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Another One Bites the Dust: Mandala Intervention to Soothe and Reduce Compassion-Fatigue

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ABSTRACT

Compassion fatigue experienced by care givers, such as those in the medical field, educational arena, and counseling venues, has affected professionals in an increasing rate. The aim of this paper was to use mixed methodology to research whether the art intervention of making mandalas with a written summary would reduce anxiety and stress. The data indicated a reduction in total mood disturbance scores from examining pre-test and post-test results of the Profile of Mood States (POMS2-Adult short). In particular, the subscales of confusion-bewilderment and tension-anxiety were significantly decreased. The art itself was analyzed for themes and patterns by observing color meaning, shapes, line quality, and along with written comments and insights from the twelve participants themselves. Mandalas proved to be advantageous for the reduction of compassion fatigue symptoms and an increased awareness of progressive resiliency in self-care.

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CHAPTER 1

Introduction

In a world of increasing violence, poverty, and even terrorism, people need help with navigating the various insults of trauma. Examples, such as exposure to war, natural disasters, or emotional suffering from abuse or neglect, have resulted in an increase of individuals craving relief more than ever before (Pardess, Mikulincer, Dekel, & Shaver, 2013). With so many emotionally injured crying out for support, the caring professions have been bombarded with increasing caseloads and intensifying severity within a plethora of presenting traumatic events (Alkema, Davies, & Linton, 2008; Kelly, Runge, & Spencer, 2015). Over time, as caring professionals continued to be overwhelmed by increased number and intensity of trauma accounts, what happened when the helpers need care themselves?

Service professions have continued to be necessary, drawing individuals to various caregiving careers. The highest level of competency needed in the service of others deserved attention to its quality sustenance and continuing maintenance. Mathieu (2007) wrote that the development of healthy and effective long-term self-care was deficient. The use of healthy eating, sleeping and exercise were stated as traditional ways of coping, but these were proving to be lacking on their own. According to Morse, Salyers, Rollins, Monroe-DeVita, & Pfahler (2012), with increased technology, scientific discovery, and international connections, the pace of life and emotional distress was on the rise. The need for additional healing interventions has been suggested in the process of getting healthy. Johnson (1987) claimed that although mandalas have been created throughout history, the healing power of mandalas in the reduction of emotional dysregulation have never been more necessary. The lack of research on the efficacy of the use of mandalas, and art therapy as a whole for the benefit of restoring and

maintaining optimum self-care habits for the helping professions necessitated attention and study.

Problem Statement

Caregivers, such as medical personnel, counselors, teachers, hospice workers, and social workers have been increasingly overwhelmed with exposure to another's trauma. Compassion-fatigue, empathy fatigue, secondary trauma, vicarious trauma, and burnout have the effect of reduced or diminished quality of care (Brooks, Bradt, Eyre, Hunt, & Dileo, 2010; Kelly et al., 2015; Lee, Veach, MacFarlane, & LeRoy, 2015; Mathieu, 2007; Pardess et al., 2014; Zolnierczyk-Zreda, 2005). Art therapy has been shown to be advantageous for reducing the effects of trauma that individuals are exposed to, such as domestic violence, war, PTSD, illness, and grief (Sandmire, Gorham, Rankin, & Grim, 2012; Slayton, D'Archer, & Kaplan, 2010).

Research Questions

This study was guided by the questions:

- How would mandala creation reduce compassion-fatigue symptoms that have been increasing in the lives of those committed to serve people who hurt?
- Could the use of art become a tool of individualized, continuous self-care habits?
- How would this form of art become effective in increasing resiliency?

Basic Assumptions

There has always been trauma, and people have continued to suffer from emotional injury. Empathetic care-giving has remained the fundamental goal of the helping professions. It is assumed that self-care with the focus of sustaining resiliency has continued to be essential in providing high-quality care.

Statement of Purpose

The purpose of this mixed methods study was to investigate the use of a mandala art intervention as a tool to reduce symptoms of compassion-fatigue. Quantitative data for both physical and emotional responses to trauma was collected. Qualitative information was gathered from participants' artwork and their written response concerning the art-making experience. The results pointed to the need for future research on the nuances of the use of art interventions for self-care on specific care-giving populations. Studies on the efficacy of specific types of media used in mandala creation for self-care would also be valuable as a research goal.

Hypothesis

Creating a mandala with a concluding written reflection will reduce compassion-fatigue symptoms, evidenced by lower pulse rates and reduced distress in mood scores for professionals serving at a crisis nursery located in the Midwest. Continued creation of mandalas could be used as an ongoing tool for effective self-care, and upholding a sense of resiliency. The use of art therapy would be advantageous in providing for and maintaining the high quality of service by professionals who protect and assist traumatized and injured people.

Definition of Terms

Empathetic fatigue. Empathetic fatigue was described as exhaustion from having personal wounds revisited upon hearing similar trauma from someone else's story, relating too much (Stebnicki, 2007). As the clinician felt greater emotional pain, changes in cognitive thinking and behavior demonstrated compassion fatigue (Craig & Sprang, 2010). The overload may have a rapid onset, and was the result of listening to someone else's distress (Alkema et al., 2008).

Compassion fatigue. Without self-care, personal demoralization set in as the care giver felt unable to fulfill their responsibilities (Ledoux, 2015). Alkema et al. (2008) described

compassion fatigue as extensive emotional, physical, and spiritual exhaustion specifically found in helping professions who heard repeated trauma stories from clients.

Vicarious trauma. Vicarious trauma happens when the counselor takes on the client's pain as their own, and they then carry the injury or anxiety as their own (Stebnicki, 2007).

Burnout. The burnout label was given for someone who was experiencing emotional exhaustion, decreased efficiency, and de-personalization on the job. Guilt, shame, irritability, lack of insight, and making mistakes resulted in reduced personal accomplishments (Alkema et al., 2008; Couper, 2005; Craig & Sprang, 2010; Lebourg, 2015; Mathieu, 2007).

Mindfulness and resiliency. These were practices used in reducing cognitive and emotional exhaustion. Mindfulness would be defined as a way of thinking and perceiving people or surroundings at the specific present moment, non-judgmentally and with purposeful attention (Decker, Brown, Ong, & Stiney-Ziskind, 2015; Wang, Xu, & Luog, 2016). In the process of developing mindfulness, both re-experiencing trauma and hyperarousal were diminished. This eventually led to resiliency, which was a lifestyle that has the capacity to acknowledge the negative event or experience with the ability to adapt an emotional mindset toward positive thoughts and feelings (Wang et al., 2016). On the road back to compassion satisfaction, the happiness and joy in doing a job well, the traditional suggestions of eating, exercising, and sleeping well for maintained resilience were advised (Alkema et al., 2008). It was also stated that spiritual activities and social networks could be utilized in resilience work.

