

Using Clay Work to Help At-Risk Children Regulate Emotions

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Abstract

Little research is available pertaining to the use of clay in art therapy to help regulate emotions to improve the social and academic success of at-risk children. The following describes an experimental pilot study that compared the use of clay with the use of alternative art materials to help regulate emotions and improve behaviors of at-risk youth. While the limited study did not allow time to strengthen results to fully support the researcher's hypotheses, some of the data collected supports the use of clay to help regulate emotions and improve behaviors. Subjects utilizing clay in art therapy showed a decrease in nine out of the ten negative behaviors evaluated and improvement in emotional regulation.

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CHAPTER I

Introduction

Mental health disorders are as prevalent in younger children as in older children though they are not as easily recognized. Emotional disabilities often go unnoticed in early childhood. The Department of Health and Human Services (DHHS) directs attention toward identifying mental health needs in children as early as preschool. Emotional and behavioral problems are growing among the youth, and if untreated, pose a threat to the nation's economic and social status of both the present and future (DHHS, 2000). At-risk students are among those with the least successful educational, social, and economic outcomes (Sacks & Kern, 2007). DHHS (2000) identified a need to expand comprehensive interventions beyond special education and to help target the at-risk students. They also identified a need to develop treatment methods for at-risk children ages one to adolescent to improve their potential quality of life (DHHS). The National Institute of Mental Health ([NIMH], 2006) has identified the need to develop interventions focusing on emotional regulation. Results of a study done by Montague, Enders, and Castro (2005) suggested a need to detect at-risk children at an early age. Their results indicated a need for prevention and intervention programs for at-risk students. A study by Kimport and Robbins (2012) concluded that clay work is an effective means for emotional regulation.

Problem Statement

At-risk children are in need of services to help them succeed both socially and academically. To date, little professional literature has been found specific to research conducted with at-risk children age's eight to twelve involving the use of art therapy to help regulate emotions to improve quality of life particular to social and academic success.

Research Question

This pilot research study was designed to explore the use of clay work in art therapy with at-risk children to answer three questions. Can an art therapy group utilizing clay work produce a greater increase in emotional regulation of elementary aged at-risk youth than an art therapy group utilizing a variety of other art materials? Can clay work contribute to greater improvement of social success in at-risk children than other art materials? Can clay work contribute to greater improvement in academic achievement in at-risk children than other art materials?

Basic Assumptions

Children who can regulate their emotions exhibit more acceptable social skills than children with poor emotional regulation. A critical social intermediary for at-risk preadolescents is the self-regulation of emotion. Evidence suggests that a child's ability to self-regulate emotions can affect his or her ability to develop prosocial behaviors (Pekrun, Goetz, Titz, & Perry, 2002). The ability to regulate emotions can help minimize problem behaviors (Augustyniak, Brooks, Rinaldo, Bogner, & Hodges, 2009). Interventions that focus on self-regulation and reducing inappropriate emotional symptoms may be highly effective in addressing social and emotional maladjustment and promoting prosocial behaviors among youth (Augustyniak et al., 2009). Results of a study conducted by Got and Cheng (2008) on individuals with developmental disabilities reflected that art therapy can lead to improved social interaction and increased communication skills.

Children who can regulate their emotions can focus better and exhibit better study skills. DHHS (2000) stated children, age one through adolescence with emotional and behavioral problems are likely to experience a lower quality of life than those without. Research results of Montague, Enders, and Castro (2005) suggested young students exhibiting behavioral problems

are more likely to fail or drop out. Children receiving art therapy showed increased academic achievement to those receiving only educational assistance (Freilich & Schechtman, 2010).

Clay work and the creative process can help at-risk children learn to identify and regulate their emotions (Kimport & Robbins, 2012). Art therapy offers children ways to control emotions and increase learning ability (Bush, 1997). Results of a study by Bell and Robbins (2007) to identify the effects of art production on negative mood indicated that art therapy can lead to improved mood. Creating art work can elevate mood valence both through catharsis and redirection of emotions (DePetrillo & Winner, 2005).

Statement of Purpose

The purpose of this pilot study was to effectively examine the potential of working with clay in art therapy to assist with emotional regulation. In addition, this study was designed to measure potential changes in social and academic success through clay use. Awareness of diversity in cultural groups was one objective of this study. A second goal was to add to the body of professional literature regarding at-risk elementary age children.

Hypothesis

At-risk children ages eight to twelve utilizing the medium of clay in art therapy will show improvement in emotional regulation, a decrease in negative behaviors, and favorable outcomes in social and academic skills. Children utilizing clay will show more favorable outcomes than children utilizing other art mediums. This will be demonstrated through a comparison of the data collected from the control and experimental groups.

Definition of Terms

For the purpose of this study, *at-risk* refers to youth who exhibit maladaptive behavior problems, present with signs of limited social skills, or struggle with academic achievement (Rutherford, Quinn, & Mather, 2004).

Clay work refers to the process of handling, manipulating, and sculpting of clay, as well as the final product created (Sholt & Gavron, 2006).

Emotions are the positive and negative affective responses to life's experiences (Gross & Thompson, 2007).

Emotional expression refers to the use of verbal and nonverbal behaviors to convey an emotional experience. Emotional expression is an important part of emotion regulation (Gross, 1999b).

Emotional regulation refers to how individuals influence, experience, and expresses emotions (Gross, 1999b). Emotional regulation is a conscious or unconscious process by which a change in affect occurs. Regulation of emotion may decrease, strengthen, or preserve an affect to obtain or maintain a balanced state (Gross & Thompson, 2007). Without the ability to regulate emotions, emotions may be expressed inappropriately (Gross, 1999a).

The World Health Organization (1997), defined *quality of life* as individuals' perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards, and concerns. It is a broad ranging concept affected in a complex way by the person's physical health, psychological state, level of independence, social relationships, personal beliefs and their relationship to prominent features of their environment.

CHAPTER II

Literature Review

The following contains a partial review of the current professional literature on at-risk elementary-aged children. Explored are the identification of at-risk children and the consequences and quality of life if they are unidentified or are inadequately treated. The literature review that follows discusses emotional regulation and the use of art therapy to help regulate emotions. It further explores the use of art therapy with children with emotional and behavioral disorders. The use of clay work in art therapy is also explored.

At-Risk Children

Violence, sexual abuse, substance abuse, poverty, and broken family structures are some of the issues increasing the emotional needs of children today (Essex, Frostig, & Hertz, 2013). Stage, et al. (2008) evaluated students with emotional and behavioral disorders (EBD). Thoughts or feelings attributed to problem behaviors in 65% of the students studied. At-risk behaviors identified included externalizing behavior, adaptive skills, and social skills. Evaluations rated at-risk student low for intrapersonal and interpersonal skills.

Students with EBD have the least successful educational, social, and economic outcomes of all disability groups. Research results of Montague, Enders, and Castro (2005) suggested young students exhibiting behavioral problems are more likely to fail or drop out. The difficulties with social relationships, academics, and behaviors associated with students with EBD affect their self-concept and world views (Sacks & Kern, 2007). At-risk youth are at greater risk for lower functioning in society as adults. Children, ages one through adolescents with emotional and behavioral problems are likely to experience a lower quality of life than those without (DHHS, 2000). Sacks and Kern (2007) conducted a study of 86 students diagnosed with

EBD and 99 students with no EBD diagnosis. The study focused on the quality of life of youth with emotional and behavioral disorders. Results indicated that students with EBD viewed their quality of life lower than students without EBD.

Identification and Treatment of At-Risk Children

Although younger children suffer from mental health disorders, they are more difficult to recognize than those in older children. The Department of Health and Human Services identified the need to recognize mental health disorders as early as preschool. If not identified and treated in early childhood more serious problems such as externalizing and disruptive behaviors are likely to develop (DHHS, 2000).

Many children identified with emotional and behavioral problems in early childhood do not receive appropriate treatment in a timely fashion. Most children who are identified at-risk do not receive treatment early in their life unless these problems are severe (DHHS, 2000). It may take up to eight years for a child with EBD to receive proper treatment. There is an identified need to expand comprehensive interventions beyond special education and target the at-risk students (DHHS).

The 2005 Montague, Enders, and Castro study further suggested the urgency for early identification and prevention/intervention programs for children who are at-risk. DHHS (2000) identified a need to develop targeted treatment programs for this population to improve their potential quality of life by preventing school dropout and increasing their ability to become fully functioning members of society as adults.

