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ART AS A MINDFULNESS PRACTICE

A Dissertation

Presented to the faculty of

Antioch University Seattle

Seattle, WA

In Partial Fulfillment

of the Requirements of the Degree

Doctor of Psychology

By

Amaris Espinosa

August 2018

ART AS A MINDFULNESS PRACTICE

This dissertation, by Amaris Espinosa, has
been approved by the committee members signed below who
recommend that it be accepted by the faculty of the Antioch University
Seattle at Seattle, WA in partial fulfillment of the requirements for the
degree of

DOCTOR OF PSYCHOLOGY

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Abstract

The use of mindfulness-based interventions in health, education, and psychology have dramatically increased in the last two decades. Art, as a reflection of the internal and external processes, is one of the key features of humanity. However, art as a mindfulness-based intervention remains underrepresented and under-researched in the mindfulness literature. This is surprising given the role of art across culture, religion, and philosophy. Art is used to explore concepts of self and self-refection, as well as to train attention and awareness. Art is also used to explore relationships and engage in meaning-making. There is little evidence of why art was not included in original mindfulness-based curriculums. This investigation explored the potential relevance of art-based interventions and created and piloted an art-based mindfulness curriculum as a solution to address the apparent gap in the literature. The purpose of this investigation was to create a curriculum of mental health interventions using art as a mindfulness practice. This investigation is based on a pilot study where art was used as a mindfulness-based intervention aimed to reduce stress and headache in adolescent girls (Espinosa, 2015). The curriculum presented is based on findings from the pilot study including the successes, challenges, and progress of the intervention which has evolved through clinical practice. The most recent version of the curriculum aims to reduce stress and address a range of mental health concerns found in clinical and educational settings. It is anticipated that this curriculum will be explored in future research using art both as the mindfulness practice in and of itself, and also as an adjunct to mindfulness-based curriculums. This dissertation is available in open access at AURA, http://aura.antioch.edu/ and Ohio Link ETD Center, https://etd.ohiolink.edu/

Keywords: Mindfulness, Art, Meditation, Art Therapy, Hózhó, Mindfulness Interventions, Mindfulness-Based Art Therapy

Dedication

To my spiritual ancestors, all my teachers near and far, the future generations, and all the beings, research participants, and patients whom I have had the great privilege and honor to work with. Their energy, courage, and beauty shaped this work.

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It is my sincere hope that this work will be of benefit and of service. Sending out a sincere wish for all sentient beings to be well, to be happy, and to be filled with loving-kindness.

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Art as a Mindfulness Practice

Mindfulness has grown dramatically in popularity throughout the last several decades, with its impact spanning nearly every domain of Western culture including education, medicine, psychology, ecology, business, and military training (Jha, Hunter, Salzberg, Bauer-Wu, & Jacobs, 2016; Roeser, 2016; Thompson, Bauer-Wu, & Roshi Halifax, 2016). Large corporations such as Google, Apple, General Electric, Nike, and Ikea have implemented mindfulness as a core tenant of business training (Goleman, 2017). The company Google likened mindfulness to a mental workout, akin to traditional physical self-care such as exercising at a gym or personal hygiene (Goleman, 2017; Jha et al., 2016; Thompson et al., 2016). This trend reflects some of the most prestigious scientific and academic institutions where entire research labs, academic degrees, and publications have been created for and dedicated to the sole content of mindfulness (Bowen, 2016; Davidson, Flook, Broderick, Greenberg, & Hirshberg, 2016; Goleman, 2017; Jha et al., 2016; Thompson et al., 2016).

Reaching a cultural apex where nearly every major publication and other media outlets have commented on the trend of mindfulness, a backlash has begun (Grant, 2015). Numerous researchers and authors within mindfulness literature have reacted negatively to the rave of mindfulness (Jha et al., 2016; Thompson et al., 2016). Such criticisms are important and may be leading to a newer trend, termed "the mindlessness of mindfulness." Mindfulness is a practice originally conceptualized by Kabat-Zinn (2003), as slowing down in order to pay attention, moment by moment. Some argue that, at best, mindfulness is becoming just another task on the to-do list in a fast-paced, hurried, and status-quo American lifestyle; and at its worst, it has become another way to rebrand and push consumer goods, ask more of overworked employees,

and aid in the training for more accurate killing for fighter pilots in war (Jha et al., 2016; Thompson et al., 2016).

To adequately explore the potential gains of modern, American applications of mindfulness, it is important to evaluate the rise in popularity of mindfulness in Western culture. Jon Kabat-Zinn (2003), a medical doctor, is most notably credited with the current cultural vernacular of mindfulness. Kabat-Zinn describes mindfulness as "paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally" (2003, p. 23). Kabat-Zinn wrote that he developed the Mindfulness Based Stress Reduction (MBSR) curriculum from a confluence of his personal experience in meditation, study of Eastern philosophy, and observing the limitations of medical treatment for his patients (Kabat-Zinn, 1982, 1990, 2003).

Although meditation may be considered an alternative medicine, Kabat-Zinn (2003) may not have considered it an alternative to medicine, but rather, a last resort after all other medical interventions had failed. The now well-known MBSR curriculum was developed as a compassionate action to improve perceived quality of life for patients with limiting or debilitating pain or suffering who felt they had tried all options without relief. In brief, the development of MBSR was the result of a combination of: (1) limitations of modern medicine; (2) Kabat-Zinn's direct experience of the benefits of ancient traditions of meditation to change perception and habitual relationship to self, others, pain and suffering; (3) the desire to offer those potential benefits to patients who had no other tools to decrease their pain or suffering; (4) rigorous research conducted using Eastern practices within a palatable Western format and context; (5) and a cultural identification, for both providers and patients, regarding the limitations of health, education, economy, and the overall American lifestyle(s) that led to the

mindfulness revolution (Kabat-Zinn; 1982, 1990, 2000, 2003; Thompson, 2016; Wallace, 2007; Yeshe & Courtin, 2003).

Currently, mindfulness is both culturally and scientifically acknowledged. It has earned near celebrity status in pop-culture, and scientifically, mindfulness is now represented by entire academic labs and research institutions dedicated to its study. It is clear that there is a present need and desire for practices that lead to a more meaningful and integrated experience in modern society (Ricard, Davidson, Roth, Jha, & Salzberg, 2016; Wallace, 2007). However, it is also important to note that a primary limitation to this type of integrated mindfulness experience is a loss of richness and depth of the ancient traditions, culture, and context in which these practices were created (Thompson, 2016). For example, mindfulness, as translated from the Pali, is one of 81 concepts in the Mayahana Buddhist canon on the teaching of Middle Path (Yeshe & Courtin, 2003). Given this depth, as mindfulness is only one of the 81 core principles and domains of mind training, it can be argued that Western society has only begun to understand the concept and potential benefits of mindfulness (Ricard et al., 2016; Thompson et al., 2016; Wallace, 2007; Yeshe & Courtin, 2003). Although mindfulness intervention research (Baer, 2003; Carmody, Baer, Lykins, & Olendzki, 2009; Miller, Fletcher, & Kabat-Zinn, 1995) demonstrates tremendous benefits in a wide range of mental health domains, it could be argued that research has only started to scratch the surface of its practices and benefits.

Current research explores the efficacy of psychotherapy based on a wide range of therapists, training, support, and supervision. Studies yield results that roughly 50 percent of patients showed reliable change or improvement as a result of receiving mental health services, with five to ten percent of patients who got worse, and 35 to 40 percent of patients who experienced no measurable or known benefit (Duncan, Miller, & Sparks, 2011). Given that

recent studies suggest that the possibility of a patient experiencing long-term benefits from psychological services is as predictable as a coin toss, the field of health and psychology should continue to explore new interventions (Duncan et al., 2011). Reliability of treatment being at 50 percent indicates the need for more reliable and effective change to determine that psychology is meeting the needs of service and improved mental health outcomes for patients.

The cause for current limitations within the field of psychology is not fully known, or else, arguably, it would be addressed (Duncan et al., 2011). Some of the limitations come with the ways in which humans have evolved and ways in which they communicate (Duncan et al., 2011). In addition, it is important to consider the fact that the field of psychology as a mental health intervention has been in practice for less than 150 years (Alexander & Shelton, 2014). Western psychology, as a field of self-consciousness, dates back to 1879 with Wundt (Alexander & Shelton, 2014). The vast majority of the predominant psychological interventions were created by White males and normed on White populations, which has been critiqued by many of the third and fourth wave psychologists as fundamentally lacking considerations for gender, culture, language, ethnicity, and other essential identities (Duncan et al., 2011). While this is an important topic in the field of psychology, current research into the efficacy of long-term benefits from psychotherapy show that only 50% of therapy patients show long-term, reliable benefits. Given these outcomes, expanding beyond current frameworks and interventions is essential if the field of psychology is to continue to grow, and more importantly, be of service to humanity. This is not to critique individuals or clinicians who want to provide excellent quality service to their patients, it is simply to note, as per Linehan, Schmidt, and Linda (1999), that the poor mental health outcomes from current treatment options are unacceptable. Modern, Western society, and the field of psychology need to continue to expand their joint way of

conceptualizing mental health needs and interventions to meet the demands and address the poor outcomes for long-term psychological interventions (Duncan et al., 2011).

This investigation argues that art and mindfulness practice, both ancient ways of knowing and engaging, will act as an intervention to create more meaningful and integrated ways of being. This investigation aims to envision curative art practices through the lens and experience of the researcher as an artist, meditator, art therapist, and psychotherapist. These art practices are specifically created to cultivate curiosity and play, reduce stress, increase self-awareness, and increase interpersonal and intrapersonal connections, among other mental health benefits. The pilot study, a mindfulness-based art therapy intervention aimed to reduce stress and headache, was the first of its kind (Espinosa, 2015). The findings from the pilot study (Espinosa, 2015), both qualitative and quantitative date, informed the basis of the curriculum presented in this investigation. The curriculum presented in this investigation will encourage future research on the use of art to reduce stress, increase self-awareness, increase interpersonal and intrapersonal connections, among other emotional, mental, and health benefits. The expanded and revised curriculum from that pilot study is hoped to be a meaningful contribution to mental health interventions and the field of psychology.

Clinical, Empirical, and Historical Context of Mindfulness and the Contemplative Sciences

As this investigation is also based in clinical psychology and mental health, this literature review will explore the connections between mindfulness in health, psychology, education and some of the Western psychological theories that have roots or have been informed by the mindfulness movement. A historical context of mindfulness in the behavioral sciences and its relevant applications will be presented, which include, Jacobson's Progressive Muscle Relaxation, Wolpe's Systematic Desensitization, Hayes Acceptance and Commitment Therapy

(ACT), and Mindfulness Based Cognitive Therapy (MBCT; Frewen, Evans, Maraj, Dozois, & Partridge, 2007; Jacobson, 1938; Lau & McMain, 2005; Luoma, Hayes, & Walser, 2007; McKay, Davis, & Fanning, 2007; Segal, Bancou-Segal, & Magill, 2003; Shapiro, 1989; Wolpe, 1973). As Jon Kabat-Zinn is most often credited as one of the most prominent influences of the mindfulness movement in the West, the development of the MBSR curriculum, and the subsequent research in medicine and neuroscience will be explored (Kabat-Zinn, 1994, 2003; Paulson, Davidson, Jha, & Kabat-Zinn, 2013; Wallace, 2011). Then, the relevance of ethics and mindfulness will be presented, as this currently considered one of the greatest limitations of decontextualizing mindfulness in the West, as well as, one of the aspects of mindfulness that researchers are urged to return to and integrate into their curriculums and treatment modalities (Wallace, 2011; Wallace & Hodel, 2008; Yeshe & Courtin, 2003).

Considerations for behavioral sciences when working with cross-cultural and paradigm issues with contemplative sciences, as well as the latest research in the contemplative sciences, including neuroscience, will be presented (Hayward & Varela, 2001; Jinpa, 2016; Lutz, Greischar, Rawlings, Ricard, & Davidson, 2004; Lutz, McFarlin, Perlman, Salomons, & Davidson, 2013; Perlman, Salomons, Davidson, & Lutz, 2010; Randall, 2016; Ricard, Lutz, & Davidson, 2014; Wallace, 2011; Walsh, 1980). Limitations of the contemplative sciences will be explored, as well as areas for future research. Then, art as process in Western psychology, as well as art therapy, and the combination of art therapy and mindfulness will be explored (Axline, 1974; Cohen, Hammer, & Singer, 1988; Cohen, Mills, & Kijak, 1994; Glover, 2009; Jung, 1961; Jung & Shamdasani, 1996; Jung & Wilhelm, 1931; Junge & Asawa, 1994; McNiff, 1992; Monti et al., 2006; Murray, 1943; Piaget, 1945; Rappaport, 2014; Rubin, 2001). Lastly, the pilot study that is the foundation of the curriculum for this investigation will be presented (Centers for

Disease Control [CDC], 2014; Espinosa, 2015; Fichtel & Larsson, 2002; Kobasa, 1979; Kobasa, Maddi, & Kahn, 1982; Siegel & Bryson, 2014).

Mindfulness: A Convergence between East and West

Paulson et al. (2013) posit that mindfulness is a revolutionary "paradigm shift" (p. 83), as even forty years ago those who meditated did not talk about mindfulness and were often considered pejoratively as dabbling in "a taste of Eastern exoticism" (Paulson et al., 2013, p. 87) if they meditated or practiced yoga. Paulson et al. (2013) stated that one of the reasons for this was that there was not the science of mindfulness and that:

> the idea of meditation or mindfulness, could actually change the physical structure of the brain and that it could be studied by modern Western science-was revolutionary. "Paradigm shift" is an overused phrase, but that would seem to be the case in this instance, especially with the discovery of neuroplasticity and the insights made possible by new brain imaging techniques. (p. 87)

Moreover, a consideration that makes mindfulness significant is that the studies are taken out of the lab and applied as meaningful interventions in a wide range of settings including cultivating resiliency, well-being, happiness, and how to live everyday life in more meaningful ways. Since the 1970s, meditation and mindfulness-based interventions appear to have significantly influenced the paradigms of medicine, health, and psychology. The science of mindfulness has explored the following: anxiety (Kabat-Zinn, Massion, & Kristeller, 1992), social anxiety (Goldin & Gross, 2010; Goldin et al., 2014), stress (Astin, 1997; Farb, et al., 2007; Keng, Smoski, Robins, Ekblad, & Brantley, 2012), rumination (Chambers, Lo, & Allen, 2007), depression (Paulson et al., 2013; Teasdale et al., 2000; van Aalderen et al., 2011), substance abuse (Bowen et al., 2006; Witkiewitz, Marlatt, & Walker, 2005), eating disorders (Tapper et al.,

2009), chronic pain and fibromyalgia (Grossman, Tiefenthaler-Gilmer, Raysz, & Kesper, 2007), relationship satisfaction (Barnes, Brown, Krusemark, Campbell, & Rogge, 2007; Wachs & Cordova, 2007), psychological distress (Coffey & Hartman, 2008), self-compassion (Neff & Germer, 2012), cognitive flexibility (Davidson et al., 2003; Siegel & Bryson, 2014), as well as social justice and social action (Magee, 2016). Other studies have examined the effects of meditation on therapists and therapists in training (Aiken, 2006; Shapiro, Schwartz, & Bonner, 1998; Uebel, 2009; Wang, 2007).

With the rising tide of mindfulness-based psychological and health interventions, there are discrepancies among the ways in which mindfulness is defined and practiced when compared to Kabat-Zinn's original presentation, intended uses, and personal use in his philosophical framework of the MBSR program (2003). However, the existence of discrepancies is not problematic, as there are many definitions of mindfulness including those presented by Langer (1989), Thich Nhat Hanh (1999), Trungpa (2016), and many of the third wave psychotherapies. Baer (2003) found that Kabat-Zinn's original research and presentation of mindfulness is the most widely used definition and presentation of mindfulness in psychology, health, and education. Kabat-Zinn (2003) wrote:

> The very fact that an increasing number of studies on mindfulness and its clinical applications are being funded and published (…) perhaps driven primarily by the intuition that new dimensions of therapeutic benefit and novel insights into mind/body interactions might accrue through its exploration. Because interest in mindfulness and its applications to specific affective conditions is likely to increase even further, particularly within the cognitive therapy community with the development of mindfulness-based cognitive therapy (MBCT; Teasdale et al., 2000) and with the use of mindfulness within

> dialectical behavior therapy (DBT; Linehan, Schmidt, & Linda, 1999), it becomes critically important that those persons coming to the field with professional interest and enthusiasm recognize the unique qualities and characteristics of mindfulness as a meditative practice, with all this implies, so that mindfulness is not simply seized upon as the next promising cognitive behavioral technique or exercise, decontextualized, and "plugged" into a behaviorist paradigm with the aim of driving desirable change, or of fixing what is broken. (p. 145)

The similarities of mindfulness-based interventions are often emphasized but the differences are rarely examined in research. Therefore, it is important to discuss to what degree there are similarities and differences between existing paradigms: to the degree that these philosophies and approaches may enhance each other and to the degree that they may contradict one another as they are currently used.

History & Context of Mindfulness in the Behavioral Sciences & Applications

This exploration will briefly explore Edmund Jacobson's Progressive Muscle Relaxation (1938), Wolpe's (1973) Systematic Desensitization, Acceptance and Commitment Therapy (ACT; Luoma et al., 2007), Shapiro's (1989) Eye Movement Desensitization Reprocessing (EMDR), and Segal et al.'s (2003) Mindfulness Based Cognitive Therapy (MBCT). Lastly, Kabat-Zinn's (2003) article will be discussed, where he addressed the clash between the ontological, philosophical, and practical application of some the mindfulness-based approaches, such as systematic desensitization, ACT, DBT, and his MBSR program.

Progressive relaxation in the 1920's and 1930's. Jacobson's (1938) Progressive Relaxation has some of the closest ties to the philosophy and practice of Vipassanna mediation, of which the MBSR program is heavily based. Jacobson (1938) is credited with foundational

work that would lead to the development of both Progressive Muscle Relaxation (PMR) and of biofeedback. Jacobson, a physician in internal medicine, psychiatry, and a physiologist, was one of the first known American physicians to link mental and physical maladies, which he identified as psychosomatic medicine (1938). In the early 1920's, Jacobson was able to accurately measure nerve impulses and mental activity in human subjects. This work allowed him to later demonstrate the connection between "excessive muscular tension and different disorders of body and psyche" (Jacobson, 1938, p. 26).

In practice, progressive relaxation directs the patient's attention to one area of the body, where they are directed to tighten and tense that area of the body for a determined period of seconds or minutes. The patient, through guided instruction, is encouraged to notice the sensations of tension, as detailed and deeply as they can, as a geographical observation of the landscape of tension. Then, alternatively, the patient is directed to release all the tension in that that area and they are guided through, in a fashion similar to hypnosis, notice releasing layers of tension (Jacobson, 1938). Generally, the time of releasing tension is double the time of creating and holding tension. This process is repeated throughout the body, focusing on one area at a time, such as brow, the forehead, the eyes, and so on.

There are many theories as to why and how the practice of progressive relaxation is beneficial. As it pertains to similarities in Kabat-Zinn's mindfulness, PMR emphasized: directed attention; increased awareness of the mind and the body connection; learning to detect and recognize pure physical sensations in the body; the relationship between tension and relaxation in the body; and for the patient, a locus of control via their sustained attention, to be able to recognize and create both tension and relaxation to various degrees. Kabat-Zinn (2003) wrote:

> … emphasis on non-attachment to outcome is a radical departure from most clinical interventions. Yet it can be found at the heart of Jacobson's pioneering work (1938) which emphasized learning to recognize and trust the direct proprioceptive experience of the landscape of sensation with in tension rather than striving to achieve a more desirable state, such as relaxation. It was only when his method was condensed into progressive muscle relaxation (PMR) in the service of systematic desensitization (Wolpe, 1958) that the no striving, slow, mindful element was, ironically, abandoned-probably unwittingly-in favor of time efficiency and, with it, the primacy of the experiencing of the sensations themselves, without judgment or editing. (p. 151)

The discovery of Jacobson's (1938) progressive relaxation and its integration in Wolpe's (1958) systematic desensitization protocol and therapy is an important one. As Kabat-Zinn indicated, it shifted the focus from pure, direct experience without a desire to change or create a particular outcome, to having a measurable and desired outcome. The general shift could be identified at its philosophical and ontological foundations: systematic desensitization, among the other behavior-oriented therapies, emphasize techniques or systems to create a specific behavior change, whereas, Kabat-Zinn's mindfulness approach emphasizes attention and awareness. Kabat-Zinn's mindfulness emphasizes accepting, not changing, sensation or phenomenon exactly as it arises in a particular time and space (e.g., "a moment") without an attempt to change the phenomenon itself.

This fundamental shift is a radical one, as accepting things as they are, without trying to change them. This emphasizes a dynamic view of relationship between the observer and that which is observed. The phenomenon; moreover, is the fundamental essence of this relationship, and the process of "seeing" that is the root, without any effort outside of awareness itself, of

change. In this regard, behaviorism based approaches are anti-theoretical to mindfulness-based approaches, as the very underlying component of what is the catalyst of change is in opposition. The question remains then, if they are in opposition, how is that these behavioral and mindfulness-based approaches are being so rapidly integrated? In part, the answer may be that there are sufficient similarities, and therefore, the disparities are often disregarded.

Behavioral therapy & early Western psychological interventions similar to mindfulness. Systematic desensitization began in the experimental laboratory with Wolpe as the principle investigator in the 1950's. The earliest experiments began with shocking cats with high-voltage electricity to generate anxiety, which is discussed as the foundation of Wolpe's (1973) later discoveries and writings. However, Wolpe (1973) found that these shocks and the variables conditioned with them, sound, smells, etc., were highly resistant to extinction. This resistance appeared to more accurately reflect difficulties treating anxiety or neuroses in humans. During these experiments, Wolpe and his team found that the anxiety induced from the shocks was so great that regardless of how hungry the animals were, they would not eat fresh meat scattered about the cage, where they received the shocks. In other words, "the anxiety produced total inhibition of so basic an adaptive response as eating in a very hungry animal" (Wolpe, 1973, p. 96). This is a small but significant finding as it suggests that even what most of Western society would consider basic instinct to survive, such as eating, is circumvented through conditioning and, perhaps particularly conditioning with pain. The survival instinct to eat is negated through strong pairings with pain and later, anxiety that the pain will return. Although this finding is important in understanding patterns and conditioning, from another psychological lens Wolpe was not interested in the origin of the behavior. Generally speaking, behavioral therapies such as systematic desensitization are more interested in behavioral changes rather than

the etiology of behavior. This could be exemplified in the differences between first wave therapies and second wave therapies where there was a definitive separation between exploring the unconscious mind attempting to create change by understanding hidden drives and motives to create insight. Insight may or may not immediately influence of change behavior. In behavior therapies, insight is often disregarded if it does not immediately influence behavior and action.

Wolpe's early research involved inducing anxiety among laboratory animals and then training the animals to overcome the anxiety. Wolpe noticed that shocking animals created anxiety that could later be overcome through a model he called assertive behavior. Wolpe initially believed that fear or anxiety produced as a result of a conditioned stimulus could be overcome by assertive behavior, thus he developed the model of assertive training as a behavioral intervention to treat anxiety and fear. Although assertive training was successful in some contexts, (i.e., social anxiety), Wolpe began to identify that assertive training method was not sufficient to treat many forms of anxiety. In particular, assertive behavior training was not effective when treating high levels of anxiety such as phobias or severe panic attacks. Wolpe noted that the observations in the lab suggested that treatment needed to be broken down "bit by bit" but in which direction the research was unclear. Wolpe (1973) reported at this juncture that he stumbled upon two important previously existing bodies of work: progressive relaxation and hypnosis. According to Wolpe (1973) the work of Jacobson's early research in the on progressive relaxation and hypnosis would serve as the next stages of development of systematic desensitization.

Progressive relaxation, hypnosis, and visualization in systematic desensitization. After many failed attempts to extinguish neuroses or anxiety in the experimental cats and in human subjects Wolpe (1973) wrote that he "luckily" happened upon Edmund Jacobson's (1938)

progressive relaxation (p. 98). This was an important discovery for Wolpe: "the inhibiting response that did not call from the patient any kind of motor activity towards the source of his anxiety" (p. 98). In his previous investigations, in particular his protocol of assertive behavior training, required that the subjects engage in motor activity towards the source of their anxiety. Motor activity towards one's anxiety was a required component in order to reduce anxiety. Wolpe began to give relaxation training to patients whose "neuroses" could not be treated with assertive behavior training. Wolpe (1973) wrote, "I conjectured that Jacobson's patients were enabled to inhibit high levels of anxiety because of their assiduous training and diligent practice" (p. 96). Wolpe (1973) highlighted the importance, and perhaps axiom, of progressive relaxation as a part of systematic desensitization, is that the "autonomic effects that accompany deep relaxation are diametrically opposed to those characteristic of anxiety" (p. 98).

This can be conceptualized as the beginning of what is often used in mindfulness-based programs in their Western application: a strong emphasis of relaxation of the body. This is a core and principle training in the MBSR program, as well as the principle stages of Vipassana meditation. It is here that we observe the shift in orientation of treatment that emphasizes changes in the body, or physical behavior (i.e., motor activity), to shifting activity and orientation of the mind, using the mind to direct states of being (i.e., relaxation, softening, releasing tension), and eventually to even more subtle states of mind, including imagination.

As Wolpe (1973) wrote, when he was unable to simulate real life graduated phobic stimuli "in vivo" he began to explore the possibility of using the imagination, specifically the use of imaginary situations in lieu of real ones. Wolpe (1973) credited this inspiration from the writings of hypnosis and wrote that he was, "gratified to find magnitudes of experienced anxiety

diminished progressively at repeated presentations of imaginary situations," as well as, "there was a transfer of deconditioning of anxiety to corresponding real-life situations" (p. 98).

A general assumption of why systematic desensitization is believed to be effective is that the "autonomic effects that accompany deep relaxation are diametrically opposed to those characteristics of anxiety" (Wolpe, 1973, p. 98). Here, the physiology of the body is cited as the primary source of change: muscle relaxation produces the opposite effects of anxiety on respiration rate, skin conductance, and heart rate (Paul cited by Wolpe, 1973). Wolpe also notably observed that "obvious effects can be obtained even by simple instructions to relax; but they are significantly enhanced if the instructions are given in a hypnotic setting and even more significantly if they follow relaxation training" (p. 99). This suggests that the mind of the individual participant and their capacity to engage in relaxation and visualization are more important than the instructions to approach an aversive or anxiety provoking stimuli.

In systematic desensitization, change is measured by establishing hierarchies and then rating those hierarchies based on Subjective Units of distress (SUDs) to measure whether anxiety decreases, as one is systemically exposed to it whether that is in vivo or through imagination. The goal is to decrease the SUDs level and to measure the effectiveness of the behavior change.

The founders of Eye Movement Desensitization Reprocessing (EMDR; Shapiro, 1989), ACT (Zettle, 2003), and Dialectal Behavioral Therapy (DBT; Linehan et al., 1999) all credit some aspect of their development to systematic desensitization. One of the core common elements of systematic desensitization, ACT, and DBT, is that as a system they are not interested in the etiology of behavior development so much as they are interested in changing the behavior through various systematic approaches. To illustrate this, systematic desensitization is not interested how anxiety necessarily developed; rather, the goal is to change an undesired behavior

or habit to a more desired behavior or habit. Another common characteristic of these modalities is that they discuss the importance of dual-attention to various degrees. In DBT, this dual attention is emphasized in the quality of the "Wise Mind" that attends to two parts of being; the logical or planning aspect of mind and the emotional mind. The Wise Mind holds its attention to two domains of mind, emotions and logic, simultaneously (Linehan et al., 1999).

Third Wave Therapies & Mindfulness

Systematic desensitization has had a major impact on third-wave therapies, as third wave therapies are considered to have attempted to integrate mindfulness most readily into their framework. There are four main theories that are considered a part of the third wave of therapy: Cognitive Behavioral Therapy (CBT), DBT, ACT, Functional Analytic Psychotherapy (FAP), and Mindfulness-Based Cognitive Therapy (MBCT).

Acceptance and Commitment Therapy (ACT). ACT is identified as a "psychological intervention based on modern behavior psychology that applies mindfulness and acceptance processes, and commitment and behavior change processes, to the creation of psychological flexibility" (Hayes & Pierson, 2005, p. 22). The goals of ACT are to "increase psychological flexibility, the ability to contact the present moment more fully as a conscious human being, and based on what the situation affords, to change or persist in behavior in order to serve valued ends" (Hayes & Pierson, 2005, p. 21). A general mechanism of change in ACT is for one to choose to respond differently to aversive stimuli presented. For example, one would not focus on anxiety itself but rather, notice the physical sensations, thoughts, and emotions when thinking about anxiety provoking stimuli, phobias, etc. The most fundamental aspects of ACT emphasize choice; the way in which one chooses to direct their consciousness or attention, and then, subsequently, choose different behaviors. Similar to mindfulness, ACT emphasizes a relational

frame that increases psychological flexibility. Luoma et al. (2007) wrote, "the world itself becomes thoroughly entangled in our relational actions" (p. 10) and subsequently, causes greater suffering. In other words, it is not what we think but how we relate to what we think.

One of the primary differences between ACT and the original mindfulness interventions presented by Kabat-Zinn is that ACT often uses mindfulness-based practices, as a substitution for unwanted behaviors or as a coping skill, rather than a practice to life. From this approach, mindfulness becomes a means to an end rather than a way of living and a way of approaching the world. Although ACT is clearly stated as a blend between Kabat-Zinn's mindfulness and behaviorism, the question is, what may be the paradigm and epistemological clashes. This will be discussed in depth in a later section.

Mindfulness-Based Cognitive Therapy (MBCT). As MBCT is the closest link to Kabat-Zinn's original program, it will be discussed in length. In the last two decades in the West, cognitive theories focused on the role mindfulness may play in controlled versus automatic thinking (Frewen et al., 2007). Cognitive symptoms associated with anxiety and depression can be characterized by worry and rumination and are traditionally assumed to be automatic processes (i.e., perceived to be out of the control) of the individual (Frewen et al., 2007). Mindfulness is a particular way of paying attention that is intentional and focused on the present moment with non-judgment towards inner experiences, thoughts and emotions, outer experiences, and bodily sensations (Chiesa & Serretti, 2009; Kabat-Zinn, 1990; Lau & McMain, 2005; McKay et al., 2007). A key principle of mindfulness is the conceptualization of thoughts as passing phenomenological events that may capture our attention for a moment that can then be let go (Frewen et al., 2007). The realization that one has a range of options to choose from leads

to feelings of control, which can lead to a reduction in anxiety and depression (Chiesa & Serretti, 2009).

McKay et al. (2007) argued that as one practices mindfulness, one realizes that thoughts and sensations are transient, and are independent of the self. This ability to become an observer of one's thoughts allows a greater perspective of one's biases, as well as the present moment. McKay et al. (2007) stated, "rather than automatically responding to your negative thoughts and floundering in a sea of negative emotions, you calmly observe the distortions and fallacies of your thinking and their impact on your feelings. This often leads to you naturally making wiser choices" (p. 271). Mindfulness meditation practice includes not reacting too strongly to thoughts, such as identifying oneself as the content of their thoughts, or trying to suppress negative thoughts, has shown to promote self-acceptance as one recognizes their inner capacity to reflect upon and influence one's own cognitive experiences (Frewen et al., 2007).

Although MBCT uses elements of cognitive therapy, MBCT is distinct from CBT as it is traditionally conceptualized (Sipe & Einsendrath, 2012). CBT is a therapeutic approach that combines cognitive and behavioral therapy to address dysfunctional emotions, behavior, and cognitions using goal-oriented, change-based strategies (Lau & McMain, 2005; Linehan et al., 1999). Cognitive Behavioral Therapy is thought-content focused, promotes new ways of looking at painful affect and experiences, distinguishes dysfunctional thoughts from healthy thoughts, emphasizes testing and challenging dysfunctional beliefs and inventing new interpretations, reinforces adaptive responses, and uses the role of the therapist to instruct and coach the client (Sipe & Einsendrath, 2012). This is in direct contrast to MBCT which is process focused, promotes new ways of being with painful affect and experiences, distinguishes thoughts as those which are neither good or bad, and emphasizes noticing and allowing thoughts and feelings

without fixing, changing, or avoiding them (Sipe & Einsendrath, 2012). MBCT behavioral interventions focus on developing awareness in the present moment as opposed to CBT's creating or reinforcing more adaptive responses. The role of the clinician is different in MBCT as well, and the clinician is strongly encouraged to have their own mindfulness practice (Sipe & Einsendrath, 2012). The distinctions are important to note because of the implications; acceptance-based strategies versus change-based strategies in the therapeutic setting and relationship.

MBCT is an adaption of MBSR. MBCT promotes enhanced awareness of and relation to thoughts and feelings, rather than changing specific thought content (Chambers et al., 2007; Lau & McMain, 2005; Sipe & Einsendrath, 2012). As stated by Lau and McMain (2005), MBCT offers a different way of being with emotional pain and distress. According to Sipe and Einsendraft (2012) people find that attempting to resist or avoid unwanted thoughts and feelings "actually intensify distress and perpetuate depression, rather than help resolve it" (p. 64). Although MBCT was initially conceived as an intervention for relapse prevention for recurrent depression, it has since been applied to a wide range of psychiatric conditions (Sipe & Einsendrath, 2012, p. 63).

MBCT uses elements of psychoeducation and cognitive-behavioral therapy with MBSR in eight weekly sessions of about two hours in duration (Sipe & Einsendrath, 2012, p. 63). Instruction involves formal and informal meditation practices including walking and sitting meditation, guided body scans, focused awareness on routine daily activities, three-minute breathing spaces, and mindful movement which is rooted in Hatha yoga. Sessions are progressive, with early sessions bringing attention to breathing or bodily sensation, and later sessions emphasizing awareness of thoughts and emotions that may have been avoided or

ignored previously. Lastly, homework is an essential element of treatment, and "patients are encouraged to spend 45 minutes daily practicing mindfulness activities, often using guided meditation recordings" (Sipe & Einsendrath, 2012, p. 64).

Efficacy of MBCT. Research shows that mindfulness significantly reduces anxiety and panic, depression, anger, chronic pain, confusion among cancer patients, and stress (McKay et al., 2007). Clinical studies show that MBCT works best with mood disorders and, in particular, major depression or bipolar disorder (Chiesa & Serretti, 2009). According to Sipe and Einsendraft (2012), "MBCT is an effective and efficient intervention for prevention of depression relapse, and shows promise in the treatment of active depression" (p. 64). MBCT was particularly successful in reducing depression relapses in patients suffering from major depression with three or more past episodes (Chiesa & Serretti, 2009). Clinical evidence suggests that MBCT could be useful in many "psychiatric and physical disorders and also in healthy people" (Chiesa & Serretti, 2009, p. 1245). While Chiesa and Seretti (2009) do not explicitly state what a healthy person is, it may be concluded that a healthy person is someone who does not met diagnostic criteria for a or any mental illness as identified in the Diagnostic and Statistical Manual, Fifth Edition (DSM 5). However, those who have included meditation and mindfulness as a core foundation of the intervention, including Marsha Linehan, have felt that important concepts in mental health for all of humanity include: accepting things as they are; and that change is necessary for inter-and-intrapersonal development and happiness (Linehan et al., 1999).

Recent innovations of mindfulness meditation in psychological treatment present new challenges for traditional cognitive and behavioral therapists (Lau & McMain, 2005). The challenge is to integrate acceptance-based strategies and change-based strategies (Lau &

McMain, 2005; Linehan et al., 1999). Linehan et al. (1999) recognized that approaches that placed a heavy emphasis on change were experienced as invalidating by some patients, in particular by patients with Bipolar disorder. Linehan et al. (1999) therefore modified traditional cognitive and behavioral treatment by "placing greater emphasis on validation and acceptance" (p. 280). The implication is that with particular disorders, too much pressure to change when change is not possible may invalidate experiences for the patient and perpetuate feelings of helplessness. Linehan et al. (1999) found that treatment focused on acceptance and non-judgment, such as MBCT, was tremendously therapeutic.

There are several clinical considerations to using MBCT. MBCT emphasizes the importance of a therapist developing their own personal mindfulness meditation practice, which will assist in providing the experiential knowledge to adequately explain concepts, model an attitude of acceptance, and to help their patients learn about mindfulness (Lau & McMain, 2005). Moreover, Stratton (2006) argued that therapists "must be mindful at a higher level than their clients in order to assist their clients to move to a higher level" (p. 6). Although there is a strong emphasis on the importance of a mindfulness practice for therapists, Lau and McMain (2005) argued that it has many positive benefits, which include: a greater awareness of a therapist's reactions toward patients, increased self-awareness which can help therapists observe their own reactions and change them if needed, and lastly, helping therapists respond to patients with a "relational attitude of acceptance and nonjudgment" (p. 867). Although mindfulness practice has many benefits for both patient and therapist, it may not be suitable for all therapist or clients for a number of reasons. As mentioned previously, MBCT curriculum requires daily homework and meditation practice (Sipe & Einsendraft, 2012). Clients or therapists may not be willing to

devote the time daily to develop the skills and techniques necessary to fully benefit from mindfulness practice. Therefore, MBCT should be employed in appropriate circumstances.