Narrative therapy. Gentry (2002) felt that using narrative therapy to create timelines of events, "telling your story," (p. 51) from beginning to the present enabled clarity of thought. This type of therapy also demonstrated the ability to identify and expose forgotten memories that could bring insight into the compassion fatigue. The use of art and music were the creative tools

that gave expression to emotions and cognitions (Campillo, Ricarte, Ross, Nieto, &Latorre, 2016).

Mandalas. This was an art form completed within the shape of a circle. Henderson, Rosen, and Mascaro (2007), said, “Art psychotherapists use the mandala as a basic tool for self-awareness, self-expression, conflict resolution, and healing,” (p. 149). Mandalas have been attributed with special power as it served as a container of visual expressions that portray both things to remember and things to forget. Uniquely, mandalas have allowed for the exposure of the artist’s present state of mind at the time of drawing (Frame, 2006; Kellogg, 1987, Mayhan, 2005). Studies have shown that even coloring a mandala can reduce the participant’s anxiety (Van der Venet & Serice, 2012). Recently, Babouchkina and Robbins (2015) completed a quantitative study that empirically supported the circular shape of the mandala was an active ingredient for mood enhancement. The use of mandalas in the treatment of compassion fatigue would be worth researching.

Justification of the Study

This study was important to document the benefits of using art therapy to maintain mental health, and the benefit of creating mandalas in particular. It also defined one way to include reoccurring art-making as an intervention for establishing a habit of personal care that would enhance the maintenance of a balanced, whole-hearted life. The researcher believed the reduction of fatigue provided caring professionals increased ability and skill while they helped traumatized clients. In that form of therapeutic relationship, both individuals benefited from their interaction.

CHAPTER II

Literature Review**Compassion Fatigue**

On first review, compassion fatigue seemed to simply be the state of mind where feelings of weariness were experienced from sympathizing with another. The research revealed conflicting definitions (Craig & Sprang, 2010; Stebnicki, 2007). Joinson (1992) was the first to coin the term compassion fatigue. Lee et al. (2013) defined the term as a state of isolation, indifference, and emotional withdrawal in the lives of care givers as a response to repetitious exposure to trauma experienced by the clients they served.

As far back as 1907, Carl Jung's work with transference and countertransference was actually the first documentation of interpersonal trauma (Jung, 1907). Jung continued to detail historical accounts of trauma, such as returning soldiers from World War I, who were described as shell-shocked resulting from the atrocities of war. In hindsight, accounts like these were considered to be demonstrations of compassion fatigue. Figley (2002) began to share his research he compiled from 1971 on the results of helping others who had experienced trauma. Counselors provided care for Vietnam veterans plagued by troublesome memories overshadowed by guilt, shame, and regrets. The symptoms were aligned with complex, psychological problems difficultly addressed over long periods of time, and caused secondary trauma for care givers. After that, in the mid 1970's Maslach compiled a group of adverse symptoms, such as anger, fear, despair, and embarrassment, which were related to anxiety and emotional exhaustion, and he branded the syndrome burnout (Maslach & Jackson, 1981).

In the last thirty years, although a lot of data was collected through observation and interview, clear descriptions of compassion fatigue, secondary trauma, vicarious trauma, empathetic fatigue, and burnout were unclear and inconclusive. The obstacle was lack of one

definition exclusively used for describing the set of fatigue symptoms, thus causing misunderstanding and confusion. In 2007, Stebnicki wrote that, “the labels that are given to this new phenomenon of fatigue syndromes (e.g., compassion fatigue, burnout, secondary traumatic stress, vicarious traumatization) vary depending upon the researcher and discipline” (p. 329). Craig and Sprang (2010) also expressed concern over ambiguous terminology as they subscribed to the view that no definite data for concepts were distinct, and the use of specific terminology was premature. Compassion fatigue was viewed as a global term used to encompass secondary trauma, vicarious trauma, post-traumatic stress disorder (PTSD), or burnout (Pardee et al., 2014). In contrast, Ledoux (2015) described the confusion, stating some saw compassion fatigue as a result of secondary trauma or stress while others said it came from PTSD or burnout.

For this study, compassion fatigue was defined as rapid onset of emotional pain and moral distress for caring professionals who have witnessed many sessions filled with details of trauma. The definition was compiled from a collection of analyses from several researchers and derived from their notions. Figley (2002) labeled compassion fatigue in the broadest sense as “the cost of caring,” (p. 1433), or bearing witness to the suffering of others. He also linked it to the definition of countertransference as “seeing oneself as the client,” (p. 1435). Another descriptive generalization was the encounter of moral distress resulting in poor execution of responsibilities (Ledoux, 2015). A third quality emerged as the classification of compassion fatigue was limited to caring professionals who listen to clients’ stories of trauma (Alkema et al., 2008; Lee et al., 2013). McCann and Perlman (1990) also stated that the impairment was due to the accumulation of many sessions of trauma stories. Another factor frequently included was acute emotional pain with rapid onset, sometimes after only one interaction (Alkema et al., 2008; Lee et al., 2013). Stamm (2005) further specified compassion fatigue as specific secondary exposure to an event of trauma. Additionally, the means for the spread of compassion fatigue

was empathetic engagement (Craig & Sprang, 2002; Bride & Figley, 2007). Potential symptoms included exhaustion, sleep disruption, anger, irritability, compulsive behaviors, substance abuse, apathy and isolation, distracted, preoccupied, poor decision making, and diminished career satisfaction (Gentry, 2002; Mathieu, 2007; Saakvitne & Pearlman, 1996).

A review of literature suggested a growing consensus that compassion fatigue was different than burnout. In contrast to compassion fatigue, burnout was possible with all occupations, not just the helping professions (Lee et al., 2013). Alkema et al. (2008) and Figley (2002) believed burnout was developed over a long period with very slow onset. Maslach and Jackson (1981) defined burnout as a condition made up of chronic emotional exhaustion, depersonalization, and reduced accomplishment. Burnout was clearly explained by Couper (2005) with negative qualities on the job, such as increased irritability, decreased efficiency, lack of insight, mistakes with decision-making, and loss of meaning in an established career. It was suggested that a simple job change could eliminate burnout, while compassion fatigue needed more elements of continued self-care (Figley, 2002).

Effected Populations

The populations of trauma caregivers came from differing geographic locations, diverse backgrounds, and were employed in differing vocations that serve people (Morse et al., 2012). These researchers, for example, stated that in Northern California, 54% of mental health workers had high emotional exhaustion. Morse et al. (2012) found Iowa's 29 health care centers reported two thirds of clinicians with severe emotional exhaustion and high levels of depersonalization. It appeared that the malady was being experienced globally as well, adding that in the United Kingdom, 48% of general medical health workers were exhausted as well. When empathetic individuals working in healthcare have recovered from their fatigue or burnout, how can they protect themselves from being worn down once more?