According to Gerrity and DeLucia-Waack (2007), Psychoeducational groups are one of the most frequent interventions used in schools. Strategies include problem-solving, decision-making, and skill development. Skills taught include social skills, self-esteem, and making

friends, among others. Psychoeducational groups serve as a primary intervention and prevention method for at-risk students (Gerrity & DeLucia-Waack, 2007). Groups are an ideal source for preventative interventions, allowing for practice utilizing skills to adapt to “real life” experiences (Kulic, Horne, & Dagley, 2004).

Emotional control can address problem behaviors. Augustyniak, Brooks, Rinaldo, Bogner, and Hodges (2009) recognized the connection between emotional regulation and prosocial behavior. A critical social intermediary for at-risk preadolescents is the self-regulation of emotion. The National Institute of Mental Health (NIMH) (2006) has identified the need to develop interventions focusing on emotional regulation. Evidence suggests that a child’s ability to self-regulate emotions can affect his or her ability to develop prosocial behaviors (Riley, 2001; Pekrun, Goetz, Titz, & Perry, 2002).

Art Therapy

Art therapy can be an effective treatment for children who have difficulty adjusting emotionally and socially. Art therapy promotes emotional regulation and a higher level of social and academic achievement (Isis, Bush, Siegel, & Ventura, 2011; Shostak, et al., 1985; Sutherland, Waldman, & Collins, 2011). The creative process can help to resolve emotional conflicts. A study done by Cortina and Fazel (2015) found that *The Art Room*, a weekly art-based intervention group program, elicits significant improvement in both emotions and behaviors of at-risk students.

Meijer-Degan and Larsen (2006) stated the inability to recognize and name emotional reactions is a serious impediment. With this impairment comes the inability to define opinions, act, and react to the best interest of oneself. The creative process of art therapy can eliminate this deficiency, leading to self-discovery and growth. Rubin (2005) indicated that art activities have

the capacity to be educational. Art therapy is useful with children, starting at the age when they can meaningfully use art materials. Standard development involves children beginning to create representational art between the ages of four and six years.

Group art therapy may offer members the opportunity to create individually as well as jointly. Individual art exercises within a group foster identification and expression of feelings. Group work nurtures interpersonal (Riley, 2001) and social skills (Rubin, 2005). Results of a study done by Bell and Robins (2007) reflect that art therapy can lead to improved mood. Got and Cheng (2008) recognized that art therapy can promote social interaction, and increased communication skills. In addition to positive social behavior, art therapy can foster and facilitate emotional regulation that will increase social and academic potential (Shostak, et al., 1985).

Clay Work in Art Therapy

Documented use of clay in therapy is limited. This researcher found recorded use of clay in palliative and aged care (Shaw, 1997), occupational therapy with the elderly (Yaretzky, Leveinson, & Kimichi, 1996), family therapy (Kameguchi, 2001), abuse recovery (Dufrene, 1994), work with the blind (Hermann, 1995), and use with eating disorders (Macks, 1990). Documented use of clay work in art therapy with children exists, including work by Henley (2002), a child art therapist who uses clay as a therapeutic, educational, and expressive medium to target impulse regulation, emotional expression, self-esteem, and social interaction. However, literature is limited for clay work specific to improvement of social and academic skills for at-risk children with emotional and behavioral disorders.

Free exploration of basic clay techniques such as pinching, rolling coils, and rolling out slabs can help to overcome tactile resistance, establish eye contact with the material, and practice hand coordination while eliciting pleasurable affects. Adjusting tools or techniques, or offering

alternative modeling materials for at-risk children may enhance the creative experience (Henley, 2002).

Working with clay serves many uses in therapy. Clay work can facilitate catharsis by evoking an affect response to a three-dimensional creation resembling a real object (Sholt & Gavron, 2011). Clay has the potential to bring repressed memories, thoughts, desires, and feelings to the conscious mind. Symbolic clay objects encourage expression and deeper meaning of ideas and experiences. Finally, clay work stimulates verbal communication (Sherwood, 2004; Sholt & Gavron, 2011).

The use of clay helps to reveal and express emotions as well as to cope with emotional states fostering emotional regulation (Jang & Choi, 2012; Kimport & Robbins, 2012; Sholt & Gavron, 2011). Children with insecure attachment often have difficulty with emotional regulation. Research on attachment theory emphasizes the importance of sensory-based treatment approaches (Malchiodi, 2013). Malchiodi (2013) cited Perry's neurodevelopmental perspective on the fundamental use of sensory-based treatment to enhance stable attachment and self-regulation. Neuroplasticity is the brain's ability to restore or rewire itself to counteract damages (Malchiodi). Since working with clay provides a tactile and kinesthetic sensory experience (Hinz, 2009), clay work has potential to help restore neural pathways and synapses, promote secure attachment, and enhance emotional regulation.

Additionally, working with clay can foster behavioral adaptation and resilience (Jang & Choi, 2012). Sherwood (2004) described his work facilitating a group of at-risk Indigenous youths. The children responded well to shaping and molding the clay by expressing themselves and telling their stories. A week later, one of the group members sought out Sherwood at his counseling center seeking more work with clay.

CHAPTER III

Methodology

This was an experimental pilot study intended to measure cause and effect. This study employed pre and post-study as well as pre and post-session evaluations utilizing Likert-type inventories offering a selection of five positive and negative responses. Evaluations were completed on the subject's feelings, behaviors, academic achievements, social success, and emotional control.

Participants

Participants were enrolled at a school for children with emotional and behavioral disorders as well as learning disabilities. These students were at-risk of educational failure and poor quality of life. Subjects were between the ages of eight and twelve. The researcher randomly asked five students from each of two art therapy classes to participate. One of the two classes was randomly selected to be the study group. The remaining class became the control group. Each group contained three males and two females.

Research Design

Participation was voluntary. Legal guardians of students in the selected art therapy classes received an Art Therapy Study Permission form (Appendix A) explaining the study and requesting permission for their child's participation. After receiving permission, the researcher and the supervising registered art therapist (ATR) notified the parents of the rights of the participants and limits of confidentiality. Signed Informed Consent forms (Appendix B) were obtained. Once the researcher obtained consent from the legal guardians the researcher and supervisor addressed any questions and concerns, and obtained a signed Assent form (Appendix C) from the student. The researcher also went over the Consent to Use Photos of Student

Artwork form (Appendix D) and obtained a signature to allow the researcher permission to use photographs of the child's artwork.

The researcher and supervising ATR randomly assigned one of two advanced art classes to be the control group while the other was the experimental group. Members of both groups met with the researcher before the start of the study to fill out a Pre and Post-Study Emotional Rating Scale self-evaluation (Appendix E). Participants completed this evaluation a second time post-study. The researcher asked teachers to complete pre-study Behavioral Rating Scale (BRS) (Appendix F) evaluation targeting subjects' behaviors, grades, and social interactions. Teachers were requested to repeat the evaluation upon completion of the study.

Subjects met for group sessions during their regularly scheduled art class. During each session, subjects in both the experimental group and the control group completed a Pre and Post-Session Feelings Evaluation form (Appendix G). The researcher completed an evaluation of Intensity of Affect and Behavior (Appendix H) for each subject during each session. Participants in the experimental group responded to a directive utilizing clay in both sessions. Participants in the control group responded to a directive utilizing art media other than clay. The Study Sessions Outline (Appendix I) summarizes the structure for the sessions.

Research Instruments

Teachers completed a BRS form (Appendix F) as pre and post-study evaluations. Participants completed Pre and Post-Study Emotional Rating Scale evaluations (Appendix E) and Pre and Post-Session Feelings Evaluation forms (Appendix G). The researcher recorded the intensity of each participant's affect at the beginning and end of each session and behavior during each session on a Researcher's Evaluation: Intensity of Affect and Behavior form (Appendix H).

Data Collection

The researcher maintained participant's confidentiality. Data identified subjects numerically eliminating personal identifying information from the recorded data. Upon collection of data, the researcher placed it in a sealed manila envelope, labeled and dated the envelope, and stored it in a locked filing drawer within a locked office. Access was only available to the researcher and her ATR supervisor.

Data Analysis

The quantitative data was displayed on bar graphs. A zero rating on the bar graph represents ideal behavior or emotional regulation. A rating of five represents extreme negative behaviors or inability to regulate emotions. Data collected includes pre and post-study evaluations as well as pre and post-session evaluations.