From the point of view of cognitive psychology, the psychological construct of mindfulness and the therapeutic mechanism of change associated with mindfulness practice are still not fully understood (Frewen et al., 2007). Future research should investigate the ability to let go of distressing negative thoughts and the resulting sense of control over negative cognitive and emotional experiences, such as those associated with clinical depression and anxiety disorders (Frewen et al., 2007). In addition, future research needs to examine the efficacy of similar mindfulness integration efforts in treating other disorders (Lau & McMain, 2005). Another possible line of research includes comparing Eastern philosophical, religious, cultural, and traditional explanations as to why mindfulness is effective compared to the growing body of Western literature on the efficacy of mindfulness including neurobiology and psychology. Eastern philosophical, religious, and cultural explanations of the efficacy of meditation and mindfulness are as vast as religious traditions itself. In order to gain full understanding of the meaning held within those culturally-based explanations, a thorough and specific examination of each religious or cultural tradition would need to be undertaken. For example, each study would need to highlight which tradition they are examining and how and in what ways it is different and similar to Western findings. For example, Tibetan Buddhism as a philosophy and as a practice states that the benefits of meditation are far beyond what Western research is currently indicating, as well as, can be researched due to the limits of Western research methods. Studies that integrate Western and Eastern knowledge of this practice would greatly enhance what we know about health and wellness as well as treatment modalities for various disorders.

Cognitive therapies in particular focus on the role mindfulness may play in controlled versus automatic thinking. Mindfulness facilitates accepting, nonjudgmental, and non-conceptual form of awareness of one's mental, emotional, and bodily sensations (Frewen et al., 2007). In clinical studies, MBCT has been shown to be significantly effective in managing depression and relapse, and is also effective in reducing symptoms of anxiety, pain, anger, chronic pain, and stress (Chiesa & Serretti, 2009; McKay et al., 2007; Sipe & Einsendraft, 2012). MBCT may serve as a useful technique for therapists who have a mindfulness practice as it may facilitate self-awareness, create more acceptance and non-judgment, as well as, assisting their clients in moving to higher levels of mindfulness if they have achieved a high level themselves (Lau & McMain, 2005). Some clinical considerations of MBCT are the emphasis on the therapist to be a practitioner in order to model acceptance and non-judgment, and be able to adequately explain and understand the concepts. It is argued that the therapist must participate in mindfulness practice in order to achieve true insight and meaning of its concepts and techniques (Lau & McMain, 2005). There is still a great deal of research that is required in order to understand the benefits of mindfulness practices, as well as, the populations and disorders for whom it may be beneficial (Frewen et al., 2007; Lau & McMain, 2005; Sipe & Einsendraft, 2012).

Although cognitive therapy uses mindfulness training and approaches, Kabat-Zinn made important distinctions between cognitive therapy and mindfulness training. Miller et al. (1995) wrote,

> (…) in contrast to mindfulness training cognitive therapy aims to restructure thought content to achieve a more accurate and adaptive relationship between thought, feeling state, and action once one become more aware of the inaccuracy or self-negation of

> certain thoughts. Mindfulness shares with cognitive therapy the perceptive that perception and thought drive emotion and behavior and that it one changes one's relationship to thought, one can change deeply ingrained self-destructive or maladaptive patterns of behavior. However, the mindfulness approach does not try to substitute one thought pattern for another, but is based on the direct perception of the inaccuracy, limited nature, and intrinsic impermanence of thoughts in general and anxiety-related thoughts in particular. Moreover, it is grounded as much in somatic awareness as in cognitive sensitivity, through the use of practices such as the body scan and mindful hatha yoga. (…) The mindfulness approach emphasizes meditation as an alternative way of relating to moment-to-moment experience, and thus, more as a "way of being" rather than as a "technique" in the narrow and usual therapeutic sense for coping with a specific problem such as panic […] there is no attempt at systematic desensitization, and that the observational skills required to develop awareness of the process of thinking are themselves systematically cultivated. (p. 198)

Kabat-Zinn explicitly wrote about the distinctions between mindfulness and cognitive therapies that seek to change the nature of thoughts, as well as distinctions from systematic desensitization. As a great deal of the integration of mindfulness is based on Kabat-Zinn's pioneering research, it is also helpful to explore what Kabat-Zinn was referring to in addition to the traditions from which it is borrowed.

What is Mindfulness and Where Does it Come From?

Kabat-Zinn (2003) fundamentally viewed Shakyumi Buddha as a scientist and physicist whose "arduous" investigations, that are in nature contemplative and scientific, resulted in a series of "profound insights, a comprehensive view of human nature, and a formal 'medicine' for

treating its fundamental 'disease,' typically characterized by the three 'poisons': greed, hatred (aversion), and ignorance/delusion (unawareness)" (p. 148). Referencing Chomsky (1965) Kabat-Zinn offered that one could think of dharma, or the teachings of Buddha, as universal. Kabat-Zinn (2003) even wrote, "of course, the Buddha himself was not a Buddhist" and goes on to write that one can think of the teachings as:

> (…) sort of universal generative grammar, an innate set of empirically testable rules that govern and describe the generation of the inward, first-person experiences of suffering and happiness in human beings. In that sense, dharma is at its core truly universal, not exclusively Buddhist. It is neither a belief, an ideology, nor a philosophy. Rather it is a coherent phenomenological description of the nature of mind, emotion, and suffering and its potential release, based on highly refined practices aimed at systematically training and cultivating various aspects of mind and heart via the faculty of mindful attention (the words for mind and heart are the same in Asian languages; thus "mindfulness" includes an affectionate, compassionate quality within the attending, a sense of openhearted, friendly presence and interest. (p. 146)

He goes on to use this same approach to mindfulness itself, when he wrote, "it should be noted (referring to mindfulness), being about attention, is also of necessity universal. There is nothing particularly Buddhist about it" (Kabat-Zinn,2003). Wallace (2011) held a similar viewpoint:

> Methods for developing meditative quiescence are not exclusive to Buddhist traditions, such as Theravada, Tibetan Vajrayana, Chinese Chan, and Japanese Zen; they also exist in the contemplative traditions of Vedanta, Christianity, Sufism, and Taosim (…) In fact,

> forms of shamatha are found to varying extents in all the world's great contemplative traditions. (p. 11)

Kabat-Zinn wrote extensively about the universal quality of mindfulness, attempting to integrate Eastern, Western, and sometimes, Indigenous viewpoints that all embody these qualities. Kabat-Zinn (1994) wrote,

> the key to this path which lies at the root of Buddhism, Taoism, and yoga, and which we also find in the works of people like Emerson, Thoreau, and Whitman, and in Native American wisdom, is an appreciation for the present moment and the cultivation of an intimate relationship with it through a continual attending to it with care and discernment. It is the direct opposite of taking life for granted. (p. 5)

Kabat-Zinn (2003) felt strongly that mindfulness, or the capacity to pay attention, was an inherent human capacity and he felt that Buddhist traditions, in particular, emphasized simple and effective ways to cultivate, refine, and integrate this capacity into daily life. Although Kabat-Zinn addresses the various tenets of Buddhism, he also acknowledged, importantly, that these "traditions all have various schools, subtraditions, and particular texts that they revere more than others, so the actual practices and emphases regarding mindfulness can vary considerably, even within one tradition, such as Theravada or Zen" (2003, p. 146). Additionally, another main point of emphasis here is that Kabat-Zinn identified that his conceptualization of mindfulness is drawn from the two main discourses of the Buddha, the Anapanasati Sutra (Kabat-Zinn, 2003), and the Satpanthana Sutra (Kabat-Zinn, 2003).

Kabat-Zinn (2003) also addressed that mindfulness is "often spoken of synonymously as 'insight' meditation, which means a deep, penetrative non-conceptual seeing into the nature of mind and world" (p. 146). This perspective emphasizes a persistent and constant inquiry into the

nature of phenomenon. This type of inquiry is characterized by constant questions such as: "What is this?" and "Who is attending?" "Who is seeing?" "Who is meditating?" Kabat-Zinn emphasizes this type of attending throughout the MBSR program, especially relative to sensory data including pain. It is this particular type of orientation and inquiry that are believed to provide, "a unique perspective that inform critical issues in cognitive science, neurophenomenology, and attempts to understand the cognitive underpinnings of the nature of human experience itself" (Kabat-Zinn, 2003, p. 146).

Ethics & Mindfulness

Although there is sufficient criticism that mindfulness in the mainstream does not emphasize ethics, Kabat-Zinn implicitly and explicitly emphasized ethics as a part of the larger conceptual and practice-based framework. Kabat-Zinn (2003) wrote that the work was always cradled in:

> (…) practice-based ethical framework oriented towards nonharming (an orientation it shares with the Hippocratic tradition of Western medicine.) This "view" includes skillful understanding of how unexamined behaviors and what Buddhists would call an untrained mind can significantly contribute directly to human suffering, one's own and that of others. It also includes the potential transmutation of that suffering through meditative practices that calm and clarify the mind, open the heart, and refine attention and action. (p. 146)

In this way, Kabat-Zinn integrated Western ethics with an Eastern view of the nature of harm or suffering. Kabat-Zinn's (2003) vision and intention for the application of mindfulness, including Hatha yoga, came from a desire to help those in response to immense suffering when all other forms of treatment had failed or were failing. It is important to identify that

mindfulness is merely one aspect of what the Buddha's teachings were about; his teachings included meditations and instructions on how to train the mind in order to free oneself and others from suffering and to embody wisdom and compassion. Relative to ethics, both wisdom and compassion are principally embedded in not harming oneself or others. Both Buddhist teachings and the fields of medicine and psychology share the concept that one should strive to benefit those they work with and strive to do no harm. In medicine and psychology this principle is called beneficence and nonmaleficence and is the first principle in both of their ethical codes.

Mindfulness embedded. Kabat-Zinn primarily discussed mindfulness as he intended it to be a foundational practice and approach to the MBSR training program. However, as Kabat-Zinn was introducing it as a practitioner, emphasizing the application as a health intervention, he did not discuss the background of mindfulness in the ways that other scholars, contemplatives, and experts of these traditions have. This is not a critique of Kabat-Zinn, but rather intended to point out his objective in introducing mindfulness was not to create awareness of the culture or practices in which the concepts are embedded. This is important to discuss as it may help to explain why mindfulness may be increasingly decontextualized to the degree it is today.

Wallace, an expert on Tibetan Buddhism, wrote extensively on mindfulness in Minding Closely: the four applications of Mindfulness. In this work, he attempts to bridge the Eastern conceptualization and practice of mindfulness and the ways in which mindfulness is being introduced and taught in the West. Wallace (2011) wrote:

> Mindfulness practices do not exist in isolation but are embedded within a matrix of diverse techniques with various purposes and prerequisites. These can be grouped into five primary categories: (1) refining the attention, (2) achieving insight through

> mindfulness, (3) cultivating a good heart, (4) exploring the ultimate nature of reality, and (5) realizing the Great Perfection-the culmination of the path to enlightenment. (p. 11)

In this regard, it is clear that Kabat-Zinn primarily emphasized the first domain of the five primary categories and purposes of mindfulness training: refining the attention. Courtin, a Tibetan, Buddhist nun outlines that mindfulness is one of eighty-one core principles and domains of mind-training on the path to liberation of the essential text of the Lam-Rim (Yeshe & Courtin, 2003). Yeshe and Courtin (2003) translate the core principle from Sanskrit as, "non-forgetting" or "concentration" (p. 26). In other words, remembering what you are doing in every moment. However, even Kabat-Zinn does not emphasize this first category as it is intended in its historical and cultural context. Wallace (2011) wrote, "the first of these categories, historically as well as in practice, is meditative quiescence (skt. Shamatha), which is developed by training and refining the attention. The goal of this contemplative technology is to achieve a state of highly focused and refined attention" (p. 16).

Wallace (2011) and Wallace and Hodel (2008) emphasize in a similar way to Kabat-Zinn that these "mind-training" practices are highly beneficial regardless of religious tradition, affiliation, and beliefs. Wallace (2011) wrote,

> these extremely practical methods do not require us to retreat to a cave. They can be enormously helpful in our daily lives, personal relationships, and professional endeavors, as they transcend all barriers (…) scientific materialists, atheists, and religious fundamentalists alike will experience tangible benefits from a serviceable mind that is stable and clear. (p. 19)

Considerations for Behavioral Sciences when Working with Cross-Cultural and Paradigm Issues with the Consciousness Disciplines

As the behavioral sciences began to investigate and conduct research on what Walsh (1980) collectively classified, as "conscious disciplines" should be aware of potential cross-cultural and paradigm issues between the two disciplines. Conscious disciplines are defined by Walsh (1980) as:

> a family of practices and philosophies of primarily Asian origin. Their central claim is that through intensive training it is possible to obtain states of consciousness and psychological well-being beyond those currently described by traditional Western psychologies as well as profound insight into the nature of mental processes, consciousness, and reality. (…) The term "consciousness disciplines" has been interchangeably with terms such as "Eastern traditions," "mysticism," and "spiritual disciples." However, these terms have been so loosely used and misused that it is important to distinguish the consciousness disciplines from the religious dogma, beliefs, and cosmologies to which most religious devotees adhere, and from the occult popularisms of both East and West. The consciousness disciplines represent specific mental trainings designed to enhance perception and consciousness. If the individual desires, this enhancement may be used to deepen religious understanding, but it may also be employed and interpreted within a psychological framework. (p. 663)

It appears that Walsh (1980) is trying to clear up misconception of the terms and discipline itself as well as orient consciousness disciplines within a category of measurement. Walsh highlights that consciousness disciplines refer to specific mental trainings, which are designed to enhance perception and consciousness.

Walsh's article, "The consciousness disciplines and the behavioral sciences: Questions of comparison and assessment," is considered by many as a seminal and essential text on approaching the conscious disciplines in research and discussion in the West. It is an important text as it explored existing and potential clashes in paradigms and categorical errors which have likely resulted in erroneous and "inappropriate pathologizing interpretations" (Walsh, 1980, p. 663). In this article, Walsh (1980) systematically addressed the nature of paradigms; then outlined and compared models of human psychology within behavioral sciences and consciousness disciplines; then highlighted the paradigm clash through the lens of Thomas Kuhn, the limits of Western epistemological tools and language, which can be embedded "dogmatic assumptions (that) necessarily lead to erroneous conclusions"; then a brief discussion of methodological errors that are common; and finally, "recent advances in areas of Western science that are relevant to an adequate investigation" (p. 663).

As the exercises in this curriculum are intended for research, it will focus on and emphasize the research of mindfulness and meditation but will not go into depth regarding other Western psychological fields that are also relevant such as humanistic psychology, transpersonal psychology, state-dependent learning, sociological studies of peak and transcendental experience, and advanced psychedelic therapy, to name a few. Kabat-Zinn (2003), Ricard et al. (2014), Salmon, Santorelli, and Kabat-Zinn (1998), and Teasdale et al. (2000), cited this frame as foundational to their approach and their research. This frame will also be used when presenting and critiquing research in mindfulness, or mindfulness as an intervention.

Pioneering Research on Mindfulness and Meditation

The MBSR program was based on over 30 years of experience of working with patients with chronic pain conditions at the University of Massachusetts Medical Center (Kabat-Zinn,

2003). Of this patient group, many had received procedures and interventions with no or only minimal success and they were eventually told they needed to learn to live with debilitating, immobilizing, and ultimately life-altering conditions like chronic pain. Kabat-Zinn (1990) reported that this was generally the "end of the transaction" until 1979 when the stress reduction clinic was founded when physicians, specialists, and generalists said "you are going to have to live with and, I am going to refer you to the mindfulness based stress reduction clinic" (Kabat-Zinn, 2010).

Kabat-Zinn (2003) felt strongly that mindfulness-based stress reduction is based on scientific explorations and documentation of patient outcomes, in order to "have an objective sense that there were significant positive changes occurring over the eight-week period of the stress reduction program and on follow up, afterward up to four years" (2003, p. 44). Kabat-Zinn described the collection of those studies as having, "significant and in some cases, even striking positive changes" (2003, p. 44). These studies were reported in the medical literature in the 1980's. As of the last fifteen years, brain imagining studies show that MBSR is indeed altering relationships at physiological, including neurophysiological levels.

Kabat-Zinn's pioneering research and the evolution of MBSR. Kabat-Zinn's first pilot study was posited as a behavioral intervention to explore the clinical efficacy of meditation in order to help chronic pain patients who were "falling through the cracks" of the traditional health care system. The goal was to develop "self-regulation coping strategies" (Kabat-Zinn, 1982, p. 33). Originally the program was 10 weeks in duration and called the Stress Reduction and Relaxation Program (SR&RP). It was intended to train patients in detached observation, or self-regulation through meditation focused on proprioception. The primary hypothesis was that proprioception trained patients in uncoupling their sensory experiences from the affective and

cognitive experiences of pain. This intentional act of separation was hypothesized to change the "evaluative alarm reaction and reduce suffering via cognitive appraisal" (Kabat-Zinn, 1982, p. 33).

Kabat-Zinn (1982) defined meditation as, "the intentional self-regulation of attention from moment to moment" which was neither contemplation or rumination (p. 34). Kabat-Zinn classified meditation into two categories: concentration meditation and mindfulness meditation, which he used interchangeably (1982). Concentration meditation was identified as finding a locus of attention, an object, a mantra (identified as a mental sound), experience of breathing, or a Koan (from Zen Buddhist tradition) and holding it in one's mind for a period of time, which could be seconds to hours. Other mental activity is considered a distraction. Kabat-Zinn wrote that mindfulness meditation had its roots in Theravada Buddhism, where it was known as sattipatana vipassana or Insight Meditation, various Zen Buddhist schools, and Mahayana Buddhism. Kabat-Zinn (1982) addressed the progression in which this form of concentration, a steady attention to all phenomenon, developed.

Meditation as self-regulation, a behaviorist frame. In this early work, Kabat-Zinn emphasized meditation as a form of "self-regulation," which he identified as the development of internal resources, which would ultimately serve as the path of "how" to live with chronic pain (Kabat-Zinn, 1982, p. 34). Kabat-Zinn (1982) wrote, "self-regulation is promoted and learned via directed attention characteristic of mindfulness meditation" or awareness meditation (p. 34).

Kabat-Zinn credits the insight into the development of this program as two-fold: based on his own experience of meditation and theoretical considerations, specifically neurological, of pain perception and attention and their interaction. Kabat-Zinn was influenced by the work of Melzack and Wall, and Sternback (as cited by Kabat-Zinn, 1982) in understanding the

relationship between cognitive contributions and its important role in developing strategies for chronic pain relief. Additionally, he draws a direct link to the ways in which extended meditation can be accompanied by intense pain "in some ways resembling chronic pain" (Kabat-Zinn, 1982, p. 35), in which he gives examples of Zen and Vipassana traditions where meditation can lasts weeks and even months. Kabat-Zinn (1982) discussed the ways in which pain invariably arises during that time and how:

> these traditional meditation texts offer recommendations for cultivating detachment to intense pain through the use of attention and careful self-observation with characterizes mindfulness meditation. It therefore seemed reasonable to hypothesize that insights stemming from the observation and pain arising during meditation might serve as a model for developing a testable intrapsychic strategy that patients may use for coping with chronic pain. (p. 35)

What may be even more important is that mindfulness requires "focusing on unpleasant and painful sensations when they are present" and even discourages ways to distract or move away from the painful stimulus. Kabat-Zinn noted that this is merely one aspect of using mindfulness (i.e., directing attention for the purpose of coping with pain during meditation), however, the traditional view of mindfulness meditation, in essence, is directed attention at whatever arises in the sphere of awareness (Kabat-Zinn, 1982).

Detached self-observation was hypothesized to eventually lead to a learned deconditioning of the alarm reactivity, which include cognitive and affective appraisals, of the primary or bare sensation (i.e., pain) and creates a relearning or recognition of primary sensations. In this way, the nociceptive or sensory signals may stay the same, but the emotional and cognitive component of the pain experience (i.e., the hurt and the suffering) are reduced

(Kabat-Zinn, 1982, p. 35). Again, Kabat-Zinn noted that this was not a hypnotic trance or denial of the pain but rather a refined awareness of it.

Methods of the preliminary trial of SR&RP. The original structure of the SR&RP program was similar to that of the MBSR program, except it was a 10-week course that met for two hours one time per week. It included "three mindfulness meditation practices" which were "sweeping: a gradual sweeping through the body with the attentional faculty, focusing on proprioception"; mindfulness of the breath and other perceptions; and Hatha Yoga postures which was "designed to reverse disuse atrophy of the musculoskeletal system while developing mindfulness during movement" (Kabat-Zinn, 1982, p. 36). Kabat-Zinn used eating, walking, and standing meditation coming from the traditional monastic teachings and practice, which emphasized the ability to bring mindfulness into daily living. For the first four weeks, participants practiced "sweeping" for 45 minutes using an audio cassette tape, and five minutes of mindful breathing once per day. After four weeks, Hatha yoga was introduced and patients alternated between Hatha yoga and sweeping. In the final two weeks, patients selected which meditations they preferred and used those. Difficulties with the practice were addressed in the weekly sessions in order to prevent a "mechanical approach" to the meditations. Lastly, the program emphasized a group format and particular attitudes towards the program, such as "self-responsibility," and "non-goal orientation," among others (Kabat-Zinn, 1982).

The participants for this preliminary study included 51 patients, 18 males and 33 females ranging in age from 22 to 75. All participants were outpatients referred by their physicians for a chronic pain condition or another chronic condition accompanied by pain. Regions and types of pain included lower back, neck, shoulders, headache, facial pain, and non-coronary chest pain, among others. The participants were randomly selected and divided into three groups with no

control group. The participants paid a $100 fee to participant in the program. It is unknown if the fee was covered by insurance or if there were scholarships available for participants who could not otherwise afford the course.

The study also included pre-and post-evaluation interviews, pain measurements, non-pain measurements, and follow-up questionnaires which were mailed at two and a half, seven, and eleven months after the completion of the study. In total, six pain measurements were used, including the McGill-Melzack Pain Rating Index (PRI) that was considered, at the time, the best non-technological method available to measure pain. In addition, six non-pain measurements were used which included the Profile of Mood States (POMS), the number of medical symptoms checklist (MSCL), and psychological symptomatology Symptom Checklist Revised (SCL-90-R) to name a few.

The results of this study were discussed relative to pain-related outcomes and non-pain related outcomes via its designated measurement. Participants showed a "considerable improvement" over the course of the ten-week training program. Participants showed improvement in all categories for chronic pain; over 50% of participants showed at least a 50% decrease in pain after the study. This reduction in pain was maintained at the time of the 4-month and 11-month follow-up. Measuring pain is difficult due to the highly subjective nature of the pain experience, however, participants reported decreased pain but also a measurable decrease in prescription medication use, fewer doctor appointments since completion of the program, and observable changes in affect. These changes were still noted at the 11-month follow-up. Non-pain-related outcome measures showed that one-third of the medical symptoms initially reported were no longer problematic after the training course. Scores on the POMS showed substantial and significant reductions (60% decrease) in negative affect, as well as a 33%

reduction of severity of distress. The decreases in negative affective experiences and reduction in distress severity were stable and present at the four-month follow up.

Evidence based on the pain-related outcomes and non-pain related outcomes suggest that meditation was an effective strategy to address the pain experience. In addition, meditation impacted changes in attitudes and modes of perception of pain, which are important components in the experience of pain. Interestingly enough, Kabat-Zinn (1982) cited the work of Holroyd and Andrasik in the discussion of the results as it related to the assessment and contribution of "any self-regulatory intervention" (p. 44). Holroyd and Andrasik's research used EMG-biofeedback to treat patients with tension headache. Results showed that teaching patients to recognize the onset of symptoms was more effective, and sometimes even more powerful, than teaching any particular coping skill or relaxation technique. Kabat-Zinn (1982) wrote,

> it may be less crucial to provide clients with specific coping responses than to insure they monitor the insidious onset of symptoms and are capable of engaging in some sort of cognitive or behavioral response… this response need not be relaxation and in certain situations where… inappropriate… should not be relaxation. (p. 44)

In other words, the act of awareness itself elicited spontaneously and often more appropriate responses in the moment to the stress inducing situation or tension underlying the headache. Kabat-Zinn (1982) continued with,

> These observations imply that moment to moment mindfulness may itself be the underlying coping mechanism. The experience of patients practicing mindfulness meditation suggests that increased awareness and sensitivity to the attributes of pain and to stress reactions in the moment, lead to the spontaneous development of new cognitive

> and behavioral coping responses to pain and stress, replacing nonadaptive conditioned pain behaviors and knee jerk stress reactions. (p. 44)

Here we see Kabat-Zinn begin to move away from a behaviorist approach and teach mindfulness meditation as a "self-regulation coping strategy" to awareness, or paying attention, as the primary mechanism.

MBSR under the scanner. In 2003, a study measured the underlying biological changes in somatic, cognitive, and affective processes associated with meditation (Davidson et al., 2003). This study focused on a particular area of the brain, the left sided anterior regions of the prefrontal cortex as this area of the brain is associated with positive affect and, numerous studies show reduced anxiety and increased positive affect related to meditation. This was a randomized, controlled study on the effects of alterations in brain and immune functioning of the eight-week MBSR program. This study focused on the enduring changes of meditation on the brain; measurements were taken of baseline brain function, immediately after the course, and four months after completion. The hypothesis was that as meditation decreases anxiety and increases positive affect, there should be an increase in left-sided activation in those regions. The left anterior region is also associated with immune function. Meditation was predicted to enhance immune function. As a way to test immune function, all subjects including the controls were vaccinated at the end of the eight-week MBSR program. It was hypothesized that with greater anterior activation, associated biological changes as indicated by antibody titers among the meditation group when compared to the control group. Measurements included electroencephalography (EGG), Positive And Negative Affect Score (PANAS), the Spielberger State-Trait Anxiety Inventory (STAI), daily reports of duration spent on meditation practice, and blood draws at each trial, three times in total. The MBSR program was delivered by Jon Kabat-

Zinn in person to 25 subjects, 19 of which were female, predominately white, and worked for a biotechnology corporation in Madison, WI. Multivariate analyses of variates (MANOVAs) were used to measure statistical significance among the three time intervals between groups. Results showed a significant reduction in anxiety for subjects in the meditation group, as well as a decrease in trait negative affect of the meditators, with no change in the control group. This study showed a significant increase in left-sided anterior activation (patterns generally associated with positive affect) in the meditators. Results also showed significant increases in antibody titers to the influenza vaccine in the meditators versus the non-meditators. Moreover, the greater the increase of the left-sided activation predicted the degree of antibody titer rise to the vaccine. This study demonstrated that an eight-week program in mindfulness has positive effects on brain and immune function. These findings also suggest that meditation training in a short period of time produces changes the brain, however, more research is needed to demonstrate longer term effects and degrees to which engagement in meditation for novices impacts the brain. Most of the participants in the meditation group reported engaging in meditation two and a half times per week, on average, for an average of 20 minutes each time. With such little time spent, it is surprising that such positive changes were demonstrated.

MBSR research & anxiety. As psychological distress is often accompanied by many medical disorders, Kabat-Zinn's research transitioned from a more universal treatment approach to a more specific disorder, anxiety. Kabat-Zinn's earliest study on anxiety was conducted in 1992 with 24 medical patients diagnosed with a wide range of DSM-III-R Generalized anxiety disorder (GAD) and panic disorder, with or without agoraphobia. Twenty-four patients identified to receive treatment and a control group were physician-referred to complete an extensive battery of interviewer-administered measures, as well as several anxiety measures pre-intervention, post-intervention, and

at a three month follow up. The anxiety measures included: the Hamilton Rating Scale for Anxiety, Hamilton Rating Scale for Depression, Beck Anxiety Inventory, Beck Depression Inventory, Fear Survey Schedule, Mobility Inventory for Agoraphobia, and the Hamilton Scale for Panic Attacks. Kabat-Zinn et al. (1992) measured the therapeutic effect as a reduction in frequency and severity of panic attacks in the panic attack patients. Twenty of the 22 subjects that completed the study demonstrated significant symptom reduction as per the Hamilton and the Beck Anxiety and Depression measurements at post-intervention and in a three month follow up. Additionally, improvements were independent of whether subjects were taking anxiolytic medications or not. A three-year follow up with this cohort was conducted to examine long-term effects of the mindfulness meditation-based stress reduction intervention (Miller et al., 1995). Eighteen of the 22 patients who participated in the original study participated in the three-year follow-up study which included phone or in-person interviews and the same set of anxiety measures as were originally administered during the study. Half of the participants were interviewed in person while the remainder were interviewed over the phone with participants filling out the battery of assessments in person. A repeated-measure analysis of variance (ANOVA) was used to compare scores across time. Additionally, t-tests were used in all cases to verify that significant change occurred between pretreatment, post-treatment, and at the three-year follow-up. Other data included current medication, amount of current formal and informal mindfulness practice, and a rating of subjective importance of the SR&RP program in their life. Lastly, each subject was interviewed for current psycho-social stressors, and current psychiatric and medical disorders.

The 18 patients showed clinically and statistically significant improvements in objective and subjective symptoms of anxiety and panic following the eight-week meditation-based stress reduction course at post-intervention, three-month follow-up and at the three-year follow-up. During

the follow-up, eight out of the 18 had received no further treatment for anxiety of any kind and reported frequent meditation practices, approximating four or more times per week. Of those who were engaged in some form of treatment, which was identified as medication or psychotherapy, four of the seven participants had discontinued treatment. Results indicated that individuals with chronic anxiety, whether undergoing other forms of treatment or not, can make significant positive changes in their lives to reduce anxiety and panic by participating and then continuing a mindfulness and meditation-based stress reduction program.

Some important aspects of this early work are the ways in which Kabat-Zinn began to write about stress. Miller et al. (1995) wrote,

> a noteworthy feature of the SR&RP intervention which may be an important factor in obtaining the positive results reported here is its orientation towards stress per se, rather than towards a particular diagnostic entity. This hospital-based, outpatient, behavioral medicine stress reduction clinic serves a highly heterogeneous population of medical patients who are referred to it by their physicians. Its focus is not on treating panic or anxiety or for that matter, any diagnostic entity, but rather on learning to deal more effectively with stress, pain, and chronic illness through self-observations and the self-regulation of intrapsychic and external behaviors. The subjects in the present study were referred to the stress reduction clinic with a wide range of primary medical diagnoses including hypertension, chronic pain, cancer, heart disease, and many others, in addition to their anxiety disorder. (p. 196)

These early conceptualizations and their relationship to stress are important in the ways it shaped the later body of work, which is now known as the MBSR program. First, there is an aspect of the universal nature of mindfulness meditation; the research originally started with chronic pain

patients and then led to a wider range of disorders, including mental illness, as a component of physical illness. Miller et al. (1995) suggested that it was universal in nature as one is directing their attention and through that directed attention it has a "direct relevance to the immediate inner experience of the majority of participants, independent of diagnosis or personal circumstances. Mindfulness serves to unify the diverse experiences and background of program participants" (p. 197).

Additionally, in these earlier studies, mindfulness meditation as a form of self-regulation is emphasized. Miller et al. (1995) wrote that daily, disciplined meditation practice as a way of "achieving voluntary self-regulation of physiological and mental states, namely, attention regulation, concentration, relaxation and insight" (p. 197). The program is reported to aim at "what is right with people rather than towards what is wrong with them" (Miller et al., 1995, p. 197) via attention as a core mechanism of perception, appraisal, insight, coping, and behavior change.

MBSR & Effectiveness in Dual Languages. Kabat-Zinn et al. (2016) conducted a feasibility study over seven years, January 1992 through March 1999, in order to explore the benefits and potential goodness-of-fit for the MBSR program in two languages (Spanish and English) within a multicultural, low-income, inner city environment. Until 2002, very few studies focused on the specific needs of underserved minority populations in inner cities (Roth & Stanley, 2002). The majority of mindfulness-based programs served predominately White, middle- and working-class populations of medical patients. The study was the first of its kind to implement a long-term study of underserved populations using the MBSR program. The program attempted to remove general barriers to attendance including offering the course free of charge, offering at times that would accommodate mother's work and childcare schedule, offering free childcare during the course, transportation to and from the community center where the eight-week courses were offered. They

also provided interviews, instrumentation, and the courses in Spanish and English. This study used the same measurements as the previous MBSR research with the additions of the Beck Anxiety Inventory, Coopersmith Self-Esteem Inventory, MSCL, and pre- and post-interviews.

The seven-year feasibility study had 1,898 participants with a three to one ratio of females to males. The majority of the participants made less than $15,000 per year and received some form of government assistance. Spanish-speakers were from Puerto Rico, the Caribbean, Central America, and South America. North American Latinos with Spanish as a second language also attended. Non-Spanish speakers included African Americans, Native Americans, Latinos with English as a first-language, Egyptians, and Eastern Europeans. Results showed that MBSR can be successfully delivered in both English and Spanish in an inner-city environment (Kabat-Zinn et al., 2016). Results also showed that "the majority of participants experienced notable physical and emotional symptom reduction and increase in self-esteem and mental health" (Kabat-Zinn et al., 2016, p. 6).

Outcomes were measured for individuals who completed the program on their first attempt (n=452) and for those they showed an overall reduction of 34% in medical symptoms. Additionally, 84% completed the program on their first attempt and attended more than one session in the future, as the program was left open to them to join in the future. Results showed significant reduction in medical symptoms across English and Spanish speakers, however, greater reductions were present in the female population than the male population. Moreover, Latino men were less successful overall in symptom reduction than non-Latino male counterparts or females, specifically with regard to self-esteem.

Limitations of the study include that the instruments that were translated in Spanish were not normed on a Spanish speaking population. Additionally, statistical power was reduced due to various factors such as attrition, inconsistent or partial attendance, and repeated participation in the

eight-week course, which made it difficult to accurately count participants. It is unknown whether classes were offered separately in Spanish and then English or if the languages were presented concurrently. It is also unknown if the instructors for the English and Spanish classes were the same. Separating the groups by language may have had a different impact than teaching both languages at the same time. Lastly, another limitation is that the researchers make a strange distinction in the study where they no longer separate native English speakers and non-native English speakers but instead separate the groups into English speakers and Latinos. This is especially confusing as this separation of groups is not consistent throughout the article. It is unclear as to whether Latino participants were native Spanish speakers. It is an arbitrary distinction, especially when otherwise, the groups are divided between native English speakers and Spanish speakers. Given that the stated goal of the study was to determine the feasibility of delivery of MBSR in two languages with both native and non-native speakers, this inconsistent grouping mechanism calls into question the intention of the study. It appears, based on the inconsistent grouping of race versus language of origin, that offering the course in Spanish was an artifact of a broader goal of determining feasibility for low-income, multiracial, and multicultural populations. This distinction is not elucidated by the authors, which raises questions about cultural competence and the strength of the presentation of results.

Kabat-Zinn's influence on neuroscience. Kabat-Zinn's work with MBSR dramatically influenced the ways in which meditation and mindfulness-based practices are viewed. Kabat-Zinn (2000) presented the idea of mindfulness as a practical technique that was neither religious nor spiritual. He hypothesized that meditation had clinical relevancy, and therefore, he was among the first to explore mindfulness-based interventions for their clinical efficacy and

scientific validity. As the capability of technology to measure brain function has increased, so have studies that measure brain function and its relationship to meditation.

Cultural Considerations of Early Research in Neuroscience

Walsh (1980) suggested a number of ways of minimize categorical errors and misunderstandings, which he classified as potential means for adequate assessment. His suggestions include the original task is more rigorous and demanding than previously thought; recognizing that a paradigm clash is possible and therefore a thorough examination of beliefs, systems, and models; respectful dialogue that although the paradigms are different, they are sophisticated; and inquiry into whether or not the methods of inquiry of are an adequate measurement. Walsh (1980) strongly encouraged investigators to examine both the literature and practice of consciousness disciplines emphasizing the necessity of personal experience with the practices.

Walsh (1980) even went so far to suggest that,

> it may be necessary to adopt new research paradigms (…) in one such design the subject would be a participant experimenter or "yogi-scientist" trained both in the behavioral sciences and the consciousness disciplines. This is obviously an extremely exacting requirement but one that may be necessary for the fullest possible understating of these practices. It seems prudent to heed the warnings of the advanced practitioners of the consciousness disciplines and, at least initially, to focus on those phenomena which they consider central. It is also necessary to distinguish between the central consciousness disciplines and the degenerate popularisms with which they are so often confused. (p. 671)

Ricard et al. (2014) and Ricard et al. (2016) later filled Walsh's call to action; he is an author, Tibetan Buddhist expert and teacher, artist, and research participant and research conductor. Ricard, a Westerner, received his Ph.D. in molecular biology and then later became a Tibetan monk studying for decades with some of the greatest Tibetan masters and yogis of the early twenty-first century. Ricard is not unique in his training; there are a growing number of individuals who are trained in both Western behavioral sciences and more traditional monastic studies. There are also a growing number of Tibetans, Japanese, Vietnamese, Bhutanese, and others, who are receiving advanced training in Western behavioral sciences. Jinpa is another example of this advanced dual training. Jinpa is the principle English translator to the Dalai Lama, who received a doctoral degree and is a research scholar at and co-founder of The Center for Compassion and Altruism Research and Education (Jinpa, 2016). The most recent reflection of paradigm shifts may be reflected in current research collaborations with Ekman, among others, that requested His Holiness, the Dalai Lama, to provide a psychological "map of the mind," which includes emotions and compassion (Randall, 2016). This would reflect one of the suggestions Walsh (1980) offered as respectful, but also central to understanding, from the experts of these disciplines, consider central or the focus, of what is happening in meditation. All of these approaches are increasingly helping to establish a paradigm "that honors the integrity of different but complementary epistemologies" (Kabat-Zinn, 2003, p. 147).