Volunteers were also susceptible to compassion fatigue, experiencing negative changes in the way they viewed themselves and others. This was due to unstable coping skills, an untrained perspective, and lack of support (Pardees et al., 2013). According to Lee et al. (2015) 73.8% of genetic counselors were at moderate to high risk of compassion fatigue, and one out of four considered leaving the field. These high statistics were attributed to the job requirements of navigating genetic disorders and their negative consequences for the patients. Those in the education field, especially the classroom teachers were identified as struggling with depleting emotional resources. Zolnierczyk-Zreda (2005) found that role ambiguity, lack of control, lack of support, and an overload of responsibilities, inferring the job was never done, contributed to high levels of compassion fatigue and burnout. The nursing profession had its share of compassion fatigue victims as a result of poor staffing and its consequential increased workload, pressure to provide patient satisfaction, and increasing complexity of health care reform (Kelly et al., 2015). Psychotherapists, social workers, doctors, and hospice care givers all faced similar symptoms of stress and trauma from compassion fatigue, such as frequent exposure to negative emotions and traumatic stories, death and dying issues, and unrealistic personal expectations (Alkema et al., 2008; Bride & Figley, 2007; Couper, 2005; Craig & Sprang, 2010). The newest groups of care givers who have shown problems with compassion fatigue were interns and therapist trainees (O'Brien & Haaga, 2015).

Self-care Possibilities

Self-care was described as an individualized set of strategies applied to reduce, repair, and protect from the negative consequences of compassion fatigue. Mathieu (2007) emphasized the improvement of the process of self-care was foundational for compassion fatigue prevention. Traditionally, a healthy lifestyle configured with proper diet, enough sleep, and regular exercise regimes were the content of what was advised (Decker et al., 2015; Gentry, 2002; Mathieu,

2007; Saakvitne & Pearlman, 1996). Vacations, especially trips including natural settings or simple time away from the job have been another classic way to relax and recharge (Berto, 2014). Even so, traditional self-care tactics proved insufficient for relieving compassion fatigue symptoms, and other strategies were studied. In using a therapeutic sense of self, research suggested that the process of personal awareness of countertransference actually aided in reducing the likelihood of being emotionally compromised (Figley, 2002). Additionally, the ability to recognize personal stress cues and the willingness for self-disclosure through either counseling or supervision produced more resilient clinical practice (Knight, 2012). Stebnicki (2007) wrote that self-awareness could be discovered by the use of solution-focused assessments in the development of individual self-care practices. He also stated like-minded clinicians could create self-care groups or an accountability partner within a community. Understanding individualized physiological responses to stress and negative emotions, the symptoms of personally experienced hyperarousal, such as increased pulse rates and higher cortisol levels (Bedi & Arora, 2007; Endler & Magnussen, 1977), and the signs of the parasympathetic process of calming down helped to maintain balance characterized by reduced reactionary responses (Rothschild, 2004).

The development and maintenance of self-imposed boundaries provided respectful protection for vulnerabilities in both the client and the therapist. Identified ethical adjustments support the process of beneficial self-control (Newman, 2007). Merriman (2015) felt that budding care givers needed to learn how to be honest in disclosing troubling situations, identifying their personal stories of trauma, and have freedom to admit struggles in a supportive supervisory relationship. She also suggested journaling and goal-setting were practical tools to incorporate into personal self-care as well. The skill of learning to be precise with empathetic accuracy in listening resulted in preventing fatigue also (O'Brien & Haaga, 2015). Finally, the

concept of enhanced positive self-talk or response from a validated stance or mindset supported a lifestyle of strength and intentionality (Gentry, 2002).

Compassion Satisfaction and Mindfulness

Research had also been conducted on what life was like for care givers who developed a rejuvenated attitude toward their career. It was labeled compassion satisfaction, and Alkema et al. (2008) described it as a new sense of pleasure in doing the job well. Ledoux (2015) believed that compassion satisfaction was healthy motivation to act for others in pain. Stamm (2005) identified compassion satisfaction as having feelings of accomplishment. Craig and Sprang (2010) further stated it was “pleasure one derives from being able to do his or her work effectively” (p. 322). Evidence-based research connected the increase of compassion satisfaction and the decrease of compassion fatigue with growth through personal therapy or supervision, and training courses (Craig & Sprang, 2010).

Additionally, current research pointed to mindfulness as a crucial vehicle for successful delivery in healing and maintenance of healthy compassion. Mindfulness was defined as the ability to see with discernment, purposefully attentive, being present, and being non-judgmental in each moment and thought (Decker et al., 2015). Mindfulness was also linked to compassion satisfaction, with a greater ability to aid clients while being protected as the same time.

Historically, mindfulness has been recognized as a 2500-year-old practice that originated in Buddhism from the Theravada tradition.

Shapiro, Astin, Bishop, & Cordova (2005) viewed its essence as acknowledging and accepting immediate circumstances. The use of mindfulness cultivated concentration, attention, non-judging acceptance, curiosity, loving-kindness toward oneself, and increased empathy for others. It was documented to decrease anxiety, depression, stress, and was useful in processing fatigue (Goodman & Calderon, 2012). Development of the habitual application of mindfulness

in daily living lifestyle brought about flexibility, adaptability, and empowerment, reducing negativity, avoidance, panic, and anxiety (Decker et al., 2015). Raab (2014) attributed the use of mindfulness as a tool for developing hope as negative thinking was reframed, new abilities to focus was reinforced, and new narratives were rewritten. She also found, as mental training, mindfulness replaced learned habitual reactions or patterns resulting from stress with modified responses. The calming result of mindfulness altered habits of avoidance when hurtful feelings, bad thoughts, or traumatized memories were aroused, with reducing unstoppable ruminations as well (Im & Follette, 2016). Brown (2010) stated that mindfulness required present tense thinking that does not over-identify with thoughts and feelings resulting in a balanced perception.

Resilience

The long-term practice of mindfulness has been shown to increase resilience. Wang et al. (2016) defined resilience as recovery from severe trauma, or positively adapting after exposure to threat or adversity. The study documented the positive correlation between increased application of mindfulness and increased resilience. Research also showed that resilience was a learned process, set of skills, and behaviors used to comprehend and navigate stressful or traumatic events (Park, Currier, Harris, & Slattery, 2017). Resilience was shown through positive emotions commonly experienced on a daily basis. Resilience skills were identified as emotional regulation, problem solving, perspective alterations, and overall pleasure (Cohn, Fredrickson, Brown, & Mikels, 2009). Five factors observed in resilient people were resourcefulness in problem-solving, willingness to seek help, belief that something could be done to alter circumstances, use of social support, and connection with family and friends (Brown, 2010). Wang et al. (2016) found those who consistently practiced habits of mindfulness demonstrated resilience as having more flexibility, more strategizing skills, more concentration and focus, and better ability to make adjustments. In the newest research, Park et al. (2017)

linked specific resiliency skills with practical examples. For instance, positive individual and cultural global beliefs were demonstrated by qualities of benevolence, significance, comprehensibility, and the balance of servicing others while enjoying a successful career. The ability to view situations positively was confirmed with an outlook of hopefulness, empathy, hardiness, and a sense of coherence. Self-appraisals were described as acceptance, control, self-confidence, and emotional regulation. Interpersonal and social connections were validated by flexibility, community with others, support, and high-quality relationships. Finally, other coping skills were revealed through mindfulness practices, relaxation skills, and proactive cognitive flexibility.