Behavioral Rating Scale. Data from all five control subjects was included and data from four out of five experimental subjects was included due to the wrong student being evaluated by the teacher. The researcher charted and compared the data from the behavioral evaluation forms using a two-bar graph. The first bar of the behavioral evaluations represents the students' behaviors pre-study and the second bar represents the students' behaviors at the conclusion of the study. Figure 1 shows the average results for each category of the evaluation compiled from the answers given by the subjects' teachers for the control group. Figure 2 shows the average results for the experimental group.

Figure 1. Control Group Pre-Study and Post-Study Behavioral Evaluation Averages

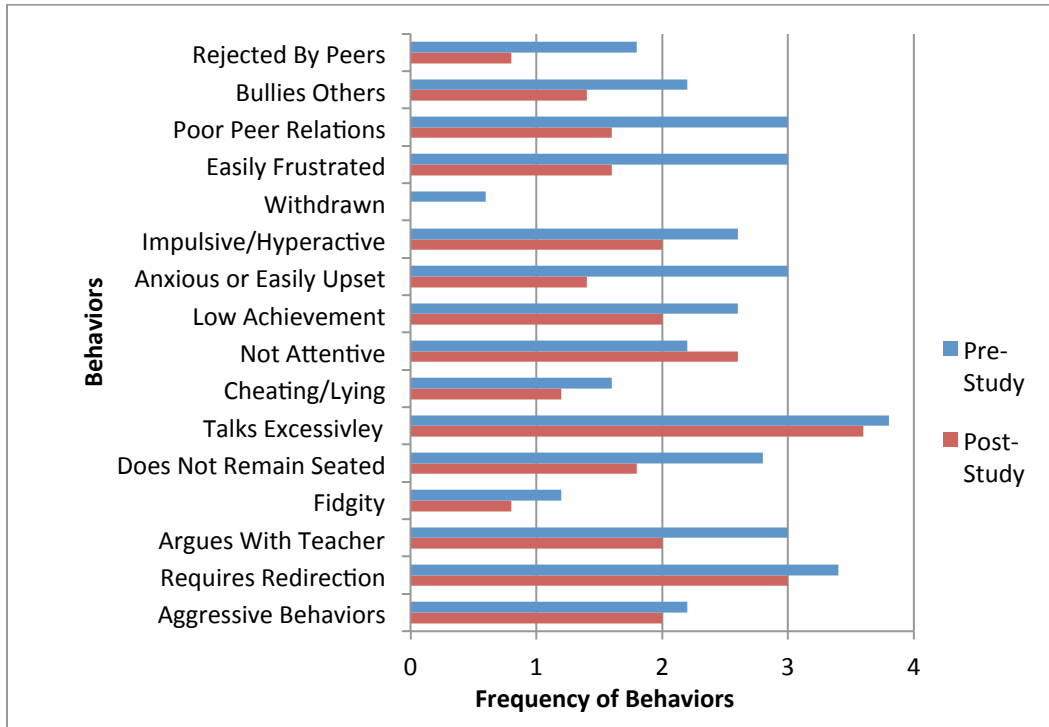
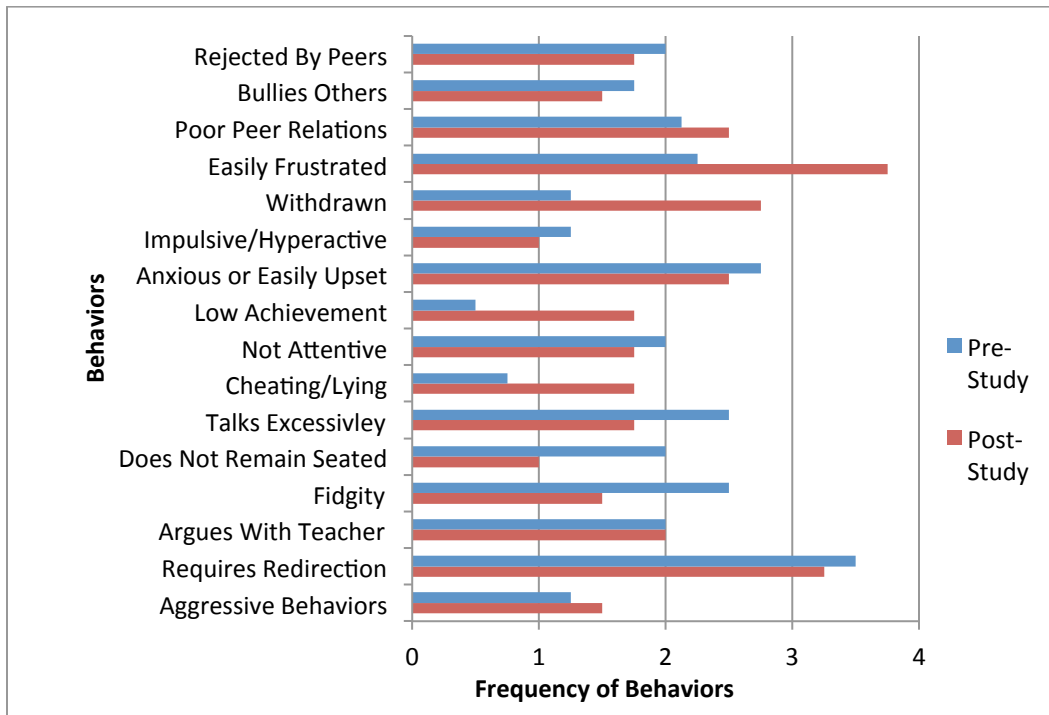


Figure 2. Experimental Group Pre-Study and Post-Study Behavioral Evaluation Averages



Emotional Regulation Scale. The participants completed a Pre and Post-Study Emotional Regulation Scale (appendix F) self-evaluation. The results of these evaluations were recorded on a two-bar graph. The first bar indicates the students’ pre-study evaluations and the second bar indicates the students’ post-study evaluations of their ability to regulate their emotions. Figure 3 compares the pre and post-study responses of the control group. Figure 4 compares the pre and post-study responses of the experimental group.

Figure 3. Control Group Pre-Study and Post-Study Emotional Regulation Self-Evaluation Data

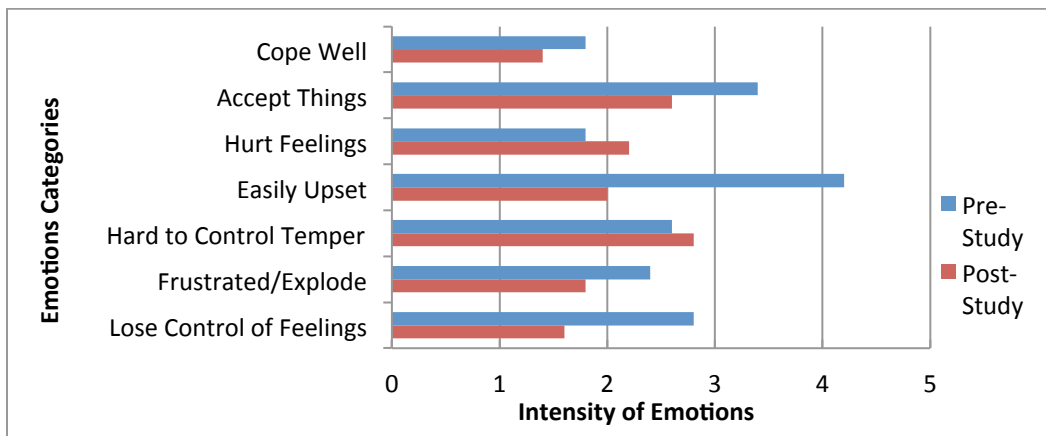
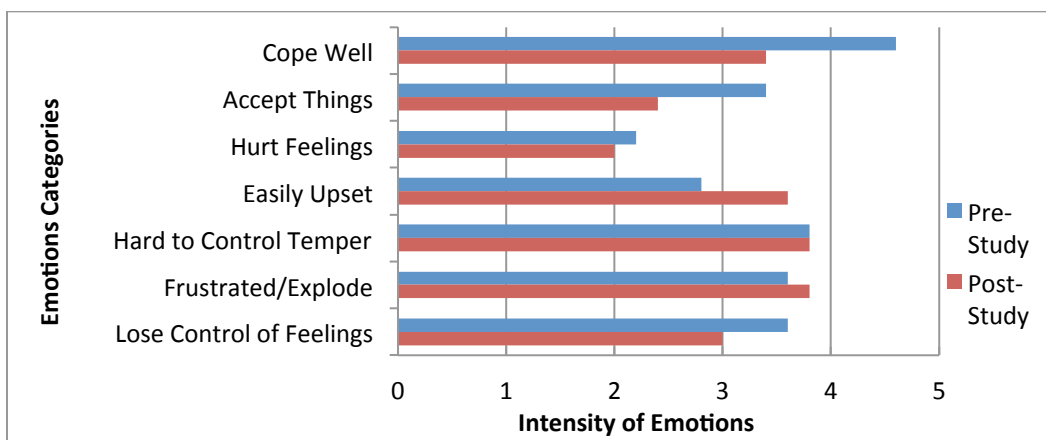


Figure 4. Experimental Group Pre-Study and Post-Study Emotional Regulation Self-Evaluation

Data



Feelings Evaluations. The researcher collected the subjects' Pre and Post-Session Feelings Evaluations (Appendix G) and recorded the data on a two-bar graph after each session. Subject E3 was absent from the first session and subject E2 was absent from the second session. Figures 5 and 6 show individual and average results for both groups, for each of the two sessions completed. The first bar represents the student's emotional level at the beginning of the session and the second bar represents the student's emotional level at the end of the session.