As this applies to the integration of medicine, psychology, and education, one of the greatest contributions that Kabat-Zinn offered was his creation of the curriculum and teacher-training. Kabat-Zinn required all MBSR program instructors to have a personal practice, which include daily practice, and several ten-day silent retreats in order to teach the MBSR program (2003). The emphasis is on knowledge in the direct practice; in order to help guide

others in the pitfalls of the practice, and to maximize the benefit of practicing, an instructor needs to have direct experience. This is not so dissimilar to many forms of rigorous training; one needs practice (also known as direct experience) and guidance from experienced teachers, among other things, to help cultivate the craft and the integration of understanding.

As mentioned earlier, one of the of the pitfalls of the growing enthusiasm for mindfulness-based programs and interventions is this lack of personal experience of the practices upon which these ideas are built (Kabat-Zinn, 2003). This can be seen in the behaviorist approaches, including ACT and DBT, where mindfulness is a core component of the intervention and approach, but those teaching these interventions, (i.e., psychologists, therapists, social workers, etc.) are not required to have a daily meditation practice or ever had any direct experience in formal meditation practices. One of the many potential consequences of this decontextualized practice is that individuals who have little to no experience teaching concepts that require at least some direct practice of them may find it extremely difficult to teach these practices in a way that has meaning. As a result, many individuals may feel that they cannot "do" mindfulness, that mindfulness does not work, or find it hard to notice its benefits (Kabat-Zinn, 1994). Although it is not suggested here that mindfulness is a cure-all, simply that one of the consequences may be that mindlessly applying mindfulness may result in confusion, frustration, and certainly less benefit to those receiving these highly skilled and sophisticated psychological practices. Perhaps, not so dissimilar to someone who has never gone hiking, or has only casually gone on long walks, or became enthusiastic when reading Thoreau and his powerful passages of the healing power of the natural world. Then, to have the power and the privilege of becoming a mountain guide, because there is not sufficient understanding and adequate training on what is required and what it entails to be a mountain guide. This mountain

guide may find it difficult to truly help others with preparation, attempts, and even summiting mountains of any level and skill; these attempts may be limited at best and harmful at worst. Although this is not always the case, we may generally see how this may be applicable.

It is important to also examine the contribution of Tenzin Gyatso, the 14th Dalai Lama, the spiritual leader of the Tibetan people (Ricard et al., 2014). It is argued that some of the earliest dialogues involving the rigorous inquiry and study of the neuroscience of meditation were sparked by the 14th Dalai Lama in the 1980's, which ultimately led to the creation of Mind & Life Institute (Ricard et al., 2014). The Mind & Life Institute was established by the 14th Dalai Lama, along with Engle, a lawyer and entrepreneur, and Varela, a neuroscientist, all of whom felt that well-refined contemplative practices and introspective methods "could, and should, be used as equal instruments of investigation-instruments that would not only make science itself more humane but also ensure its conclusions were far-reaching" (www.mindandlife.org/mission, 2016). In addition to numerous debates and publications, the Mind & Life Institute has hosted dialogues between leading experts in neuroscience, medicine, ecology, education, ethics, economics, and more. As a result of these dialogues there have been numerous publications, research studies, and even expansions of fields of study that includes contemplative neuroscience. The 14th Dalai Lama is credited with creating the subdiscipline of "contemplative neuroscience" via the establishment of Mind & Life Dialogues, as well as by his action to invite leading scientists to study the brains of expert meditators using the latest technological advances in neuroscience of the early twenty-first century (Ricard et al., 2014). Collaborations inspired by the Mind & Life Dialogues led to neuroscientists investigating the claims made by Buddhist practices; that mind-training or meditation cannot only impact but alter perception, attention, emotional regulation, and ultimately modes of consciousness. One of the

paramount studies conducted by Lutz et al. (2004) was the first to demonstrate the impact of meditation, or mind-training, in the brains of long-term, or expert meditators. Expert meditators are defined as meditators who have had more than 10,000 hours of practice; many of whom came from all over the world, including the recesses of Himalayan caves, to Bhutan, Japan, India, Nepal, among other regions, to be studied under in Western neuroscience laboratories (Lutz et al., 2004; Lutz et al., 2013; Perlman, Salomons, Davidson, & Lutz, 2010). The 14th Dalai Lama played an integral part in the development and ongoing pursuit of the subfield of study called contemplative neuroscience, as he urged expert meditators to undergo rigorous Western scientific examination. The Dalai Lama hoped that what would be discovered regarding the well-refined rigorous meditation practices, or mind-training via meditation, would create a bridge between Eastern and Western science, regarding the exploration and understanding as the fundamental nature of the mind and consciousness (Hayward & Varela, 2001). Many of these meditators, often living in retreat in the caves in the Himalayas, would not have been amenable without the strong encouragement of the Dalai Lama, as validating these practices through a Western scientific lens is not necessarily a part of their scientific system which has its own epistemology, values, ethics, assumptions, methods of investigation, outcomes, and results (Hayward & Varela, 2001).

The study by Lutz et al. (2004) had a revolutionary impact on neuroscience, contemplative neuroscience, health, education, and psychology. While other studies have since focused on expert meditators, this study is considered particularly salient in the history of Western science and contemplative science given its use of neuroimaging to examine neuroplasticity. This study was also seminal as it was the first time both Western science and contemplative science were examined. The understanding of neuroplasticity and neural changes

throughout the lifespan has increased tremendously in the past decade, and the research conducted by Lutz and colleagues was paramount in contributing to this body of knowledge. This study is also credited as challenging the previously held idea of the static and unchanging brain; this research elucidated the idea of lifelong changes in the brain. Given that this study was focused on examining the brains of experienced and novice meditators, it is important to acknowledge the presence of scientific interest in mindfulness at the earliest stages of neuroimaging research. Even as recently as 20 years ago, the idea that the brain was primarily shaped by the first decade of life was commonly held belief (Thompson, 2016). However, largely in part due to the research on the neuroscience of meditation shows that experience, and all experience, changes the brain throughout the lifespan (Thompson, 2016).

A research overview of expert versus novice meditators. The study conducted by Lutz et al. (2004) was one of the first to demonstrate the significant differences in neural activation between expert meditators and novice meditators. Neuroimaging studies have since explored the neural mechanisms that underlie meditation practice with expert meditators verses novice meditators (Davidson et al., 2003; Goldin & Gross, 2010; Grant, Courtemanche, Duerden, Duncan, & Rainville, 2010; Hölzel et al., 2007; Hölzel et al., 2010; Lazar et al., 2005; Luders, Toga, Lepore, & Gaser, 2009; Lutz et al., 2004; Lutz et al., 2013; Pagnoni & Cekic, 2007; Zeidan et al., 2011). Studies show differences between experienced meditation practitioners and individuals with no previous experience with meditation, showing a thickening of the cerebral cortex in areas associated with attention and emotional integration (Hölzel et al., 2010; Lazar et al., 2005).

This study used electrophysiological spectral profiles in the baseline and long-distance gamma synchrony during meditation in expert meditators verse novice meditators. Although

gamma activity increased for both expert and novice meditators from the neutral to meditation state, the increase in gamma oscillations were significantly higher in amplitude among the experts than the novice control group (Lutz et al., 2004). This data demonstrated a strong link between large-scale neural coordination of the expert meditators compared to the control group, and "the differences in baseline activity reported here suggest that the resting state of the brain may be altered by long-term meditative practice, and imply that such alterations may affect task-related changes" (Lutz et al., 2004, p. 163). Another significant finding of the study was the high-amplitude gamma activity measured in some of the expert practitioners. More specifically, an important finding within expert meditators was increased activity in the left prefrontal region and areas associated with learning, memory, attention, and consciousness (Lutz et al., 2004).

Various forms of contemplative practice, in particular meditation, have become the focus of neuroscience and research (Chiesa, 2010; Chiesa & Serretti, 2010; Green & Turner, 2010; Hasenkamp & Barsalou, 2012; Ospina et al., 2007). One of the main goals within neuroscience is to determine what regions of the brain are associated with cognitive components of various meditation practices. There is increasing evidence demonstrating that certain meditations involve various parts of the brain. An article by Ricard et al. (2014) features a comprehensive review of the most important research in neuroscience and contemplative science, as well as, future directions for the field. This comprehensive review is considered seminal in several ways: first, it offers a more comprehensive and direct definition of meditation than the widely-adapted definition from Jon Kabat-Zinn; second, it is the first major article to categorize meditation into the three most common forms of meditation within research; third, it highlights the most important studies in the field of contemplative neuroscience; and lastly, it provides a concise

overview of the physiological changes in the brain that occur through meditation and details the future directions for neuroscience and meditation.

Contemplative Neuroscience and the Definition of Meditation

Similar to Kabat-Zinn, Ricard et al. (2014) argue that meditation is an ancient pursuit that is found, in some form, in the majority of world religions. However, their work more specifically rooted meditation in various tenets of Buddhism. As the majority of contemplative neuroscience research is on meditation rooted in Buddhism, this is an important distinction to make as Burke (2012) noted that the literature until the 1990s was conducted on a wide range of meditation. Meditation, as defined by the leading pioneers in contemplative neuroscience, is "the cultivation of basic human qualities, such as a more stable and clear mind, emotional balance, a sense of caring mindfulness, even love and compassion-qualities that remain latent as long as one does not make an effort to develop them" (Ricard et al., 2014, p. 42). It is argued that meditation as practice made its way into the secular world as a "means of promoting calmness and general well-being" although this is not necessarily the only purpose or function of meditation (Ricard et al., 2014, p. 40). Meditation is considered relatively simple, can be practiced anywhere, and does not require special clothing or equipment. In this context, meditation is presented similarly to Kabat-Zinn's adaptations, in that one should be in a comfortable position, not too rigid or too relaxed. However, Ricard et al. (2014) include an additional prerequisite: a "wish for self-transformation and a desire for others' well-being and for the alleviation of their suffering" (p. 43). A primary distinction between Kabat-Zinn's mindfulness adaptations and the guidelines set by Ricard et al. (2014) is the component of intentional ethics. This is where it is important to examine the idea of ethics relative to meditation; ethics, from a Tibetan Buddhist view point is the intention, or the motivation, behind

any action. The 14th Dalai Lama wrote that a governing principle that directs of cause and effect, also known as karma, is the intention behind the action, not necessarily the result of the action. The intention set in motion before the preceding thoughts, actions, and outcomes determines the ethical, right or wrong, of any given thought, action, or outcome (Dalai Lama, H.H., 2005). This distinction is important, as Kabat-Zinn's work (as well as many secular introductions into mindfulness meditation) do not ask participants to create, identify, or even focus on an intention for the meditation practice. Thus, there is considerable critique of mindfulness in a wide range of settings as not promoting ethics, which led to mindfulness in a number of less-than-traditional settings. This perceived disregard for ethics and hyper-emphasis on training attention has led to mindfulness techniques for snipers in the military (Jha et al., 2016; Paulson et al., 2013). Jha and colleagues felt strongly that snipers in the military with mindfulness skills were more likely to kill with intention and less likely to make mistakes, either not killing their victims immediately which causes their victims more suffering from a more painful death, or accidently killing civilians (Paulson et al., 2013). Although this seems absolutely absurd to many Buddhist practitioners, or those who hold close to the philosophical underpinnings of which mindfulness meditation practice emerged, one could say this is an extreme example of what could happen when practices are decontextualized without the ethical underpinnings that are a core component of the development and cultivation of the practice (Thompson, 2016). These ethical underpinnings are now considered a part of the inclusion criteria that meets the neuroscience standard of meditation. In this regard, it can be suggested that neuroscience is slightly redirecting meditation, by integrating ethics in a way that is separate from clinical applications of meditation, such as seen in the definitions and directives of Jon Kabat-Zinn. Lastly, with regard

to ethics, it is important to note that while setting an intention is an integral part of the philosophical underpinnings, it is also a bridge into the ethics of the Buddhist epistemology.

Various forms of meditation. In order to understand the impact of meditation on the brain, it is important to understand that not all meditation is the same. Meditation is a term that encompasses a wide range of practices and traditions. There are a wide variety of meditation traditions that are currently practiced (Burke, 2012; Hölzel et al., 2010; Lutz et al., 2004) including traditions such as Zen, Vipassana, Insight Meditation, Transcendental Meditation, Tonglen Meditation, Mantra Meditation, or Qigong Visualization, which are among the more popular forms practiced in the United States (Burke, 2012). To illustrate the complexity of these systems, we examine a comparison of two types of meditation, Open Presence and loving-kindness, within Tibetan Buddhism. The goal of Open Presence (OP) meditation, from the Dzogchen monastery of the Gelugpa school of Tibetan Buddhism, is to cultivate a state of experiential openness, present-centeredness, and meta-awareness (Lutz et al., 2013). The goal of loving-kindness meditation practice from the Kagyupa tradition of Tibetan Buddhism is meant to cultivate a state of compassion, an "unrestricted readiness and availability to help living beings" (Lutz et al., 2004, p. 1636). The goals of these two types of meditation are different, and therefore the overall impact on the practitioner may be different. Although, it should be noted that from a Buddhist perspective, these goals are often interrelated and serve an overall purpose. When studying meditation for scientific measurements, it is necessary to make these important distinctions.

Different meditation traditions may impact the brain differently. Similarities that underlie the surface differences of meditation traditions include use of breath, attention, and posture (Burke, 2012). Research shows that different forms of mediation are associated with

different brain functioning (Davidson, 2010; Lutz et al., 2004; Lutz, Brefczynski-Lewis, Johnstone, & Davidson, 2008; Lutz et al., 2013; Perlman et al., 2010). Lutz et al. (2004) found that different forms of voluntary concentrative mediation on an object, where the locus of attention is on a mantra or the breath, showed differences in EEG oscillatory signatures when compared to objectless meditation, such as meditation that cultivates a state of being (i.e., loving-kindness meditation). A study conducted by Perlman et al. (2010) compared regulation of noxious stimuli of two different meditation practices, Focused Attention (FA) and Open Monitoring (OM). FA meditation directs the locus of attention away from the painful stimulation, whereas OM does not direct the locus of attention in any particular way but regulates negative affect through nonjudgmental, nonreactive awareness of painful stimuli. Results showed a significant reduction of reported unpleasantness in those practicing OM, but no significant effects were found in FA. These two studies suggest that the mechanisms at play for specific meditation practices are different and, therefore, impact the brain differently (Perlman et al., 2010).

Three Classifications of Meditation in Neuroscience

The field of neuroscience currently identifies three of the most common types of meditation. These three types of meditation are considered to be: developed by Buddhism; adapted and practiced in secular programs in schools, hospitals, and outpatient clinical settings; and rigorously tested in the field of neuroscience (Ricard et al., 2014). The first form, focused-attention meditation, aims to "tame and center the mind in the present moment while developing the capacity to remain vigilant to distractions" (Ricard et al., 2014, p. 42). As per Ricard et al. (2014), the second form is mindfulness or open-monitoring meditation,

> tries to cultivate a less emotionally reactive awareness to emotions, thoughts and sensations occurring in the present moment to prevent them from spiraling out of control and creating mental distress. In mindfulness, the meditator remains attentive, moment by moment, to any experience without focusing on anything specific. (p. 42)

and its applications are often directed towards MBSR, MBCT, DBT, and ACT therapies (Ricard et al., 2014). The third form is most specific to Tibetan Buddhism and is known as compassion and loving kindness which fosters "an altruistic perspective towards others" (Ricard et al., 2014, p. 42).

Neuroscience research & focused-attention meditation studies. Neuroscience research demonstrates that the vast majority of meditation practices use regions of the brain that are associated with attention (Hasenkamp & Barsalou, 2012; Wallace, 2007). This finding may not be too surprising given that many meditation practices require some amount of focused attention or executive functions (Hasenkamp & Barsalou, 2012; Lutz, Slagter et al., 2008; Wallace & Goleman, 2006). Although attention appears to be a component of the majority of meditation practices, research continues to explore which regions are active during meditation as research suggests that findings are dependent on the particular type of practice studied and the methodology used (Burke, 2012; Hasenkamp & Barsalou, 2012; Hölzel et al., 2010; Lutz et al., 2004). Moreover, studies show that benefits related to meditation are associated with the amount of practice a person has (Kabat-Zinn, 1994; Pace et al., 2009; Short et al., 2010). Hasenkamp and Barsalou (2012) wrote, "in general, it is reasonable to postulate that as meditation experience accumulates, the repeated engagement of various cognitive functions and associated brain networks induces neuroplastic changes that mediate positive outcomes" (p. 38).

In many contemplative traditions, training attention is often the basic and foundational practice of meditation before other various meditations are introduced (Hasenkamp & Barsalou, 2012; Wallace & Goleman, 2006). Generally, an individual will attempt to maintain focus on a single object, the breath, a visual stimulus, sound, or another somatosensory stimulus; and when the mind wanders they are directed to bring the mind back to the object. In the study conducted by Hasenkamp and Barsalou (2012) they developed a cognitive model and fMRI paradigm to examine the neural underpinnings of mental states involved in FA meditation practices. The model proposed that when attempting to sustain focus on an object, such as the breath, which they called "(FOCUS)," an individual's mind will inevitably wander (MW), during which at some point of MW, the meditator will become aware and they are no longer focusing on the object (AWARE) and will shift their attention back to the object (SHIFT) where it will remain for some period of time (FOCUS). Mind wandering (MW) are processes that direct one away from primary tasks and are wide ranging in thoughts processes such as personal goals, memories, planning. MW is also associated with the default mode network (DMN) which are mental tasks primarily involving the self and have been associated to medial prefrontal cortex (mPFC), whereas, task-positive networks, such as attention training, is associated with present moment awareness, is often found in the salience and executive networks of the brain (Hasenkamp & Barsalou, 2012).

Hasenkamp and Barsalou (2012) used a subject-driven approach to fMRI analysis, where patterns of neural activation were identified during each of the four cognitive phases of FA meditation. This research was seminal in that it established overall network activations between default mode and attention networks, where attentional networks were associated with awareness, shifting attention, and maintained attention. Participants were dichotomized into

practice levels, low and high, and results were compared between groups to explore the effect of meditation on attentional networks in the brain, as well as, to demonstrate potential mechanisms of plasticity "induced by repeated engagement of these networks during contemplative practice" (Hasenkamp & Barsalou, 2012, p. 40). Overall, results from this study demonstrated that participants with greater meditation experience demonstrated greater functional connectivity among attentional regions. Results suggest that meditators may have more efficient attentional allocation, with decreased attention resources devoted to processing irrelevant situations. These neural relationships suggest that meditation practice may develop cognitive skills such as maintaining attention and disengaging from distraction. Hasenkamp and Barsalou (2012) also found that "as the practice of FA meditation is primarily a form of attention training, this suggests that brain regions mediating cognitive functions required for this practice may be undergoing experience-dependent plasticity that is evident in the resting state" (p. 41). Therefore, these results suggest that meditation altered connectivity between brain regions during meditation, but these changes were also found at a resting state and outside of the meditation practice. Hasenkamp and Barslou (2012) indicated that this had strong implications for ecologically generalizable implications into the importance of meditation in daily life.

Neuroscience research & mindfulness meditation studies. The second type of meditation that is rigorously studied and also involves attention is mindfulness, or open-monitoring, meditation (Ricard et al., 2014). Mindfulness, or open-monitoring, or is defined as a meditation practice that requires the meditator to pay attention and track inner self-dialogue, internal bodily sensations, and take note of sounds or sights (Ricard et al., 2014). It is intended that the person remains aware of what is happening without "becoming overly preoccupied with any single perception or thought, returning to this detached focus each time the mind strays"

(Ricard et al., 2014, p. 42). The directed attention developed in this practice aims to create an awareness of what is happening in one's surroundings, in particular where daily "irritants […] may become less disruptive, and a sense of psychological well-being develops" (Ricard et al., 2014, p. 43).

Attentional blink & non-reactive attention training. Numerous studies conducted by Slagter, among others, explored the role of mindfulness meditation on training attention and neuroplasticity (Halsband, Mueller, Hinterberger, & Strickner, 2009; Hölzel et al., 2010; Kruis, Slagter, Bachhuber, Davidson, & Lutz, 2016; Lazar et al., 2000; Luders et al., 2009; Lutz et al., 2009; Lutz, Slagter et al., 2008; Shackman et al., 2011; Slagter, Davidson, & Lutz, 2011; Slagter et al., 2007; Slagter et al., 2012; van Vugt & Slagter, 2014). Meditation does not just impact the practitioner while meditating; neuroimaging research shows that the positive effects of mindfulness meditation on psychological well-being extend beyond the time the individual is formally meditating (Hölzel et al., 2010). A wide range of neuroimaging techniques shows that meditation for both expert meditators and novice meditators showed activation in the prefrontal cortex and anterior cingulate cortex (Chiesa & Serretti, 2009).

One of the earliest neuroscience-based studies exploring mindfulness meditation, also identified as "nonreactive awareness," used a task to measure attentional blink (Ricard et al., 2014; Slagter et al., 2012). Attentional blink is a phenomenon where participants are presented two numbers on a screen rapidly, within about 300 milliseconds apart, amid a range of letters. Generally, participants do not see the second number, however; given a greater delay of the presentation of numbers, a delay of 600 milliseconds, participants can detect it without difficulty. Attentional blink is believed to reflect the limits of the brains ability to process two stimuli presented to the observer at close intervals; as the brain's attention is stuck, so to speak,

processing the first number, the second number goes undetected. Slagter and colleagues (2012) hypothesized that mindfulness training could reduce the tendency to get stuck by seeing the first number, as "mindfulness practices cultivates a nonreactive form of sensory awareness, which should result in reduced attentional blink" (Ricard et al., 2014, p. 43). Results showed that after three months of mindfulness meditation intensive retreat, the meditators perceived both numbers more frequently than controls and their perception appeared to improve as evidenced by reduced activity and brain wave responses to the first number. Further evidence in this study suggested that meditators, through training, were able to optimize attention in order to minimize attentional blink.

Maladaptive emotional responses & non-reactive attention training. Research shows that the Default Mode Network (DMN) relationship to pain in the body is generally one of distraction, avoidance, or hyperarousal, which suggests that an appraisal system separate from the pain itself is taking place (McGonigal, 2012; Ricard et al., 2014). A core tenet of Buddhist philosophy is changing one's perception of and response to suffering (McGonigal, 2012). More advanced forms of mindfulness meditation, open presence or pure awareness, is a practice to cultivate a non-reactive mind that is calm, relaxed, and not focused on any particular sensation or stimuli. The meditator "observes and is open to experience without making any attempt to interpret, change, reject or ignore painful sensation" (Ricard et al., 2014, p. 43). From a Buddhist lens, pain is separate from suffering; pain is an inherent part of existence, whereas suffering is layered on to pain often as the reaction to pain. From this viewpoint, suffering is added onto pain but is separate from pain itself (McGonigal, 2012). Research on this type of mindfulness suggests that one can reduce suffering associated with pain. Grant and Rainville (2009) explored the response of advanced Zen meditation practitioners' and novice practitioners'

responses to a painful stimulus. All participants in the study had heat belts tied to their legs and were asked to report measures of pain. In non-meditators, the brain's default mode network was very active in regions of the brain associate with rumination and evaluation. In meditators, regions of the brain that were active are regions associate with paying attention to pain but not evaluating it. Results showed that meditators were able to tolerate more pain, even as they noticed it more easily than non-meditators (Grant & Rainville, 2009). Additionally, compared with the novices, expert meditators' brain activity diminished in areas of the brain related to anxiety, such as the insular cortex and the amygdala, in the period before and after the painful stimulus (Grant & Rainville, 2009). This suggests that the meditators' brain responses in pain-related regions had decreased negative anticipation of the painful stimulus. This shows that they became accustomed to the painful stimulus more quickly than novices after repeated exposures to it. Research shows that there is a decoupling of the relationship between suffering and pain in meditators: where the pain-related regions of the brain were separate from evaluation, anxiety, and stress before and after the painful stimulus. Other research shows that meditation training increases the capacity to better control and buffer basic physiological responses to inflammation or levels of stress hormone in response to socially stressful tasks such as giving a public speech or doing mental arithmetic in front of a critical jury (Pace et al., 2009). Mindfulness is associated with relaxation and peacefulness. However, studies are now demonstrating that changes in brain structure may underlie some of the reported benefits of meditation that are beyond simply spending time relaxing (Hölzel et al., 2010). Numerous studies show the clinical efficacy of mindfulness meditation with novice meditators to reduce a wide range of symptoms (Bowen et al., 2006; Grossman et al., 2007; Tapper et al., 2009; Teasdale et al., 2000). Studies that use neuroimaging techniques to measure brain responses for novice meditators compared to

non-meditators have grown in number. The majority of these studies use MBSR to demonstrate the impact of meditation on brain functioning in novice meditators compared to controls.

In addition to studies that show differences in novice meditators compared to controls in a wide range of areas, studies show reduced inflammation responses and emotional reactivity (Rosenkranz et al., 2012), and personal sense of control in pain and stress responses (MacCoon et al., 2012). Davidson et al. (2003) performed a randomized, controlled study on the effects on brain and immune function, with 25 meditation-naïve participants trained in MBSR, and a control group of 16 meditation-naïve participants. Using electroencephalography (EEG), brain electrical activity was measured before, immediately after, and then four months after the eight-week mindfulness meditation training program. Results showed for the, "first time significant increases in left-sided anterior activation, a pattern previously associated with positive affect, in the meditators compared with the nonmeditators" (Davidson et al., 2003, p. 564). This study also found significant increases in antibodies to influenza vaccine in the participants who were meditation-trained versus the control group. Lastly, the amount of increase in the left-side anterior activation appeared directly related to the increase of antibodies found. The study demonstrated that a short training in mindfulness meditation produces significant effects on brain and immune function. Davidson et al. (2003) stated, "These findings suggest that meditation may change brain and immune function in positive ways," (p. 34) and demonstrates the need for additional research in this area.

A significant number of studies demonstrate the effects of meditation and its clinical efficacy in addiction and depression. From this point of view, different meditation or mindfulness-based interventions are more effective based on the population. In an article that

examined the systematic review of neurobiological and clinical features of mindfulness meditation, Chiesa and Serretti (2009) stated:

> Mindfulness-Based Stress Reduction (MBSR) has shown efficacy for many psychiatric and physical conditions and also for healthy subjects, Mindfulness-Based Cognitive Therapy (MBCT) is mainly efficacious in reducing relapses of depression in patients with three or more episodes, Zen meditation significantly reduces blood pressure, and Vipassana meditation shows efficacy in reducing alcohol and substance abuse in prisoners. (p. 1240)

Therefore, future studies that compare meditation practices may be helpful to reveal differential use of particular meditation practices as treatment for specific symptoms, conditions, and behaviors (Burke, 2012; Chiesa & Serretti, 2009). However, to date, there still remains very little research comparing specific functions of the brain as they are related to specific meditation practices (Burke, 2012).

Limitations within the field of the neuroscience of meditation. Walsh (1980) and Wallace and Hodel (2009) advised against, and caution in regards to paradigm clashes and cross-cultural considerations. It is suggested that when encountering the consciousness disciplines to be attentive to the question of their possible adaptation and application in secular, clinical, and medical contexts to perhaps approach them with the rigor and respect of "an anthropologist would treat an encounter with an Indigenous culture or different epistemology" (Davis & Zajonc, as cited by Kabat-Zinn, 2003). Thompson suggested that those interested in exploring mindfulness and cognitive sciences to remember that, perhaps in the excitement of research and technology, that the reality that this is still a very new field. Thompson advised caution when discussing and applying contemplative sciences within Western applications, as mindfulness is

embodied in a particular culture, history, language, and people. He addressed his concerns that in the enthusiasm of recent research on meditation and mindfulness, that the work is becoming decontextualized and erroneous conclusions are drawn due to often reductionist behaviorist paradigms. This may be in part a product of misinterpretations of correlation verses causality, where relationships are assumed to be causes instead of correlations. Thompson also shared enthusiasm that good research is being conducted, however, the field is just beginning and should hold attention to it as an emergent field, full still of great possibility and of error. Thompson (2016) encouraged a reexamination of the field and research, including the ways in which mindfulness has been separated from ethics, as well as, approaching future mindfulness studies to include ethnographers, anthropologists, and artists. It is this call to action, for research to come from other disciplines, such as art, that helps to bridge the gap between scientific study of mindfulness and the use of adapted mindfulness in a clinical context.

Art as a Part of our Ancient Human History and Relevance in Mindfulness Research

Given the history and nature of the art process it is surprising that art was not included as a principle stress reducer in the initial mindfulness studies. Kabat-Zinn (2000) identified the mindfulness practices in the MBSR curriculum, including yoga, were borrowed from ancient religious and spiritual traditions. However, when mindfulness was integrated into Western psychology, health, and medicine, why was art not brought along with it? Especially given the almost universal nature, meaning it has been found in civilizations across time and geography, as part of the intervention.

Art, as being inseparable from everyday life, can be seen in cultures throughout human existence. Walter (2015) wrote, “the greatest innovation in the history of humankind was neither the stone tool nor the steel sword, but the invention of symbolic expression by the first artists”

(p. 33). Although it is not exactly known when art first began, animal figures and human figures such as the Venus of Berekhat Ram, carved from volcanic rock date between 300,000 and 500,000 years ago (Walter, 2015). Pigmentation found in shell containers and tools date back to 300,000 years ago and are believed to have been used to produce vibrant paints for body decoration and skin protection (Walter, 2015). Sea snail shell beads and other items have been found with purposefully drilled holes which indicates that they were used to attach to clothing or create jewelry date back 75,000 years ago (Walter, 2015). Some of the most notable carvings of human figures are the Venus figurine from Hohle Fels Cave in Germany dating back 35,000 years ago and the Lady of Brassempouy carved from a mammoth tusk dated 25,000 years ago (Walter, 2015). Walter (2015) called these objects "undisputable facts of art" which he suggested as an undeniable connection between the prehistoric humans and modern humanity.

One of the most recent discoveries, the Cave of Chauvet-Pont-d'Arc in Southern France is called "an extraordinary testimony to man's first steps in the adventure of art" (France's Minister of Culture Fleur Pellerin, as cited by Walter, 2015, p. 46). This cave is believed to have been preserved in near perfect condition due to a rock slide that closed off the cave for 36,000 years prior to its discovery in 1994 (Walter, 2015). These findings have sparked many questions of art and the art making process.

Julien Monney, one of the first archeologists to enter Cave of Chauvet-Pont-d'Arc after its discovery was interviewed in the film, "Cave of Forgotten Dreams" (Herzog, 2013). Monney remarked,

> The first time I entered to Chauvet Cave, I had chance to, to get in during in five days and it was so powerful. Then every night I was dreaming of lions. Every day was the same, um, shock for me. It was an emotional shock. I mean, I am a scientist, but a human, too.

> And after five days, I decided not to go back into the cave because I needed time to relax and take time to (…) absorb it (…) was more, um, a feeling of powerful things and deep things, a way to understand things which is not a direct way. (transcribed from Herzog, 2013)

Although Monney is not sure why the images were created and or for what purpose, he does feel that the images communicate something directly to him even centuries later. Jean Clottes, also one of the first scientists to enter the Chauvet cave, suggested that art communicates directly. This is why the French Ministry, with very heavy restrictions to protect the cave, allowed the cave to be filmed. Clottes suggested that it was the art of cinema that would go beyond any words to communicate the images and power of the cave (Herzog, 2013). Clottes also suggested what many artists and artist therapists have suggested, which is art is a language in and unto itself. Moreover, that color, line, image, and symbol are ways to access more direct ways of perception, knowing and communication (Allen, 2005; Bruner, 2012; Campbell, 1991; Gold, 1994; Jung & Shamdasani, 2009; Langer, 2005; McNiff, 1992; Mead, 2001; Rappaport, 2014).

Walter (2015) offered some suggestions as to the rationale and reason behind the cave paintings, prehistoric human object, and prehistoric animal objects. These include art as symbolic representations of shamanic ability to straddle the spiritual worlds of animal and human, the caves as holy places of ritual and ceremony, art as a vehicle to explore life's meaning, ultimate reality, and explorations on life, death, and life after death. Art acts as a way to seeking answers when "they didn't have any science-based explanations for the world around them" (p. 56). Walter also suggests that art serves the function of modern day story telling. Walter (2015) suggested that "some of these ancient artists were the world's first animators, and

that the artists' superimposed images combined with flickering firelight in pitch-black caves to create the illusion that the paintings were moving" (p. 57).

At the end of the film "Cave of Forgotten Dreams," Monney suggested that there is no way to know the intention of the artists unless Western scientists began to ask questions of people and cultures outside of the Western, secular, scientific community (Herzog, 2013). Monney suggested the following:

> If you want to have an understanding of it, you must go outside of the cave. I mean you must start from the cave and go far outside. […] Everywhere, but with, [uh], to have a look at a different culture, would be a very good way to better understand how different culture would have coped with rock art. For example, in Australia, in North America, South America, Africa […] For example, because they used to paint and create rock art until the 1970s and in some places I think there are still some, traditions of creating rock art. Of course it has changed since then, the beginning of the century when it, they were discovered, but, uh, it can tell us different ways of look at rock art which are not our way of looking at rock art. (…) In North Australia, for example, uh, in the 1970s, an ethnographer was on the field with an aborigine who was his informer, and once they arrived in a rock shelter and in that rock shelter there were some beautiful paintings, but they were decaying. And the aborigine started to become sad because he saw the paintings decaying, and in that region there is a tradition of touching up the paintings, uh, time after time. So, he sat and he started to touch up the paintings. So the ethnographer asked the question that, uh, every Western person would have asked. "Why are you painting?" and the man answered, and his answer is very, uh, troubling, because he answered, "I am not, I am not painting. That's the hands, only hands, spirits who is

actually painting now." The hand of the spirit […] because the man is a part of the spirit. [transcribed from Herzog, 2013]

The Diné (Navajo) also approached and engaged in the art making process in a similar way as the aborigine in the story above, through the concept of Hózhó which is both a philosophical system and a belief system. All creative and art processes are considered Hózhó and through the process of creating sand mandala, elaborate drawings are often created with the purpose of this sacred and divine connection with spiritual ancestors, mother earth, father sky, the universal whole which may include elements of nature, the Creator, and the Diné holy people, and cycles within nature and the universe (Koithan & Kahn-John, 2015). Koithan and Kahn-John (2015) presented a meta-theoretical perspective that uses integrative nursing with the ancient cultural wellness philosophy of Hózhó. Moreover, Hózhó embodies the psychological qualities of the concept of Flow, or state of flow. Flow states can be defined total presence where traditional boundaries between self, others, and environment may be temporarily suspended (Csikzentmihalyi, 2008). Greene (1995) argued that this is form and function of art making and process, which is to suspend traditional relationships to self, others, and the environment in order to create a more open, attuned and harmonious state within oneself, relationships, and environment. It appears that the aborigine person in the narrative by Monney, points this state of flow, which moves beyond traditional conceptualizations of self, being, and doing. For the Diné, this experience would not be surprising and would be considered a direct experience of the qualities of Hózhó. Through the experience of art making or Hózhó, one may come to a wider view of the living world, which may include the lens of humanity as homo spiritualis (Clottes as cited in Herzog, 2013), or as Koithan and Kahn-John (2015) suggested a rendering of human beings as biopsychosocialspiritual beings.

Art as form of communication is seen as a foundational function of art. For example, in the Tibetan Buddhist tradition, the word thankga means "written down message" in which the paintings are intended as a visual record of teachings, passed down from generation to generation (Trungpa, 1939). Moreover, thankga painters rarely sign their work, as the thankga painting is a practice in and of itself, to give up the identification with self, communicating that the message is beyond any one identity or person.

Clottes suggested that the Paleolithic people had two primary and important concepts that influenced their perception and may point to the ways in which their art can be interpreted (Herzog, 2013). These two concepts are the concept of fluidity and permeability (Herzog, 2013). Fluidity implies that the categories that we have of woman, bison, tree can be transformed into other categories, such as an animal given certain circumstances, and vice versa. The concept of permeability is that there are not barriers between the world that we exist in and the world of the spirits (Herzog, 2013). For example,

> (…) a wall can talk to us or a wall can accept us or refuse us. A shaman, for example, can send his or her spirit to the world of the supernatural or can receive the visit inside of him or her of supernatural concepts. (transcribed from Herzog, 2013)

Clottes suggested that these two concepts created a very different life for the Paleolithic people who are credited with the cave art. Clottes goes on to suggest that humans have been described in very different ways, including the root of homo sapiens, which means "the man who knows" (Herzog, 2013). He argued that it is not an appropriate definition, as humans do not know much. Instead he suggested that a more suitable term would be homo spiritualis. Herzog (2013) then suggested that if the cave walls could talk, they would ultimately be the principle authority figure, on what was done and perhaps why.