Neuroscience and Art

As research on brain function was studied, art was validated as useful in tapping into the non-verbal storage centers of the right cortex. Connections were made between the implicit memory storage of trauma and the emotional centers of the amygdala (Goodman & Calderon, 2012). In developing the Expressive Therapies Continuum (ETC), Lusebrink (1990) used brain function data as she created a framework for levels of information processing that responded to individualized needs of the client and the use of a variety of art media that would best be utilized for their care. Later, she successfully applied the ETC for better assessment based on formal art elements and more specific brain processing (Lusebrink, 2010). In 2004, O'Brien explained how art unlocked the non-verbal trauma images in the right brain and repaired neuropathways harmed by hyperarousal and chaotic emotions produced by trauma. The use of visual images and symbolism had been utilized with tension diffusion, actual memory reprocessing, adaptation of thinking, and restoration of meaning and purpose (Avrahami, 2006). Assessment tools have been developed to document these changes. Positive correlation between the elevation of heart and pulse rates and acute stress levels were documented (Bryant, Harvey, Guthrie, & Moulds,

2000). The Profile of Mood States (POMS) was developed to measure immediate mood changes (Heuchert & McNair, 2012). It was implemented to measure the effect of emotions on performance in sports (Grove & Prapavesis, 1992). It has also been applied to studying the mood enhancing properties of drawing (Smolarski, Leone, & Robbins, 2015). POMS has been proven both valid and reliable (Bourgeois, LeUnes, & Meyers, 2010), and the abbreviated short form, POMS2 Adult Short has been shown to be both efficient and valid (Curran, Andrykowski, & Studts, 1995).

Art as Therapy

The use of art in therapy has been documented in research as early as the beginning of the twentieth century to be a tool for attunement between therapist and client and the development of therapeutic rapport (Franklin, 2010). Quantitative studies have shown that art usage led to attitudinal and behavioral changes (Saunders & Saunders, 2000). Art therapy was found to be successful in treatment for all ages and differing disorders, such as anxiety, depression, all forms of trauma, addictions, and bereavement (Arringrton, 2007; Chapman, Morabito, Ladakakos, Schreier, & Knudson, 2001; Malchiodi, 2012; Wadson, 2010). Additionally, it was used in expression of emotions, cognitive formation, self-esteem development, vulnerability, and containment of distorted perceptions (Slayton et al., 2010). Formal elements of art, analysis of color (Betensky, 1995; Fincher, 1991; Hammer, 1997; Kaya & Epps, 2004; Kellogg, 1987), shapes (Arrien, 1992; Bradley, 2010b; Fincher, 1991), and line quality (Betensky, 1995; Bradley, 2010a; Cox, 2011) have been used as assessments to produce a richer evaluation of emotional states and unconscious themes in the visual images. Jue and Kwon (2013) state the composition and number of color choices are directly related to emotional states, while Eaton and Tieber (2017) affirm that simple application of the coloring process can decrease negative mood and anxiety. Fish (2012) stated that art was invaluable for therapists themselves as they dealt with

their own issues, or needed to process elements of countertransference from clients' trauma stories. In the observation of created images, art has been an invaluable tool in the documentation of patterns and themes (Thyme, Wilberg, Lundam, & Graneheim, 2013). Narrative story-telling and illustrations were effective in the process of mindfulness, resilience, and compassion satisfaction (Parks et al., 2017). Creation of time-line narratives was advantageous as they reframed and resolved trauma in compassion-fatigued care givers.

Mandalas. As an art intervention, mandalas were used for communication since ancient times. Through the ages, the word mandala meant center, circumference, or magic circle (Fincher, 1991). Mandalas were also explained as circular boundaries used for hold images. Study results suggested the circular shape itself was the active ingredient for mood enhancement (Babouchkina & Robbins, 2015). Slegelis (1987) believed mandalas were a basic tool used for self-awareness, self-expression, conflict resolution, and healing. Naff (2014) stated that narrative work was beneficial in exposing themes, and mandalas have been used similarly as the written narrative. Personal stories depicted through image have been shown to contain unspoken shame while maintaining verbal secrecy. They provided a sense of order, and their symbolic quality represented conflicting material that was full of emotion (Henderson et al., 2007). Brooks et al. (2010) found medical personnel were aided in four ways by drawing mandalas (a) they were relieved from the seriousness of their job's requirement, (b) participants were able to recall happy childhood memories of art-making, (c) stress was reduced due to texturized kinesthetic rubbing of art media, and (d) adults were allowed to apply their imagination. Research has also recognized several additional features connecting the use of mandalas in reducing stress and fatigue. Coloring a pre-drawn mandala provided greater stress reduction than coloring a plaid design (Van der Venet & Serice, 2012). Sandmire et al., (2012) conducted research that documented significantly decreased states and traits of anxiety as a result 30

minutes of artmaking given five choices and interestingly, the mandala was most chosen. In her book, *Creating Mandalas: For Insight, Healing, and Self-Expression*, Fincher (1991) declared mandalas were a symbol of a person's self-representation at the present moment of its creation. Mandalas contained and invited conflicting parts of an individual's nature to appear in a place of protection where concentrated energy was focused (Frame, 2006; Kellogg, 1987; Mayhan, 2005). Mandalas provided a chance for unique self-realization with the goal of personal wholeness. Fincher (2009) stated that mandalas were effective for distinguishing and conveying past emotional development, current circumstances, and future direction within the same piece of art. In her extensive analysis of over a thousand mandalas, Kellogg (1987) believed specific colors utilized within mandalas revealed the chakra centers that exposed unconscious emotional and physical states of change or wellness. Mayhan (2005) added that the use of many mandalas in a series, an image journal, was insightful and powerful in the process of personal individuation. The use of mandalas as an art intervention in for the reduction of compassion fatigue and the enhancement of resiliency was effective. People in the care-giving professions have continued to face repeated exposure to someone else's trauma. The persistent and continual process of fashioning a personalized set of self-care strategies was commonly suggested in the literature to stave off the symptoms of compassion fatigue. Could art-making, such as creating mandalas, be included in a successful self-care regime?

After sorting through the variety of terminology or definitions applied to the symptomology of tension, anxiety, and emotional distress as a result of repetitive exposure to the trauma of others, no matter what it was called, the reality of this syndrome more currently called compassion fatigue has not changed. The collective care-giving population continued to struggle with the ability to sustain a high level of emotional competency as a result and the need for a plan or procedure for effective self-care was needed. The literature pointed to the possibility that

art could be implemented both as a tool for reducing compassion fatigue and instilling mindfulness. The therapeutic technique of designing mandalas had the potential for exposing and connecting neurological patterns. This method could be used to develop clarity and insight in the process and practice of resilient lifestyle skills.