Figure 5. Session 1 Subjects Emotional Evaluations Data

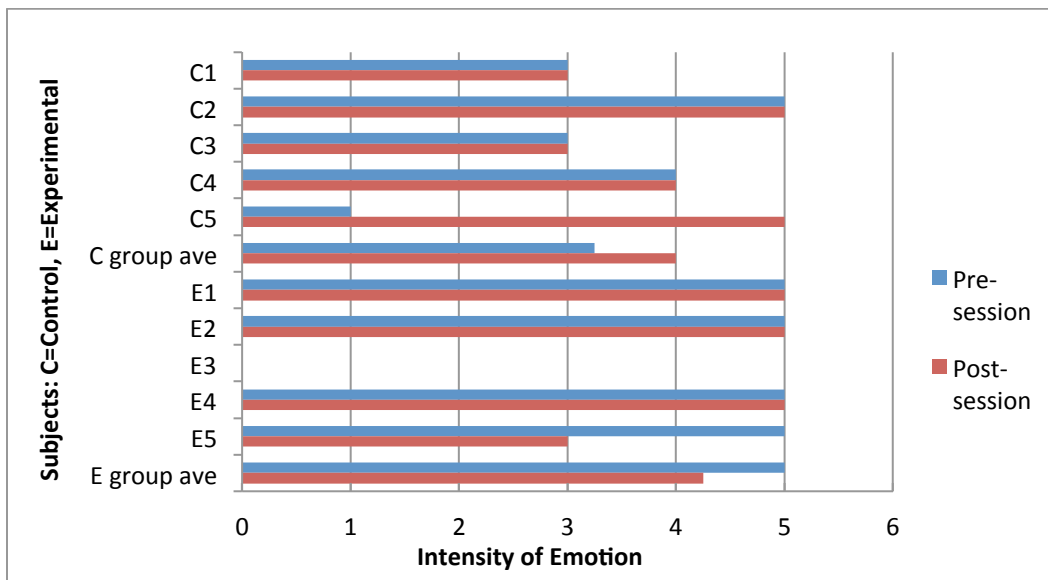
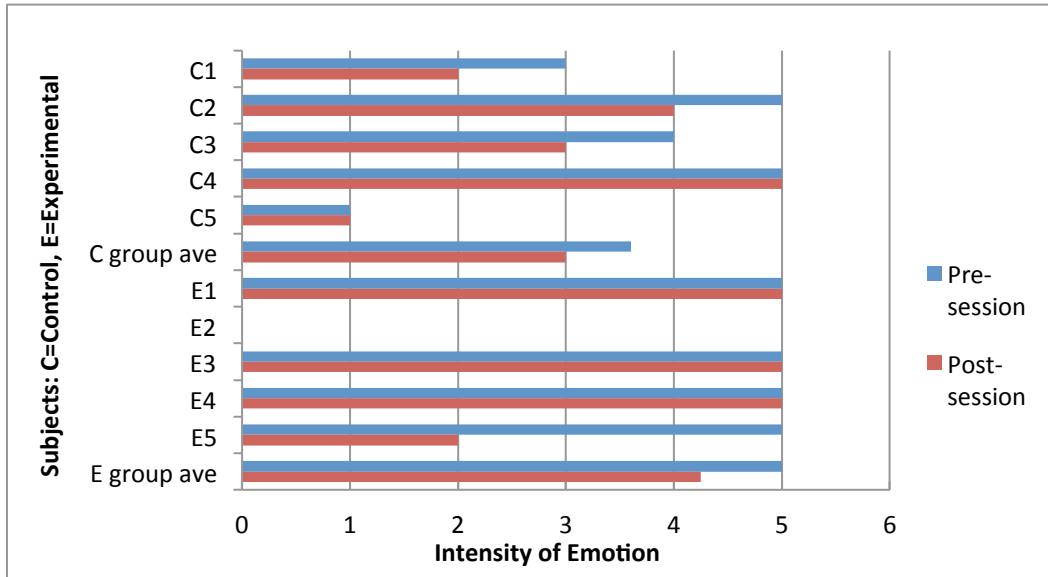


Figure 6. Session 2 Subjects Emotional Evaluations Data



Intensity of Affect and Behavior Evaluation. The researcher completed an Intensity of Affect and Behavior Evaluation (Appendix H) of each student during each session. She evaluated each student’s intensity of affect at the beginning and end of each session and their behavior throughout each session. The data collected from these evaluations was recorded on a three-bar graph. Figure 7 recorded the pre and post-session intensity of affect and the behavior distribution for each student for session one. Figure 8 shows the researcher’s results for session two. Again, one subject was absent for each of the two experimental sessions.

Figure 7. Researcher’s Evaluations of Session 1

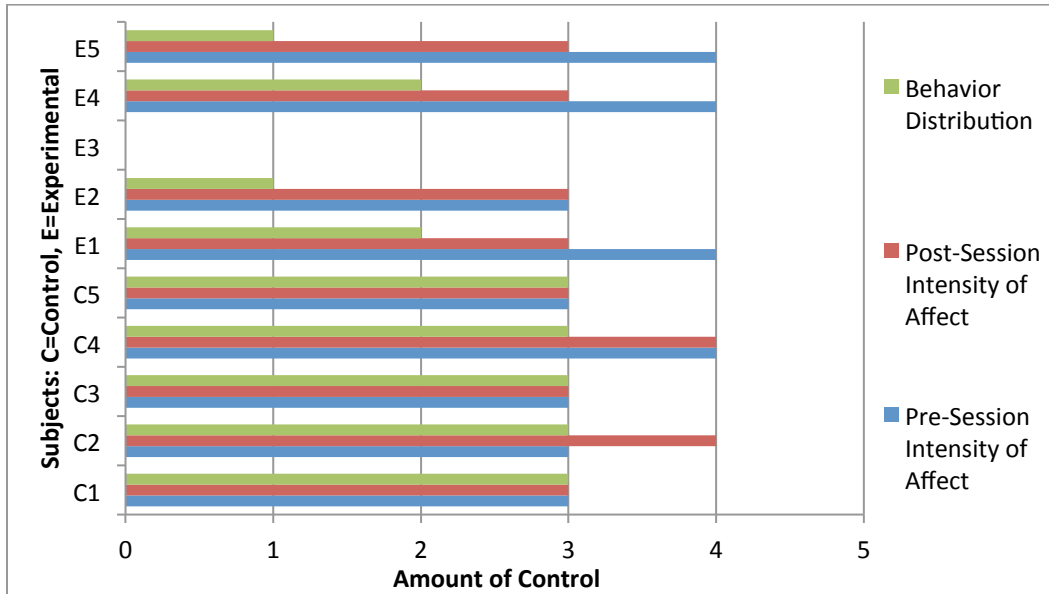
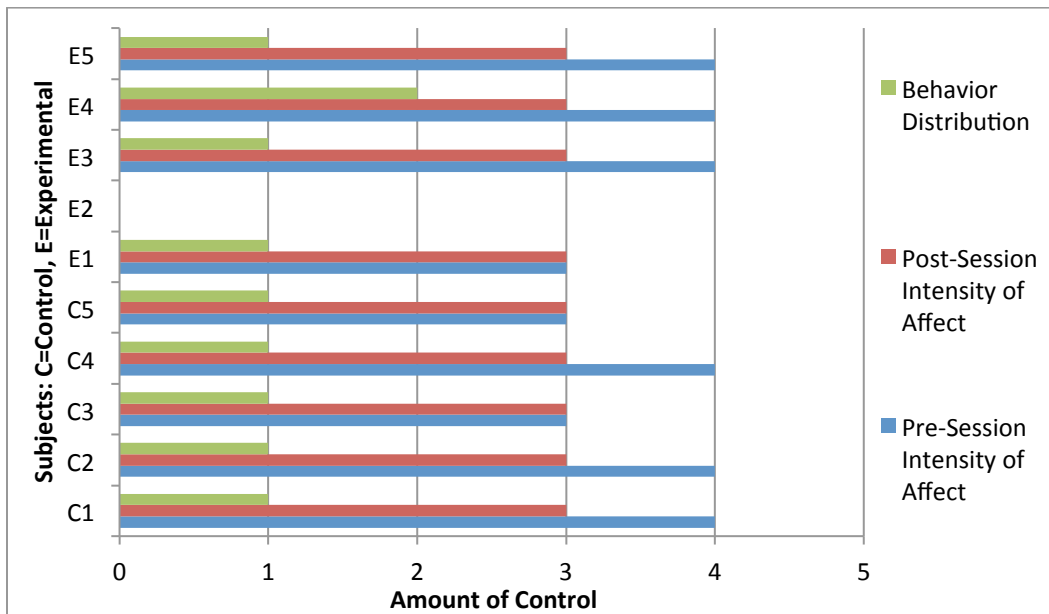