As suggested by these scientists via their concept of homo spiritualis or the example of the aborigine who was not painting but who was an extension of spirit, are all ways of entering into another way of understanding why it is that humans create. It also indicates that engaging in the creative process shapes perception and perception is shaped by the creative process, as it is engaging a spiritual relationship that may not have the current barriers of a modern, scientific, or secular point of view. Regarding forms of rock art, Walter (2015) also wrote that widening the field of interpretation beyond secular science to cultures and traditions erases the divide between seemingly barbaric or unsophisticated prehistoric people and brings them closer to modern humanity, capable of a sophisticated engagement between the creative process, beauty, play, and a coherent, meaningful worldview. Walter (2015) suggested that caves such as Chauvet, Lascaux, and Altamira, with stencils of hand prints and sculptures carved of humans and animals by prehistoric humans suggest a more timeless message, "like you, I am human. I am alive. I was here" (p. 53). Writer, poet, and philosopher Winterson (1997) wrote, "art does not belong to any one culture, although cultures create unique art: what is meant by this is that nearly every culture that is known at this time engages and creates art" (p. 11).

Art holds many different meanings and uses both currently and historically. While many question remain regarding the origin, creation, and reason for art and art processes, its prehistoric beginnings demonstrate its held meaning in the human experience. The meaning may depend on various identities, history, and cultures within a particular time and space; art as a way of being human has made an indelible mark.

Contemporary, Western art can be identified as simple or complex compositions of merely lines, shapes, fabrics draped, cut-outs pasted on canvas, paint drizzled and splattered, and abstract numbers. Historically, art serves as a record of events or history, as seen in The Bayeux

Tapestry, circa 1070s. Modern artists may make a distinction between functional and nonfunctional ceramics or textiles; however, many ancient and indigenous people did not make these distinctions. Art was fundamentally tied into a way of life; the purpose and function of this investigation is to explore returning to the integration of art and creativity as a way of life, rather than art serving form or function.

Art Process in Western Psychology

The relationship between art processes in Western psychological literature began in the early twentieth century (Glover, 2009). Carl Jung is considered one of the more notable influences on the Western integration of art and psychological processes (Glover, 2009). This is not surprising, given Jung's professional and personal interest in art and Eastern philosophy (Jung, 1961; Jung & Shamdasani, 1996; Jung & Wilhelm, 1931). Jung (1966) encouraged certain patients to make use of art processes to explore their unconscious. Additionally, Jung himself used art as a method of self-exploration and meaning-making as noted in *Liber Novus*, translated as *The Red Book* (Jung & Shamdasani, 2009). Jung also had a major impact on the development of projective tests, which is a form of psychological assessment using image, symbols, colors, and sometimes the art making process to explore psychological processes and function (Glover, 2009).

The field of Art Therapy is also strongly influenced by Jung through the work of Margaret Naumberg and Edith Kramer (Junge & Asawa, 1994; Rubin, 2001) who are considered the pioneers of art therapy. Although they worked separately, both expounded upon Jung's use of art to explore and understand psychological processes to eventually create their own theories and therapeutic applications in clinical settings (Junge & Asawa, 1994).

Projective testing. Projective tests are psychological tests that use images, abstract or concrete, to explore, understand, and assess psychological features and patterns. Although not all projective assessments have patients engage the art making process, it is believed that there is a significant relationship between images, symbols, colors, and how individuals perceive them. The relationship between the individual and the images presented or created has potential clinical and diagnostic significance.

Projective tests have extensive research and are correlated with the Diagnostic and Statistical Manual (DSM) are the Rorschach test (Exner, 1986), the Thematic Apperception Test (TAT; Murray, 1943; Schacter, Gilbert, & Wegner, 2009), and the Diagnostic Drawing Series (DDS; Cohen et al., 1994). The Rorschach test uses abstract images, specifically ink blots, to elicit projective material from the viewer. Rorschach is one of the projective tests that has made a distinction between monochromatic and full spectrum color, suggesting that full spectrum color may add layers of complexity for the viewer. It is believed that the full spectrum color images assess higher levels of cognitive complexity and function, and may be distressing for individuals who limited emotional capacity (Aronow & Reznikoff, 1976). The TAT uses ambiguous images of people to elicit narratives as a way to understand an individual's motives, drive, and perception of their social world. The DDS was designed by art therapists and is one of the more recent additions to the projective arsenal. The DDS focuses on the process of drawing rather than the content itself and uses standardized materials, such as 18" x 24" drawing paper and 12 soft chalk pastels, for each of the three drawings (Cohen et al., 1994). The patient has up to fifteen minutes per drawing and is asked to not talk during the process, although they can discuss each drawing afterwards. The DDS assesses use of art material; formal elements which include color, line quality, use of space; if the drawings are abstract or representational; the patient's

behavior and appearance during the process; and lastly, drawings are considered to be progressive and processed as a complete series. Research on the DDS demonstrates a relationship between art elements and psychiatric diagnoses (Cohen et al., 1994).

Although projective tests vary, they are, in general, considered to have several strengths in common. The primary strength of projective tests is given in the name: they are intended to project the patient's inner world on an exterior object. A common analogy of projection as a defense mechanism in psychodynamic thought is when one believes that they are looking out a window, however, in reality, they are looking into a mirror. Projective tests use art, directly or indirectly, to focus one's attention outward on an inkblot, for example, where the object serves as a mirror into the client's inner world. The object is believed to minimize or eliminate defenses that would make it difficult, impossible, or very lengthy, to assess for attitudes, beliefs, values, and historical data. The DDS requires more direct engagement in the art process, and as such, is believed to assess for therapeutic readiness or one's potential engagement in therapy.

Weaknesses of projective tests include debate about the rigors of research for these assessment tools including reliability, validity, and population norms (Goldstien & Hersen, 2007). Within the field of art therapy there are numerous projective tests, however, only a very small handful have any research behind them (Cohen et al., 1994). Even with these limitations, projective tests are still used and considered a valuable tool for some psychologists in understanding psychological processes (Goldstein & Hersen, 2007).

Role of creativity in learning and development. In his seminal work on development, Piaget (1945) proposed that creativity through dance, play, and other expressive art processes were essential elements of learning and healthy development in children. Piaget proposed that creativity was one of the primary mechanisms in which children could more easily accommodate

and assimilate new information in order to build meaningful relationships to themselves and their environment. During this same period, Axline was also exploring the relationship between play, creativity, meaning-making, and healing in children (1974). Axline is considered a pioneer in play therapy and was interested in the ways that children used play and creative processes as a form of learning, communication, exploration, and meaning-making, especially relative to distressing or traumatic experiences. In her book, *Play Therapy* she illustrated this through a case example of a young boy, who had multiple hospitalizations that included throat dilation procedures. This excerpt is taken from a therapy session while the child is finger painting:

> "Sometimes it bleeds! Look!" (indicates paper painted red.) "Look! Bloody! Like my throat!" He smears his hands and arms through the finger paint. And as he pins his thoughts and feelings down on paper he feels, perhaps, more secure. After he has captured them on paper he can handle them a little better. This is his fear and his anxiety. Now he can see it-touch it-feel it. He is no longer at the mercy of some nameless fear for he can control it in his manner. (Axline, 1974, p. 182)

For Axline and Piaget, play was indistinguishable from learning and healthy development. Play and art processes were also the foundation for meaning-making and healing when healthy development was not possible due to distressing or traumatic experiences.

Mindfulness and Art Therapy

Mindfulness in the arts therapies has principally examined the relationship within two frames: the inherent process of creating art to engage in mindful awareness and evoke the present moment, and the application of mindfulness practices and mindfulness-based approaches to art therapy. Rappaport (2014) argued that the art process naturally lends itself to mindful awareness and engagement in the present moment because it offers the opportunity to be both completely

absorbed in the present-moment experience, and to "access an inner witness" (p. 32). The inner witness, which can both participate and stand outside and witness the art, is akin to the metacognition that is an essential part of mindful awareness. The ability to be simultaneously within the experience and outside it is a part of being mindful, as well as an inherent part of the creative process. Rappaport (2014) identified the art process as intrinsically providing access to "two wings of the bird-experience and witness" (p. 33). Among many other unique attributes of mindfulness practices and mindfulness-based approaches are the complimentary aspects of deepening one's awareness, cultivating qualities of self-acceptance, self-compassion, and compassion towards others (Rappaport, 2014).

Art as the practice. The creative process and art are viewed and practiced by many as the mindfulness practice itself (Allen, 2005; Langer, 2005; McNiff, 1992, 1998; Rappaport, 2009). McNiff (1992) identified an active engagement with the art process that requires present moment awareness and mindful engagement through the process of painting. He encouraged those in his studio to pay attention to the unique features of how paint moves and how one responds to those qualities. When focusing on the dynamic interaction between the self, the inner witness (the observer), the present moment, and the ways in which one impacts and is impacted by the media, a rich and vibrant process unfolds. Moreover, McNiff (1992) paralleled breath to the natural pauses and shifts found in the art-making process, especially as it pertains to repetition. He posited that breath, much like the art-making process, encourages the natural movement of the body to find its own rhythm and flow. McNiff (1992) suggests that if one can become curious to the natural movements of their own breath and the natural movements of the body while creating, it will take on new meaning and purpose. This process of using art media, dance, or other forms of art to elicit one's own curiosity, wonder, and moment-by-moment

unfolding of mystery, is one way to practice being present and living with clear, open-hearted awareness. This is an important parallel; awareness and presence, as can be elicited through the art process, are some of the essential qualities of mindfulness practices and approaches.

The application of mindfulness-based practices in art therapy. Integrating mindfulness with art therapy and research is just beginning to emerge in the field of mental health (Monti et al., 2006; Rappaport, 2014). Monti et al. (2006) developed, created, and conducted a study using Mindfulness-Based Art Therapy (MBAT) for cancer patients. Results showed improvements in self-regulation, positive emotional states, immune functioning, and physical and mental well-being. Rappaport (2014) described an approach that is used at an art therapy day clinic to treat chronic pain syndrome in Munich, Germany. This approach is rooted in Vipassana meditation practices and emphasized the importance of mind-body awareness. This method begins with a body scan and nonjudgmental observation of bodily sensations, followed by expressing one's experience through art. The creative process was viewed as essential in creating an object of reflection and point of expression for memories, future ideas, and personal insights (Rappaport, 2014). Although there are numerous studies that examine the relationship between mindfulness-based interventions and psychological health, there remain very few that examine the application of mindfulness-based practices with art therapy.

Pilot Study: Mindfulness-Based Art Therapy Intervention to Treat Stress and Headache in Adolescent Females

Adolescence, Transitions, and Development

Siegel and Bryson (2014) identified two essential changes that occur in adolescence: one is that when puberty begins, adolescents experience physiological and emotional changes; the other is that they begin to push away from their caregivers in order to create new social spheres

and relationships as the beginning emergence into their own identity and way of being. As a result of both the radical physiological and psychological changes that accompany the transitions of puberty, adolescence is a period often marked by high levels of stress and distress. Although studies show that stress is one of the ways in which humans have adapted to be stronger, healthier, and more resilient (Kobasa, 1979; Kobasa et al., 1982), when stress is prolonged or chronic, it can have negative outcomes on health over the lifespan.

Psychosocial Factors and Stress

Psychosocial factors and health outcomes in adulthood are often studied (Anda, Butchart, Felitti, & Brown, 2010; CDC, 2014; Evans, Kim, Ting, Tesher, & Shannis, 2007) and, perhaps most notably, through the Adverse Childhood Experiences Study (ACEs). ACEs are identified as stressful or traumatic childhood events that are strongly correlated to increased risk for pathology and illness in adulthood (CDC, 2014). Stressful or traumatic events can lead to an increase in allostatic load, which is wear and tear on the body, from experiencing repeated and chronic stress events (Evans et al., 2007). A high level of allostatic load is correlated with a range of negative outcomes including migraines and headache (Grazzi, 2004). In a 2001 study, Fearon found a strong correlation between frequent headache and psychosocial factors in childhood and headache in later adulthood (Burns, Lee, Brown, 2011; Gladstein & Mack, 2010). These studies suggest that finding coping strategies for psychosocial factors in childhood may result in improved outcomes in later adulthood.

Stress and headache. Stress and headache are growing concerns for adolescents. One of the clinical suggestions of this study was the possibility of using mind, body, and behavioral treatments as a way to reduce stress and headache. Many studies show that mind and body treatments are exceptionally beneficial in the reduction of stress and physiological symptoms

related to stress (Massey, Garnefski, Gebhardt, & Leeden, 2009; Wells & Loder, 2012). Wells and Loder (2012) found that adults with headache are more likely to use and benefit from mind and body treatments than other disorders. Reasons suggested for this phenomenon were the limitations of pharmacological interventions for pain management and the correlation of stress to headache frequency and intensity.

The curriculum presented is intended for future research and is based on the researcher's own personal experience in formal and informal training in art, meditation, and as an art therapist. The curricula were expanded and adapted from the pilot study where the researcher created a mindfulness-based art therapy intervention to treat stress and headache in adolescent females.

The pilot study followed a mixed-methods design, utilizing both quantitative and qualitative instruments to render a more complex and nuanced understanding of the intervention and the experience of the intervention. A mixed-methods design was chosen for this study to broaden the understanding of the stress and headache for adolescent girls. This was done with the goal of creating a more suitable intervention for a larger future study and curriculum development. Understanding both the lived experience of the participants as well as the efficacy of the intervention was especially important as was a pilot study of a curriculum.

In a mixed-methods research design, there is generally an overarching philosophical or theoretical lens (Creswell, 2009). To meet both the purposes and intentions of this study, we selected a participatory action research model. A participatory action research method served as the overarching dominant theory to guide the qualitative data because it honors domains of phenomenology inquiry, such as the focus on the lived experience of the participants, but it also invites the participants to share their lived experience as a primary narrative that will inform and

shape an intervention that is intended to empower, advocate, and create a greater experience of agency for others.

Curriculum and Development of the Art as Mindfulness Intervention

Rationale

Mindfulness and meditation are viewed as an important element of health and wellness in education (Davidson et al., 2016; Jinpa, 2016; Roeser, 2016; Thompson et al., 2016). The combination of mindfulness interventions demonstrating clinical and educational benefits as well as neuroscience research demonstrating positive outcomes led to the next level of integrating mindfulness into everyday life. At the request of H.H. Dalai Lama and under the direction of the Mind and Life Institute a call for curriculums to be developed, implemented and measured for outcomes in educational settings is underway (Davidson et al., 2016; Jinpa, 2016).

In 2018, during the Mind and Life Conference for Human Flourishing, which took place in Dharmasala, India, six educators and researchers presented mindfulness-based curriculum to be implemented at various stages of kindergarten to high school (Davidson et al., 2016; Jinpa, 2016). The research and clinical attention to mindfulness and the call for mindfulness-based curricula provide the basis for this dissertation as another curriculum to be implemented and researched in the future. Although this particular curriculum is based on a pilot study that was implemented in a high school setting, it is not intended to be implemented in educational settings only. Many domains of this curriculum have been implemented and examined through clinical practice before and after the pilot study was conducted. Qualitative reports indicate that aspects of this curriculum can be used in individual and group therapy session as separate interventions. Although the curriculum was structured and is intended to build on the previous content from each week, these group sessions can be applied to individual therapy sessions as well.

Group intervention. Group dynamics can be powerful and may influence the process and outcomes for participants (Riley, 2001; Yalom & Leszcz, 2005). Research demonstrates that curative factors that underpin healing appear to be more readily available and are expedited when in a group rather than working individually (Yalom & Leszcz, 2005). Additionally, a group format teaches and creates a direct experience of the concept interdependence and interconnectedness (Jinpa, 2015; Salzberg, 2004). This concept is one of the foundations of the Metta (Sanskrit), or loving-kindness, practice that is taught in the curriculum. This aspect of the curriculum is based on research on the effects of Compassion Cultivation Training (CCT) on health-care workers (Scarlet, Altmeyer, Knier, & Harpin, 2017), compassion training and the ways in which it alters affect and affects regulation (Jazaieri et al., 2017), and compassion on well-being (Neff & Seppala, 2016). Interdependence and interconnectedness are fundamental aspects of the Tibetan Buddhist concept of compassion, which is also underpins the Metta practice. Lastly, the group format aims to maximize individual benefit at one time from the potential positive benefits of learning and engaging in art as a mindfulness practice.

Purpose and development of curriculum. This curriculum is intended to awaken to beauty, awaken the senses, and awaken a sense of childlike wonder. Kornfield (2013) felt that beauty and awareness were directly connected and that to take in beauty, one must be aware. The aim of the curriculum is to return to curiosity and a childlike wonder in a way that allows one to attune to the beauty, such as the play of sunlight through the leaves or the arc of a brush stoke on paper, things all too often may pass one by unnoticed. The primary aim of these practices is to discover the beauty hidden in all things and to express that beauty.

A common misconception is that art only belongs to an artist or particular types of talented or gifted individuals. While it may be true that only a few among many talented artists

may be able to make a professional living as an artist, the professional standard of fine art should not exclude the many who could benefit from creating art and training in the arts. One of the rationales for extensive training in the arts was that the process of art making could awaken a particular way of noticing or awareness. This curriculum is intended to train a particular way of noticing, a particular way of knowing, and a particular curiosity of the sense world around and within.

The ways in which art trains one to actively notice, to be aware, and to attend to their senses is a training that would be beneficial in similar ways that awareness training, as seen in other forms of meditation, is beneficial. This curriculum adapts a primary emphasis from Kabat-Zinn (2000); that particular forms of training, such as meditation, one can radically change one's relationship to their pain, thoughts, emotions, and ultimately their reality. In the same regard, this curriculum explores how types of training in art can change one's relationship to their inner and outer world. The aim of this manual is to offer a wide range of practical exercises to help train or awaken one's relationship to their inner and outer world in a way that may create a greater sense of connection, wellbeing, and aliveness.

There are three primary tenets of the curriculum. Firstly, we are all artists because art is a way of being. Art is about a way of seeing and listening, and it is something that can be trained, just like attention and concentration, through practice. This particular training may have immense benefits in health, healing, and stress reduction. Secondly, beauty is accessible to all and it is important to invite beauty into daily experiences and living. One can do this simply by creating a beautiful picture in their mind, creating something beautiful and placing it in their environment as a reminder of actively creating awareness to the good and beautiful in life. This also creates something from their soul which may or may not be classified as beautiful to others

but has a sense or essence of beauty to the maker. Finally, art can be a spiritual teacher and guide. Art is a safe and gentle way to take risks and examine aspects of our being that we would like to accept, love, acknowledge, and learn more about. O'Donohue (1997) wrote, "it is strange to be here, the mystery never leaves you" (p. 11). Art is a way to stay engaged with the mystery, the unfolding, the process of life.

Hózhó: A Diné Wellness & Happiness Philosophy

Another major influence of the develop of this curriculum is the Diné concept of Hózhó. Hózhó is a complex wellness philosophy, a belief system, a way of living, and state of being of the Diné (Navajo) people (Koithan & Kahn-John, 2015). Hózhó can serve as a set of principles that guide one's attitudes, cognitions, affect, actions, behaviors, and speech (Koithan & Kahn-John, 2015). English translations of Hózhó include: harmony, wholeness, goodness, wellbeing, blessedness, order, ideal, beauty, and perfection (Jackson, James, Attakai, Attakai, & Begay, 2004; Koithan & Kahn-John, 2015; Mitchell, 1978). Hózhó is complex wellness philosophy as it is both a way of living and a state of being; thus, it includes an active cultivation of qualities and principles within oneself, as well as an active participation in one's environment and relationship with others that also cultivates and brings to life these qualities (Koithan & Kahn-John, 2015).

Modern Western conceptualizations of beauty often include a prescribed cultural and social sense of beauty, such as, beauty presented through marketing, advertising, media, etc. Beauty is conditioned by the capacity to sell a product or an ideal that perpetuates the consumption of particular goods and products (Friedan, 1981). Modern Western approaches to the cultivation and expectation of beauty standards could be considered the opposite of Hózhó, Hóchxó which represents greed, envy, chaos, and in general all things that represent harm or volitionally cause suffering and/or destruction to oneself and to one's world.

As Hózhó includes a way of living, the intentionality behind any act represents whether or not it is Hózhó or Hóchxó. An example of Hóchxó is the depiction of severely underweight, young, female bodies as the Western cultural ideal of beauty with the intention to gain profits and other material goods from the over-consumption of dieting pills, anti-aging creams, or clothing. It is not Hózhó because it has been well documented that these standards and definitions of beauty are correlated with shame, addictive behaviors, and eating disorders to name a few (hooks, 2000; Wolf, 2002). Therefore, it is important to make a distinction that in creating beauty, as exemplified by Hózhó, it is not referring to the commodification of beauty, that has been fabricated for the purposes of creating or serving greed, lust, jealousy, envy, shame, anger, pain for the benefit of someone else's wealth, privilege, or power.

Hózhó: Walking in Beauty or the Blessingway. As Hózhó is also translated as the Blessingway or the Beauty Way (Mitchell, 1978), it is important to understand what is meant by beauty. Hózhó is a very complex philosophy and belief system, therefore, the efforts to present it here are acknowledge the direct influences of the development of this curriculum, as well as, present it as an inclusive, more expansive approach to understanding health and wellness from one of the ancient wisdom traditions of American Indian (AI), the Diné. It is a very humble attempt to present this complex philosophy and belief system but is not intended to disrespect or reduce the meaning of Hózhó. This presentation is influenced by the direct lived experiences with the researcher's great-grandmother who was Diné, ceremonial teachings experienced in the researcher's childhood as well as what has been gathered through stories, writings, and research.

Hózhó is first the cultivation of a relationship with oneself that strives to create and develop qualities of kindness, love; respect, humility; thoughtfulness, and an active attention towards one's own thoughts, emotions, behaviors, and actions as powerful. Second, Hózhó

consists of the capacity to create harmony, beauty, and goodness in their relationship to self, others, the environment, and the entire universe. Those who embody Hózhó have a personal sense of agency, power, and responsibility to have their thoughts, actions, and speech impact the world around them with a sense of harmony, reverence, kindness, and beauty. They are often described as,

> Humble; intelligent; patient; soft spoken; good and attentive listeners; disciplined, hardworking, physically fit, and strong; generous, supportive, caring, and empathetic; positive in thought, speech, and behaviors; spiritual; loyal and reliable; honest; creative and artistic; peaceful and harmonious; perceptive, understanding and wise; confident; calm; deliberate in actions; gentle yet firm; and self-controlled. (Koithan & Kahn-John, 2015, p. 26)

Teaching and recognizing these concepts can be vague, which is why Kahn-John created a concept analysis of the Diné wellness philosophy that includes six distinct attributes of Hózhó: spirituality, respect, reciprocity, discipline, thinking, and relationships (Kahn-John, 2010; Koithan & Kahn-John, 2015). It is intended through this conceptualization of Hózhó principles that it will encourage research, as well as, appropriate teaching of this philosophy, although Kahn-John has not specified who is qualified to teach this philosophy in "Living in Health, Harmony, and Beauty: The Diné (Navajo) Hózhó Wellness Philosophy," Kahn-John who is Diné and Kiothan (2015) discuss how integrative nursing and the principle of Hózhó can re-introduce cultural wellness wisdom that contributes to the delivery of more effective treatment, patient and person-centered, authentic and relationship-based health care that promotes sustainable and global health and wellbeing. It is intended in a similar way that introducing the Hózhó concept

of beauty and wellness will create a more inclusive, expansive, and global approach to wellbeing and health through this curriculum.

Adaptations from previous curricula. Materials were selected according to principles of Hinz's (2009) *Expressive Therapies Continuum: A Framework for Using Art in Therapy*. As it is unknown to what degree individuals using this book will have exposure to art and the use of art to express themselves, media is intentionally chosen that appear more accessible and less intimidating. The media is identified to help retain cognitive and emotional control, as well as help contain distressing emotions during the art-making process rather than aggravate them, as suggested by Hinz (2009).

Mindfulness and meditation activities are selected to offer a wider range of possible experiences for those using the practices. Mindfulness and meditation practices are not all the same, nor do they target the same physiological or psychological responses (Burke, 2012; Hölzel et al., 2010; Lutz et al., 2004). Meditation is not inclusive of one particular practice, but rather is a term that encompasses a wide range of practices and traditions. The formal and informal practices illicit a wide range of relaxation and awareness training so that individuals may be more able to choose a practice that suits them best.

Pilot demographic and future adaptations. While the curriculum was developed for adolescent females, the principles and activities are widely generalizable. The curriculum is intended to build coping skills, ways of knowing, cultivate curiosity, and build resiliency, and is suitable for individuals aged 11 and older, regardless of gender. As the curriculum was created as a clinical intervention, researchers are encouraged to take and adapt the curriculum to their target population.

Curriculum Structure and Content

Art as Mindfulness Curriculum

Course structure. Each session is comprised of the same primary elements: Opening Mandala, Feasibility Reports, Psychoeducation, Mindfulness Skill-Building Through Art, Closing Questions and Reflections, and closing Mandala. The specific content and activities vary from session to session and are detailed below. Each session is two to two and a half hours long.

Opening mandala. Each session will include a large format mandala where each member of the group will create a collective image. The purpose of creating a collective image is to honor that each member, while unique and separate, is also interconnected and interdependent. Aims and goals for this activity are to explore, through imagery, the ways in which the group arrived as a collective at the beginning of the session, and later will be used again to reflect the ways in which the group changed as a collective at the end of the session. Ultimately, it is intended to represent that while suffering and healing happens at the individual and personal level it is also happening at the collective and universal level.

Feasibility report. The first session the group will establish and create the ground rules and norms of group processing which include privacy, confidentiality, respect, and rules of engagement with art media. Subsequent sessions will review those ground rules and norms for the group in order to support a safe and creative space to explore mental health issues, well-being, creativity and beauty in everyday life. Feasibility reports each session will also explore how the week went, what skills participants used (if any), what were barriers to using skills, and accessibility of the previous week's information.

Psychoeducation. The purpose and aim of psychoeducation for each session is based on the idea that those who know better, do better. Not only does the educational component access the cognitive domains of being, it also allows participants the opportunity to make different choices with more information and knowledge that would benefit them and others.

Mindfulness skill-building through art and, or art as the mindfulness practice. In many ways, this is the heart of the curriculum where art is used as the primary instrument to facilitate mindfulness skills such as deep listening to oneself and others; art as a way of knowing; art as a mirror into the internal and exterior world of self and environment; art as a way of exploring mystery and the unknown; art as a way of curiosity; art as a way of healing through creativity; and art as a way of exploring one's own personal sense of beauty. If and when art was used as a pre-and-post reflection of changes that occurred during the mindfulness exercise or meditation, the pre-and-post art exercises were timed and the same duration. The same length of time for pre-and-post are to create consistently and measurability for both participants in self-reflection and for research purposes.

Closing reflections & questions. The purpose and aim of this is to reflect and comment on the session, as well as provide a time for questions and answers that may be arising for participants.

Closing mandala. The very last activity the group will participate in at each session is the closing mandala. The closing activity of the session will also include additional questions and commentary on what was useful, and what participants anticipate they will integrate into their everyday lives. The purpose and aim of this is to reflect on changes made as a collective, which is represented by a collective image. Emphasis on that while we are suffering individually, we are also suffering collectively, at least in this group, we are coming together for

a common thread of suffering, headaches, stress, grief or loss. In suffering together, we are also healing together through creativity, curiosity, beauty, and exploration of perceptions of self and others that limit potential.

Homework. The purpose and aim of homework is to take the skills and direct experience from the sessions and deepen them through a daily practice. The homework is to use photography to engage, deepen, and represent a mindful moment based on themes from each session.

Session Content

The curriculum developed by Espinosa is provided in Appendix A. This acts as a training manual for the curriculum and can be used by clinicians, researchers, or other appropriately-credentialed facilitators. The aims and rationale for each section are detailed here, and a more specific description of session discussion points, activities, and practical mindfulness and art interventions are detailed in the manual (Espinosa, 2017).

Session one. The purpose of this first session is to establish group norms for processing at every level, including art. During the first session, the group works to establish group rules to ensure privacy, safety, confidentiality, and a basis in which the self can be explored with respect and sense of openness and curiosity. The group mandala at the beginning and end will be introduced and should be introduced as a collaborative process between facilitator(s) and group. The other aim is to explore the group member's relationship to stress and introduce concepts of mindfulness through psychoeducation and the art process. Concepts and exploration of mindfulness will always be grounded in the art-making process.

Session two. The purpose of this session is to connect each member of the group together through a visual and art-making process of the mandala and then to explore the ways in

which cognition plays a role in one's relationship to stress, pain, and over-identification with thoughts and labels. Then, a combination of art processing and using the sensory organs to eat a raisin is intended to take the psychoeducation and create a direct experience of the ways in which labeling may prevent one from a true or direct experience of something. It is intended to direct perception, instead of conditioned perceptions of what one automatically thinks something is will awaken curiosity, aliveness, and a sense of vitality. The end of the session mandala is to honor the connections and interdependence of healing and suffering in the group through visual means.

Session three. The purpose of this session is return to the ritual of first connecting to each member of the group as a whole, or as a collective, through the visual means of making a mandala together. This session will focus on conditioned thoughts and perceptions and the ways in which that can be reduced with present moment awareness. The emphasis will be on using the body and art as a way of engaging present moment awareness. Session will end with closing ritual of interdependence and connection of the group through the closing mandala practice.

Session four. Begin and end with ritual of connecting to collective understanding, agreement and interdependence through the art making process of creating a mandala together. Then, this session will focus on cognitive domains of making distinctions between worrying and problem solving, as well as, exploring and identifying coping strategies that are beneficial and less than beneficial. Training attention in order to create purposeful and directed meaning will be the primary focus of the art making process. First a guided progressive muscle relaxation will be used to create deeper relaxation in the body and mind before creating a calm, restful or peaceful place through art. The intention here is identify that imagination can be used to create worry or can be used to create beauty, calm and restfulness in our bodies and minds but ultimately, we, as individuals, can make the choice on how we direct our consciousness. The

session will end with a returning to our collective efforts and energy to create meaning and direct our imaginations-mind towards positive outcomes through the closing mandala practice.

Session five. The purpose of this session is to notice the ways in which members of the group may or may not be deepening to themselves and others through the opening practices of the mandala and the check-in/feasibility reports. It is likely that group cohesion will be gathering strength by this point. The purpose of this session is to explore perception and perspective taking through the lens of art. Mindfulness of the art media is intended to be a direct experience of the psychoeducational component.

Session six. Ideally, there will be a rhythm and ease to the opening ritual of creating a mandala, as well as, a sense of a predictable structure of communicating first through visual language. The purpose of this session is to explore through a psychoeducation and then art the function, role, and importance of emotions in creating a meaningful, integrated life with oneself and others. This is the first time the curriculum moves away from emphasizing cognitions and emphasizes emotions as important sources of knowledge, information, and living.

Session seven. Rhythms around the opening and closing mandala practice should support a more relaxed, open, and cohesive environment in order for learning, exploring and flourishing of individual group members during the session. The role of emotions will be reviewed, as well as, the ways in which honoring emotions can lead to value-based action. Living a life with value-based actions is one of the ways to create a meaningful and integrated way of being. The ways in which emotions and value-based action also create a sense of beauty, appreciate and gratitude will be explored.

Session eight. The primary goal of this session is reflections on the individual and group experiences of the curriculum. The art process is intended to strengthen and deepen a sense of

gratitude, appreciate, beauty and curiosity that come from the skills developed throughout the curriculum. Art work and images will be kept for research purposes but participants may have the originals if they would prefer, and copies will be made in order to use for data analysis.

Methodology

This pilot study was a novel investigation into whether stress reduction through art was an effective tool to reduce stress and headache in adolescent girls. This pilot study utilized curriculum developed to be used with adolescent females who have a history of headache (Espinosa, 2015). Headache and pain is a growing public health concern for adolescents (Fichtel & Larsson, 2002). The experience of headache and pain can dramatically impact performance in school and social relationships. Perceived stress associated with headache can dramatically increase negative daily outcomes. This curriculum was developed to address this growing concern.

The specific long-term objective of this pilot study was to create a mindfulness-based art therapy intervention to reduce stress and headache in adolescent girls, as well as other clinical populations. Additionally, it was intended to pilot a curriculum in order to identify strengths and limitations of the course. The specific aim of this study was to determine the effect of stress reduction and relaxation training on perceived stress levels and headache occurrence and severity.

The following research questions were the focus of the study: First, what is the lived experience of headache for adolescent girls? Second, what effects do stress reduction techniques, art, and relaxation training have on headache intensity and frequency in adolescent girls? Third, what was the lived experience of a mindfulness-based art therapy intervention to address and reduce headache and head pain?

Participants. This study used a convenience-based sample of 10 to 12 adolescent girls aged 14 to 18 from an urban high school in the Pacific Northwest. Age was restricted by the high school demographics. This school was selected originally for its large and diverse population. There were no exclusions for race and we aimed to include girls of varying ethnicities.

Recruitment and procedure. After receiving approval from the Antioch University Internal Review Board (IRB), the students were recruited by public flyers placed in the Teen Health Center at Ballard High School. Participants learned about the study from the flyer. As there was difficulty recruiting students via the flyer, the researcher made an announcement in every Language Arts class for one full week about the research study. Additional recruiting was done via tabling in the student health center.

Interested students completed a screening process (see Appendix B, Figure 3) conducted by the principle investigator. Eligibility criteria for participation included having experienced three or more headaches in the past two weeks, no symptoms of chronic daily headache, not currently taking a daily preventive headache medicine. Additionally, participants with an active mindfulness practice were ineligible. The participants completed assessments for goodness-of-fit for the study, including medical rule-outs where headaches were likely caused by stress and not an underlying medical disorder. Potential participants who screened positive for a potential underlying medical issue causing the headaches were given referrals to the high school nurse, who made appropriate referrals into the community and informed caregivers.

After recruitment and screening, participants received assent forms via mail (Appendix B). This assent form required the student to review the study information sheet and consent form with a parent or guardian and return the form to the Teen Health Center.

Measures. The Diamond Headache Questionnaire was used to measure headache incidence, frequency, disability, and treatment in participants with headaches. The questionnaire was modified to include demographic and momentary symptom questions. Using this measure, participants identify symptoms from a checklist of possible symptoms.

The Perceived Stress Scale (PSS) is one of the most widely used psychological tools for measuring perceived stress. According to Cohen, Kamarck, and Mermelstein (1983), the PSS measures the degree to which situations are appraised as stressful. Items were designed to illicit responses that indicate the level of predictability, control, and manageable one feels about their life. It also includes direct questions regarding the current level of stress experienced over the last month.

Materials. In addition to the PSS and Diamond Headache Questionnaire, the intervention curriculum requires use of various other materials for both the mindfulness and art portions. Various sizes and types of paper (i.e., 16 inches by 20 inches, 17 inches by 22 inches, etc.), writing utensils (i.e., pens, pencils, etc.), and art supplies (i.e., pastels, oil pastels, etc.) were used for art interventions during session. Yoga mats and cushions were also used during some sessions.

Procedure. Participants engaged in three focus groups and the intervention course.

Focus groups. Each focus group was 50 minutes long and scheduled at a time during the school day that was convenient for the participants. All focus groups were comprised of open-ended, qualitative questions. During each focus group, participants completed several self-report instruments: The Diamond Headache Questionnaire and the PSS. The focus groups were digitally recorded and transcribed for qualitative purposes.

The intervention. This pilot study uses a mindfulness intervention to address stress and headache in adolescent girls. This curriculum was developed in 2014 and is based on MBAT, MBSR, Yoga Teacher Training, and personal experience of meditation and mindfulness practices (Espinosa, 2015). The course consists of both formal and informal mindfulness and meditation practices. The formal and informal practices chosen for this curriculum were intended to illicit a wide range of relaxation and awareness training so that the participants may be more able to choose a practice that suits them best.

The intervention consisted of six 50-minute sessions offered during the school day, two times per week for three weeks. Students were excused from class by the Teen Health Center. Each session met at a different time of the day to ensure that students did not miss two of the same classes over the course of the study in an effort to reduce academic burden associated with participation. There was no required home practice, however, there were invitations to practice additional mindfulness, and mindfulness-based art activities. Participants received daily text messages from the researcher asking a range of questions (Appendix B), as well as a photo that represented a mindfulness moment.

Examples from the art as mindfulness practices from the curriculum are available in Appendices C, D, and E. These detail the engagement with art media in response to various meditations and mindfulness activities.

Data analysis. Following completion of the focus groups and intervention course, identifying information was eliminated from written records; a pseudonym was attached to the written narratives, audio transcripts, and to the digital images of the artwork.

Results

Results

Given that the primary aim of this investigation was undertaken utilizing a previously developed mindfulness- and art-based curriculum, it is important to report on the findings from the initial pilot study relative to the current investigation of the suitability, efficacy, adaptation, and benefits of the curriculum.