CHAPTER III

Methodology

The notion that mandala creation with a written reflection would reduce compassion-fatigue symptoms evidenced by lower pulse rates and reduced distress in mood scores for professionals serving at a crisis nursery in the Midwest was the objective to be tested.

Implementation of mandala production was observed to test for the reduction of stress and its application for supporting emotional health as a self-care tool. Could continual creation of mandalas be used as an ongoing tool for effective self-care, and upholding a sense of resiliency? It was hypothesized that the use of art therapy in the form of mandalas would be advantageous in providing for and maintaining the high quality of service by professionals who protect and assist traumatized and injured people.

Participants

Participants were 12 female care givers working in a Crisis Nursery Center in a large urban community located in the Midwest. Their ages ranged from 20 to 63 years, and all were college graduates. Job titles included Intake Counselor, Child Program Assistant, and Family Empowerment Professional, and all of the participants were actively employed. The Crisis Nursery provided child abuse prevention services, emergency intervention, respite care, and support for families in crisis. Operation hours were seven days a week and twenty-four hours a day. Each person involved in the study had direct contact with children as part of their job's responsibility, and were also privy to the traumatic stories and events bringing the children to the nursery for help. The research took place at the nursery where there was a licensed counselor on the premises for safety and supervision. Recruitment was accomplished by sending an email invitation flyer through the nursery's in-house email system. Each participant signed a consent form for participation, release of the mandala work for assessment, and permission to photograph

the art piece to be included in the study. At the end of the testing sessions, each participant was provided a list of local counselors for additional support, if needed.

Research Design

Mixed method design was used to collect both closed-ended quantitative and open-ended qualitative data. Participants in this research study were given pre-test and post-test measures for quantitative data. Pulse rates were measured before and after completion of the art intervention, and the Profile of Mood States (POMS2-Adult Short) inventory (Curran et al., 1995) was completed in the same fashion. The comparison of pre-test and post-test quantitative data was used to test whether reduced pulse rates would be present upon completion of the art experience. Mood states reflected in the pre/post POMS inventory were collected to document any diminishing stress responses. The qualitative design was applied to study the mandalas themselves, searching for possible themes or similar narratives, such as, symptoms, qualities, and elements of compassion fatigue, and resiliency, and effective self-care.

Research Instruments

Pulse rates. Pre-test and post-test pulse rates were taken with an OxyWatch C20 Oximeter by Choice Med, and this meter was documented to provide dependable pulse rate measurements. Research over the past 60 years showed consistent positive correlation between stress or anxiety and pulse rates. As early as 1954, elevated stress levels positively correlated with elevated pulse rate scores (Baker & Taylor, 1954). Endler and Magnusson (1977) found that cognitive perception of threatening situations caused anxiety resulting in consistent elevation of pulse rates. By 2007 psychobiological testing showed chronic pulse rate elevations in people diagnosed with Post-traumatic stress disorder (PTSD; Bedi & Arora, 2007). In 2016, Nazario stated that normal heart rates were between 60 and 100, and fear, stress, and anxiety were shown

to produce frequent and persistent elevated levels. The quantitative data confirmed the historical documentation of elevated stress linked to elevated pulse rates.

Profile of Mood States-Adult Short Form. The completion of pre- and post-tests of the Profile of Mood States-Short Form (POMS2-Adult short; Heuchent & McNair, 2012) were implemented to observe any changes in mood immediately after completion of the mandala art intervention. Developed in 1981, POMS received wide acceptance as a measure of psychological distress (Curran et al., 1995). Short forms were developed for testing convenience and were “considered to be an excellent alternative to the original POMS when a brief measure of psychological distress is desired” (Curran et al., 1995, p. 81). Bourgeois et al., (2010), and Grove and Prapavessis (1992) found POMS-SF was useful in the measurement of mood as it pertained to athletes, documenting high reliability coefficients and factorial integrity. The reliability and internal consistency of POMS data analysis caused it to be considered a superior instrument psychometrically, and the creation of a short form proved to be as valid and reliable (Bourgeois et al., 2010; Curran et al., 1995).

Art images. A pre-drawn eight-inch circle on white drawing paper was given to the participant. Henderson, Rosen, and Mascara (2007) reported that the collection of artwork was a valid documentation of the non-verbal expression of inner thoughts, conflicts, and self-awareness. There was no time limitations applied to the art process. Choice of media; markers, colored pencils, oil pastels, crayons, or chalk were made available, and the use of several forms of media could be utilized. The process was completed with a written summary about the art’s content (Fincher, 2010).

Data Collection

Data was collected in the nursery where children were consistently within the participant’s line of sight due to nursery policy. Five participants completed the session

individually, while the rest were completed in peer groups for time restraints. Consent forms were signed, giving consent for participation and permission to photograph mandalas.

Quantitative data. The quantitative data was accurately recorded to provide the highest quality of objectivity. The pulse rates were hand tabulated and comparisons were made. POMS2-Adult Short was scored online as part of the Multi-Health Systems' policy. The results were supplied through a computerized report. The data was transferred to a password protected computer, and no identifying information was collected to protect participants' anonymity.

Qualitative data. The use of artwork as an intervention for reducing compassion fatigue and maintaining self-compassion required qualitative interpretations to supply pertinent additional data. The focus of the art was to observe what the participant drew, how they executed their mandala, and the content of the written explanation. The permanent documentation provided by the mandala enabled empirical support of mood states, concerns, and insight generated by creative expression (Eytan & Elkis-Abuhoff, 2013). The benefit of mixed methodology was seen as themes and patterns were compared and contrasted with the quantitative pulse rates and mood test results. Even though art has been considered subjective in nature, objective observation provided thematic analysis and the identification of reoccurrences in patterns (Thyme et al., 2013). The type of data collected through the qualitative method offered a means for understanding thought processes more deeply and possible perceptions that defined why stress and fatigue were present.

Data Analysis

Themes were then examined to discover any correlation with the quantitative scores. Formal art elements of color (Betensky, 1995; Fincher, 1991; Hammer, 1997; Kaya & Epps, 2004), shape (Arrien, 1992; Fincher, 1991), and line quality (Bradley, 2010a) were utilized to evaluate how the art was created.

Familiarization with the data. The twelve mandalas were critiqued and compared for similarities and differences in their content and the implementation of the art elements of color, shape, and line quality. Colors used in each mandala were tabulated to show which colors were most popular. The participants' definition of each color was recorded as well. The usage of shapes was tallied and their prescribed meaning was listed. The directionality and quality of the lines created were noted for comparison.

Generating initial codes. Identical, enumerated packets containing all elements of research were given for each of the participant's data. The same labeling was placed on the quantitative data and the qualitative results. All the original mandalas and written statements were copied to preserve the artwork. The copies were assessed and handled numerous times while evaluated.