Figure 8. Researcher’s Evaluations of Session 2



Ethical Implications

The researcher followed the Ethical Principles for Art Therapists established by the American Art Therapy Association (AATA) (2015) and the Code of Professional Practice instituted by the Art Therapy Credentials Board (ATCB) (2011). The researcher also adhered to the guidelines for competent care established by the Florida Art Therapy Association (FATA) (2012). Additionally, the researcher observed Florida's Agency for Health Care Administration's compliance with the Health Insurance Portability and Accountability Act (HIPAA) established by the U.S. Department of Health and Human Services (The Florida Agency for Health Care Administration, 2014; U.S. Department of Health and Human Services).

Informed consent. The researcher notified participants and their legal guardians of their rights, including voluntary participation, and their right to withdraw from the study at any time, through Informed Consent and Informed Assent forms (Appendices B & C).

Risks. The researcher presented risks of the study to the participants. Risks were limited to emotional stimulation, an inherent risk associated with therapy. A registered Art Therapist (ATR) was available in the event that one of the subjects became emotionally overwhelmed and required counseling.

CHAPTER IV

Results

The results from the Behavioral Rating Scale, Pre and Post-Study Emotional Rating Scale, Pre and Post-Session Feelings Evaluation, and Researcher's Evaluation: Intensity of Affect and Behavior forms were explored. The researcher had anticipated that the results of the data collected during this study would determine the effectiveness of clay work to help regulate the emotions of at-risk children and improve their academic and social success. It was expected that students utilizing only clay would show greater improvement than students using a variety of other art materials.

Summary of the Findings

The subjects' pre and post-study emotional regulation self-evaluations of the experimental group showed an increase in regulation in the following four categories: *I cope well with disappointment or frustration, I accept when things do not go my way, my feelings get hurt, and I am afraid I will lose control over my feelings*. There was a decrease in two categories, and no change in one. The control group results also showed an increase in regulation in five categories. The control group showed a decrease in emotional regulation in two categories. While the experimental group's rate of increase fell between 10% and 42% improvement of emotional control, the control group's rate of increase was between 29% and 110%. The null hypothesis is supported by these findings.

The control group showed more areas of improved behaviors than the experimental group according to the teachers' pre and post-study behavioral evaluations. The control group showed improvement, on average, in 15 out of the 16 evaluated categories including: *rejected by peers, bullies others, poor peer relations, easily frustrated, withdrawn, impulsive/hyperactive,*

anxious or easily upset, low achievement, cheating/lying, talks excessively, does not remain seated, fidgety, argues with teacher, requires redirection, and aggressive behaviors. The experimental group showed improvement in only nine out of 16 areas. Data indicates a decrease in emotional regulation in six categories and showed no change in the remaining category. The control group shows a higher rate of improvement from pre-study evaluation to post-study evaluation, ranging from a 30% to 125% improvement in behaviors, in the 12 areas where subjects in the control group showed a greater rate of increase than the subjects in the experimental group. The experimental group showed greater rate of improvement over the control group in only four areas which ranged from a 14% improvement to 100% improvement. The null hypothesis is supported by the higher improvement rates and a larger quantity of categories improved on by the control group.

According to the subjects' pre and post-session emotional evaluation data, no control subjects showed any improvement during the first session, four stayed the same, and the emotions of one intensified. During the second session, three control subjects displayed increased regulation and the other two remained the same. All subjects in the experimental group remained the same during both sessions except for one. The same experimental group subject showed an increase in his emotional regulation in both sessions, with a 67% increase in control during the first session, and a 150% increase in control during the second session. These findings do support the hypotheses at-risk children ages eight to twelve utilizing the medium of clay in art therapy will show improvement in emotional regulation and, children utilizing clay will show greater improvement in emotional control than children utilizing other art mediums.

The researcher found that all of the control group subjects maintained negative behaviors throughout the first session and showed a decrease in negative behaviors during the second

session. Two of the experimental group subjects showed a decrease in negative behaviors during the first session and three showed improvement during the second session. While none of the control group subjects showed any improvement in emotional regulation during the first session, three out of five showed improvement during the second session. Three out of four experiment group subjects showed improvement in emotional regulation in both sessions. The results of the Intensity of Affect and Behavior evaluation are supportive of the researcher's hypotheses that at-risk children age's eight to twelve utilizing the medium of clay in art therapy will show greater improvement in emotional control and a greater decrease in negative behaviors than children utilizing other art mediums.

CHAPTER V

Discussion

Early treatment of at-risk behaviors among youth can improve their academic and social success (DHHS, 2000). Emotional regulation can improve at-risk behaviors (Agustyniak, Brooks, Rinaldo, Bogner, & Hodges, 2009). Targeting emotional control can improve the chances of at-risk students succeeding both academically and socially. Clay work facilitates emotional expression and fosters emotional regulation (Jang & Choi, 2012; Kimport & Robbins, 2012; Sholt & Gavron, 2011). The primary purpose of this study was to determine the efficacy of clay work to help regulate emotions, improve behaviors, and increase academic and social success. This research compared the results of a group utilizing clay with a group using a variety of other art materials such as paints, collage, and fibers. The researcher anticipated that results would demonstrate greater improvement in emotional regulation, behaviors, and academic and social success in the group utilizing clay than the group using other art materials. The researcher anticipated the results of the study to have demonstrated improvement in emotional control for at-risk youth after working with clay which would have corresponded with the works of Jang and Choi (2012), Kimport and Robbins, (2012), and Sholt and Gavron (2011) who stated that clay work helps with the expression and regulation of emotional states. The researcher also expected this study to support the findings of Jang and Choi that clay work promotes improved behaviors.

Although the pre and post-study evaluations showed some support that clay may be helpful in improving negative behaviors, academic success and emotional regulation, there is not sufficient data to support that working with clay has any greater effect than alternative art materials. The pre and post-session evaluations showed greater support of the use of clay to help regulate emotions and behaviors. The researcher's pre and post-session evaluations showed the

greatest support for this. Results from both the students' and researcher's pre and post-session evaluations suggest that a longer study may have better supported the researcher's hypotheses.

Limitations

Limited number of subjects for this study narrowed the sample size; this pilot study did not allow for validity generalization of the population. Sessions were scheduled for one hour; allowing time for feelings evaluations, to provide directive, and for clean-up limits the time available for working with the clay. While the study was designed for both the control group and the experimental group to meet for six sessions each, the researcher was only able to complete two sessions for each group due to circumstances beyond her control. This time frame did not allow enough time to strengthen the results. Due to the teacher of the experimental group completing the BRS data on the wrong student, data from one subject was eliminated from this evaluation. If medications were not taken the same time of day on the days of this study's sessions, medications might have had an effect on some of the students' responses on their self-evaluations of their emotions. Whether or not some subjects started, stopped or changed medications during the course of the two-week study may have contributed to changes in the behavioral evaluations. Subjects' home life and daily interactions may have been a factor in the subjects' self-evaluations as well as behavioral evaluations. Some subjects might have seen therapists who may have been targeting the same goals as this study. Therapy sessions may have influenced results of the study. Due to the intellectual levels of some of the subjects, the subjects' understanding of the evaluations may have affected results. Finally, the researcher-developed evaluations were not tested for validity and reliability.