Pilot study. Qualitative data collected from participants discussed explicitly the ways in which art helped them to have a different relationship to their headaches, as well as, develop a new coping skill when they were in pain (Espinosa, 2015). Quantitative data demonstrated that four out of the eleven participants had a reduction in frequency and severity of headache and headache pain after the three-week intervention (Espinosa, 2015). The pilot study demonstrated that what worked was mindfulness skill-building through art to create curiosity, openness, a more supported and tangible way to turn inward and direct attention, a more accessible method to create joyful way to be completely in the present moment, a greater ease of accessing flow states, and lastly creating a childlike wonder and freedom to play and create states of nonjudgmental attitudes and acceptance. The loving-kindness meditations adapted to both art and the population showed that participants were able to connect to emotions such as empathy, self-compassion, social connectedness, and interdependence.

Table 1. *Categories, Themes, and Elements Derived From Pilot Study Data*

Category	Themes	Elements
Increased awareness, Increased knowledge of self	Increased connection to self Decreased distress Awareness of pain which allowed them to make choices to self-care Visible representation helped them to become aware of things that they were not aware of through the art Helped them to notice subtle changes that were likely to go unnoticed without it showing up in the art	Art as the mindfulness practice Mindfulness skill building through art Art as mirror to invisible world Daily photography assignments-make it a living, daily practice outside of sessions Guided meditations Body outlines Psychoeducation Loving-Kindness Meditations
Interdependence	Before group felt disconnected from their family or social network in their suffering of head pain. Learned new skills for the first time (mindfulness) and took risks together (art making) in order to create more agency in their lives. Decreased isolation and loneliness A part of a larger human experience, common humanity Identifying the strengths in themselves and others more easily Creating a spirit of generosity and kindness towards others. In this, new qualities of self were identified, such as, the pleasure of supporting one another even one is also hurting.	Art as the mindfulness practice Mindfulness skill building through art Witnessing others invisible worlds made visible through the art images Gratitude Photography Loving-Kindness Meditations Mandala in group format Group intervention Feasibility reports Closing questions and reflections
Grounding & Calming	Nature of the art materials facilitated natural calming effects Connection to others pain helped them to feel less distress about their own pain, which created a sense of "being okay as one is." Being physical with the art media, as well as, walking helped to create greater calm and relaxation in body Art made the invisible world of pain but also thoughts, tangible. This element of tangibility, something that could be grasped, helped participants feel that they had greater opportunity to understand it, respond differently, and in some cases change it.	Mindfulness of art media, especially when using certain media (e.g. watercolor, chalk pastels) Guided Meditations Walking Meditation Gratitude Photography Body Outlines
Perception/New Ways of Seeing	Created awareness which changed that which was perceived Changing the relationship to what is perceived Many things unseen and unnoticed until the art exercises, including photography Changed relationship to stress, headache and pain Many reported world was more vibrant and alive through exercises with art	Daily Photography assignments Pre-and-post mindfulness skill building through art Mindfulness of art media Guided meditations Psychoeducation
Curiosity, Playfulness, Openness to new experiences	Mindfully engaging in art made it more interesting and more dynamic Being open to the art and mindfulness exercises, increased willingness to try to new foods, and or experiences that they may not have been open to otherwise. Sense of freedom connected to childhood Art for creativity and connection to self and others, not to create a product or meet an expectation (self, others, society, etc.)	Art as the mindfulness practice Mindfulness skill building through the art Daily Photography assignments Mindful Eating Exercise Cultivating a sense of beauty and sharing it with others Everyone is an artist Art as form of play, creation, way of knowing, way of being

Strengths of the pilot study. Participants reported that the group mandala was helpful to for them to feel connected to other group members, and, in particular, participants reported that they felt "less alone." They also indicated that knowing there were others who had the same kind of suffering helped them to know they could manage their pain better. Participants reported

that mindfulness of the art media was especially powerful and fun. Participants reported that it was "a relief to be free to play again," "just doing art and doing it mindfully was even more interesting," and "it was fun to be able to just explore and it felt like the freedom of being a kid again. I am free to let go and not have to worry about producing something or getting a grade on it." Participants also reported that the media they loved the most were chalk pastels and watercolor. Several participants reported that they asked their parents for a birthday gift or as a reward to have chalk pastels and watercolor. With regard to the homework component, participants noted that the mindful photography assignments were particularly helpful. They reported that it was a manageable and accessible way to implement mindfulness in daily life.

Participants reported that, second to the art process, the loving-kindness meditation was the most meaningful. The loving-kindness meditation came as a result of the students asking for a meditation and art practice that would help them self-soothe and feel more supported. Participants reported that these meditations were among the most meaningful and there was notable commentary on how they would like more of this throughout the program. Additionally, the researcher noted that after the loving-kindness meditation, participants appeared to be more cohesive, relaxed, and connected to one another. For example, after the loving-kindness meditation, participants more easily complimented one another and identified the strengths in each other's art work. This type of meditation also encouraged commentary in which participants could identify insight and strengths they were accessing through the art.

Participants reported that the walking meditation and the yoga postures were especially helpful as it helped them to feel supported and calm in their bodies. Participants additionally noted that it mimicked the art process more closely in that one could use their body and movements to create a sense of support, connectedness, groundedness, and reorienting their

fast-paced, future oriented movements into slow, thoughtful movements that created a sense of calm.

The psychoeducation was reported to be particularly meaningful in terms of preparing participants for the direct experience that was created in art as the mindfulness practice. Participants reported that while they would have gained the benefits from the art process it may not have been as meaningful because it did not have the cognitive component to attach to a way of conceptualizing what had happened. This conceptualization was reported as an important skill in recreating and using the skill in everyday life.

Participants expressed feeling significantly calmer during the intervention. Participants would share their artwork in pairs, and then, with the group as a whole. Participant discussed that it was helpful to be able to share in a more one on one relationship but later being able to see the images and symbols of their peers as meaningful and important in "not feeling alone" in their distress related to headaches.

Limitations of pilot study. One concern was that we were aiming to address too much content in the time period given. There was insufficient time in the pilot study as it was based on participants missing one 75-minute class per day. Additionally, there were limitations of space, including large enough tables for participants to engage in the art work as well as engage in the yoga postures. All students specifically requested that the guided meditations using art were recorded in order for them to have access to them at all times. As this was not a part of the IRB approval, this request was not granted but recordings should certainly be included in future interventions. Another limitation was that participants reported to love using the art media, especially the chalk pastels and watercolor, but expressed dissatisfaction that they did not have

that access to those media outside of the sessions. In order to allow a deeper personal practice, a budget for art media for participants to use at home would be ideal.

After the second session, one participant noticed that she may need more assistance and support from a mental health counselor. She was rather distressed and initially communicated with investigators via text message. While text messaging may be more accessible for adolescents and had many benefits for this particular study, one of the drawbacks was the concern about mental health information being communicated through non-secure mediums. In addition, this further demonstrates the necessity of sufficient mental health training for future facilitators of this course. Similarly, this would also be true regarding a researcher who could appropriate manage art content and media that was elicited during the interventions and during the homework assignments.

Some of the exercises were purely based on imagination and not through the direct experience of art processing itself were often unsuccessful, as participants would report not being able to externalize thoughts solely through visualization, moreover, the visualization aspect increased distress. For example, participants were asked to imagine putting their thoughts on a cloud or leaf flowing down a river. They reported that they were unable to project the thought onto a cloud or a leaf or the winds would change and literally bring the thought with a cloud closer to them and create a storm. Very few of the participants were able to have purely positive visualizations if there was no grounding that visualization in art activity previously.

Because this was a school-based intervention, there was one instance in which a teacher told the participant that she was not allowed to miss class and attend the intervention. It is important to maintain a balance between positive relationships with the school, teachers, and the health center, however; it was not clear to what degree teachers could deny an excused absence

when parental consent was present. Therefore, there should be more clarity to what degree students have more agency to decide what they would like to attend and providing more information for teachers about how to support students in learning skills that will support their learning and well-being.

Another noteworthy limitation was during the analytic process. The photography and artwork were not analyzed quantitatively as those methods are currently limited. The artwork and photography only has qualitative data from the participants at this point.

Adaptations of the pilot study. There were several ways in which the curricula were adapted to the context of the population for the pilot study. Adaptations to the MBSR activity of eating the raisin was to identify a habitual perception or memory of a raisin and use art to take a snap shot in time of the habitual perception and its articulation through art before eating the raisin mindfully and then using art to demonstrate what it was to eat the raisin with attention, awareness, curiosity, and wonder (Stahl & Goldstein, 2010). The art served as a way to capture the habit of preconditioned ideas, emotions, thoughts about raisins, and then the art served as a way to illustrate concretely that the experience of the raisin in that moment was unique to that raisin at that time, in that space. Participants talked about this pre- and post-art work as significant in demonstrating to them their conditioned ideas versus what was in that moment, as well as a way to demonstrate change.

Another adaptation to the MBSR program was to offer a second mindful eating experience in which a wide range of foods were offered. The purpose and aim of offering another mindful experience of eating was to provide a variety of choices, likely well known and less known, in order for the participants to have a sense of agency and power of what they want to explore through the lens of paying attention and challenging pre-conditioned habits; as well as

invoking in the participants a sense of agency, power, and collaborative spirit with the researcher. The ability to choose what to be curious about and learn from appeared to be especially meaningful to the participants.

The second round of mindful eating included fresh figs, dried figs, dried cranberries, and M&M'S ® candies. The vast majority of participants chose the fresh figs, citing their reasons for that choice was to experiment and learn new things, so they felt open to trying a food they had never tried before. This provided an opportunity for the investigator to reflect back this theme of curiosity and openness with the participants. The participants reported that the more open and curious they were thus far with the art work, the more benefit they experienced and, further, they were willing to extend it to mindful eating exercise. Also, to be noted, the two participants who chose the M&M'S ® to eat mindfully noted that they did not like the processed sugar as much as they enjoy the fresh and natural sugars of the raisin, even though, before eating the raisin they thought they "hated raisins."

Lastly a significant adaptation to the loving-kindness guided meditation of the final session was that when participants imagined others it was others who had a similar distressing experience: head pain. Participants discussed that this became a ground for empathy and feeling more connected to each through that meditation. Participants, lastly, reported that they were not alone and often the worst part of suffering for them was to believe that they were the only adolescents who were experiencing debilitating head pain.

Results of the curriculum study. At the time of the study, and as of current, there is no other curriculum or study of this kind. With mindfulness and meditation growing rapidly in the field more studies are needed to understand its strengths and limitations.

Strengths of the curriculum study. Importantly, this curriculum represents a previously unavailable, highly replicable intervention course which utilizes both art and mindfulness. Given the well-established efficacy of mindfulness-based interventions and the rich history of art as a core component of human connectivity, it is a primary strength of this curriculum study to branch these two fields. It also holds an inherent interdisciplinary and integrated approach; given that the curriculum was tailored for adolescent individuals who experience headache, this curriculum already demonstrates successful outcomes and tolerability for a population with an existing health condition, as well as the adolescent population. This speaks to the potential for generalizability of the curriculum; it is likely suitable for adaptation and implementation with various populations, in both clinical and non-clinical settings. Because this intervention is now available in a manual-format, it is also easily accessible and adaptable for future investigators and facilitators.

In addition to the novel nature of the curriculum, this study also boasts the strength of rich qualitative feedback from participants who engaged in the pilot study. This allows for further adaptation and implementation of the curriculum for other populations in both clinical and research settings. This feedback also helps to inform future feasibility and benefit analyses.

Additional strengths of this study included participants being able to develop new coping skills to manage their headache pain, as well as forge a new perception of the pain itself through art. It was proposed that using art would make mindfulness-based practices more accessible to a wider range of individuals and groups, where the most well-known practices, may not be appealing and or accessible. Strengths of the study also included a 100% participation rate with all participants completing the study at every stage as well as 100% compliance with the daily

text messages. Given that this is an adolescent population, the compliance rate suggests that the intervention was meaningful to the participants.

Limitations of the curriculum study. Limitations of this study include that it did not exactly mirror other mindfulness-based intervention programs that consisted of eight weeks. Moreover, there may be more benefit to be gained by having participants meet and practice for longer periods of time in order to accommodate the additional time-burden of setting up art materials, engaging in the art process, and putting materials away. This type of intervention can take longer than other mindfulness interventions where there are few materials used beyond the human body, chairs or meditations cushions, or yoga mats. Longer sessions may allow participants to have more space and time to engage more directly and deeply in the art making experience, which may have curative benefits in and of itself.

One additional limitation is the potential for increased academic burden for the participants given the need to miss classes in order to attend the focus groups and interventions. In order to reduce risk or academic burden, class periods were rotated so that no class period was missed more than once. If participants found their stress or headaches to be overwhelming, we referred them to counseling through the Teen Health Center. If a teen disclosed thoughts of suicide, harming themselves or others, they would have been referred to the Teen Health Center school counselor immediately. For any psychological distress experienced as a result of participant, participants would have been referred and offered services through the Teen Health Counseling Clinic. As mentioned previously, our screening process was intended to screen out particularly vulnerable participants. Fortunately, no referrals of this nature were made during this study.

Adaptations to the curriculum. The adapted curriculum from the pilot study has increased two primary domains: to explicitly bring attention to concepts of beauty, as well as, psychoeducation and exploration through mindfulness skill-building of art to address affect regulation and self-soothing through awareness of emotions. Moreover, how to use emotions to widen the scope of choices and inform value-based actions.

The aims and purpose of the curriculum to train attention, to create more openness and curiosity, to create a childlike wonder and expressiveness free from judgment, were all reported as themes in the pilot study. The adaptations made were intended to increase a sense of beauty, based on the Hózhó principle, which within the Diné tradition is considered an essential element of life, meaning, harmony, a key to wellness and happiness.

The limitations of integrating indigenous principles into a Western implemented curriculum could be cultural misappropriation of the concept, as well as, understanding the culture and context in which it arises. As the researcher comes from this tradition and heritage there is a direct connection to the tradition and its meaning, however, if the curriculum is to be used and implemented by others, there is the risk that the concept will be misunderstood, misused, and or, damaging to the culture in which it comes from. Using the work of Michelle Kahn-John who has done written on the topic and was the one who began to operationalize the concept of Hózhó for the purposes of teaching and research may help limit some of these pitfalls (Kahn-John, 2010; Kahn-John & Koithan, 2015).

The alignment between the Diné philosophy of Hózhó, Eastern approaches to meditation and mindfulness, and art are notable. First, it should be noted that in Dine language there is no word for art (Jackson et al., 2004; Witherspoon, 1974). Rather the concept that embodies art and all art practices, art related endeavors, and creativity is Hózhó (Jackson et al., 2004). This is one

and the same concept in Dine philosophy as reflected by its language. The relationships between Hózhó, mindfulness and meditation, and art will be explored through the lens of philosophy, practice, relationship to self and others, a connection to nature, and an innate capacity to heal.

Hózhó, art, and mindfulness all attempt to create both a way of being and a way of living. Hózhó, art, and mindfulness all attempt to create both a way of being and a way of living, meaning that it is both a state of mind and something that is cultivated and practiced in every day life. Thich Nhat Hanh (1999) describes mindfulness as an inclusive activity that extends beyond sitting on a cushion; rather, he describes mindfulness an active engagement of not forgetting what one is doing and being present with washing the dishes, eating a raisin, sweeping the floor, etc. Mindfulness from this perspective is a moment-to-moment engagement with the self and one's environment and relationships, not a task on a to-do list.

Fogo (2017) explored the relationship between individuals who self-endorsed having art training, art experience, and art practice and having higher qualities of mindfulness, such as curiosity, openness, nonjudgmental awareness, present moment awareness, and greater levels of active, engaged, directed attention. Results found that those practicing two or more methods of engagement in the arts had higher levels of mindful qualities in both their state and trait features. Research found that art as a result of having an art practice, art making creates state and trait changes, or in other ways, cultivates both a way of being and a way of life. Fogo (2017) argued that one of the principle reasons for this was that art through practice trains attention and awareness that eventually translates into a state of being. From the Diné, Hózhó is taught, then practiced, until it is integrated as a way of being, which suggests that elders are illustrative examples of embodying the principles of Hózhó due to their lived experiences. Elders simply have had teachings and the lived experience to embody the principle until it is no longer a

concept but a way of being. The concept of Hózhó and art share a similar concept, which is activating a state of flow (Fogo, 2017).

Flow state is based on a psychological theory that can capture a sense of optimal attunement to the present moment within oneself, the moment, and one's environment (Csikszentmihalyi, 2008). Mihaly Csikszentmihalyi (2008) who first recognized and named the concept of flow, often compared mindfulness practices to a state of flow. Csikszentmihalyi (2008) wrote, "The similarities between yoga and flow are extremely strong; in fact, it makes sense to think of yoga as a very thoroughly planned flow activity" (p. 117). From a Hózhó perspective, flow state would be best captured by a sense of harmony, balance, and attunement with the best qualities in oneself, relationship, through the manifestation of spontaneous action (Mitchell, 1978; Witherspoon, 1974). Because art can more easily activate a flow state, art and artistic processes are an essential aspect of Diné daily cultural practices and ceremonial practices (Gold, 1994). For better or worse, common assumptions of the reason why one would engage in mindfulness or meditation practices is the hope that one would achieve this state of Hózhó or flow (Fogo, 2017; Greene, 1995; Thompson, 2016; Wallace & Goleman, 2006; Winterson, 1997). Assumptions regarding mindfulness and purposes for practices have been described as blissing out under a mango tree, having the mind go blank, or having no care in the world, which are often described as experiences during flow state. However, the intention of practicing meditation or mindfulness has never been to arrive at a blissful, peace-filled state (Thompson, 2016). The purpose and practice of mindfulness is to train attention and to cultivate some freedom and a sense of choice in one's responses to thoughts, emotions, or even bodily sensations. The purpose and practice of mindfulness is to create awareness of one's own internal state and responsiveness to the world around them (Thompson, 2016; Wallace, 2011). Although

for some, mindfulness practice and meditation, may elicit Hózhó, a flow state, or the experience of bliss, from a traditional perspective this is not the purpose of the practice (Fogo, 2017; Thompson, 2016).

Hózhó, meditation and mindfulness, and art emphasize relationship to self as essential first step. Art, meditation and mindfulness, and Hózhó all share the importance of the relationship to self. Generally, mindfulness practice begins by focusing on a sensation or phenomenon within oneself, such as breath, thoughts, or bodily sensation. In art, one must begin by focusing one's capacity to use their thoughts, emotions, and body to engage with the art media. Out of this relationship, a dynamic interaction between self and media unfolds, which generally results in a tangible product. Hózhó always begins with the relationship with self, as first receiving the teachings, which include that one is not separate but a whole-person/whole-being who belongs to and is a part of a universal-whole. The self is the starting point and it is the self that is used to bridge and cross over to the whole of the experience, which is interdependent with all phenomenon outside of self (Dalai Lama, 2005; Gold, 1994; Wallace & Hodel, 2008). Hózhó and Buddhism identify this concept as interdependence, and art, art theory and practice, and art therapy discuss this concept as art is a mirror into the inner world of the person who created it.

Hózhó, meditation, and mindfulness, and art as a reflection of an interdependent relationship between self and all living existence. Art serves as a mirror to the invisible inner world, making it visible. In this regard, the self can be known more fully, however, it also makes it possible for others to know and see the self that has created the product, object, or sacred image. The capacity of art to serve as way of understanding, knowing, and assessing for the purposes of healing is one of the pillars of art therapy. The purpose of Hózhó and meditation is

also to attend inward to explore the invisible world of thoughts, sensations, and affect in order to understand them, and perhaps, depending on one's practice to actively cultivate particular desirable qualities in order to create more harmony, love, and connection to self and others. The Metta, Loving-kindness practice is a good example of this practice.

As Metta was more commonly taught and practiced in the West, there was a noticeable shift that needed to happen in the translation of the practice (Jinpa, 2015). Traditionally, the self-receiving love and kindness was not central to the practice or cultivation of love and kindness. However, the practice was so difficult for many Westerns that Jinpa's (2015) research and work fundamentally refocused the practice to start with the self as receiving love and kindness until, one's sense of own love for self was sufficient enough to begin to imagine offering love to others. In this regard, the concept of Hózhó, mindfulness and meditation from an Eastern perspective, and art therapy are all ways of approaching the self, ways of knowing the self, acceptance of self and life on its own terms, and movement towards integrating that knowledge of self with greater agency, awareness, openness and reflection.

Maxine Greene (1995) in *Releasing the Imagination* emphasizes how art makes it possible to be open to otherness, with an emphasis on relationality and responsibility. Greene, in advocating for an aesthetic pedagogy, argued that artistic processes of making art, training perception, and using affect as a way of understanding experiences, and the meaning those experiences have, is a way of connecting and cultivating awareness to oneself and with the world. Greene (1995) specifically addresses the ways in which the art process changes the relationship to self through the process of having a dynamic relationship between the art maker and the art product, where a change is created between and within the exchange but also changes are also facilitated by the media itself. Greene argued that through the arts training one can

become conscious and nurture more relational, critical and socially responsible individuals and societies. Greene (1995) called for a type of social justice that she called aesthetic activism. Greene's aesthetic activism is in direct alignment with Hózhó philosophy where art is not a means to an end, but the means in which social harmony and the cultivation of knowledge, empowerment, and beauty for the greatest good is created.

Focuses on the health and wellbeing of caregivers as essential to the quality and level of care the patient can receive. Hózhó philosophy and practice is dependent on teachers who embody the practice, who have achieved a state of Hózhó and live a life of Hózhó. It is not possible to heal without a state of Hózhó, as Hózhó embodies all that is good, restorative, creative, and harmonious. Therefore, it is essential for healers and teachers to be living embodiments of it. Art therapy also makes a similar request where all art therapists must achieve a particular level of art training, as demonstrated by academic, Western university standards, in order to become an art therapist. Kabat-Zinn, as well as, Jinpa's program require that all teachers of MBSR or CCT have had so many hours of personal meditation, as well as, experienced 10 day long silent retreats in order to become a teacher. Historically speaking, in Eastern religious traditions, one was only allowed to teach the methods and the practices after given permission from one or several highly qualified teachers (Ricard et al., 2014). One could have been a practitioner their entire life and still never have been given permission to teach the methods or practices to others, and this includes art practices like Zen calligraphy, Thankga paintings, in addition to a wide range of meditation methods.

Outlets for future research. Given that a primary goal of this investigation was to explore the efficacy of a mindfulness-based art intervention, it is important to mention the ways this topic can be further evaluated empirically. Future iterations of this intervention course could

include other populations. Specifically, much of the literature on mindfulness demonstrates that individuals with both mental health (i.e., anxiety, depression, etc.) and physical health conditions (i.e., chronic pain, etc.). Future research should explore implementation of the Art as Mindfulness Intervention for these populations. In addition, it is certainly possible to gather other efficacy and outcome data using other measures of distress or symptom reduction. For example, future researchers are encouraged to use standardized and validated measures of symptomatology and evaluate the quantitative changes throughout the course of engagement in the intervention.

Discussion

Summary and Outcomes

Mindfulness and meditation practices have been shown to be useful when with a wide range of individuals of various ethnicities and identities (Luoma et al., 2007; Magee, 2016). Studies also show beneficial outcomes of mindfulness interventions in clinical populations that suffer from stress, anxiety, depression, insomnia, interpersonal conflicts, shame, and mental health stigmas such as with learning disorders, among others (Gutierrez & Hagedorn, 2013; Masuda et al., 2009; Montgomery, Kim, & Franklin, 2011; Zettle, 2003). Surprisingly art, which often has a core element of inherent reflection, introspection, and exploration of the inner world, is under-represented as a valuable tool to teach and implement meditation and mindfulness skills.

Research on meditation is growing rapidly in medical and psychological literature, but there are still many limitations including a lack of research on art as a meditation and mindfulness intervention. Burke (2012) wrote that, in a "review of 400 meditation clinical trials conducted between 1956 and 2005, authors found the methodology of such trials to be poor, but improving, and noted the need for continued rigor in their design and execution" (p. 238).

Chiesa and Serretti (2009) had similar conclusions and suggested that there is still a great need for better designed methodology that should identify more clearly specific and non-specific effects of mindfulness-based interventions. Any and all studies in this capacity will significantly contribute to the growing body of literature on this topic. As the call for curriculums for mindfulness-based interventions has only recently been made and will be increasing, the need to continue to develop curriculums, implement, and research them is apparent.

As this curriculum was loosely based on MBSR's skills necessary for learning and approaching mindfulness, as well as a pilot study that designed, implemented, and had positive outcomes, it is anticipated that this adapted and redesigned version has the potential to have more meaning, accessibility, and overall better outcomes than the pilot. Adaptations that were made were made were specifically to address the requests of the participants from the pilot study, which included more time and skill building around difficult emotions, how to process emotions using art and as a mindfulness practice, and how to cultivate compassion and gratitude through curiosity, a sense of wonder, and beauty. It is hoped that this curriculum was successfully adapted to meet those requests, as well as, maintain the elements of curriculum that participants reported to be of benefit in their lives.

The curriculum also aimed to create cohesion and a sense of interdependence, which are the underpinnings of the Metta practice. Eight week interventions that focused on the Metta practice as the principal meditation intervention demonstrate increased social connectedness (Hutcherson, Seppala, & Gross, 2008), reduced chronic low back pain (Carson et al., 2005), reduction in negative affect and compulsive thinking (Feldman, Greeson, & Senville, 2010), reduction in negative symptoms of schizophrenia (Johnson et al., 2009) to name a few. It is hypothesized that increasing social connectedness and reducing negative affect are the

foundations that allow more creativity, imagination towards creating a greater good in oneself and in society are fundamental elements that create the opportunity for a sense of beauty, curiosity, and a sense of wonder for the world to exist.

Further, the basis of the curriculum principle basis was to create an opportunity for art to be the vehicle in which the curative aspects of meditation and mindfulness could be experienced directly. As many of the inherent processes of art, training attention, deep concentration on what one is doing, exploring and challenging habitual patterns of perception, exploration of the inner world as a byproduct of expression and finding one's own sense of artistic voice and style, and often the natural byproduct of relaxation that follows the use of particular media and or, the process of being in a state of flow or deep listening that art often requires.

Homework through the use of photography, photographing one mindful moment each day, was kept in the curriculum as participants reported that this one of the most accessible ways to consider mindfulness and the skills from the week's session. Photography as a mindfulness intervention, specifically, has tremendous opportunity for growth and is currently being researched in greater depth to cultivate mindfulness and gratitude (Campbell, 1991). The Center for Healthy Minds at the University of Wisconsin-Madison created a five-week mindful photography curriculum for children and school teachers (Campbell, 1991). Participants in these early trials have expressed the benefit of using photography as a way of having a physical representation of mindfulness, perspective taking, and, as a result, a way to see beauty all around them with a sense of gratitude (Campbell, 1991). Although this curriculum is using only one medium, the outcomes anticipated from using visual arts as a meditation and mindfulness experience are expected to be the same.

Limitations and Challenges

Although mindfulness can produce and enhance positive affective states such as calm and physiological states such as relaxation, not all individuals may experience these responses. One goal of mindfulness practices is that it increases awareness. However, for some increasing one's own awareness of their discomfort or their pain may be more distressing than de-stressing. Therefore, it is important to be aware of contraindications when using mindfulness practices to reduce pain or other physical symptoms. Additionally, art may have a similar process where the art may reveal aspects of being that one may not be aware of and may reveal itself directly in the art process. While this can enhance learning and self-awareness, if one is not ready for the information that is being revealed, the information may become distressing. Therefore, it is important to be aware of contraindication when using art, specific art media, and the art process. Therefore, it is highly encouraged that individuals with their own art practice and, or who have trained in art or have had an extensive personal practice with art, either as an artist or art therapist, implement these practices in a group setting. It is highly discouraged that those who do not have training in art or have had an extensive art practice themselves teach this curriculum. A personal practice and direct experience with meditation and mindfulness is a requirement for both the MBSR and CCT teacher programs.

Lastly, recent studies show that engagement with the visual arts has improved attention and observation (Chamerlain & Wagemans, 2015), observation, attention to detail, and sharpening perception for surgeons, first aid responders, and those whose lives depend on attention to detail through a training development program that includes going to the art museum (Lyall, 2016). In addition, medical students engage in the arts in order to increase attention to visual details, visual literacy, and reduce burn out (Naghshineh et al., 2008). Research and

program development that use training in the visual art to increase attention to detail, observational skills, and train perception in a particular way, speak to the parallels between mindfulness and art. These studies, while recent, are worth further investigation.

Conclusion

The proposed curriculum was based on a pilot study developed to use art as principle way of teaching the skills of mindfulness and meditation. Art is intended to facilitate many of the same skills and curator properties of formal and informal meditation practices, as well as increase accessibility for individuals who may feel that the predominant teachings of meditation and mindfulness are not accessible to them otherwise. Some individuals may feel that meditation is not for them as they are unable to sit still and or create a calm place in their mind. It is hoped that art will be the bridge that makes the transition to create those states of being easier and more tangible. As research shows that meditation and mindfulness skills have many positive outcomes for wellbeing and health, it is hoped that art will increase accessibility for a wider range of individuals and groups to achieve those same benefits.

References

Aiken, G. A. (2006). The potential effect of mindfulness meditation on the cultivation of empathy in psychotherapy: A qualitative inquiry. *Dissertation Abstracts International: Section B: The Sciences and Engineering, 67*(4-B), 2212.

Alexander, B. K., & Shelton, C. P. (2014). *A history of psychology in western civilization.* Cambridge, MA: Cambridge University Press.

Allen, P. (2005). *Art is a spiritual path*. Boston, MA: Shambhala Publications.

Anda, R. F., Butchart, A., Felitti, V. J., & Brown, D. W. (2010). Building a framework for global surveillance of the public health implications of adverse childhood experiences. *American Journal of Preventive Medicine, 39*(1), 93–98. doi:10.1016/j.amepre.2010.03.015

Aronow, E., & Reznikoff, M. (1976). *Rorschach content interpretation.* New York, NY: Grune and Stratton.

Astin, J. A. (1997). *Stress reduction through mindfulness meditation.* Psychotherapy and Psychosomatics, *66*(2), 97-106. doi:10.1159/000289116

Axline, V. M. (1974). *Play therapy.* New York, NY: Ballantine Books.

Baer, R. A. (2003). Mindfulness training as a clinical intervention: A conceptual and empirical review. *Clinical Psychology: Science and Practice, 10*(2), 125–143. doi:10.1093/clipsy/bpg015

Barnes, S., Brown, K. W., Krusemark, E., Campbell, W. K., & Rogge, R. D. (2007). The role of mindfulness in romantic relationship satisfaction and responses to relationship stress. *Journal of Marital and Family Therapy, 33*(4), 482–500. doi:10.1111/j.1752-0606.2007.00033.x

Bowen, S. (2016, November). *Integrating contemporary behaviorist and traditional contemplative approaches: Towards an effective technology of behavior change.* Symposium conducted at the Mind and Life International Symposium for Contemplative Studies Presentation, San Diego.

Bowen, S., Witkiewitz, K., Dillworth, T. M., Chawla, N., Simpson, T. L., Ostafin, B. D., . . . Marlatt, G. A. (2006). Mindfulness meditation and substance use in an incarcerated population. *Psychology of Addictive Behaviors, 20*(3), 343–347. doi:10.1037/0893-164x.20.3.343

Bruner, M. (2012). *Repressive regimes, aesthetic states, and arts of resistance: What are you looking at?* New York, NY: Peter Lang Publishing.

Burke, A. (2012). Comparing individual preferences for four meditation techniques: Zen, vipassana (mindfulness), qigong, and mantra. *EXPLORE: The Journal of Science and Healing, 8*(4), 237–242. doi:10.1016/j.explore.2012.04.003

Campbell, J. (1991). *The power of myth.* Apostrophe S Productions, Inc.

Carmody, J., Baer, R. A., Lykins, E. L., & Olendzki, N. (2009). An empirical study of the mechanisms of mindfulness in a mindfulness-based stress reduction program. *Journal of Clinical Psychology, 65*(6), 613–626. doi:10.1002/jclp.20579

Carson, J. W., Keefe, F. J., Lynch, T. R., Carson, K. M., Goli, V., Fras, A. M., & Thorp, S. R. (2005). Loving-kindness meditation for chronic low back pain. *Journal of Holistic Nursing, 23*(3), 287-304. doi:10.1177/0898010105277651

Centers for Disease Control. (2014). Adverse childhood experiences (ACE) study. Retrieved from http://www.cdc.gov/ace/index.htm

Chambers, R., Lo, B. C., & Allen, N. B. (2007). The impact of intensive mindfulness training on attentional control, cognitive style, and affect. *Cognitive Therapy and Research, 32*(3), 303–322. doi:10.1007/s10608-007-9119-0

Chamerlain, R., & Wagemans, J. (2015). Visual arts training is linked to flexible attention to local and global levels of visual stimuli. *Acta Psychology (AMST), 161,* 185–197.

Chiesa, A. (2009). Zen meditation: An integration of current evidence. *The Journal of Alternative and Complementary Medicine, 15*(5), 585–592. doi:10.1089/acm.2008.0416

Chiesa, A. (2010). Vipassana meditation: Systematic review of current evidence. *The Journal of Alternative and Complementary Medicine, 16*(1), 37–46. doi:10.1089/acm.2009.0362

Chiesa, A., & Serretti, A. (2009). A systematic review of neurobiological and clinical features of mindfulness meditations. *Psychological Medicine, 40*(08), 1239–1252. doi:10.1017/s0033291709991747

Chomsky, N. (1965). *Aspects of the theory of syntax*. Cambridge, MA: The MIT Press.

Coffey, K. A., & Hartman, M. (2008). Mechanisms of action in the inverse relationship between mindfulness and psychological distress. *Complementary Health Practice Review, 13*(2), 79–91. doi:10.1177/1533210108316307

Cohen, B. M., Hammer, J. S., & Singer, S. (1988). The diagnostic drawing series: A systematic approach to art therapy evaluation and research. *The Arts in Psychotherapy, 15*(1), 11–21. doi:10.1016/0197-4556(88)90048-2

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24*(4), 385. doi:10.2307/2136404

Cohen, B. M., Mills, A., & Kijak, A. K. (1994). An introduction to the diagnostic drawing series: A standardized tool for diagnostic and clinical use. *Art Therapy, 11*(2), 105–110. doi:10.1080/07421656.1994.10759060

Csikszentmihalyi, M. (2008). *Flow: The psychology of optimal experience.* New York: Harper Row.

Creswell, J. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches.* London, United Kingdom: Sage Publications, Inc.

Dalai Lama, H. H. (2005). *The universe in a single atom: The convergence of science and spirituality.* New York, NY: Random House, LLC.

Davidson, R. J. (2010). Empirical explorations of mindfulness: Conceptual and methodological conundrums. *Emotion, 10*(1), 8–11. doi:10.1037/a0018480

Davidson, R., Flook, L., Broderick, T., Greenberg, M., & Hirshberg, M. (2016, November). *Mindfulness and other contemplative practices in educational contexts.* Symposium conducted at the Mind and Life International Symposium for Contemplative Studies, San Diego, CA.

Davidson, R. J., Kabat-Zinn, J., Schumacher, J., Rosenkranz, M., Muller, D., Santorelli, S. F., . . . Sheridan, J. F. (2003). Alterations in brain and immune function produced by mindfulness meditation. *Psychosomatic Medicine, 65*(4), 564–570. doi:10.1097/01.psy.0000077505.67574.e3

Duncan, B. L., Miller, S. D., & Sparks, J. A. (2011). *The heroic client: A revolutionary way to improve effectiveness through client-directed, outcome-informed therapy.* Hoboken, NJ: John Wiley & Sons.

Espinosa, A. (2015). *Mindfulness intervention for stress and headache in adolescent girls: A pilot study.* Unpublished manuscript.

Espinosa, A. (2017). *Curriculum manual for a mindfulness intervention for stress and headache in adolescent girls.* Unpublished manuscript.

Evans, G. W., Kim, P., Ting, A. H., Tesher, H. B., & Shannis, D. (2007). Cumulative risk, maternal responsiveness, and allostatic load among young adolescents. *Developmental Psychology, 43*(2), 341–351. doi:10.1037/0012-1649.43.2.341

Exner, J. E. (1986). *The Rorschach: A comprehensive system*, 2nd ed. (Vol. 1). New York, NY: Wiley.

Farb, N. A., Segal, Z. V., Mayberg, H., Bean, J., Mckeon, D., Fatima, Z., & Anderson, A. K. (2007). Attending to the present: Mindfulness meditation reveals distinct neural modes of self-reference. *Social Cognitive and Affective Neuroscience, 2*(4), 313–322. doi:10.1093/scan/nsm030

Fearon, P. (2001). Relation between headache in childhood and physical and psychiatric symptoms in adulthood: National birth cohort study. *British Medical Journal, 322*(7295), 1145–1145. doi:10.1136/bmj.322.7295.1145

Feldman, G., Greeson, J., & Senville, J. (2010). Differential effects of mindful breathing, progressive muscle relaxation, and loving-kindness meditation on decentering and negative reactions to repetitive thoughts. *Behaviour Research and Therapy, 48*(10), 1002–1011. doi:10.1016/j.brat.2010.06.006

Fichtel, A., & Larsson, B. (2002). Psychosocial impact of headache and comorbidity with other pains among Swedish school adolescents. *Headache: The Journal of Head and Face Pain, 42*(8), 766–775. doi:10.1046/j.1526-4610.2002.02178.x

Fogo, L. G., (2017). *Engagement with the visual arts increases mindfulness.* Honors Theses. Retrieved from https://scholar.utc.edu/honors-theses/106

Frewen, P. A., Evans, E. M., Maraj, N., Dozois, D. J., & Partridge, K. (2007). Letting go: Mindfulness and negative automatic thinking. *Cognitive Therapy and Research, 32*(6), 758–774. doi:10.1007/s10608-007-9142-1

Friedan, B. (1981). *The second stage.* Cambridge, MA: Harvard University Press.