Searching for themes. Positive and negative ideation was expected to surface. Aspects of stress and fatigue were disclosed along with emerging insight for developing mindfulness and resiliency. Particular attention was paid to the summary comments written by each participant, with explanation of their thoughts and feelings. Descriptions detailing individual's meaning of the colors they chose to apply, their shape choices, the subject matter, and the topics disclosed were highlighted in the discovery of themes.

Reviewing the data sets. Colors used in the mandalas were recorded, listed from most prevalent to least, and compared to meaning identified in research (Betensky, 1995; Fincher, 1991; Hammer, 1997; Kaya & Epps, 2004; Kellogg; 1987). The shapes utilized in the mandalas' creation (Arrien, 1992; Bradley, 2010b; Fincher, 1991) and the line quality applied to develop the images was noted (Betensky, 1995; Bradley, 2010a; Cox, 2011). The written responses were summarized to identify use of common words or phrases.

Defining and naming themes. The reoccurring colors were listed and their meaning recorded, providing themes through the written definitions (Betensky, 1995; Fincher, 1991; Hammer, 1997; Kaya & Epps, 2004; Kellogg, 1987). Themes shown from commonly recorded phrases or words progressed into topics or categories. Frequency of shape (Arrien, 1992; Bradley, 2010b; Fincher, 1991), line directionality and application were utilized to illustrate thematic concepts (Betensky, 1995; Bradley, 2010a, Cox, 2011). These results were then compared with current findings in research.

Reporting the final analysis. Based on both quantitative and qualitative data, findings were viewed to confirm past study results about the efficacy of creating mandalas to reduce compassion fatigue symptoms. Subject matter displayed by images depicted in the artwork would illustrate specific concerns and current mindsets of the participants. Quantitative data results of mood change were compared with qualitative artwork analysis to disclose any commonality of mood description or change. Regular construction of mandalas was projected to be successful for continued help in sustained self-compassion. The theme of resiliency was expected to be apparent in the data.

Validity and Reliability

The quantitative testing tools were found to be valid and reliable in the research (Curran et al., 1995). The results found in this study were less reliable due to the small sampling size and the lack of a control group. The qualitative assessments were still in the research stage of their development, also reducing reliability (Henderson et al., 2007). The lack of a consensus for a succinct definition of compassion-fatigue made validity extremely difficult without a solid and consistent baseline for comparison.

Ethical Implications

This research study received approval from the Saint Mary of-the-Woods College Institutional Review Board. The standards embraced by the American Art Therapy Association were also followed, and provided the ethical boundaries of autonomy, non-maleficence, beneficence, fidelity, justice, and creativity (AATA, 2011; Hinz, 2011). Great effort was made to provide the highest quality of honesty and ethical care for participants and reporting of data. People were free to drop out of the study, and any participant was free to request their artwork at any time. Data storage was appropriately kept in a locked cabinet, with the intention of preservation for five years.

Researcher Bias

The researcher hoped the art prompt of mandala creation proved to be an effective tool for a decrease in compassion-fatigue and an increase in self-compassion, mindfulness, and resiliency. As a graduating art therapist, an earnest desire was to witness the success of academic theory as it was applied in the actual lives of professionals. It was anticipated that the mixed methodology would provide increased reliability and astute collaborative information for greater accuracy and validity. A commonality of fatigue symptoms identified along with documented data from mandala making proved effective for modification in self-care. Finally, it was assumed that media would make little difference in the process, as long as the participant was provided with a personal preference.

CHAPTER IV

Results

Overall, the findings from this study showed that creating art through designing mandalas was an effective intervention to reduce compassion fatigue symptoms and increase resiliency. The application of mixed methodology demonstrated the valuable interaction between the quantitative and qualitative results, showing several positive and a few negative correlations.

Quantitative Data Analysis

Pulse rates. The change in pre-test post-test pulse rates was mediocre. The amount of change was minimal, with a mean reduction of $-.083$. In Table 1, seven pulse rates lowered; with an average mean of reduction is -3.25 . Five pulse rates increased, with a mean increase of 3.17 .

Table 1

Pulse Data of Participants

Participants	Pre	Post	Change
1	72	68	-4
2	90	81	-9
3	69	82	13
4	57	64	7
5	85	82	-3
6	73	68	-5
7	89	94	5
8	86	84	-2
9	93	84	-9
10	75	84	9
11	67	71	4
12	87	74	-7

Profile of Mood States. POM2 Adult-short results showed reduced distress after making a mandala as the pre-tests and post-tests were compared. Out of 12, 9 participants had a reduction in their overall mood disturbance, two stayed the same, and only one became more disturbed by completing the art intervention. Participant two's scores were identified as the outlier, and thus removed from further scoring. Table 2 documents the change in Total Mood

Disturbance (TMD) T-scores results. The findings suggested a link or positive correlation between the creation of a mandala and immediate reduction in stress.

Table 2
Total Mood Disturbance T-Score Changes after Art

Participant	Pre-TMD	Post-TMD	Change
1	49	39	-10
2	42	63	21
3	43	35	-8
4	58	50	-8
5	47	46	-1
6	37	37	0
7	43	41	-2
8	51	51	0
9	44	37	-7
10	44	37	-7
11	46	40	-6
12	48	44	-4

POMS2 Adult-short also provided a set of subscales to further identify aspects of emotional change. These were Anger-Hostility, Confusion-Bewilderment, Depression – Dejection, Fatigue-Inertia, Tension-Anxiety, Vigor-Activity, and Friendliness. The first five subscales were negative mood traits, and numerical reductions would demonstrate a decline in adverse symptomology. The subscales of Vigor-Activity and Friendliness were identified as positive and would increase as better moods were experienced. In the testing results, the subscale of Depression-Dejection was described as containing an aspect of personal inadequacy, and it was the subscale with very minimal change. Table 3 reflected documentation of the subscale T-score changes.

Table 3

Mood Disturbance Subscale Changes

Mood Subscales	Mean Change
Negative	
Anger-Hostility	-2.18
Confusion- Bewilderment	-4.9
Depression-Dejection	-0.54
Fatigue-Inertia	-3.09
Tension-Anxiety	-5.27
Positive	
Vigor-Activity	1.36
Friendliness	-0.09

When results were checked for a normal distribution, only one subscale was found to comply statistically, and that was Tension-Anxiety. After transforming the scores with Inversion Skewness, Confusion-Bewilderment also was normally distributed. Both show a statistically significant change as seen in Table 4.

Table 4

Mood Subscales of Significance

Subcategories	M	SD	SE	Lower	Upper	t	df	Sig. (2-tailed)
Paired Tension	5.18182	5.05605	1.52446	1.78512	8.57852	3.399	10	0.007
Paired Inverse Confusion	- 0.00259	0.00266	0.00080	-0.00438	- 0.00080	-3.228	10	0.009

Aspects to Note.