Recommendations

The researcher recommends that an additional study be done with at-risk youth to support the use of clay to improve emotional control and positive change in behavior as well as improved social success and academic achievement. It is recommended that a longer study be conducted utilizing more control over dependent variables such as medications and allowing for longer sessions. The researcher postulates that continued use of clay work would facilitate greater improvement socially and academically as a result of increased emotional regulation fostering positive behavioral changes.

Conclusions

With emotional and behavioral problems growing among the youth, there is an increased need for treatment to regulate emotions and minimized problem behaviors. Clay work offers an alternative form of therapy with potential to foster emotional expression and regulation. Although this limited study did not fully support the expectations of the researcher, it is hopeful that a longer study might be conducted to show that clay work can increase the emotional regulation and lead to an improved quality of life of at-risk youth.

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APPENDIX A

Art Therapy Study Permission

Dear Parents/Guardians

My name is Gail Gercke. I am a graduate student in the Masters of Art in Art Therapy program at Saint Mary-of-the-Woods College. I have been participating in an internship at your child's school, supervised by my Registered Art Therapy (ATR) on site supervisor. As part of the program requirements, I will be conducting a pilot research study with at-risk students. Two groups will be formed; one utilizing clay and the other utilizing various art materials other than clay.

Your child _____ has been chosen to participate in the research study. This study will explore how clay and other art materials can help to regulate emotions, to improve behaviors, and to increase social and academic success. Miss L, my ATR supervisor and I will conduct a series of six one hour art therapy sessions that will meet once a week during your child's regularly scheduled art class. Sessions will begin on _____ in the art room of your child's school.

In order for your child to participate you must fill out and return this permission slip by _____. Once I receive your permission and signature on the back of this slip, I will contact you to discuss scheduling a meeting to answer any questions and complete an informed consent form.

Thank you, sincerely,

Gail Gercke

___ YES ___ NO My child _____ can/cannot participate in the study.

___ I am interested but request a phone call from Ms. Gercke to address questions prior to signing.

Parent/Guardian Name (please print)

Phone Number

Parent/Guardian Signature

Date

APPENDIX B

Informed Consent

Student's Name (print)

I understand that the group session my son/daughter is participating in is part of a research study for Saint Mary-of-the-Woods College and will be conducted by Gail Gercke, Masters of Art in Art Therapy graduate student along with Miss L., her ATR supervisor. The study will explore the use of clay work and other art materials to increase emotional regulation. The study will be conducted during his/her regular weekly art class. Your child will be asked to fill out some forms evaluating his/her emotions. He/she may be using clay during these sessions and be asked questions about his/her artwork and the art-making process. Working with clay and other art materials and talking about the art may change the way a person feels. These changes in feelings may help increase academic and social performance.

Confidentiality. I understand that all information disclosed and artwork created within the sessions is confidential and may not be revealed to anyone outside the group without my written permission. I also understand that Ms. Gercke is required to comply with the legal and ethical principles of art therapy and limits of confidentiality of the American Art Therapy Association (AATA), Art Therapy Credentials Board (ATCB), The Florida Art Therapy Association, and Health Insurance Portability and Accountability Act (HIPPA).

Limits to confidentiality only apply in the following circumstances where disclosure is required by law:

1. If my son/daughter presents an imminent threat of harm to self or to others.
2. When there is an indication of abuse of a child or dependent adult.
3. If my son/daughter becomes gravely disabled.
4. By court subpoena.

E-mail. With respect to electronic mail (e-mail), I am cautioned that e-mail is not a confidential means of communication. I understand that e-mail is not the appropriate way to communicate

confidential, urgent, or emergency information. Therefore, I am encouraged to contact Ms. Gercke through the school.

Risk and benefits. The procedures for this study involve minimal risk for the participant. Clay and other art materials are known to allow for the expression of emotions and may also elicit emotional states. A registered art therapist will be available for your child if needed to work through emotions. The benefits of art therapy include improved ability to express emotions appropriately and to relate with others; increased self-awareness and productivity; and stress reduction. Taking personal responsibility for working with these issues may lead to improved behaviors and enhanced academic and social performance.

Eligibility. I understand that my son's/daughter's participation in this group requires that he/she attend all six sessions.

I understand that participation in this study is voluntary and I can withdraw my child for any reason at any time during the study.

I HAVE HAD THE OPPORTUNITY TO DISCUSS ANY QUESTIONS I HAVE ABOUT THIS INFORMATION.

Parent/Guardian Name (print)

Contact Phone Number

Parent/Guardian Signature

Date

I HAVE DISCUSSED THIS INFORMATION WITH THE STUDENT AND PARENT/GUARDIAN.

Researcher's Signature

Date

Parent/guardian received a copy of this informed consent form. _____
(Initial here)

APPENDIX C
Informed Assent

Student's Name (print)

My name is Gail Gercke (Miss Gail) and I am going to study how working with clay and other art materials can help students regulate their emotions. If you would like, you can be a part of my study.

If you decide you want to be in my study, you will come to group therapy with Miss L and myself each week during your regular art class. You will be asked to fill out some forms to share about how you feel. You will use art materials which may include drawing materials, clay, paint, or scissors and glue during these sessions, and you may be asked to talk about your art and the art-making process.

Working with some art materials and talking about the art may change the way you feel. Miss L will be available for you to talk to if you need her. These changes in feelings may help you perform better in school.

I will keep information I learn about you private. Your parent/guardian must give permission for you to be in the study. After they give permission, the decision to participate is up to you. If you do not want to participate, no one will be mad at you. If you want to be in the study now and change your mind later, that is okay. You can stop at any time; let Miss L or myself know if you decide you no longer want to participate.

Agreement

I have decided to be in the study even though I know that I don't have to do it. Miss Gail has answered all my questions.

Student

Date

I have discussed this information with the student.

Researcher

Date

APPENDIX D

Consent to Use Photos of Student Artwork

The following consent is given to Gail Gercke, a graduate art therapy student at St. Mary-of-the-Woods College permission to use photographs of the artwork of

_____ for the following purpose(s):

_____ Professional Publication

_____ Professional Presentation

_____ Professional Research

_____ Educational purposes

Conditions

Confidentiality

I understand that the student's identity will be kept anonymous according to the confidentiality provisions of the Art Therapy Credential Board's Code of Professional Practice and in compliance with the requirements of HIPPA.