Glover, N. (2009). *Psychoanalytic aesthetics: An introduction to the British school.* London: Published for the Harris Meltzer Trust by Karnac.

Gold, P. (1994). *Navajo & Tibetan sacred wisdom: The circle of the spirit.* Rochester, VT: Inner Traditions.

Goldin, P. R., & Gross, J. J. (2010). Effects of mindfulness-based stress reduction (MBSR) on emotion regulation in social anxiety disorder. *Emotion, 10*(1), 83–91. doi:10.1037/a0018441

Goldin, P. R., Ziv, M., Jazaieri, H., Weeks, J., Heimberg, R. G., & Gross, J. J. (2014). Impact of cognitive-behavioral therapy for social anxiety disorder on the neural bases of emotional reactivity to and regulation of social evaluation. *Behaviour Research and Therapy, 62,* 97–106. doi:10.1016/j.brat.2014.08.005

Goldstein, G., & Hersen, M. (2007). *Handbook of psychological assessment*. Amsterdam: Elsevier.

Goleman, D. (2017, September 28). *Here's what mindfulness is (and isn't) good for.* Retrieved from https://hbr.org/2017/09/heres-what-mindfulness-is-and-isnt-good-for

Grant, A. (2015, October 9). Can we end the meditation madness? *The New York Times.* Retrieved from https://www.nytimes.com/2015/10/10/opinion/can-we-end-the-meditation-madness.html

Grant, J. A., Courtemanche, J., Duerden, E. G., Duncan, G. H., & Rainville, P. (2010). Cortical thickness and pain sensitivity in zen meditators. *Emotion, 10*(1), 43–53. doi:10.1037/a0018334

Grant, J. A., & Rainville, P. (2009). Pain sensitivity and analgesic effects of mindful states in Zen meditators: A cross-sectional study. *Psychosomatic Medicine, 71*(1), 106–114. doi:10.1097/psy.0b013e31818f52ee

Grazzi, L. (2004). Primary headaches in children and adolescents. *Neurological Sciences, 25*(S3). doi:10.1007/s10072-004-0293-5

Green, R., & Turner, G. (2010). Research digest. *Neuropsychological Rehabilitation, 20*(2), 306–311. doi:10.1080/09602010903172239

Greene, M. (1995). *Releasing the imagination: Essays on education, the arts, and social change.* San Francisco: Jossey-Bass.

Grossman, P., Tiefenthaler-Gilmer, U., Raysz, A., & Kesper, U. (2007). Mindfulness training as an intervention for fibromyalgia: Evidence of postintervention and 3-year follow-up benefits in well-being. *Psychotherapy and Psychosomatics, 76*(4), 226–233. doi:10.1159/000101501

Gutierrez, D., & Hagedorn, W. (2013). The toxicity of shame applications for acceptance and commitment therapy. *Journal of Mental Health Counseling, 35*(1), 43–59. doi:10.17744/mehc.35.1.5n16p4x782601253

Halsband, U., Mueller, S., Hinterberger, T., & Strickner, S. (2009). Plasticity changes in the brain in hypnosis and meditation. *Contemporary Hypnosis, 26*(4), 194–215. doi:10.1002/ch.386

Hạnh, T. N. (1999). *The heart of the Buddha's teaching: Transforming suffering into peace, joy & liberation: The four noble truths, the noble eightfold path, and other basic Buddhist teachings.* New York: Harmony Books.

Hasenkamp, W., & Barsalou, L. W. (2012). Effects of meditation experience on functional connectivity of distributed brain networks. *Frontiers in Human Neuroscience, 6*. doi:10.3389/fnhum.2012.00038

Hayes, S. & Pierson, H. (2005) Acceptance and commitment therapy. In A. Freeman, S. H. Felgoise, C. M. Nezu, A. M. Nezu, & M. A. Reinecke (Eds.) *Encyclopedia of cognitive behavior therapy.* Boston, MA: Springer. doi: https://doi.org/10.1007/0-306-48581-8_1

Hayward, J. W., & Varela, F. J. (2001). *Gentle bridges: Conversations with the Dalai Lama on the sciences of mind.* Boston, MA: Shambhala.

Herzog, W. (Director). (2013). *Cave of forgotten dreams* [Motion picture on Netflix Streaming]. IFC Films.

Hinz, L. D. (2009). *Expressive therapies continuum: A framework for using art in therapy*. New York, NY: Routledge.

Holzel, B. K., Carmody, J., Evans, K. C., Hoge, E. A., Dusek, J. A., Morgan, L., . . . Lazar, S. W. (2010). Stress reduction correlates with structural changes in the amygdala. *Social Cognitive and Affective Neuroscience, 5*(1), 11–17. doi:10.1093/scan/nsp034

Holzel, B. K., Ott, U., Hempel, H., Hackl, A., Wolf, K., Stark, R., & Vaitl, D. (2007). Differential engagement of anterior cingulate and adjacent medial frontal cortex in adept meditators and non-meditators. *Neuroscience Letters, 421*(1), 16–21. doi:10.1016/j.neulet.2007.04.074

hooks, b. (2000). *Feminism is for everyone: Passionate politics*. New York, NY: Routledge.

Hutcherson, C. A., Seppala, E. M., & Gross, J. J. (2008). Loving-kindness meditation increases social connectedness. *Emotion, 8*(5), 720–724. doi:10.1037/a0013237

Jackson, S., James, I. K., Attakai, M., Attakai, M. N., & Begay, E. F. (2004). *Amá Sani dóó Achei Baahané/The office of Diné culture, language, and community services.* Cortez, CO: Southwest Printing Co.

Jacobson, E. (1938). *Progressive relaxation.* Chicago, IL: Univ. of Chicago Press.

Jazaieri, H., Mcgonigal, K., Lee, I. A., Jinpa, T., Doty, J. R., Gross, J. J., & Goldin, P. R. (2017). Altering the trajectory of affect and affect regulation: The impact of compassion training. *Mindfulness, 9*(1), 283–293. doi:10.1007/s12671-017-0773-3

Jha, A., Hunter, J., Salzberg, S., Bauer-Wu, S., & Jacobs, C. (2016, November). Mind & Life Institute: International Symposium for Contemplative Studies, Closing Keynote. San Diego, CA.

Jinpa, T. (2015). *A fearless heart: How the courage to be compassionate can transform our lives.* New York, NY: Avery Publishing.

Jinpa, T. (2016, November). *Understanding the psychology behind compassion meditation.* Mind and Life International Symposium For Contemplative Studies Presentation. San Diego, CA.

Johnson, D. P., Penn, D. L., Fredrickson, B. L., Meyer, P. S., Kring, A. M., & Brantley, M. (2009). Loving-kindness meditation to enhance recovery from negative symptoms of schizophrenia. *Journal of Clinical Psychology, 65*(5), 499-509. doi:10.1002/jclp.20591

Jung, C. G. (1961). *Memories, dreams, reflections.* New York, NY: Random House.

Jung, C. G. (1966). *The collected works of C.G. Jung* (15th ed.). Princeton, NJ: Princeton University Press.

Jung, C. G., & Shamdasani, S. (1996). *The psychology of Kundalini yoga.* Princeton, NJ: Princeton University Press.

Jung, C. G., & Shamdasani, S. (2009). *The red book.* New York: W.W. Norton.

Jung, C., & Wilhelm, R. (1931). *Secret of the golden flower: A Chinese book of life.* Routledge.

Junge, M. B., & Asawa, P. P. (1994). *A history of art therapy in the United States.* Mundelein, IL: American Art Therapy Assoc.

Kabat-Zinn, J. (1982). An outpatient program in behavioral medicine for chronic pain patients based on the practice of mindfulness meditation: Theoretical considerations and preliminary results. *General Hospital Psychiatry, 4*(1), 33–47. doi:10.1016/0163-8343(82)90026-3

Kabat-Zinn, J. (1990). *Full catastrophe living*. New York, NY: Delta Publishing.

Kabat-Zinn, J. (1994). *Wherever you go, there you are: Mindfulness meditation in everyday life.* Hyperion.

Kabat-Zinn, J. (2000). Participatory medicine. *Journal of the European Academy of Dermatology and Venereology, 14*(4), 239–240. doi:10.1046/j.1468-3083.2000.00062.x

Kabat-Zinn, J. (2003). Mindfulness-based interventions in context: Past, present, and future. *Clinical Psychology: Science and Practice*, *10*(2), 144–156. doi:10.1093/clipsy/bpg016

Kabat-Zinn, J., Massion, A., & Kristeller, J. (1992). Effectiveness of a meditation-based stress reduction program in the treatment of anxiety disorders. *American Journal of Psychiatry, 149*(7), 936–943. doi:10.1176/ajp.149.7.936

Kabat-Zinn, J., Torrijos, F. D., Skillings, A. H., Blacker, M., Mumford, G. T., Alvares, D. L., . . . Rosal, M. C. (2016). Delivery and effectiveness of a dual language (English/Spanish) mindfulness-based stress reduction (MBSR). *Mindfulness & Compassion, 1*(1), 2–13. doi:10.1016/j.mincom.2016.09.007

Kahn-John, M. (2010). Concept analysis of Diné Hózhó. *Advances in Nursing Science, 33*(2), 113–125. doi:10.1097/ans.0b013e3181dbc658

Keng, S., Smoski, M. J., Robins, C. J., Ekblad, A. G., & Brantley, J. G. (2012). Mechanisms of change in mindfulness-based stress reduction: Self-compassion and mindfulness as mediators of intervention outcomes. *Journal of Cognitive Psychotherapy, 26*(3), 270–280. doi:10.1891/0889-8391.26.3.270

Kobasa, S. C. (1979). Stressful life events, personality, and health: An inquiry into hardiness. *Journal of Personality and Social Psychology, 37*(1), 1–11. doi:10.1037//0022-3514.37.1.1

Kobasa, S. C., Maddi, S. R., & Kahn, S. (1982). Hardiness and health: A prospective study. *Journal of Personality and Social Psychology, 42*(1), 168–177. doi:10.1037//0022-3514.42.1.168

Koithan, M., & Kahn-John, M. (2015). Living in health, harmony, and beauty: The Diné (Navajo) Hózhó wellness philosophy. *Global Advances in Health and Medicine, 4*(3), 24–30. doi:10.7453/gahmj.2015.044

Kornfield, J. (2013). *Turn toward the beautiful: Creativity as a path of liberation.* Audio recording. Sounds True Publications.

Kruis, A., Slagter, H. A., Bachhuber, D. R., Davidson, R. J., & Lutz, A. (2016). Effects of meditation practice on spontaneous eyeblink rate. *Psychophysiology, 53*(5), 749–758. doi:10.1111/psyp.12619

Langer, E. J. (1989). *Mindfulness.* Reading, MA: Addison-Wesley/Addison Wesley Longman.

Langer, E. J. (2005). *On becoming an artist: Reinventing yourself through mindful creativity.* New York, NY: Random House.

Lau, M. A., & McMain, S. F. (2005). Integrating mindfulness meditation with cognitive and behavioural therapies: The challenge of combining acceptance- and change-based strategies. *The Canadian Journal of Psychiatry, 50*(13), 863–869. doi:10.1177/070674370505001310

Lazar, S. W., Bush, G., Gollub, R. L., Fricchione, G. L., Khalsa, G., & Benson, H. (2000). Functional brain mapping of the relaxation response and meditation. *NeuroReport, 11*(7), 1581–1585. doi:10.1097/00001756-200005150-00042

Lazar, S. W., Kerr, C. E., Wasserman, R. H., Gray, J. R., Greve, D. N., Treadway, M. T., . . . Fischl, B. (2005). Meditation experience is associated with increased cortical thickness. *NeuroReport, 16*(17), 1893–1897. doi:10.1097/01.wnr.0000186598.66243.19

Linehan, M. M., Schmidt, H., & Linda, A. (1999). Dialectical behavior therapy for patients with borderline personality disorder and drug-dependence. *American Journal on Addictions, 8*(4), 279–292. doi:10.1080/105504999305686

Luders, E., Toga, A. W., Lepore, N., & Gaser, C. (2009). The underlying anatomical correlates of long-term meditation: Larger hippocampal and frontal volumes of gray matter. *NeuroImage, 45*(3), 672–678. doi:10.1016/j.neuroimage.2008.12.061

Luoma, J. B., Hayes, S. C., & Walser, R. D. (2007). *Learning ACT: An Acceptance and Commitment Therapy skills-training manual for therapists.* Oakland, CA: New Harbinger Publications.

Lutz, A., Brefczynski-Lewis, J., Johnstone, T., & Davidson, R. J. (2008). Regulation of the neural circuitry of emotion by compassion meditation: Effects of meditative expertise. *PLoS ONE, 3*(3). doi:10.1371/journal.pone.0001897

Lutz, A., Greischar, L. L., Rawlings, N. B., Ricard, M., & Davidson, R. J. (2004). Long-term meditators self-induce high-amplitude gamma synchrony during mental practice. *Proceedings of the National Academy of Sciences, 101*(46), 16369–16373. doi:10.1073/pnas.0407401101

Lutz, A., Mcfarlin, D. R., Perlman, D. M., Salomons, T. V., & Davidson, R. J. (2013). Altered anterior insula activation during anticipation and experience of painful stimuli in expert meditators. *NeuroImage, 64,* 538–546. doi:10.1016/j.neuroimage.2012.09.030

Lutz, A., Slagter, H. A., Dunne, J. D., & Davidson, R. J. (2008). Attention regulation and monitoring in meditation. *Trends in Cognitive Sciences, 12*(4), 163–169. doi:10.1016/j.tics.2008.01.005

Lutz, A., Slagter, H. A., Rawlings, N. B., Francis, A. D., Greischar, L. L., & Davidson, R. J. (2009). Mental training enhances attentional stability: Neural and behavioral evidence. *Journal of Neuroscience, 29*(42), 13418–13427. doi:10.1523/jneurosci.1614-09.2009

Lyall, S. (2016, April 26). Off the beat and into the museum: Art helps police officers learn to look. *The New York Times.* http://www.nytimes.com/2016/04/27/arts/design/art-helps-plice-officers-learn-to-looks,html

MacCoon, D. G., Imel, Z. E., Rosenkranz, M. A., Sheftel, J. G., Weng, H. Y., Sullivan, J. C., . . . Lutz, A. (2012). *The validation of an active control intervention for mindfulness based stress reduction (MBSR).* Retrieved from https://utah.pure.elsevier.com/en/publications/the-validation-of-an-active-control-intervention-for-mindfulness-

Magee, R. (2016, November). *Moving together from colorblindness to colorinsight: Contemplative inquiry, research, and practice in the work of transformative justice.* Symposium conducted at the Mind and Life International Symposium for Contemplative Studies, San Diego.

Massey, E. K., Garnefski, N., Gebhardt, W. A., & Leeden, R. V. (2009). Daily frustration, cognitive coping and coping efficacy in adolescent headache: A daily diary study. *Headache: The Journal of Head and Face Pain, 49*(8), 1198–1205. doi:10.1111/j.1526-4610.2009.01492.x

Masuda, A., Hayes, S. C., Lillis, J., Bunting, K., Herbst, S. A., & Fletcher, L. B. (2009). The relation between psychological flexibility and mental health stigma in acceptance and commitment therapy: A preliminary process investigation. *Behavior and Social Issues, 18*(1), 25. doi:10.5210/bsi.v18i1.2525

McGonigal, K. (2012, December 19). *Science shows what meditation knows: Pain is not suffering.* Retrieved from https://www.wildmind.org/blogs/on-practice/pain-is-not-suffering

McKay, M., Davis, M., & Fanning, P. (2007). *Thoughts & feelings: Taking control of your moods & your life.* Oakland, CA: New Harbinger Publications.

McNiff, S. (1992). *Art as medicine: Creating a therapy of the imagination.* Boston, MA: Shambhala Productions.

McNiff, S. (1998). *Trust the process: An artist's guide to letting go.* Boston, MA: Shambhala Productions.

Mead, M. (2001). *Coming of age in Samoa: A psychological study of primitive youth for Western civilization*. Perennial Classics.

Miller, J. J., Fletcher, K., & Kabat-Zinn, J. (1995). Three-year follow-up and clinical implications of a mindfulness meditation-based stress reduction intervention in the treatment of anxiety disorders. *General Hospital Psychiatry, 17*(3), 192–200. doi:10.1016/0163-8343(95)00025-m

Mind and Life Organization. (2016). Retrieved from www.mindandlife.org/mission

Mitchell, F. (1978). *Navajo Blessingway Singer: The autobiography of Frank Mitchell, 1881-1967.* Albuquerque, NM: UNM Press.

Montgomery, K. L., Kim, J. S., & Franklin, C. (2011). Acceptance and commitment therapy for psychological and physiological illnesses: A systematic review for social workers. *Health & Social Work, 36*(3), 169–181. doi:10.1093/hsw/36.3.169

Monti, D. A., Peterson, C., Kunkel, E. J., Hauck, W. W., Pequignot, E., Rhodes, L., & Brainard, G. C. (2006). A randomized, controlled trial of mindfulness-based art therapy (MBAT) for women with cancer. *Psycho-Oncology, 15*(5), 363–373. doi:10.1002/pon.988

Murray, H. (1943). *Thematic apperception test manual.* Cambridge, MA: Harvard University Press.

Naghshineh, S., Hafler, J., Miller, A., Blanco, M., Lipsitz., Dubroff, R.,…& Katz, J. (2008). Formal arts observation training improves medical students' visual diagnostic skills. *Journal of General Internal Medicine, 23*(7), 991–997.

Neff, K. D., & Germer, C. K. (2012). A pilot study and randomized controlled trial of the mindful self-compassion program. *Journal of Clinical Psychology, 69*(1), 28-44. doi:10.1002/jclp.21923

Neff, K., & Seppala, E. (2016). Compassion, well-being, and the hypo-egoic self. *Oxford Handbooks Online.* doi:10.1093/oxfordhb/9780199328079.013.13

O'Donohue, J. (1997). *Anam cara: A book of Celtic wisdom.* New York, NY: HarperCollins.

Ospina, M., Bond, K., Karkhaneh, M., Tjosvold, L., Vanderneer, B., Liang, Y., Klassen T. (2007). Meditation practices for health: state of the research. *Evid. Rep. Technol. Assess. (Full Rep). 155*, 1–263

Pace, T. W., Negi, L. T., Adame, D. D., Cole, S. P., Sivilli, T. I., Brown, T. D., . . . Raison, C. L. (2009). Effect of compassion meditation on neuroendocrine, innate immune and behavioral responses to psychosocial stress. *Psychoneuroendocrinology, 34*(1), 87–98. doi:10.1016/j.psyneuen.2008.08.011

Pagnoni, G., & Cekic, M. (2007). Age effects on gray matter volume and attentional performance in Zen meditation. *Neurobiology of Aging, 28*(10), 1623–1627. doi:10.1016/j.neurobiolaging.2007.06.008

Paulson, S., Davidson, R., Jha, A., & Kabat-Zinn, J. (2013). Becoming conscious: The science of mindfulness. *Annals of the New York Academy of Sciences*, *1303*(1), 87–104. doi:10.1111/nyas.12203

Perlman, D. M., Salomons, T. V., Davidson, R. J., & Lutz, A. (2010). Differential effects on pain intensity and unpleasantness of two meditation practices. *Emotion, 10*(1), 65–71. doi:10.1037/a0018440

Piaget, J. (1945). *Play, dreams, and imitation in childhood.* London: Heinemann.

Randall, K. (2016, Dec. 20). Inner Peace? The Dalai Lama made a website for that. *New York Times Magazine.* Retrieved from: https://www.nytimes.com/2016/05/07/world/dalai-lama-website-atlas-of-emotions.html?_r=0

Rappaport, L. (2009). *Focusing-oriented art therapy: Accessing the body's wisdom and creative intelligence.* London, UK: Jessica Kingsley Publishers.

Rappaport, L. (2014). *Mindfulness and the arts therapies: Theory and practice.* London, UK: Jessica Kingsley Publishers.

Ricard, M., Davidson, R., Roth, H., Jha, A., & Salzberg, S. (2016, November). *Contemplative and neuroscientific perspective on personal and social well-being: A conversation with Ricard J. Davidson and Matthieu Ricard.* Opening keynote presented at the Mind and Life International Symposium For Contemplative Studies Presentation. San Diego, CA.

Ricard, M., Lutz, A., & Davidson, R. J. (2014). Mind of the meditator. *Scientific American, 311*(5), 38–45. doi:10.1038/scientificamerican1114-38

Riley, S. (2001). Art therapy with adolescents. *Western Journal of Medicine, 175*(1), 54–57.

Roeser, R. (2016, November). *School systems, educational reform and mindfulness training.* Mind and Life International Symposium For Contemplative Studies Presentation. San Diego, CA.

Rosenkranz, M. A., Davidson, R. J., Maccoon, D. G., Sheridan, J. F., Kalin, N. H., & Lutz, A. (2012). A comparison of mindfulness-based stress reduction and an active control in modulation of neurogenic inflammation. *Brain, Behavior, and Immunity, 27*, 174–184. doi:10.1016/j.bbi.2012.10.013

Roth, B., & Stanley, T. (2002). Mindfulness-based stress reduction and healthcare utilization in the inner city: Preliminary findings. *Alternative Therapies In Health And Medicine, 8*(1), 60–66. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/11795623

Rubin, J. (2001). *Approaches to art therapy: Theory and technique.* New York, NY: Brunner-Routledge.

Salmon, P., Santorelli, S. F., & Kabat-Zinn, J. (1994). Intervention elements promoting high adherence to mindfulness- based stress reduction programs in the clinical behavioral medicine setting. In S. A. Shumaker, E. B. Schron, J. K. Ockene, & W. L. McBee (Eds.), *Handbook of health behavior change*, 2nd ed. (pp. 239–266). New York, NY: Springer.

Sandner, D. (1979). *Navajo symbols of healing: A Jungian exploration of ritual, image, and medicine.* Rochester, VT: Healing Arts Press.

Salzberg, S. (2004). *Lovingkindness: The revolutionary art of happiness*. Boston, MA: Shambhala.

Scarlet, J., Altmeyer, N., Knier, S., & Harpin, E. (2017). The effects of compassion cultivation training (CCT) on health-care workers. *Clinical Psychologist, 21*, 116–124. doi:10.1111 /cp.12130

Schacter, D., Gilbert, D., & Wegner, D. (2009). *Psychology.* New York, NY: Worth Publishers.

Segal, W., Bancou-Segal, M., & Magill, M. (2003). *A voice at the borders of silence: An intimate view of the Gurdjieff work, Zen Buddhism, and art.* Woodstock: Overlook Press.

Shackman, A. J., Salomons, T. V., Slagter, H. A., Fox, A. S., Winter, J. J., & Davidson, R. J. (2011). The integration of negative affect, pain and cognitive control in the cingulate cortex. *Nature Reviews Neuroscience, 12*(3), 154–167. doi:10.1038/nrn2994

Shapiro, F. (1989). Efficacy of the eye movement desensitization procedure in the treatment of traumatic memories. *Journal of Traumatic Stress, 2*(2), 199–223. doi:10.1002/jts.2490020207

Shapiro, S. L., Schwartz, G. E., & Bonner, G. (1998). *Journal of Behavioral Medicine, 21*(6), 581–599. doi:10.1023/a:1018700829825

Short, E. B., Kose, S., Mu, Q., Borckardt, J., Newberg, A., George, M. S., & Kozel, F. A. (2010). Regional brain activation during meditation shows time and practice effects: An exploratory FMRI study. *Evidence-Based Complementary and Alternative Medicine, 7*(1), 121–127. doi:10.1093/ecam/nem163

Siegel, D. J., & Bryson, T. P. (2014). *No-drama discipline*: *The whole-brain way to calm the chaos and nurture your child's developing mind*. New York: Bantam.

Sipe, W., & Eisendrath, S. (2012). Mindfulness-based cognitive therapy: Theory and practice. *Canadian Journal of Psychiatry, 57*(2), 63–69. Http://search.proquest.com/docview/926832868?Accountid=40581

Slagter, H. A., Davidson, R. J., & Lutz, A. (2011). Mental training as a tool in the neuroscientific study of brain and cognitive plasticity. *Frontiers in Human Neuroscience, 5*. doi:10.3389/fnhum.2011.00017

Slagter, H. A., Lutz, A., Greischar, L. L., Francis, A. D., Nieuwenhuis, S., Davis, J. M., & Davidson, R. J. (2007). Mental training affects distribution of limited brain resources. *PLoS Biology, 5*(6). doi:10.1371/journal.pbio.0050138

Slagter, H. A., Tomer, R., Christian, B. T., Fox, A. S., Colzato, L. S., King, C. R., . . . Davidson, R. J. (2012). PET evidence for a role for striatal dopamine in the attentional blink: Functional implications. *Journal of Cognitive Neuroscience, 24*(9), 1932–1940. doi:10.1162/jocn_a_00255

Stahl, B., & Goldstein, E. (2010). *A mindfulness-based stress reduction workbook.* Oakland, CA: New Harbinger Publications, Inc.

Steiner, R. (2003). *Art*. Hillside house, the square, forest road. Rudolf Steiner Press.

Stewart, T. M. (2004). Light on body image treatment. *Behavior Modification, 28*(6), 783–811. doi:10.1177/0145445503259862

Stratton, K. J. (2006). Mindfulness-based approaches to impulsive behaviors. *PsycEXTRA Dataset.* doi:10.1037/e741562011-004

Tapper, K., Shaw, C., Ilsley, J., Hill, A. J., Bond, F. W., & Moore, L. (2009). Exploratory randomised controlled trial of a mindfulness-based weight loss intervention for women. *Appetite, 52*(2), 396–404. doi:10.1016/j.appet.2008.11.012

Teasdale, J., Segal, Z., Williams, J., Ridgeway, V., Soulsby, J., & Lau, M. (2000). Prevention of relapse/recurrence in major depression by mindfulness-based cognitive therapy. *Journal of Consulting and Clinical Psychology*, *68*, 615–623.

Thompson, E. (2015). *Waking, dreaming, being: Self and consciousness in neuroscience, meditation, and philosophy.* New York, NY: Columbia University Press.

Thompson, E. (2016, November). *What is mindfulness? An embodied cognitive science perspective.* Mind & Life Institute: International Symposium for Contemplative Studies, Closing Keynote. San Diego, CA.

Thompson, E., Bauer-Wu, S., & Roshi Halifax, J. (2016, November). *What is mindfulness? An embodied cognitive science perspective.* Closing keynote presented at the Mind and Life International Symposium For Contemplative Studies Presentation. San Diego, CA.

Trungpa, C. (1939). *Dharma art.* Boston, MA: Shambhala Publications.

Trungpa, C. (2016). *Mindfulness in action.* Boston, MA: Shambhala Publications.

Uebel, M. (2009). *The art and science of mindfulness: Integrating mindfulness into psychology and the helping professions.* Choice, *47*(4), 774. Retrieved from http://search.proquest.com/docview/225718511?Accountid=40581

Van Aalderen, J. R., Donders, A. R., Giommi, F., Spinhoven, P., Barendregt, H. P., & Speckens, A. E. (2011). The efficacy of mindfulness-based cognitive therapy in recurrent depressed patients with and without a current depressive episode: A randomized controlled trial. *Psychological Medicine, 42*(05), 989–1001. doi:10.1017/s0033291711002054

Van Vugt, M. K., & Slagter, H. A. (2014). Control over experience? Magnitude of the attentional blink depends on meditative state. *Consciousness and Cognition, 23*, 32–39. doi:10.1016/j.concog.2013.11.001

Wachs, K., & Cordova, J. V. (2007). Mindful relating: Exploring mindfulness and emotion repertoires in intimate relationships. *Journal of Marital and Family Therapy, 33*(4), 464–481. doi:10.1111/j.1752-0606.2007.00032.x

Wallace, A. (2011). *Minding closely: The four applications of mindfulness.* Ithaca, NY: Snow Lion Publications.

Wallace, A., & Goleman, D. (2006). *The attention revolution: Unlocking the power of the focused mind.* Somerville, MA: Wisdom Publications, Inc.

Wallace, A., & Hodel, B. (2008). *Embracing mind: The common ground of science and spirituality.* Boston, MA: Shambhala Publications, Inc.

Wallace, A., & Hodel, B. (2009). *Contemplative science: Where Buddhism and neuroscience converge.* New York, NY: Columbia University Press.

Wallace, B. A. (2007). *The attention revolution: Unlocking the power of the focused mind.* Boston: Wisdom Publ.

Walsh, R. (1980). The consciousness disciplines and the behavioral sciences: Questions of comparison and assessment. *American Journal of Psychiatry*, *137*(6), 663–673. doi:10.1176/ajp.137.6.663

Walter, C. (2015, January). First artists. *National Geographic*.

Wang, S. J. (2007). Mindfulness meditation: Its personal and professional impact on psychotherapists. *Dissertation Abstracts International: Section B: The Sciences and Engineering, 67*(7-B), 4122.

Wells, R. E., & Loder, E. (2012). Mind/body and behavioral treatments: The evidence and approach. *Headache: The Journal of Head and Face Pain, 52*, 70–75. doi:10.1111/j.1526-4610.2012.02238.x

Winterson, J. (1997). *Art objects: Essays on ecstasy and effrontery.* New York, NY: Vintage International.

Witherspoon, G. (1974). The central concepts of Navajo world view (I). *Linguistics, 12*(119), 41–60. doi:10.1515/ling.1974.12.119.41

Witkiewitz, K., Marlatt, G. A., & Walker, D. (2005). Mindfulness-based relapse prevention for alcohol and substance use disorders. *Journal of Cognitive Psychotherapy, 19*(3), 211–228. doi:10.1891/088983905780907522

Wolf, N. (2002). *The beauty myth: How images of beauty are used against women.* New York, NY: HarperCollins.

Wolpe, J. (1973). *The practice of behavior therapy*. New York, NY: Pergamon.

Yalom, I. D., & Leszcz, M. (2005). *The theory and practice of psychotherapy (5th ed.)*. New York, NY: Basic Books.

Yeshe, Lama Thubten, & Courtin, R. (2003). *Becoming the compassion Buddha: Tantric mahamudra for everyday life.* Somerville, MA: Wisdom Publications.

Zeidan, F., Martucci, K. T., Kraft, R. A., Gordon, N. S., Mchaffie, J. G., & Coghill, R. C. (2011). Brain mechanisms supporting the modulation of pain by mindfulness meditation. *Journal of Neuroscience, 31*(14), 5540–5548. doi:10.1523/jneurosci.5791-10.2011

Zettle, R. D. (2003). Acceptance and commitment therapy (ACT) vs. systematic desensitization in treatment of mathematics anxiety. *The Psychological Record, 53*(2), 197–215. doi:10.1007/bf03395440

Appendix A

Art as Mindfulness Curriculum Manual

Appendix A: Art as Mindfulness Curriculum Manual

Note. This manual is meant to be printed as a separate book. Any formatting abnormalities are due to the conversion to Word. It is meant to be viewed in PDF format and printed as a separate document. It is presented here in Word in a partial and adapted form. For complete content and correct formatting please see the appended PDF.

Art as Mindfulness

A curriculum manual

Amaris Espinosa



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Introduction to Art as Mindfulness Course

This curriculum is intended to awaken to beauty, awaken the senses, and awaken to a sense of childlike wonder. Kornfield (2006) felt that beauty and awareness were directly connected and that to take in beauty, one must be aware. The aim of the curriculum is to return to curiosity and a childlike wonder in a way that allows one to attune to the beauty, such as the play of sunlight through the leaves or the arc of a brush stoke on paper, things all too often may pass one by unnoticed. The primary aim of these practices is to discover the beauty hidden in all things, to express that beauty.

A common misconception is that art only belongs to an artist or particular types of talents or gifted individuals. While it may be true that only a few among many talented artists may be able to make a professional living as an artist, the professional standard of fine art should not exclude the many who could benefit from creating art and training in the arts. Traditionally in the training of the Samurai, a Japanese style of marital arts, was to also train extensively in the arts, such as calligraphy, poetry, and painting. One of the rationale's for extensive training in the arts was that the process of art making could awaken a particular way of noticing, a particular form of awareness. In the same capacity this book will offer more than a way to be trained in the fine arts, rather it is intended to train a particular way of noticing, a particular way of knowing, a particular curiosity of the sense world around and within.

The ways in which art trains one to actively notice, to be aware, and to attend to their senses is a training that would be of benefit in similar ways that awareness training, as seen in other forms of meditation, is of benefit. This book will emphasis just as Kabat-Zinn (2000) emphasized that particular forms of training, such as meditation, one can radically change one's relationship to their pain, thoughts, emotions, and ultimately their reality. In the same regard, this book will explore how particular types of training in art can change one's relationship to their inner and outer world. The aim of this book is offer a wide range of practical exercises to help train, or awaken one's relationship to their inner and outer world in a way that may create a greater sense of connection, wellbeing, and aliveness.

The take-away's of the practices are: 1) we are all artists because art is a way of being. Art is about a way of seeing, listening, attending to and it is something that can be trained, just like attention and concentration through meditation. This particular training may have immense benefits in health, healing, and stress reduction. 2) Beauty is accessible to all and it is important to invite beauty into daily experiences and living. One can do this simply by creating a beautiful picture in their mind, creating something beautiful and placing it in their environment as a anchor or a reminder of actively creating awareness to the good and beautiful in life, or by creating something from their soul, which may or may not be classified as beautiful to others but has a sense, an essence of beauty to the maker. 3) Art can be a spiritual teacher and guide. Art is a safe and often gentle way to take risks and examine aspects of our being that we would like to accept, love, acknowledge, learn more about. John O'Donohue (2003) a Celtic poet and philosopher wrote, "It is strange to be here, the mystery never leaves you" (p. 11) Art is a way to stay engaged with the mystery, the unfolding, the process of life. Usually when I start I never know how the relationship between myself and the art will unfold. I constantly amazed at how the truest and sometimes most "disowned" parts of myself show up in the art. It has become a trusted teacher in the process of life and the unending mystery.

Chapter One

Introduction

Course Structure and Content

Each session is comprised of seven primary components: Opening Mandala, Feasibility Report, Psychoeducation, Art as the Mindfulness Practice, Reflections & Questions, Closing Mandala, and Homework.
The specific content of each of these components varies from session to session and will be detailed in this manual, but a brief orientation to each activity is provided below.

Opening Mandala

Each session will include a large format mandala where each member of the group will create a collective image. The purpose of creating a collective image is to honor that each member, while unique and separate, is also interconnected and interdependent.
Aims and goals for this activity are to explore, through imagery, the ways in which the group arrived as a collective at the beginning of the session, and later will be used again to reflect the ways in which the group changed as a collective at the end of the session. Ultimately, it is intended to represent that while suffering and healing happens at the individual and personal level it is also happening at the collective and universal level.

Feasibility Report

The first session the group will establish and create the ground rules and norms of group processing which include privacy, confidentiality, respect, rules of engagement with art media, etc. Subsequent sessions will review those ground rules and norms for the group in order to support a safe and creative space to explore mental health issues, well-being, creativity and beauty in every day life. Subsequent sessions will also explore how the week went, what skills participants used (if any), what were barriers to using skills, and how accessible was the previous week's information.

Psychoeducation

The purpose and aim of psychoeducation for each session is based on the idea that those who know better, do better. Not only does the educational component access the cognitive domains of being, it also allows participants the opportunity to make different choices with more information and knowledge that would benefit them and others.

Art as the Mindfulness Practice

In many ways this is the heart of the curriculum where art is used as the primary instrument to facilitate mindfulness skills such as deep listening to oneself and others; art as a way of knowing; art as a mirror into the internal and exterior world of self and environment; art as a way of exploring mystery and the unknown; art as a way of curiosity; art as a way of healing through creativity; and art as a way of exploring one's own personal sense of beauty.

Closing Reflections & Questions

The purpose and aim of this is to reflect and comment on the session, as well as, a time for questions and answers that may be arising for participants. The very last activity the group will participate in is the closing mandala. The closing activity of the last session will also include additional questions and commentary on what was useful, what participants anticipate they will integrate into their everyday lives, etc.

Closing Mandala

The purpose and aim of this is to reflect on changes made as a collective, which is represented by a collective image. Emphasis on that while we are suffering individually, we are also suffering collectively, at least in this group, we are coming together for a common thread of suffering, headaches, stress, grief or loss. In suffering together, we are also healing together through creativity, curiosity, beauty, and exploration of perceptions of self and others that limit potential.

Homework

The purpose and aim of homework is to take the skills and direct experience from the sessions and deepen them through a daily practice. The homework is to use photography to engage, deepen, and represent a mindful moment based on themes from each session.