1. SPSS Statistical Analysis software was applied for calculations.
2. The Confusion-Bewilderment subscale was adjusted by Inverse Skewness.
3. 95% Confidence Interval of the Difference

Qualitative Data Analysis

Color choices. Color usage was analyzed and the frequency of application was tabulated. Explanations of color choices found in the participants' written summaries were compared to definitions and color meanings associated with mandala creation. Blue and green were used the most, followed by red. The meaning imposed on their color choices were very similar to the denotations reported in the literature. Blue was calming, green was also calming

and peaceful, and red was considered both emotionally hot and angry or love. Table 5 records the psychological connotations found in literature with the terms expressed by the participants.

Table 5

Color Usage and Meaning

Color	Usage Frequency	Researchers synonyms	Participants' comments
Blue	10	Comfort, calm, serenity	Calming, happy, serenity
Green	10	Peace, tranquility, restful, nurture	Calming, happy, life
Red	9	Emotionally hot, love or hate, conflict, raw energy	Anger/short tempered, love, excitement
Black	7	Depression, mourning	Sad, dread, weighed down, grounded
Yellow	7	Energetic, warm, light-giving,	Light, happy, brightness, positivity
Brown	6	Depressed, sorrow, regressive, soft	Sad, soft
Orange	5	Discomfort, unpleasant, striving	Bad challenge, interruption, happiness
Purple	4	Laughing, joy, positive feelings	Fun, hope, calmness, bright future

In comparison to the chakras for these colors, the physical and emotional source of well-being was observed. Results were found to be (a) the throat for blue, attaching it to “I love” statements and a focus on affiliation, (b) the heart or chest for green, aligning it to “I care” affirmations and a focus on acts of nurturing, and (c) the sacral or lower back for red, connecting it to “I need” statements with a focus on survival.

Shapes. The universal shapes listed as squares, triangles, circles, spirals, and crosses were assessed in the twelve mandalas. The shape of a circle was significantly present in the inside ten of out of twelve circular-shaped mandalas. Figure 1 shows several samples.

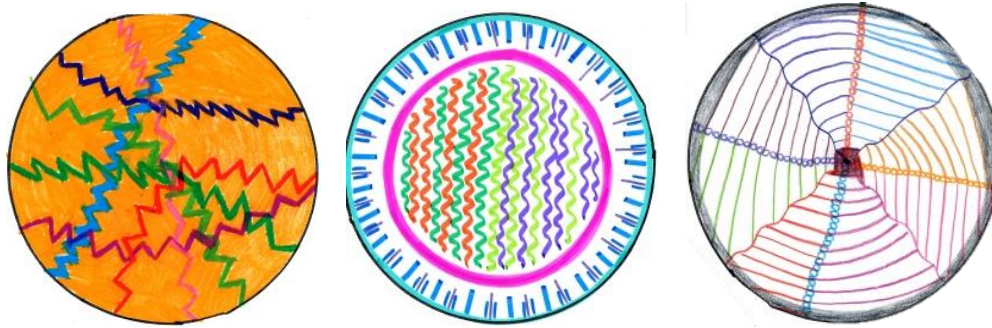
Figure 1. Samples of circular shapes within mandalas



In written explanations, circles were defined in several ways. One was depicted as “center” while two more embellished the concept by alluding to its “concentric” nature. Another was explained as “peace.” Two were recorded as declaring the shape illustrated “order” or “being “organized.” The most prevalent meaning of circles was the notion of being joined together with permanence, recorded as “many connected, connections, continuous, continuity, and keeps going on.”

Line Quality. Lines were evaluated by directionality, such as vertical, horizontal, and diagonal. The style utilized in line formation, such as thick, thin, curved, or zigzag, was also explored. Participants who created linear markings all applied the use of diagonal line directionally in some form. Thin and curves lines were preferred and could be seen in eight of the mandalas. Four mandalas exhibited the thick lines, three incorporated the use of zigzag lines, but one used thick and zig zagged lines, describing their use as a demonstration of a “chaotic environment” in a manner worth noting (see Figure 2). It was also interesting that 2 out of the 12 mandalas did not incorporate line usage at all.

Figure 2. Lines within mandalas



Written summaries. Analysis of written summaries provided with the art verified participants' perceptions of their environment, their clients, and themselves. Recorded comments from participants revealed aspects and characteristics found in both demanding and traumatic situations. "I have a lot going on that sometimes overwhelms me to shut out people," "There is a lot of things going on in everyday life, with family, work external events that are out of control," and "You run into hard times" are examples of stressors commonly experienced with compassion fatigue. Mindful and resilient statements of self-compassion were also visible. One comment was "I was thinking about a more bright tomorrow, with more fun and interesting things." Another was "Everyone is trying to find meaning in it all." Overall, two main themes were identified from the narrative written responses.

Nature as a repetitive theme. Eight out of twelve of the mandalas included some aspect of nature in their design. Oceans and sunsets were topics of discussion. Trees were used as positive symbols. Their roots were like family, providing "love and kindness." Another stated, "I feel more peaceful when in nature, especially in the shade of a tree." Flowers were applied as a tool for creating images that had the ability to soothe. They were "calming and peaceful." The process of designing flowers was described as alleviating stress as a care giver explained, "The first flower I did had pointy edges and as I completed additional flowers, the edges became more rounded and relaxed." Pets were another classification of nature illustrated in two mandalas.

Comments were about the “joy of owning a pet” and what they loved about their pet, “their unconditional love, their care, and their beauty.”

Figure 3. Nature-themed mandalas



Narrative theme on perspective of life. All twelve narratives explained the participants’ focus on either a positive or negative aspect of their view of life. The eight with a positive focus showed resiliency with a focus on present tense mindfulness, forgiveness, and hope for the future. The remaining four negatively concentrated on life as difficult. Table 5 illustrated the actual phrasing from the written summaries.

Table 6

Narratives – View of Life

Positive comments	Negative comments
Peaceful in nature	Distracted and chaotic environment
Everyone finding meaning	I don’t love me
Ok to make mistakes	Family and work – life out of control
Life keeps going	Life goes on – run into hard times
More bright tomorrows	
Light at the end of the tunnel	
I am organized and precise	
You become part of one big thing	

CHAPTER V

Discussion

The results of this mixed method research study indicated shifts in mood and perception. This study hypothesized compassion fatigue symptoms would be reduced, resiliency would increase, and art making in the form of mandala creation would be an effective tool in the process of self-care. The findings of this study supported the hypothesis through reliable statistical results that quantitatively documented mood changes (Bourgeois et al., 2010; Curran et al., 1995; Smolarski, et al., 2015) and illuminated nuances of how and where changes took place through the qualitative results demonstrated in the artwork (Alkema, et al., 2008; Thyme, et al., 2013).