Parent/Guardian _____ Date _____

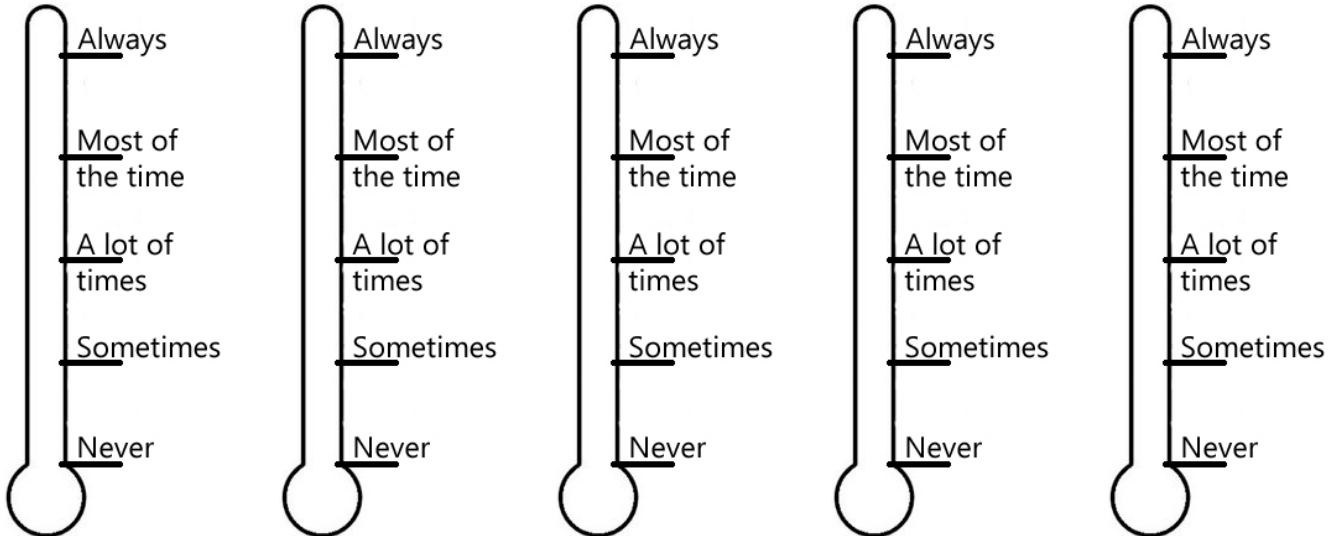
Student _____ Date _____

Researcher _____ Date _____

APPENDIX E
Pre and Post-Study Emotional Rating Scale

Number: _____ Date: _____

Scoring: Never=1 Sometimes =2 A lot of times=3 Most of the time=4 Always=5



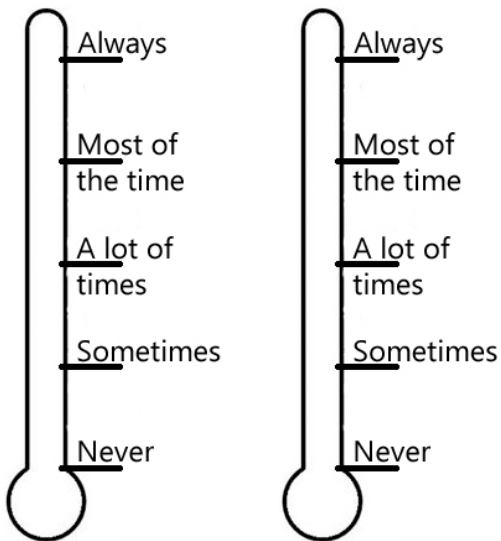
I have a hard time controlling my temper

I get frustrated and feel ready to explode

I am afraid I will lose control over my feelings

I cope well with disappointment or frustration

I accept when things do not go my way



My feelings get hurt I get upset easily

APPENDIX F

Behavioral Rating Scale

Student's Study Number: _____ Date: _____

	Absence of		Moderate Prevalence			Extreme Prevalence	
Aggressive Behaviors (yelling, hitting, etc.)	0	1	2	3	4	5	
Requires Redirection	0	1	2	3	4	5	
Argues with teacher	0	1	2	3	4	5	
Fidgety	0	1	2	3	4	5	
Does not remain seated	0	1	2	3	4	5	
Talks excessively	0	1	2	3	4	5	
Cheating/lying	0	1	2	3	4	5	
Not attentive	0	1	2	3	4	5	
Low achievement	0	1	2	3	4	5	
Anxious or easily upset	0	1	2	3	4	5	
Impulsive/hyperactive	0	1	2	3	4	5	
Withdrawn	0	1	2	3	4	5	
Easily frustrated	0	1	2	3	4	5	
Poor peer relations	0	1	2	3	4	5	
Bullies others	0	1	2	3	4	5	
Rejected by peers	0	1	2	3	4	5	

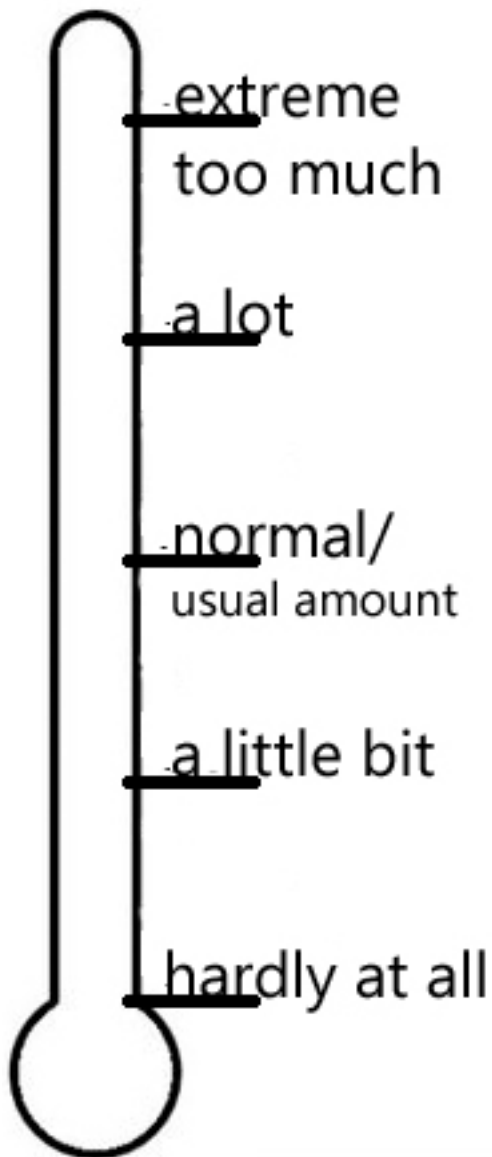
APPENDIX G
Pre and Post-Session Feelings Evaluation

Number: _____ Date: _____

Circle the word that describes how you are feeling right now?

Happy Excited Sad Mad Fearful Worried

Color in the thermometer to the extent that you are feeling this emotion.



Rating: hardly at all = 1; a little bit = 2; normal = 3; a lot = 4; extreme = 5

APPENDIX H
Intensity of Affect and Behavior

Number: _____ Date: _____

Intensity of Affect Pre-Session	1 mild	2	3 average	4	5 extreme
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Intensity of Affect Post-Session	1 mild	2	3 average	4	5 extreme
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Negative Behaviors	1 None	2 1x low	3 2-3xs low 1x med	4 4+low 2xsmed	5 persistent-low 3+med 1xhigh
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Low = interrupting or not listening

Med = disruptive: loud, out of seat, or not following directions

High = inappropriate language or aggressive behavior

Behavior Distribution	1 decreased	2	3 stayed the same	4	5 increased
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APPENDIX I Study Sessions Outline

Session Format

- 2.5 min pre-session evaluation
- 7.5 minute art directive with description, demonstration (if needed), and instruction
- 2.5 minutes to gather materials
- 30 minutes creative process
- 10 minutes clean-up
- 5 minute discussion
- 2.5 minute post-session evaluation

Creative Process

Control Group

Students in the control group will create, interpret, or respond to art. They will use a variety of visual art processes and media other than clay work to express ideas and personal thoughts, feelings, or experiences to meet sunshine state standards (SSS).

Session I

Art Activity: Batik Art

Objective: To learn about batik techniques, release energy, promote self-expression, and meeting SSS.

Materials: Drawing paper, crayons, black watercolor paint or liquid shoe polish, and paper towels.

Procedures:

- Color a design on the paper with crayons.
- Crinkle paper by rolling into a ball.
- Rub black liquid shoe polish or brush black water color paint over drawing.
- Wipe off excess polish or paint.

Rationale: Creating batik art will incorporate the kinesthetic and affective components of the Expressive Therapies Continuum (ETC) allowing students to

express themselves through the use of color and release energy by crinkling the paper while meeting SSS (Hinz, 2009).

Session II

Art Activity: Color Field Art

Objective: To learn what Color Field Art, release energy, promote self-expression and meeting SSS.

Materials: White construction paper, color construction paper, watercolor paints, pastels, scissors, and glue.

Procedures:

- Use the white construction paper as your canvas.
- Cut or tear large blocks of color out of color construction paper and glue on to canvas.
- Use watercolor paints or pastels to add color variation on construction paper shapes.

Rationale: Creating Color Field Art will utilize the affective and kinesthetic components of the ETC allowing self-expression through color and the release of energy by cutting paper (Hinz, 2009).

Session III

Art Activity: De Stijl Art

Objective: To learn about primary colors and De Stijl Art movement, promote self-expression, and meet SSS.

Materials: Drawing paper; red, yellow, and blue construction paper; glue; black marker; and scissors.

Procedures:

- Create a piece of art using only rectangle shapes and primary colors along with white and black.
- Cut rectangles out of colored construction paper.
- Lay out construction paper rectangles on drawing paper.
- Glue down rectangles, leaving some rectangles white.
- Add black outlines around rectangles.

Rationale: Creating De Stijl Art will utilize the affective and kinesthetic components of the ETC allowing self-expression through color and the release of energy by cutting paper (Hinz, 2009).

Session IV

Art Activity: Embossing

Objective: To learn about the dry embossing technique, promote self-expression, and meet SSS.

