on. The participant was also offered the coloring sheet that they were not assigned before leaving. The researchers then analyzed results using an ANCOVA.

### **Future studies**

This research will be expanded in future years. As presented by (source), potentially the activity would be much more effective if the participants created the coloring sheets themselves. That, however, would require much more training of the researchers as well as the participants. Therefore, this study serves as a base for a long-term study which will allow participants to make individual sheets, then color those individualized sheets.

A main issue with this study would be the intimidation many people feel involving art. When presented with a task beyond coloring, the participant would likely feel stress without the proper training. Quoted in Elizabeth Burn's paper, Hanieh and walker (2007) warn that "Some materials may provoke a certain level of anxiety when introduced to a client" (2009). Therefore, this study would be a several weeks process to try to control for this factor. The first week would aim to expose the participants to art

mediums to help them feel comfortable producing art. This would not only help them start developing skills, but also allow them to learn that their creations will not be judged based off quality. The aim is to also make them recognize that materials are not intended for only a child's use. Rubin explains: "Another way anxiety towards art materials may be displayed is by the adult client referring to the material as "childish." Materials perceived as such may turn an adult client away..." (2009). By teaching the participants advanced methods with even simple materials, they will learn how to use familiar materials in a way they can feel are more sophisticated.

The next step of this process is to teach the participants how to make mandalas, popular culture references, and compositions. The experimental group of the mandalas will be shown many examples of mandalas, as well as told what are the general requirements of what a mandala is. They will practice making basic shapes, as well as general structure guidelines to create their own mandala. This week will just be for practice.

The popular culture reference group will be taught how to draw characters. This will vary between drawing already two-dimensional characters and drawing characters from life. They will be encouraged to only create line drawings, meaning they will not add shading to make characters look three-dimensional. They will also be taught basic shapes and patterns to add to their drawings.

The third group will serve as a control. These participants will be taught how to draw basic shapes and designs. They will not be told what to draw on the final day. They will simply be told to make a coloring sheet that they would like to eventually color.

The next step will be for participants to create their final coloring sheets. They will be given one day in the lab to design the sheet, then given another to make any finishing touches, such as outlining everything with sharpie.

The final day will be spent coloring their own creations. At each step of the process, participants will be asked to take a version of the State Anxiety Inventory. This will allow the researcher to examine if the process helps lower anxiety or if only coloring a sheet is important. These results will be compared to the results of the current study to see which has a greater impact. In addition to this test, participants will take a survey about their views of creating art at the beginning of the intervention as well as at the end. This will ask questions to determine if the idea of creating art resulted in stress, if they often drew, and if they think of themselves as creative. This will help determine if the general population needs such extensive training for this task.

### **Conclusion**

In conclusion, this study aims to further examine what part of the art process is most conducive to lower anxiety in college students. This population is in desperate need of an easily accessible solution to help lower their anxiety. Potentially, this intervention could apply to a large population if found effective. A consideration to have when conducting these studies is that much of the research focuses on only United States cases, except for Toscano and Martinez (2014) who studied in Spain as well as Pretorius and Pfiefer (2010) who studied in South Africa. More experiments would be necessary to see which cultures this would be helpful in, especially comparing the effects in cultures where art is a commodity, versus where it is not. In any case, these designs could address issues of the previous studies by using other studies as a guide. For example, Aaron et al.

suggested that there was no control for initial anxiety levels. Van der Vennet and Serice (2012) present an interesting solution where they include an anxiety inducing activity to ensure all participants have some level of anxiety before beginning the art task. This could be unethical in that anxiety is already a major problem in the United States. By increasing anxiety, especially in college students, this could increase their levels to distressing amounts. However, the benefits of this method may outweigh the risks it presents.

## References

- Aaron, A.E., Rinehart, K.L., & Ceballos, N.A., 2010. "Arts-based interventions to reduce anxiety levels among college students" *Arts and Health*, 3:01, 27-28, doi: 10.1080/17533015.2010.481290
- Any Anxiety Disorder Among Adults. *National Institute of Mental Health*.  
<https://www.nimh.nih.gov/health/statistics/prevalence/any-anxiety-disorder-among-adults.shtml>
- Broek, V.D., Keulin-de Vos, M., & Bernstein, D.P., 2011. "Arts therapies and Schema Focused therapy: A pilot study" *The Arts in Psychotherapy*, 38:5, 325-332
- Burden of Mental Illness (2013). *Centers for Disease Control and Prevention*.  
<https://www.cdc.gov/mentalhealth/basics/burden.htm>
- Burns, E.A., 2009. "Art Materials and Anxiety: A Study of Art Materials Used with Adults" *Florida State University Libraries*, 7-21
- Curl, K., 2008. "Assessing Stress Reduction as a Function of Artistic Creation and Cognitive Focus" *Art Therapy: Journal of the American Art Therapy Association*, 22:4, 164-169
- Curry, N., & Kasser, T., 2011. "Can Coloring Mandalas Reduce Anxiety?" *Journal of the American Art Therapy Association*, 22:2, 81-85, doi: 10.1080/07421656.2005.10129441
- Drake, J.E., Coleman, K., & Winner, E. 2011. "Short-term mood repair through art: Effects of medium and strategy" *Art Therapy: Journal of the American Art Therapy Association*, 28:1, 26-30

Facts (2016). *Anxiety and Depression Association of America*.

<https://www.adaa.org/finding-help/helping-others/college-students/facts>.

Mercer, A., Warson, E., & Zhao, J., 2010. "Visual journaling: An intervention to influence stress, anxiety, and affect levels in medical students" *The Arts in Psychotherapy*, 37, 143-148, doi:10.1016/j.aip.2009.12.003

Pretorius, G., & Pfeifer, N., 2010. "Group art therapy with sexually abused girls" *South African Journal of Psychology*, 40:1, 63-67, doi:10.1177/008124631004000107

Potash, J.S., Ho, A.H., Chan, F., & Wang, X.L. 2014. "Can art therapy reduce death anxiety and burnout in end-of-life care workers?" *International Journal of Palliative Nursing*, 39:1, 44-51, doi:10.1080/07481187.2013.859187

Toscano, T.M.D., & Martinez, M.D.L., 2014. "Efecto de la arteterapia en la ansiedad y depresión, la capacitación sociocultural y la reducción de la reincidencia penitenciaria de personas reclusas" *Arteterapia: Papeles de arteterapia y educación artística para la inclusión social*, 9, 39-60

Van der Venet, R., & Serice, S., 2012. "Can Coloring Mandalas Reduce Anxiety? A Replication study" *Art Therapy: Journal of the American Art Therapy Association*, 29:2, 87-92