How to Use: Art as Mindfulness Curriculum

This guide is designed to function as an instructional manual for the Art as Mindfulness intervention. You will find a detailed description of the core components of the curriculum, as well as session-by-session instructions.

Each session includes necessary materials, activities, discussion points, and instructions for students.

Chapter Two

Course Content by Session

Session 1

The primary aim of session 1 is to establish ground rules and norms for the group. The first session will also introduce the structure and format of the beginning and end of each session, which include

a group opening and closing mandala, where each member of the group contributes to a collective image. It will also introduce basic definitions of stress and the stress response including prolonged stress such as trauma, as evidenced by the Adverse Childhood Experiences Study (ACE's). Using art media the definition of mindfulness, the S.T.O.P acronym, as well as, how individual stress shows up in the body will be introduced and explored.

Session 1 Introduction and Opening Mandala

Goal: to create a safe, creative place to explore the experience of stress and headache in everyday life.

Discussion points:

- How do we create safety together in this group? What are the expectations?
- Confidentiality
- Group members identify and create group expectations.

Instruction to facilitator: Write down expectations on 16x20 piece of paper. Paper will be posted at every group.

Introduce Opening Group Mandala

Materials: Circle on 22x17 paper, writing utensils

Instructions to students: When entering group session make a mark using line, color, shape, or image to represent how you are arriving to the group.

Feasibility Report

This will be introduced at session two.

Psychoeducation

Stress and the stress response

Discussion points:

What is stress?

- One definition: "pressure or tension exerted on a physical object"
- What are some ways that you feel pressure or tension in your life (Identify triggers). Triggers may include:
    i. Cognitive-memory problems, poor judgment
    ii. Physical-aches and pains, frequent colds, etc.
    iii. Emotional-agitation, feeling overwhelmed, isolation, loneliness
    iv. Behavioral-eating more or less, eating too little-eating too much, isolating oneself

Stress Response:

a. Physiological Response
   i. Flight, fight, freeze or faint
   ii. Mind-body connection: Body may need to be cued that it is safe.
   iii. The body may not recognize that the stressful situation is over. May need to have mind cue body.

b. ACE's Study
   i. Abuse
      1. Emotional abuse
      2. Physical abuse
      3. Sexual abuse
   ii. Neglect
      1. Emotional Neglect
      2. Physical Neglect
   iii. Household Dysfunction
      1. Mother treated violently
      2. Household substance abuse
      3. Household mental illness
      4. Parental Separation & Divorce
      5. Incarcerated household member

Art as the Mindfulness Practice

Discussion points:

- What is mindfulness?

a. Kabat-Zinn (1990), "paying attention in particular way, in a nonjudgmental way".

b. S.T.O.P. acronym

i. S= stop and pause. Stop thinking, stop moving.

ii. T= take a breath mindfully. Take a deep, slow breath mindfully.

iii. O= observe or notice what is actually happening. Notice your bodily sensations, thoughts, feelings.

iv. P= proceed with awareness and kindness

Mindful Body Outline Exercise (1)

Materials: 16x20 (300lb) sheets with outline of body (one per student), oil pastels, chalk pastels

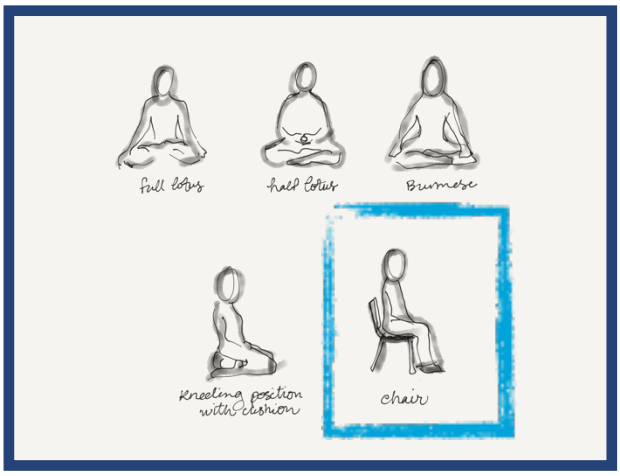
Instructions to students: Using the outline of the figure, identify though line, color, shape, and image ways that you experience stress in your body.

Guided Meditation Exercise

5 Minute Guided Meditation (adapted from Alex Suarez, Ph.D., M.S.C.P., 2014)

Instructions to students:

1. Find a comfortable seated position (in a chair).
2. Inhalation; say the word "calm" on inhalation. Choose a color that represents calm. Imagine breathing in the word calm and the color associated with it into your body.
3. Exhalation; Say the word "relax" on exhalation. Choose a color that represents relaxation. Know that you are releasing relaxation into the room from your body as you exhale.



Mindful Body Outline Exercise (2)

Materials: 16x20 (300lb) sheets with outline of body (one per student), oil pastels, chalk pastels

Instructions to students: Using the second outline of the figure, identify though line, color, shape and image how you feel after the meditation.

Closing Reflections & Questions

1. **What was that experience like for you?**

Closing Mandala

Materials: Circle on 22x17 paper, art supplies

Instructions to students: When leaving the group session make a mark using line, color, shape, or image to represent how you are leaving the group.

Homework

Using your camera and the S.T.O.P acronym, take a photo once a day of what you S.T.O.P. to observe

Session 2

The purpose of this session is to connect each member of the group together through a visual and art making process of the mandala and then to explore the ways in which cognition plays a role in one's relationship to stress, pain, and over-identification with thoughts and labels. Then, a combination of art processing and using the sensory organs to eat a raisin is intended to take the psychoeducation and create a direct experience of the ways in which labeling may prevent one from a true or direct experience of something. It is intended that through direct perception instead of conditioned perceptions of what one automatically thinks something is will awaken curiosity, aliveness, and a sense of vitality. The end of the session mandala is to honor the connections and interdependence of healing and suffering in the group through visual means. The primary aim is to explore cognitive skill building through labeling sensations, thoughts, and exploring perceptions of stress as good vs. bad. Art will be used to explore habits, conditioning, and direct perception through the senses of eating a raisin.

Opening Mandala

Materials: Circle on 22x17 paper, writing utensils
Instructions to students: When entering group session make a mark using line, color, shape, or image to represent how you are arriving to the group.

Feasibility Report

Discussion Points:

- Review ground rules and group norms
- Share insights, dreams, thoughts, and experiences since the last group meeting related to the information or art created.
- Review Session One

Psychoeducation

Cognitive Skill Building

Discussion points:

Labeling Sensations & Thoughts

a. You are not your thoughts. Thoughts are just thoughts.
b. Thoughts as passing clouds. Just noticing them and letting them pass.
c. Noticing: Is the awareness of pain the same as being in pain?

Perceptions of Stress

a. Stress Hardiness Study (Kobasa, 1979)
   i. Control: Agency vs. helplessness. Believe and act as if one can influence the course of events. Sense of internal locus of control and personal responsibility.
   ii. Challenge: Challenges seen as opportunities for personal growth vs. opposition or barriers. CHANGE is seen as the normative vs. stability. CHANGE is the only constant of life. Includes qualities of openness, flexibility, and curiosity towards ambiguous and uncertainty.
   iii. Commitment: ability to see the importance and value of who one is and what they are doing. Fully involvement in one's life, activities, relationships, development, and cultivation of self. Includes community and community involvement.

Specific discussion question: How does the way that we label sensations and experiences impact the experience of it?

Art as the Mindfulness Practice

Mindful Drawing Exercise (1)

Materials: 16x20 paper (300lb, one for each student), colored pencils
Instructions to students: Draw a raisin. You can use your memory or the raisin in front of you.

Mindful Eating Exercise

Materials: raisins, napkins
Instructions to students:
Now, with this food in your hand, you can begin to explore it with all your senses. Focus on one of the objects as if you've never seen anything like it before. Focus on seeing this object. Scan it, exploring every part of it, as if you've never seen such a thing before. Turn it around with your fingers and notice what color it is. Notice the folds, where the surface reflects light or becomes darker. And imagine, as you explore it, as if you have never seen anything like this before. Next, explore the texture, feeling any softness, hardness, coarseness, or smoothness. While you're doing this, if thoughts arise such as "Why am I doing this weird exercise?" (laughs) "How will this ever help me?" or "I hate these objects," then just see if you can acknowledge these thoughts, let them be, and then bring your awareness back to the object. Take the object

beneath your nose and carefully notice the smell of it. Now … bring the object to one ear, squeeze it, roll it around, and hear if there is any sound coming from it. Begin to slowly take the object to your mouth, noticing how the arm knows exactly where to go and perhaps becoming aware of your mouth watering. Now, gently place the object in your mouth, on your tongue, without biting it. Simply explore the sensations of this object in your mouth. Whenever you're ready, intentionally bite down on the object, maybe noticing how it automatically goes to one side of the mouth versus the other. You can just leave it. Also notice the tastes it releases. Be aware of the saliva in your mouth and how the object changes in consistency as you begin to chew. When you feel ready to swallow, consciously notice the intention to swallow, then see if you can notice the sensations of swallowing the raisin, sensing it moving down to your throat and into your esophagus on its way to your stomach. So, take a moment to congratulate yourself for taking this time for engaging in the experience of mindful eating.

Mindful Drawing Exercise (2)

Materials: 16x20 paper (300lb, one for each student), colored pencils

Instructions to students: Draw a raisin again.

Closing Reflections & Questions

Discussion Points:

1. What was that experience like for you? What did you notice with the raisin in terms of sight, touch, sound, smell, or taste? How did your experience of the raisin change before and after the eating exercise? Was it easier or more difficult to represent that through art?

2. Questions about the practice.

Closing Mandala

Materials: Circle on 22x17 paper, art supplies

Instructions to students: When leaving the group session make a mark using line, color, shape, or image to represent how you are leaving the group.

Homework

Using the mindful eating experience take a photo of a one mindful moment eating that you had each day. If you were not able to eat the meal or item mindfully, take a photo of something you would like to eat mindfully.

Session 3

The purpose of this session is return to the ritual of first connecting to each member of the group as a whole, or as a collective, through the visual means of making a mandala together. This session will focus on conditioned thoughts and perceptions and the ways in which that can be reduced with present moment awareness. The emphasis will be on using the body and art as a way of engaging present moment awareness. Session will end with closing ritual of interdependence and connection of the group through the closing mandala practice. The primary aim is to explore cognitive habits such as conditioned thoughts, future and past oriented thinking, and introducing the creation of present moment awareness by training attention. Art will be used to graph present moment attention through the body.

Opening Mandala

Materials: Circle on 22x17 paper, writing utensils
Instructions to students: When entering group session make a mark using line, color, shape, or image to represent how you are arriving to the group.

Feasibility Report

Discussion Points:

- Review ground rules and group norms
- Share insights, dreams, thoughts, and experiences since the last group meeting related to the information or art created.
- Review Session Two

Psychoeducation

Conditioned Thoughts

Discussion points:

Future-Oriented Thoughts

a. What are the gains of thinking about the future?

b. What are the limitations when future-thinking dominates?

Past-Oriented Thoughts

a. What are the gains of thinking about the past?

b. What are the limitations?

Worry versus Problem Solving

Creating Present-Moment Awareness

a. Bringing the mind back, over and over again, to the focus of attention. The focus of attention can be the breath, body sensations, counting, sounds, etc.

Art as the Mindfulness Practice

The Body-Scan Meditation with Art (adapted from Kabat-Zinn, 2003 & Stahl & Goldstein, 2010)

Materials: Butcher paper, oil pastels, chalk pastels, colored pencils, crayons, tape to hang butcher paper

Instructions to students:

You can be seated or standing next to the butcher paper in front of you.

In your rhythm and in your own time, gradually bring your attention to your abdomen, feeling the rising and falling of your belly with each in-breath and each out-breath; "in other words, riding the waves" of your own breathing with full awareness for the full duration of each in-breath, and the full duration of each out-breath.

Take a moment to feel your body as a whole, from head to toe; the sensations associated where your body is making contact with the floor. As you go through the body you may come across areas that are tight or tense. If you can allow them to soften, let that happen; if you can't, just let the sensations be, letting them ripple in whatever direction they need to go. This applies not only to physical sensations but also to any emotions. As you go through the body just be aware of any physical sensations and any thoughts or emotions that may arise from sensations.

And now we'll gently bring your attention to the toes of the left foot where you feel the contact of your foot on the floor. As you direct your attention to them, see if you can direct or channel your breathing to them as well, so that it feels as if you are breathing in to your toes and out from your toes. Sensing into what is being felt. Feeling the heel, ball, and sole of the left foot. Now take a chalk pastel or another art media began to let the butcher paper on the floor, mirror your own body. Let the chalk pastel follow the breath as it moves and enters your body.

When you are ready to leave the toes and move on, take a deeper, more intentional breath in all the way down on the toes and on the out-breath, allow them to dissolve in your mind's eye. Staying with your breathing for a few breaths at least, and then move on in turn to the sole of the foot move on the sole of the foot, the heal, the top of the foot and the ankle, continuing to breathe in and out from each region as you observe the sensations that you are experiencing, and then letting go of that region and moving on. Again, allowing the chalk pastel to follow the breath as it moves through the body, your hand and the chalk pastel serving as a mirror to the breath as it moves through your own body.

Awareness will move up the lower left leg > upper leg > left hip > right foot > lower right leg > upper right leg >pelvic region >lower, middle, and upper back > chest, heart and lungs > left hand, fingers and palm > left wrist, forearm, elbow and upper left arm > right hand, fingers and palm > right wrist, forearm, elbow and upper right arm > shoulders, armpits, neck and throat > jaw, teeth, tongue, mouth, and lips cheeks, sinus, eyes, head, forehead, temples > back of the head, ears, inside the head > head to toes to fingertips (whole body).

Feel the body as a whole organism and it various physical sensations, thoughts, and emotions. Being present. Breathing in, feel the whole body rising and expanding on an inhalation and falling and contracting on an exhalation. Feel the body as a whole organism.

Closing Reflections & Questions

Discussion Points:

1. What was that experience like for you? What did you notice in your body? What did you notice about the breathing?

2. Questions about the practice.

Closing Mandala

Materials: Circle on 22x17 paper, art supplies

Instructions to students: When leaving the group session make a mark using line, color, shape, or image to represent how you are leaving the group.

Homework

Find an object in nature or in your environment you would like to explore present moment awareness of. Once you find that object, see if you can study it in the same ways you did with mindful eating. Once you are done exploring the object with attention, take a photo of it. Repeat this once a day.

Session 4

Begin and end with ritual of connecting to collective understanding, agreement and interdependence through the art making process of creating a mandala together. Then, this session will focus on cognitive domains of making distinctions between worrying and problem solving, as well as, exploring and identifying coping strategies that are beneficial and less than beneficial. Training attention in order to create purposeful and directed meaning will be the primary focus of the art making process. First a guided progressive

muscle relaxation will be used to create deeper relaxation in the body and mind before creating a calm, restful or peaceful place through art. The intention here is identify that imagination can be used to create worry or can be used to create beauty, calm and restfulness in our bodies and minds but ultimately we, as individuals, can make the choice on how we direct our consciousness. The session will end with a returning to our collective efforts and energy to create meaning and direct our imaginations-mind towards positive outcomes through the closing mandala practice. The primary aim is to explore cognitive habits of worrying vs. problem solving and coping strategies. Art and a guided meditation will be used to explore and create relaxation.

Opening Mandala

Materials: Circle on 22x17 paper, art media chosen by facilitator or participants
Instructions to students: When entering group session make a mark using line, color, shape, or image to represent how you are arriving to the group.

Feasibility Report

Discussion Points:

- Review ground rules and group norms
- Share insights, dreams, thoughts, and experiences since the last group meeting related to the information or art created.
- Review Session Three

Psychoeducation

Worry Versus Problem Solving

Discussion points:

a. What is worrying? What is the role of imagination in worrying, if any?
b. What is a problem?
c. What are differences between problem and worries?
   i. What is the difference between imagination and choices?

Coping Strategies

Discussion points:

a. What are coping strategies? What is a definition of "coping" strategy?
i. How can coping be harmful?
1. Examples of self-harm, eating disorders, addictions, etc.
2. Can coping strategies change over time? How might this be influenced by a stage in life, stress, or adverse childhood experiences?
ii. How can coping strategies be beneficial?
1. What are examples?
2. How does one know the difference?

Art as the Mindfulness Practice

Progressive Muscle Relaxation Exercise

Instructions to students:

Stressed muscles are tense muscles. By learning to relax your muscles, you will be better able to use your body to dissipate stress. Muscle relaxation can take longer to learn than deep breathing. Although this form of relaxation can take little more effort, it can a beneficial part of your stress management. Progressive muscle relaxation focuses, sequentially on major muscle groups. We will tighten each muscle and hold the contraction for 20 seconds before slowly releasing it. As the muscle relaxes, concentrate on the release of tension and the sensation of relaxation. We will begin with the face and work down the body.

Forehead: wrinkle your forehead and raise your eyebrows. Hold; then relax.
Eyes: Close your eyes tightly. Hold; then relax.
Nose: Wrinkle your nose and flare your nostrils. Hold; then relax.
Tongue: Push your tongue firmly against the roof of your mouth. Hold; then relax.
Face: Grimace. Hold; then relax.
Jaws: Clench your jaws tightly. Hold; then relax.
Neck: Tense your neck by pulling your chin down to your chest. Hold; then relax.
Back: Arch your back. Hold; then relax.
Chest: Breathe in as deeply as you can. Hold; then relax.
Stomach: Tense your stomach muscles. Hold; then relax.
Buttocks and thighs: Tense your buttocks and thigh muscles. Hold; then relax.
Arms: Tense your biceps. Hold; then relax.
Forearms and hands: Tense your arms and clench your fists. Hold; then relax.
Calves: Press your feet down. Hold; then relax.
Ankles and feet: Pull your toes up. Hold; then relax.

Guided Meditation of Calm & Peaceful Place Exercise

Materials: 16x20 (300lb) paper, chalk pastels, crayons, colored pencils, markers, oil pastels

Instructions to students:

Imagine a calm or peaceful place. It can be a real place or an imagined place. In your own rhythm and time, allow yourself to float into that space. As you imagine yourself there, notice what you see. What is the weather like? What does the air feel like? Notice what you would smell, hear, taste. Notice how your body feels as you are there. Maybe you are noticing a place that you can

go and rest. Or relax. Allow yourself sink deep into the experience as your relax. If you are feeling calm and relaxed, slowly tap eight times on your knees. Now allow yourself to think of a word or phrase that will help you remember or think of this place. Once you have a word of a phrase, slowly notice yourself come back into the room. Notice your feet touching the ground or the chair. You can wiggle your hands, arms or legs. When you are ready, open your eyes. With the paper in front of you represent your calm/peaceful place through image, line, color, shape and symbol.

Closing Reflections & Questions

Discussion Points:

1. What was that experience like for you? Was it easier or more difficult to represent that through art?

2. Questions about the practice.

Closing Mandala

Materials: Circle on 22x17 paper, art supplies

Instructions to students: When leaving the group session make a mark using line, color, shape, or image to represent how you are leaving the group.

Homework

Once a day notice colors, places, or images that bring you peace or a sense of calm. Using the S.T.O.P. acronym take in the moment and then take a photo of it. Engage in noticing calm colors, places, images, or symbols once a day.

Session 5

The purpose of this session is to notice the ways in which members of the group may or may not be deepening to themselves and others through the opening practices of the mandala and the check-in/feasibility reports. It is likely that group cohesion will be gathering strength by this point. The purpose of this session is to explore perception and perspective taking through the lens of art. Mindfulness of the art media is intended to be a direct experience of the psychoeducational component. The primary aim is to explore perception and habitual ways of seeing oneself and objects that creates limiting experiences. Art will be used to explore creativity, curiosity, and a sense of beauty through mindfulness of the art media.

Opening Mandala

Materials: Circle on 22x17 paper, writing utensils
Instructions to students: When entering group session make a mark using line, color, shape, or image to represent how you are arriving to the group.

Feasibility Report

Discussion Points:

- Review ground rules and group norms
- Share insights, dreams, thoughts, and experiences since the last group meeting related to the information or art created.
- Review Session Four

Psychoeducation

Perspective Taking

Discussion points:

a. What is perception? What shapes perception? What influences perception?
b. What is the difference between "I am perceiving" and "I am"?
c. What is the difference between "I perceive" and "I know"?
d. How do we know what we know? How do we know what we do not know?
   i. To be curious and to ask questions is more important than knowing itself.
   ii. What is true? What is truth? What is kindness without truth?
      1. Discussion on the ethics of truth and truth without kindness.
      2. Universal compassion

Art as the Mindfulness Practice

Mindfulness of Art Media

Materials: 22x17 paper for each participant, various art media including oil pastels, chalk pastels, watercolor, markers, paint media in pigment, colored pencils, etc. (facilitator's choice).
The facilitator engages openness, curiosity, playfulness, and a sense of beauty.

Closing Reflections & Questions

Discussion Points:

1. What was that experience like for you?

2. Questions about the practice.

Closing Mandala

Materials: Circle on 22x17 paper, art supplies

Instructions to students: When leaving the group session make a mark using line, color, shape, or image to represent how you are leaving the group.

Homework

Find an object and notice what you like about the object. Take a photo of the object from the angle and aspect that you like the most. Then ask someone you know, trust, or feel safe with to notice the same object, what they like about it and take a photo of the object from the angle that represents the aspect that they like the most. Repeat 5x's this week.

Session 6

Ideally there will be a rhythm and ease to the opening ritual of creating a mandala, as well as a sense of a predictable structure of communicating first through visual language. The purpose of this session is to explore through psychoeducation and then art the function, role, and importance of emotions in creating a meaningful, integrated life with oneself and others. This is the first time the curriculum moves away from emphasizing cognitions and emphasizes emotions as important sources of knowledge, information, and living. The primary aim is to introduce the role of emotions in well-being, and as, sources of data to create an integrated, meaningful life. Art will be used in two different exercises to explore the inner landscape of emotions, first through metaphor, and then through, a more concrete and direct exercise of emotions in every day life.

Opening Mandala

Materials: Circle on 22x17 paper, writing utensils

Instructions to students: When entering group session make a mark using line, color, shape, or image to represent how you are arriving to the group.

Feasibility Report

Discussion Points:

- Review ground rules and group norms
- Share insights, dreams, thoughts, and experiences since the last group meeting related to the information or art created.
- Review Session Five

Psychoeducation

The Role of Emotions - Part 1

Discussion points:

a. Pia Mellody's Eight Basic Emotions

i. What are emotions? How do we know we are experiencing an emotion? Is emotion and sensation the same and, or are they different?

ii. Although there are many names for emotions, sometimes, the extensive ways to label emotions can distract from the experience and wisdom of the emotion itself. Thus, Pia Mellody (1989) developed a list of 8 basic emotions that nearly all other emotions fall within.

- Spectrum of Anger for example may be irritation to frustration through what is commonly recognized as anger to rage and resentment.

b. Emotions are not good or bad, they are neutral.

i. Although we may label an emotion as good or bad, because it may feel uncomfortable or even painful, those emotions are neutral. All emotions are just energy in motion which carry data, information, knowledge of a relationship. It could be the relation within oneself, or a relationship between an individual and their environment, and or an individual and another individual, and or, an individual in a group in a particular context.

ii. What kinds of data or knowledge does each emotion carry?

c. I am my emotions versus I am experiencing or I am noticing my emotions.

i. What are the differences between these statements?

Specific Discussion Question: I am angry? I am experiencing anger? I am noticing anger in my body, in my mind, in my heart?

ii. Non-identification with emotions as a part of oneself, or rather an intrinsic part of oneself, such as I am an angry person, allows the energy of anger to be acknowledged, and processed not as a part of oneself but rather as a experience that is temporary and unfolding.

iii. With the distance of non-identification, it is much easier to understand and explore why the emotion is arriving and what message it has to offer. Usually the messages are data or knowledge on how to create a more meaningful, integrated, healthy interaction.

Art as the Mindfulness Practice

Internal Weather Drawing Exercise

Materials: oil pastels, crayons, chalk pastels, colored pencils, 16x20 (300lb) paper with mandala outline (13 pieces per student)

Instructions to students: If you were the weather, what would your internal weather be?

Expressing Two of the Eight Basic Emotions Exercise

Materials: oil pastels, crayons, chalk pastels, colored pencils, 16x20 (300lb) paper

Instructions to students: Starting with one difficult emotion, using color, line, shape, image, or symbol, express it on the mandala. What are thoughts that can be associated for you when you are experiencing this emotion? What are sensations in the body when you are experiencing this emotion. What is your relationship to this emotion? Want more of it? Less of it? It is foreign or hidden or difficult to express or make contact with?

Repeat this process for one more emotion that would traditionally be considered a "positive" emotion.

Process and share in the group.

Closing Reflections & Questions

Discussion Points:

1. What was that experience like for you?

2. Questions about the practice.

Closing Mandala

Materials: Circle on 22x17 paper, art supplies

Instructions to students: When leaving the group session make a mark using line, color, shape, or image to represent how you are leaving the group.

Homework

Notice a person, an animal, a poem, a place in nature that creates a feeling of gratitude, joy, love, or appreciation in your world. If it involves another person, ask to take a photo of them, and or take a photo of the living being, poem, or place. Do this once a day for seven days.

Session 7

Rhythms around the opening and closing mandala practice should support a more relaxed, open, and cohesive environment in order for learning, exploring and flourishing of individual group members during the session. The role of emotions will be reviewed, as well as, the ways in which honoring emotions can lead to value-based action. Living a life with value-based actions is one of the ways to create a meaningful and integrated way of being. The ways in which emotions and value-based action also create a sense of beauty, appreciate and gratitude will be explored. The primary aim is to continue to explore the role of emotions as neutral, and as sources of data, to inform choices and informed actions based on values. Art will continue with previous sessions exercise to explore 8 basic emotions in every day life and one's relationship to them.

Opening Mandala

Materials: Circle on 22x17 paper, writing utensils
Instructions to students: When entering group session make a mark using line, color, shape, or image to represent how you are arriving to the group.

Feasibility Report

Discussion Points:

- Review ground rules and group norms
- Share insights, dreams, thoughts, and experiences since the last group meeting related to the information or art created.
- Review Session Six

Psychoeducation

The Role of Emotions (Part 2)

Discussion points:

a. Review Pia Mellody's Eight Basic Emotions

i. Avoidance of any emotion negates the human experience.

ii. Reciprocal relationship between pain and love. The more pain one is willing to experience, the greater the capacity for love and joy.

iii. Avoidance of any of these emotions leads to addictions and other unhealthy behavior.

iv. It may be helpful during practice to see what is often labeled as difficult emotions with the new label of "healthy". For example, "healthy fear" may change one's relationship to fear as a conditioned negative emotion to a neutral or essential emotion for health and wellbeing.

b. Review the discussion of "I am emotions versus I am experiencing emotions"

c. The role of emotions in choices and action

i. As emotions are just energy in motion, carrying information, between two points of contact, for example the self and the other (environment, another person, a group of people), after noticing what emotion is present, then one can ask, what message does this emotion bring for me? It may be that one is not feeling safe or protected, or that one is being cared for or loved.

ii. Given the data, of anger for example, which is to create and or provide power, protection, or safety, why would anger show up in this situation? One can ask themselves, in what ways is anger trying to help me create a more integrated, meaningful experience. Anger in this case may be that something I love or value does not feel protected or respected.

iii. Thus; emotions can inform us about what we need, want, and or value. Once one can identify what one needs, wants, and or values, one can proceed with exploring what are there choices at any given moment. How much power does one have in that moment to take an action based on their needs, wants, and values.

Specific Discussion Questions: What data or information do various emotions carry for you? Can you give an example?

Mindfulness Skill-Building Through Art

Expressing Six of the Eight Basic Emotions Exercise

Materials: 8x11 Mandala's (6 mandala's per participant), various art media including markers, oil pastels, chalk pastels, watercolor

Instructions to students: Think of a recent situation in which you felt one of these emotions strongly (not already previously explored). Starting with one emotion, using color, line, shape, image or symbol express it on the mandala. What are thoughts that can be associated for you when you are experiencing this emotion? What are sensations in the body when you are

experiencing this emotion? What is your relationship to this emotion? Want more of it? Less of it? It is foreign or hidden or difficult to express or make contact with?

Repeat this process for each emotion, alternating between what would be considered a "positive" and "negative" emotions until completed.

Process and share in the group.

Closing Reflections & Questions

Discussion Points:

1. What was that experience like for you? What has your relationship been like with your emotions? How may this support a different way of noticing the experience of emotions?

2. Questions about the practice.

Closing Mandala

Materials: Circle on 22x17 paper, art supplies

Instructions to students: When leaving the group session make a mark using line, color, shape, or image to represent how you are leaving the group.

Homework

Take a photo of something that represents loving-kindness in your life or the life of others or, Take a photo of a creation (created by you or someone else) with the intention and you believe embodies present moment awareness.

Session 8

The primary goal of this session is reflections on the individual and group experiences of the curriculum. The art process is intended to strengthen and deepen a sense of gratitude, appreciate, beauty and curiosity that come from the skills developed throughout the curriculum. Art work and images will be kept for research purposes but participants may have the originals if they would prefer, and copies will be made in order to use for data analysis. The primary aim is to explore the role of gratitude in wellbeing, as

well as, use art to introduce loving-kindness, beauty, and gratitude. This session will also invite participants to summarize what has been meaningful about their experience including take-aways, what they hope to integrate into their everyday life and how, and provide commentary on the curriculum's usefulness or the lack thereof.

Opening Mandala

Materials: Circle on 22x17 paper, writing utensils
Instructions to students: When entering group session make a mark using line, color, shape, or image to represent how you are arriving to the group.

Feasibility Report

Discussion Points:

- Review ground rules and group norms
- Share insights, dreams, thoughts, and experiences since the last group meeting related to the information or art created.
- Review Session Seven

Psychoeducation

The Role of Gratitude in Well-being

Discussion points:

a. What is gratitude?
i. Appreciation and thankfulness; reflect on values and meanings

b. What can one be grateful for?
i. Experience in one's body, mind, heart

c. Review any psychoeducational material covered in previous sessions.

Art as the Mindfulness Practice

Expression of Happiness Exercise

Materials: oil pastels, chalk pastels, crayons, colored pencils, 16x20 (300lb) paper
Instructions to students: What is the happiest moment of your day thus far? Take a moment to reflect on it, sense it in your body, your heart area, in the mind, and now the body as a whole.

Using color, line, shape, and image, draw your happiest moment of the day. Once you are finished, write down emotions that correspond. Then, write down an "I" statement. What does it say about you that you noticed this experience? For example, "I can love myself", "I can reflect on joyful experiences", or "I am loved and love others".

Closing Reflections & Questions

Discussion Points:

1. Making the practice your own.

2. Goodbye ritual.

Closing Mandala

Materials: Circle on 22x17 paper, art supplies

Instructions to students: When leaving the group session make a mark using line, color, shape, or image to represent how you are leaving the group.

Homework

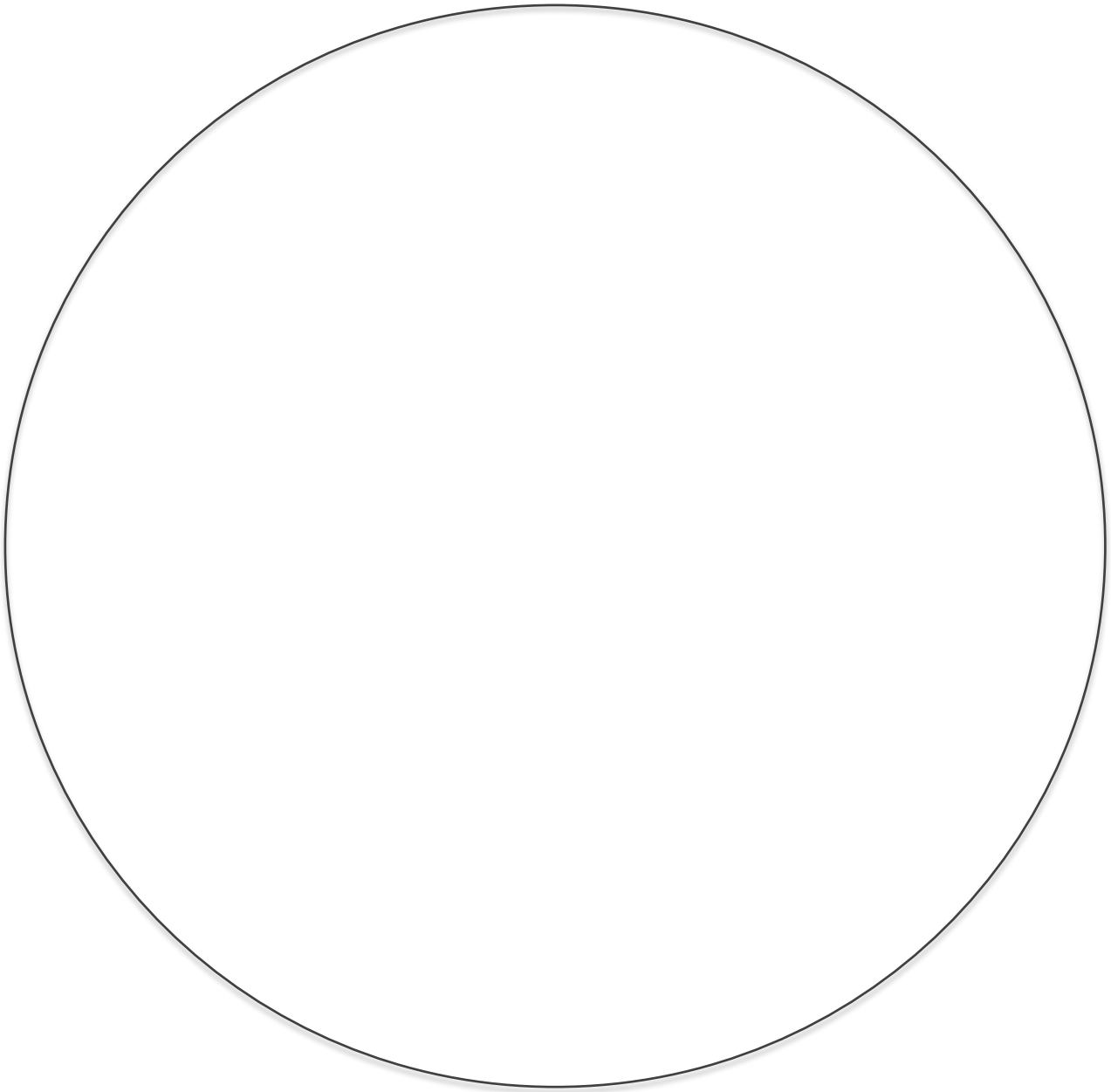
What homework will you continue to use? What other practices will you continue to use? Why? How?

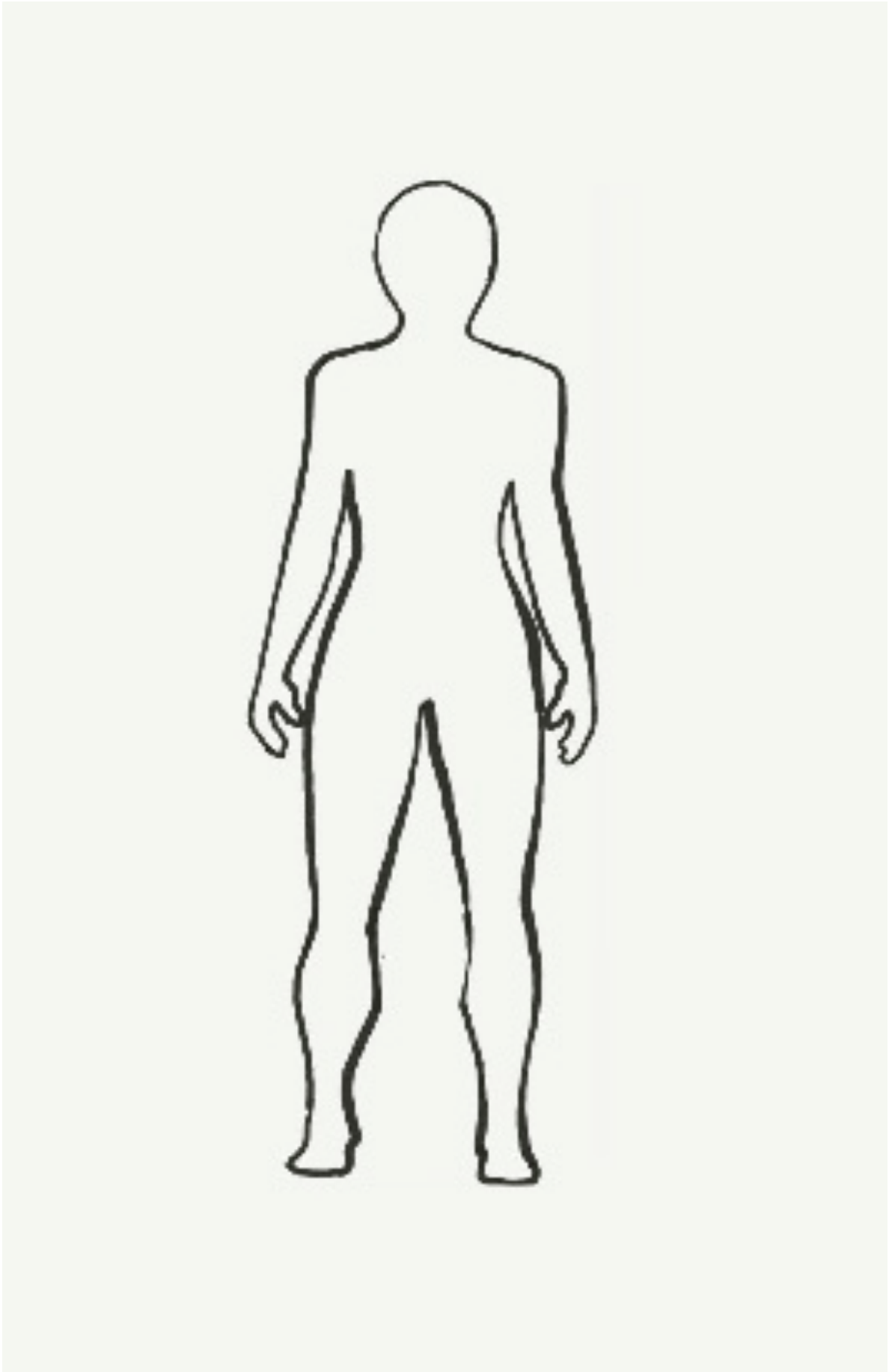
References

Allen, P. (2005). Art is a spiritual path. Boston, MA. Shambhala Publications.
Campell, J. (1991). The Power of Myth. Apostrophe s. Productions, Inc.
Centers for Disease Control and Prevention (2014). Adverse childhood experiences (ACE) study. Retrieved from http://www.cdc.gov/ace/index.htm
Dalai Lama, H.H. (2005). The universe in a single atom: the convergence of science and spirituality. New York, NY. Random House, LLC.
Ernould, M. (2013). Addressing Lesbian, Gay, and Bisexual Bullying: A Mindfulness-based Intervention Manual. Dissertation from Antioch University New England. https://aura.antioch.edu/etds/84/
Espinosa, A. (2014). Mindfulness Intervention for Stress and Headache in Adolescent Girls. Publication in review.
Gold, P. (1994). Navajo and Tibetan Sacred Wisdom: The Circle of the Spirit. Inner Traditions. ISBN-13: 978-0892814114
Herrigel, E. (1999). Zen in the Art of Archery (Later Printing ed.). Vintage Books.