Materials: Heavy foil, small, flat found objects (e.g. netting, buttons, mesh), glue, cardboard 6” to 8” squares or rectangles, burnishing tools (popsicle sticks will work).

Procedures:

- Create a design by gluing found objects onto cardboard.
- Lay foil over cardboard design. Wrap the foil around the cardboard to hold it in place.
- Burnish foil over the cardboard design.

Note: Foil can be left on cardboard to help keep its shape.

Rationale: Embossing will utilize the sensory and kinesthetic components of the ETC allowing self-expression through design, and texture, and the release of energy through the embossing process (Hinz, 2009).

Session V

Art Activity: Fiber Art

Objective: To learn about textures and Fiber Art, promote self-expression, and meet SSS.

Materials: Variety of fibers (e.g. fabrics, yarn, twine, burlap), craft glue, and scissors.

Note: Children’s scissors will not cut many fibers.

Recommendation: supply small pre-cut fibers.

Procedures:

- Select a piece of fabric for the canvas.
- Collage a variety of fibers on the canvas and glue them in place.

Rationale: Creating Fiber Art will utilize the affective and sensory components of the ETC allowing self-expression through color and texture (Hinz, 2009).

Session VI

Art Activity: Graffiti Art

Objective: To learn about Graffiti art, promote self-expression, and meet SSS.

Materials: Drawing paper with pre-printed brick design, white drawing paper, markers, scissors, and glue.

Procedures:

- Color in the bricks on the pre-printed paper.
- Think of a positive word.
- Draw the word using block-style lettering on the white drawing paper.
- Color in the lettering and color around the word adding decorative detail.
- Cut around the word and glue onto the brick printed paper.

Rationale: Creating Graffiti will utilize the affective component of the ETC allowing self-expression through color and design (Hinz, 2009).

Experimental Group

Students in the experimental group will create artwork utilizing clay techniques. They will express ideas and personal thoughts and feelings through clay. Students will use low fire clay; however any students with sensory issues will have the option of using air dry clay or model magic.

Session I

Art Activity: knead, flatten, and cut clay

Objective: Students will release excess energy, relax, and feel more in control of their emotions.

Materials: Clay, small containers for water, water, wax paper, tape, permanent marker, cookie cutters

Procedures:

- Before the session, the researcher will tape wax paper to the tables for easy clean-up.
- Before the session, the researcher will divide clay into manageable portions.
- The researcher will demonstrate how to apply water to the clay to keep it moist and prevent cracking. She will demonstrate how to knead and flatten the clay and to use a cookie cutter to cut out a clay shape.
- The researcher will distribute clay and water to each student.
- The students will knead, flatten, and cut their own piece of clay.
- Students will lay their clay cut-outs to dry on a piece of wax paper with their name written on it by the researcher.

Rationale: Kneading and flattening clay will provide a safe way for students to release excess energy. The manageable quantity provided to each student as well as the *boundaries* of the wax paper will contain the release of energy. The

rhythmic motion may promote a soothing effect. The sensory experience created when adding water to the clay can be calming (Hinz, 2009).

Session II

Art Activity: Worry stones

Objective: Students will release excess energy, relax, and feel more in control of their emotions.

Materials: Clay, small containers for water, water, wax paper, tape, permanent marker, small stamps with inspirational words (e.g. love, hope, faith, breath, happy, peace) or images.

Procedures:

- Before the session, the researcher will tape wax paper to the tables for easy clean-up.
- Before the session, the researcher will divide clay into manageable portions.
- The researcher will remind the students how to knead the clay and keep it moist to prevent cracking. She will demonstrate how to create a worry stone by pinching off a small amount of clay, rolling it into a ball and then flattening it between the forefinger and thumb. The researcher will demonstrate using a stamp to impress a word or pleasing image into the clay.
- The researcher will distribute clay and water to each student.
- The students will knead the clay and create worry stones as demonstrated by the researcher.
- Students will lay their worry stones on wax paper with their name written on it by the researcher to dry.

Rationale: Kneading the clay will provide a safe way for students to release excess energy. The manageable quantity provided to each student as well as the *boundaries* of the wax paper will contain the release of energy. The rhythmic motion may promote a soothing effect. The sensory experience created when adding water to the clay can be calming (Hinz, 2009).

Session III

Art Activity: Pinch pot

Objective: Students will release excess energy, relax, and feel more in control of their emotions.

Materials: Clay, small containers for water, water, wax paper, tape, permanent marker.

Procedures:

- Before the session, the researcher will tape wax paper to the tables for easy clean-up.
- Before the session, the researcher will divide clay into manageable portions.
- The researcher will remind the students how to knead the clay and keep it moist to prevent cracking. She will demonstrate how to create a pinch pot by rolling a piece of clay into a ball, pressing the thumb into the center of the ball and gently squeezing the clay as it is rotated.
- The researcher will distribute clay and water to each student.
- The students will knead the clay and create pinch pots as demonstrated by the researcher.
- Students will lay their pinch pots on wax paper with their name written on it by the researcher to dry.

Rationale: Kneading the clay will provide a safe way for students to release excess energy. The manageable quantity provided to each student as well as the *boundaries* of the wax paper will contain the release of energy. The rhythmic motion may promote a soothing effect. The sensory experience created when adding water to the clay can be calming (Hinz, 2009).

Session IV

Art Activity: Coil pots

Objective: Students will release excess energy, relax, and feel more in control of their emotions.

Materials: Clay, small containers for water, water, wax paper, tape, permanent marker.

Procedures:

- Before the session, the researcher will tape wax paper to the tables for easy clean-up.
- Before the session, the researcher will divide clay into manageable portions.
- The researcher will remind the students how to knead the clay and keep it moist to prevent cracking. She will demonstrate how to create a coil pot by pinching off a small amount of clay, rolling it into a coil. She will demonstrate how to score the coil and add water and then roll the coil to form the pot.
- The researcher will distribute clay and water to each student.
- The students will knead the clay and create coil pots as demonstrated by the researcher.
- Students will lay their worry stones on wax paper with their name written on it by the researcher to dry.

Rationale: Kneading the clay will provide a safe way for students to release excess energy. The manageable quantity provided to each student as well as the *boundaries* of the wax paper will contain the release of energy. The rhythmic motion may promote a soothing effect. The sensory experience created when adding water to the clay can be calming (Hinz, 2009).

Session V

Art Activity: Clay mandala

Objective: Students will release excess energy, relax, and feel more in control of their emotions.

Materials: Clay, small containers for water, water, wax paper, tape, permanent marker.

Procedures:

- Before the session, the researcher will tape wax paper to the tables for easy clean-up.
- Before the session, the researcher will divide clay into manageable portions.
- The researcher will remind the students how to knead and flatten the clay and keep it moist to prevent cracking. She will demonstrate how to create a clay mandala by shaping the flattened piece of clay into a circle. The researcher will then demonstrate how the students can create shapes (e.g. small balls, coils, geometric shapes) out of clay and apply them using the scoring method to create pattern or design.
- The students will knead and flatten the clay and create clay mandalas as demonstrated by the researcher.
- Students will lay their mandalas on wax paper with their name written on it by the researcher to dry.

Rationale: Kneading the clay will provide a safe way for students to release excess energy. The manageable quantity provided to each student as well as the *boundaries* of the wax paper will contain the release of energy. The rhythmic motion may promote a soothing effect. The sensory experience created when adding water to the clay can be calming (Hinz, 2009).

Session VI

Art Activity: Clay Animals

Objective: Students will release excess energy, relax, and feel more in control of their emotions.

Materials: Clay, small containers for water, water, wax paper, tape, permanent marker, images of animals for students to use as guides.

Procedures:

- Before the session, the researcher will tape wax paper to the tables for easy clean-up.
- Before the session, the researcher will divide clay into manageable portions.
- The researcher will remind the students how to knead the clay and keep it moist to prevent cracking. She will demonstrate how to create a clay animal by pinching the clay and using small amounts of clay to form body parts, adding them using the scoring method.
- The researcher will distribute clay and water to each student.
- The students will knead the clay and create clay animals as demonstrated by the researcher.
- Students will lay their worry stones on wax paper with their name written on it by the researcher to dry.

Rationale: Kneading the clay will provide a safe way for students to release excess energy. The manageable quantity provided to each student as well as the *boundaries* of the wax paper will contain the release of energy. The rhythmic motion may promote a soothing effect. The sensory experience created when adding water to the clay can be calming (Hinz, 2009).