Symptom Reduction

Reducing aspects of compassion fatigue's symptomology was the primary focus of this study. The overall total mood disturbance scores from the implementation of pre-test post-test Profile of Mood States (POMS2 Adult Short) were compared, and demonstrated a decreased mood disturbance in nine out of the twelve participants, with two static and one with increased disturbance. Tension and anxiety were the symptoms of compassion fatigue that showed the most change, with a subscale drop of -5.27. The reductions were statistically significant, and in agreement with research that showed the benefit of art as an intervention for the decrease of traumatic distress (Henderson et al., 2007) and the drop in anxiety (Sandmire et al., 2012). This aligns with the previously tested notion that drawing mandalas for self-awareness, emotional expression, calming, and healing were an effective instrument for reduction of traumatic stress (Henderson et al., 2007; Slegelis, 1987).

In their research on the use of color in communicating emotion, Jue and Kwon (2013) stated color was a major factor in assessing emotions. Research had also shown that free-choice

coloring provided anxiety reduction and mood elevation (Eaton & Tieber, 2017). Colors included in the artwork received categorization based on research (Betensky, 1995; Fincher, 1991; Hammer, 1997; Kaya & Epps, 2004). The greatest attention was given to the comments, descriptions, and reasoning for the color choices recorded by the participants themselves. Blue and green were the most frequently applied colors and were used in 10 out of 12 mandalas. These were labeled as calming, happy, serenity, and “good challenge” by the artists. Insights derived from chakras of blue and green described love and care, affiliation and nurturing behavior (Kellogg, 1987). These motivations were delineated in their personal narratives with statements such as, it was “Ok to make mistakes” and my art was “first pointy, then rounded and it became relaxed.” The theme of calm in the use of color could be positively correlated with tension reduction shown in the POMS2 Adult-form.

In contrast to the results of this study, several research studies documented a greater reduction in pulse rates. This was in contrast with several research studies, where greater reduction was documented (Baker & Taylor, 1954; Bedi & Arora, 2007; Bryant et al., 2000; Endler & Magnusson, 1997; Nazario, 2016). Their explanation for this phenomenon was the release of the hormone adrenalin as a response to fear, anxiety, and stress (Nazario, 2016). Although the emotional responses of fear, anxiety, and stress were included as symptoms of compassion fatigue (Alkema et al., 2008; Gentry, 2002; Mathieu, 2007; Stebnicki, 2007), the angst experienced by non-artists being asked to make art was not factored into the perimeters of validity for this study.

Resilience

Clarity of thought as a constructive consequence from applying artmaking to demanding job requirements was another theme. The changes in the subscale of Confusion-Bewilderment were significant. When viewed from a positive perspective, confusion and bewilderment were

transformed into clearer cognition. Clarity resulted from shifting attention from negative rumination to mindfulness (Im & Follete, 2016), and into new understanding (Stebnicki, 2007) as the participant used graphic expression in the process of lucidity (Chapman, et al., 2001; Gentry, 2002).

Of the five universal shapes, squares, triangles, circles, crosses, and spirals, described by Arrien, (1992) the circle was the most widely used in ten out of twelve mandalas. Van der Venet & Serice (2012) stated that the circular form was meditative, and helped individuals center themselves, which was an exact explanation of circle usage by one participant. Fincher (1991) defined another meaning of circles in artwork as a drive for order or organization, and several coined the circular shapes with those terms. Others mentioned their circles represented connections, community, and unity, which lined up with definitions by Bradley (2010b) and Fincher, (1991). Resilient skills such as emotional regulation and perspective alterations were seen in the reduction of confusion-bewilderment and through the implementation of circular shapes (Cohn et al., 2009).

Effective Tool for Change

The technique of mandala creation as a vehicle for mental and emotional change was documented in several ways. Observation of the types of lines used to create the art gave insight into the mental thought process of the participants. While two mandalas were created without any line manipulation, all the others applied diagonal lines in their work. Varied with application pressure, the line quality was skewed towards fragile, thin lines which indicated tranquility and comfort. Eight included curves, a sign of comfort, calm, and relaxation, while three contained zigzags, which pointed to agitation or tension (Bradley, 2010a; Cox, 2011). The preeminent directionality of diagonal lining pointed to energized movement, alluding to insecure, unbalanced, unstable emotional expression (Betensky, 1995; Bradley, 2010a; Cox, 2011). In the

process of making the art, the action utilized in making diagonal configurations allowed for the expression of unstable feelings. Line quality could be linked to the POMS subscale of Confusion-Bewilderments as the conveyance of the alteration of feelings.

Focus on aspects of nature as a topic for artmaking showed what participants were imagining. Nature was either drawn or discussed by eight of the participants. This was consistent with the research of Berto (2014) where she pointed out that exposure to natural scenes diminished negative emotional responses and enriched positive ones. The use of visual imaging found in nature as subject matter allowed for tension diffusion, actual memory reprocessing, thinking adaptations, and restoration of meaning and purpose as suggested by Avrahami (2006).

The expression of positive emotions through art and narratives were shown to reduce negative moods as well (Smolarski, et al., 2015). Although distractibility, chaotic environments, and hard times were mentioned, the majority of participants projected positive views on life. Growth in resilience was conjoined to this kind of focus on daily living and improvements of life outcomes (Cohn, et al., 2009).

Limitations

Previous diagnoses or psychological interventions in the participants' backgrounds were not pursued due to the limited scope of the study. Lack of control over noise levels and the potential of volatile behavior and activity of children present during mandala creation and data collection were environmental limitations that had the potential for skewing data. The qualitative data pertaining to usage of color shapes, and line quality in mandalas lacked fully tested validity or reliability because of limitations of the study's size.

Recommendations

A variety of future research studies were indicated. Repetition of the present study with larger populations of care givers was necessary. Research conducted on focused populations, such as nurses, teachers, or counselors may give particular insight into unique compassion fatigue symptoms related to specific care-giving careers. Comparison of the intensity of the effects compassion fatigue per geographical locations would be helpful as well. The inclusion of mental health history as a factor in data collection was desirable to document the extent and intensity of past traumatization. Focus on other types of art interventions could identify multiple avenues of artistic self-care activities (Alkema et al., 2008; Merriman, 2015). Mandala journaling with multiple entries was suggested as an effective form for both the identification of problems and a process towards individuation (Mayhan, 2005). The study could be altered to show which specific types of art media enhance or diminish the effects when used in mandala creation for the reduction of compassion fatigue symptomology. Another needed study would be used to determine if the nature and subject matter of meditative prompts would be advantageous for reducing stress.

Conclusion

Artmaking, mandalas specifically, proved to be an effective way to reduce stress, emotional pain, and moral distress experienced by professional care-givers in the throes of compassion fatigue. Repeated use of mandalas throughout their careers was projected to provide relief from compassion fatigue and produce insight into resilient perception brought about by progressive and mindful self-care. This research study showed the valuable use of mandala creation as a tool for relief of symptoms experienced due to compassion fatigue, and was foundational for additional research for its application.

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