Hinz, L (2009). Expressive therapies continuum: a framework for expressive art in therapy. NY: New York. Routledge Publishing Co.
Jacobson, E. (1938). Progressive relaxation. Chicago: University of Chicago Press.
Jacobson, E. (1978). You Must Relax: practical methods for reducing the tensions of modern living. Mcgraw-Hill
Jinpa, T. (2015). A fearless heart: how the courage to be compassionate can transform our lives. Avery Publishing
Jung, C. (1966). Collected works of C.G. Jung (15th ed.). Princeton, NJ: Princeton.
Jung, C. (1961). Memories, Dreams, Reflections. Random House, Inc.
Jung, C., & Shamdasani, S. (2009). The Red Book. W.W. Norton & Co.
Jung, C., & Shamdasani, S. (1996). The Psychology of Kundalini Yoga. Princeton University Press.
Jung, C., & Wilhelm, R. (1931). The Secret of the Golden Flower: A Chinese Book of Life.
Junge, M., & Asawa, P. (1994). A history of art therapy in the United States. Mundelein, IL: The American Art Therapy Association.
Kabat-Zinn, J. (2000). Participatory medicine. Journal of the European Academy of Dermatology & Venereology, 14(4), 239-240. Doi:10.1046/j.1468-3083.2000.00062.x
Kabat-Zinn , J. (1994). Wherever you go, there you are: Mindfulness meditation in everyday life. New York: Hyperion
Kabat-Zinn J. (1990) Full Catastrophe Living. New York: Delta Publishing
Kabat-Zinn, J. (1982). An Outpatient Program in Behavioral Medicine for Chronic Pain Patients Based on the Practice of Mindfulness Meditation: theoretical and considerations and preliminary results. General Hospital Psychiatry, 33-47
Kobasa, S (1979). Stressful life events, personality, and health: An inquiry into hardiness. Journal of Personality and Social Psychology, Vol 37(1),1-11. Doi: 10.1037/0022-3514.37.1.1
Kobasa, S., Maddi, S., Kahn, S. (1982). Hardiness and health: A prospective study. Journal of Personality and Social Psychology, Vol 42(1), 168-177. Doi: 10.1037/0022-3514.42.1.168
Langer, B. (2005). On becoming an artist: reinventing yourself through mindful creativity. New York, NY. Random House, Inc.
Lehar, S. (2003). The World In Your Head: a gestalt view of the mechanism of conscious experience. Lawrence Erlbaum Associates, Publishers.
Magee, R. (2016). Moving together from colorblindness to colorinsight: contemplate inquiry, research and practice in the work of transformative justice. Mind & Life Institute: International Symposium for Contemplative Studies (2016). San Diego, CA. December 6, 2016.
Mapel, T. (2012). Mindfulness and education: Students' experience of learning mindfulness in a tertiary classroom. New Zealand Journal of Educational Studies, 47(1), 19-32. Retrieved from http://search.proquest.com/docview/1237822880?Accountid=40581
Mcgongial, K. (2013). How to make stress your friend. Tedtalk. Retrieved from http://www.ted.com/talks/kelly_mcgonigal_how_to_make_stress_your_friend
Mcgonigal, K. (2012). Science shows what meditation knows: pain is not suffering. Buddhist Geeks Conference.
Mckay, M., Davis, M., & Fanning, P. (2007). Thoughts & feelings: Taking control of your moods & your life. Oakland, CA: New Harbinger Publications.
Mcniff, S. (1998). Trust the Process: An Artist's Guide to Letting Go. Boston, MA. Shambhala Publications.
Mcniff, S. (1992). Art as Medicine: Creating a therapy of the imagine. Boston, MA. Shambhala Publications.
Mellody, P. (1989). Facing Codependence: what it is, where it comes from, and how it sabotages our lives. New York, NY. Harpers Collins Publishers.

Monti, D., Peterson, C., Shakin Kunkel, E., Hauck, W., Pequignot, E., Rhodes, L. & Brainard, G. (2006). A randomized, controlled trial of mindfulness-based art therapy (MBAT) for women with cancer. Psycho-Oncology, 15, 363-373.
Naumburg, M. (1966) Dynamically Oriented Art Therapy: Its Principles and Practices. New York, NY: Grunt & Stratton, Inc.
Paulson, S., Davidson, R., Jha, A., & Kabat-Zinn, J. (2013). Becoming conscious: the science of mindfulness. New York Academcy of Sciences. Ov;1303:87-104. Doi: 10.1111/nyas.12203
Rappaport, L. (2009). Focusing-Oriented Art Therapy: Accessing the Body's Wisdom and Creative Intelligence . London, UK. Jessica Kingsley Publishers.
Ricard, M., Lutz, A., & Davidson, R. J. (2014). Mind of the meditator. Scientific American, 311(5), 38.
Ricard, M. (2013). Altrusim: the power of compassion to change yourself and the world. New York, NY. Hachette Book Group.
Rubin, J. (2001) Approaches to art therapy; Theory and technique. New York, NY. Brunner-Routledge.
Sandner, D. (1979). Navajo Symbols of Healing: a Jungian exploration of ritual, image, and medicine.
Stewart, T. M. (2004). Light on body image treatment: Acceptance through mindfulness. Behavior Modification, 28(6), 783-811. Retrieved from http://search.proquest.com/docview/221337303?Accountid=40581
Steiner, R. (2003). Art. Hillside House, The Square, Forest Road. Rudolf Steiner Press.
Tulku Lobsang Rinponche (2015). The Five Elements: Tibetan practices for balancing body and mind. Vienna, Austria. Nangten Menlang International.
Wallace, A. (2011). Minding Closely: the four applications of mindfulness. Ithaca, New York, Snow Lion Publications
Winterson, J. (1997). Art Objects: essays on ecstasy and effrontery. First Vintage International Edition
Yeshe, Lama Thubten, & Ribush, N. (2007). Becoming your own therapist & make your mind an ocean. Lama Yeshe Wisdom Archive.





Appendix B

Supplemental Materials

Appendix B: Supplemental Materials

What do I want?

1. To create something beautiful, luminous. Something that when it is done is a light that can take on its own life force to serve as a guide to light the (sometimes dark and bleak) path of the soul to its home, or truest nature.
2. Art as a way of being. Art as a way of seeing, speaking, listening, moving, loving, becoming, accepting, embracing.
3. Art as the spiritual teacher and guide
    a. Art as the spiritual path
    b. Art as one of the paths towards enlightenment (enlightenment defined as full of light.)
4. Art as Mindfulness in Movement
5. Art as the Mirror that reflects/parallels everyday process in life. The ways in which we engage in the process of art, often reflects the ways in which we engage in the process of life.
6. To give the very best of myself.
    a. To smile with joy as I release it and let it becomes its own light, knowing that I was blessed to be an instrument that this flowed through.
    b. To participate in the collective dream, the world of dreamers that create and bring into reality the very best of all of us.

What would I want their reaction to be?

1. This is fun and that I can learn so much through play.
2. Calm, ease, discovery of something familiar but new
3. I am more aware of my own habits and patterns in a way that is open, non-threatening and makes it easier to explore because it's safe and fun.

What do I want their top 3 to 5 take-aways to be?

1. We are all artists … Art is a way of being. Art is about a way of seeing, listening, attending to and it is something that can be trained (just like attention and concentration.) This particular training can have immense benefits in health, healing, stress reduction, etc.
2. Beauty is accessible to all and it is important to invite beauty into daily experiences and living. One can do this by creating a beautiful picture in their mind; or by creating simple, everyday beauty in their surroundings; or by creating something that is beautiful to and for their soul (which may or may not be "beautiful" on the outside but has a sense, an essence of beauty to the maker.)
3. Art is a spiritual teacher and guide. Art is a safe and often gentle way to take risks and examine aspects of our being that we would like to accept, love, acknowledge, learn more about. "It is strange to be here, the mystery never leaves you."-John O'Donohue. A way to stay engaged with the mystery, the unfolding, the process of life. Usually when I start I never know how the relationship between myself and the art will unfold. I constantly amazed at how the truest and sometimes most "disowned" parts of myself show up in the art. It has become a trusted teacher in the process of life and the unending mystery

Figure 1. Responses to Dr. Fort's Questions

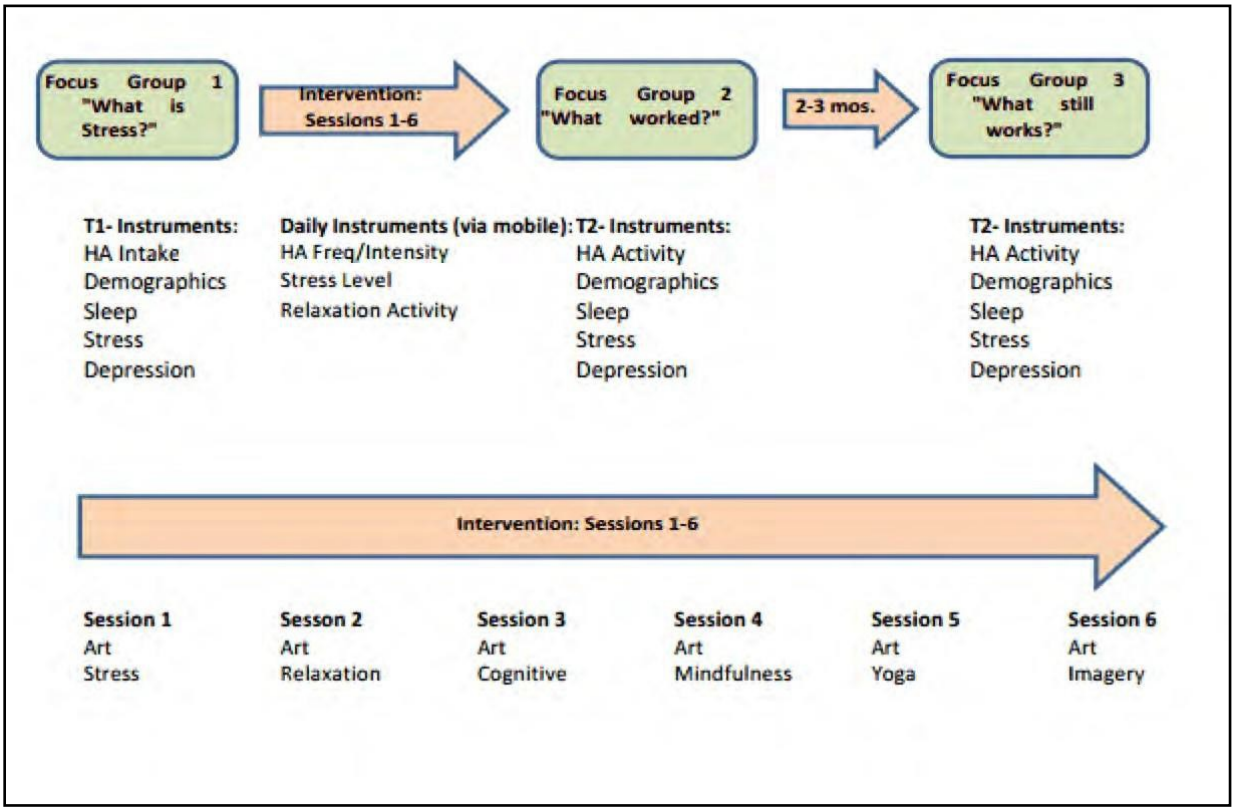


Figure 2: Participant Flow Chart

Researcher: Thank you for your interest in the University of Washington Tacoma study exploring an educational, mindfulness intervention for girls who experience headaches. We are inviting female teens who experience headaches to participate inthis study. In order to make sure that you are eligible for the study, I need to ask you a few questions. Would you like to continue?

If yes, continue

If no, Thank you for your time and interest in our study.

I want to tell you a little about this study so you understand. In this study you will be asked to participate in small group discussions, attend 6 intervention sessions during the school day, and keep a daily log of your stress and headache experiences for about three weeks. Eligible participants will receive up to $75 in gift cards for participating in the study. When we have answered all your questions, you can decide if you want to be in the study or not. We will give a consent form to you so you can have your parent or guardian read about the study and both of you sign the form and return it .

Would you like my phone number so you can ask questions? My phone number is on the consent so your parent/guardian or you can contact me at any time if you have any questions. We will give you a copy of this form for your records.

We need to ask a few questions to make sure that you are eligible for our study. If you are NOT eligible, we will not contact you again nor keep any notes about you. If any of the questions during this screening makes you uncomfortable then you have the right not to answer or even end this call.

Do you have any questions at this time? May I continue with the screening questions?

Headache Screening

1) Have you experienced headaches in the past two weeks?

   If yes, continue, if no then:
   I'm sorry, but it appears you are not eligible to participate in this study. Thank you for time.

2) Have you had at least two headaches in the past two weeks?

   If yes, continue. If no, then:

   I'm sorry, but it appears you are not eligible to participate in this study. Thank you for time.

3) Do you have a constant headache that lasts all day every day?

   If no, continue, if yes, then:

I'm sorry, but it appears you are not eligible to participate in this study. Thank you for time.

4) Are you currently taking a daily medication to prevent your headaches?

If yes, then:

I'm sorry, but it appears you are not eligible to participate in this study. Thank you for time.

If no, continue.

5) Do you currently or have you ever been diagnosed with an illness or disease that results in headaches or head pain?

If yes, then:

I'm sorry, but it appears you are not eligible to participate in this study. Thank you for time.

If no, continue.

6) Are you currently using mindfulness or meditation to help reduce your headaches?

If yes, then:

I'm sorry, but it appears you are not eligible to participate in this study. Thank you for time.

If no, then: Okay, you are eligible to participate in our study.

First, I would like to send you the consent/assent form to be filled out by you and a parent
or guardian. Would you like me to send them by snail mail or by email?

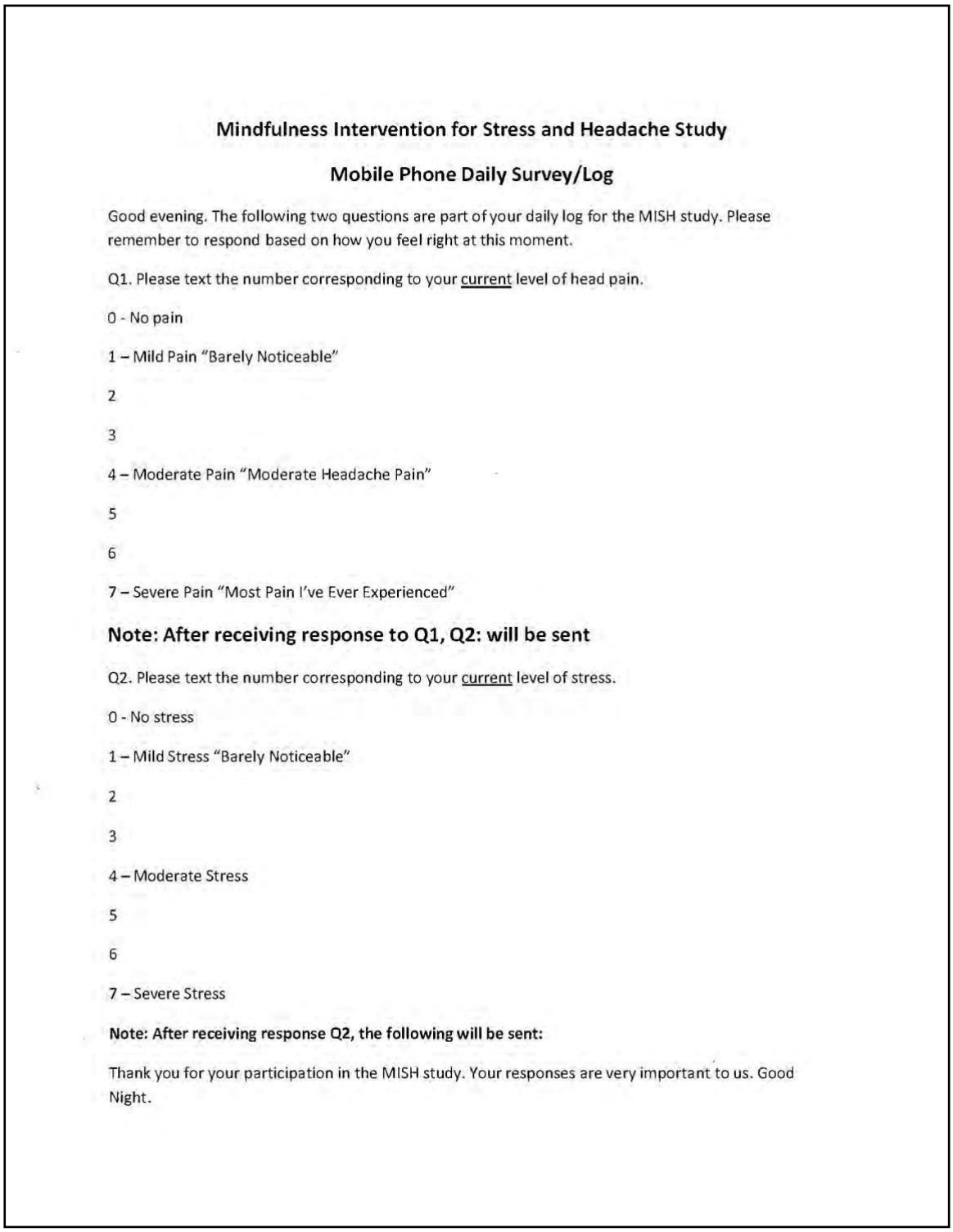
If mail, get potential participant's address

6) Do you have any questions for me about this study?

If yes, answer questions.

If no, give potential participant contact phone number and email if they have any.

Figure 3. Assent for Health Screening and Participation in Study



Mindfulness Intervention for Stress and Headache Study

Mobile Phone Daily Survey/Log

Good evening. The following two questions are part of your daily log for the MISH study. Please remember to respond based on how you feel right at this moment.

Q1. Please text the number corresponding to your current level of head pain.

0 - No pain

1 – Mild Pain "Barely Noticeable"

2

3

4 – Moderate Pain "Moderate Headache Pain"

5

6

7 – Severe Pain "Most Pain I've Ever Experienced"

Note: After receiving response to Q1, Q2: will be sent

Q2. Please text the number corresponding to your current level of stress.

0 - No stress

1 – Mild Stress "Barely Noticeable"

2

3

4 – Moderate Stress

5

6

7 – Severe Stress

Note: After receiving response Q2, the following will be sent:

Thank you for your participation in the MISH study. Your responses are very important to us. Good Night.

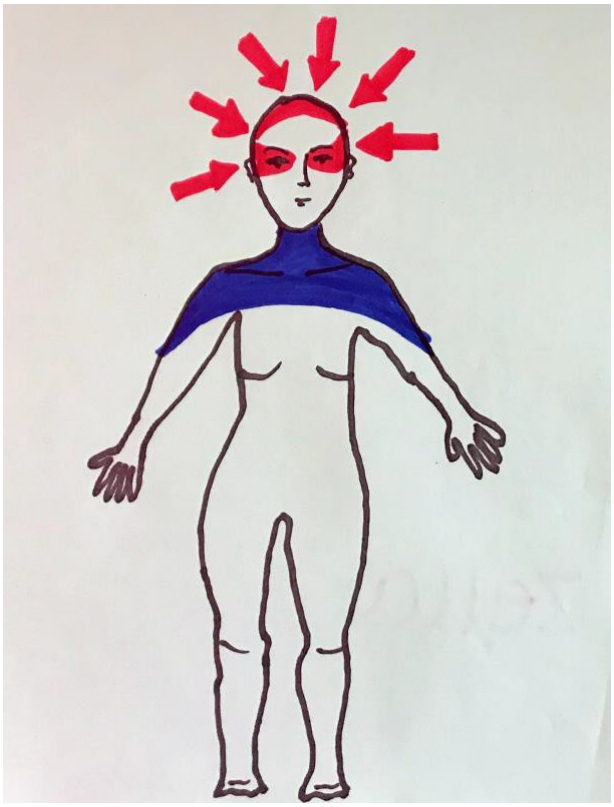
Figure 4. Daily Mobile Texts

Appendix C

Pre- and Post-Meditation Art Practice Images

Appendix C: Pre- and Post-Meditation Art Practice Images

Image 1. Participant One



Pre-meditation



Post-meditation

Image 2. Participant Two



Pre-meditation



Post-meditation

Image 3. Participant Three

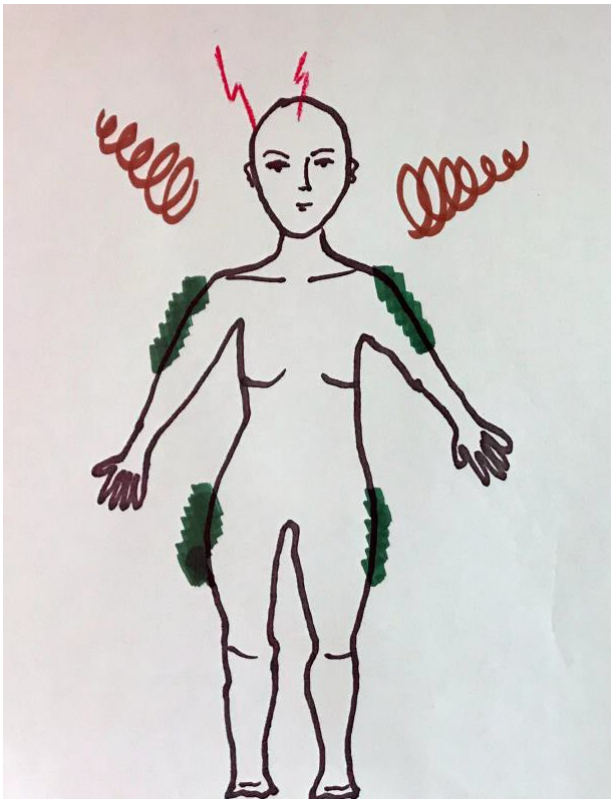


Pre-meditation



Post-meditation

Image 4. Participant Four



Pre-meditation



Post-meditation

Image 5. Participant Five

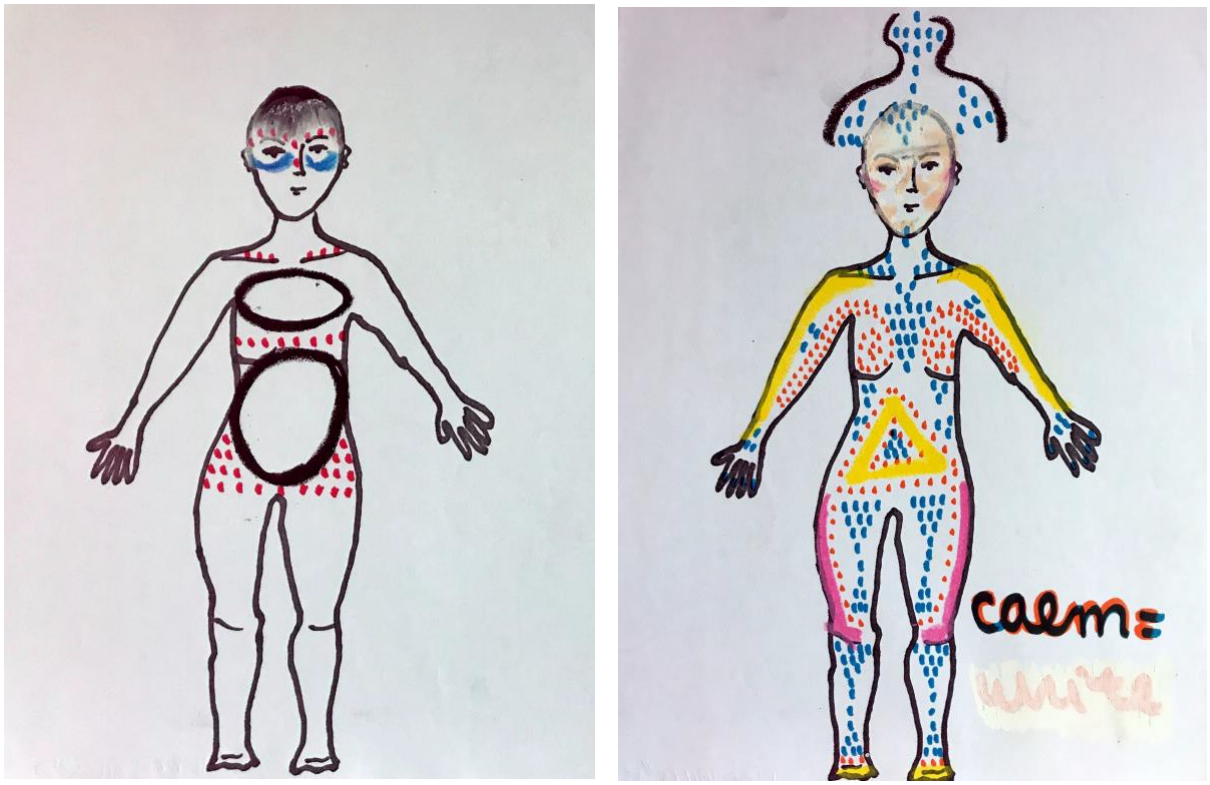


Pre-meditation



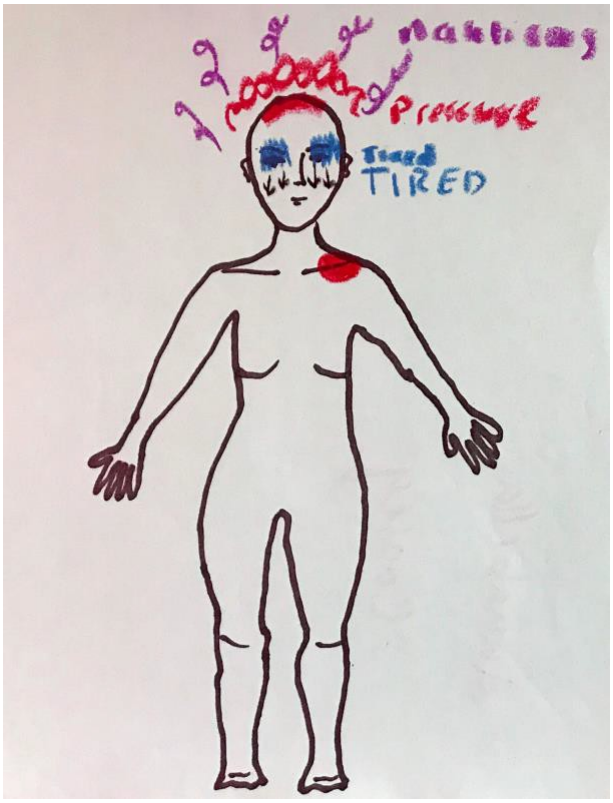
Post-meditation

Image 6. Participant Six



Pre-meditation *Post-meditation*

Image 7. Participant Seven

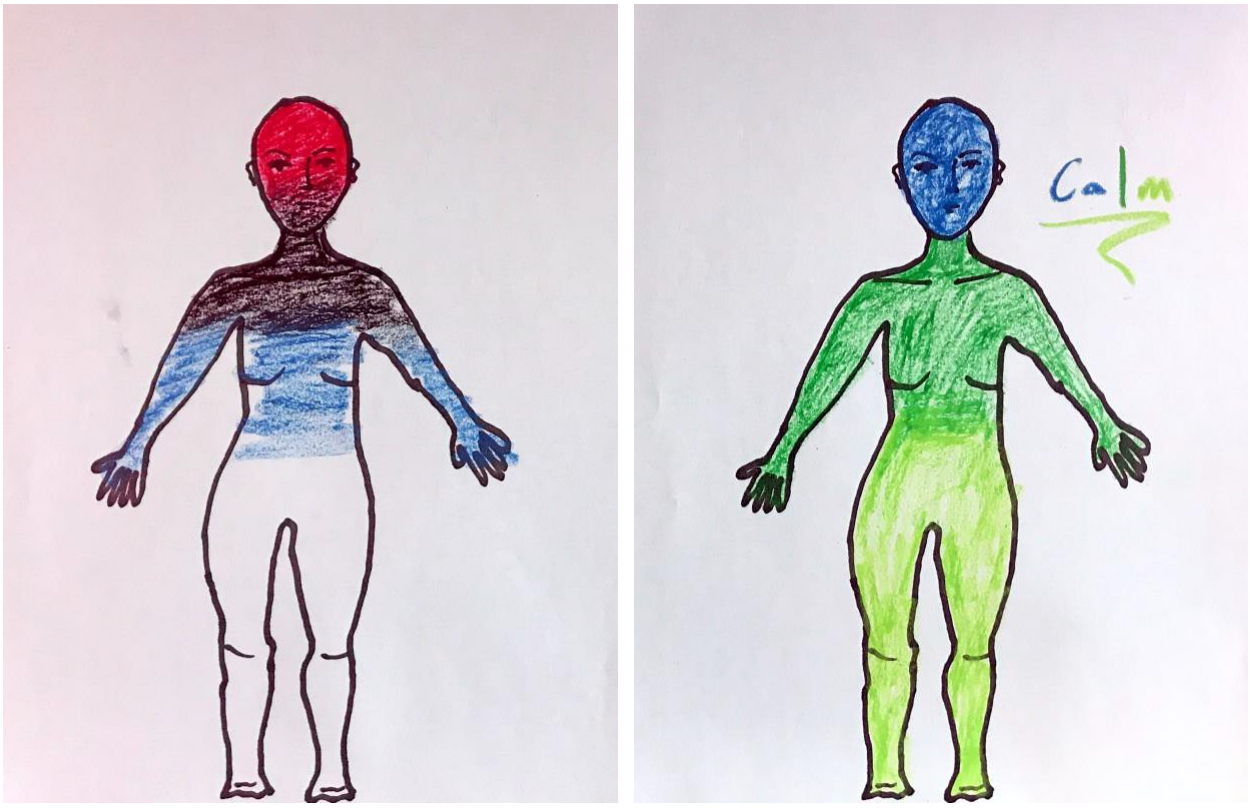


Pre-meditation



Post-meditation

Image 8. Participant Eight



Pre-meditation *Post-meditation*

Appendix D

Pre- and Post-Mindful Eating Exercise Images

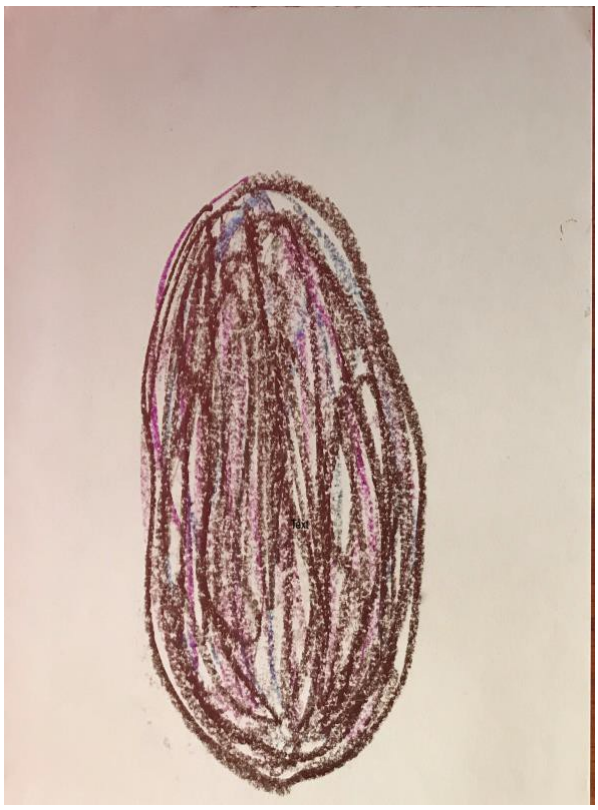
Appendix D: Pre- and Post-Mindful Eating Exercise Images

Image 1. Participant One



Pre mindful eating activity *Post mindful eating activity*

Image 2. Participant Two

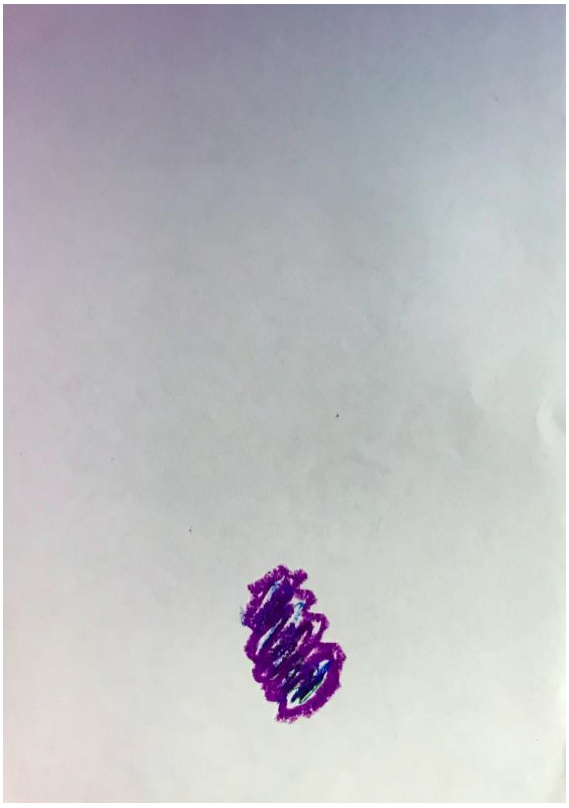


Pre mindful eating activity

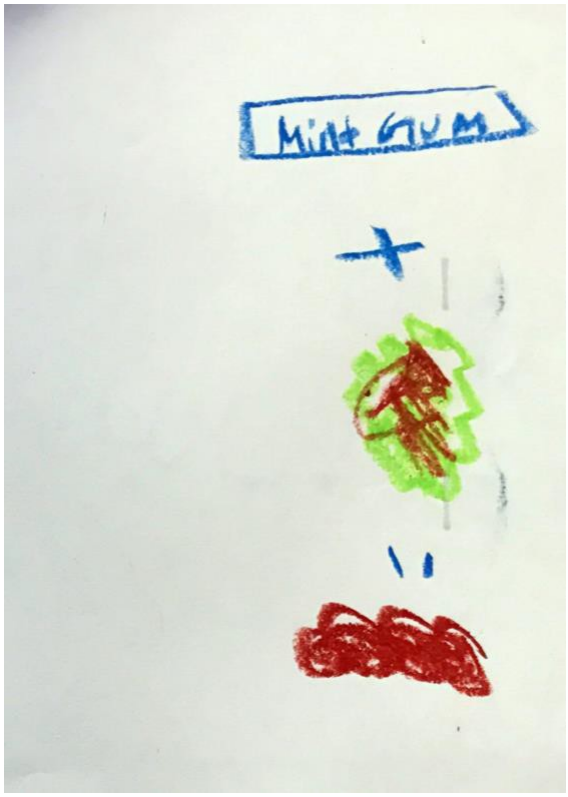


Post mindful eating activity

Image 3. Participant Three



Pre mindful eating activity



Post mindful eating activity

Image 4. Participant Four

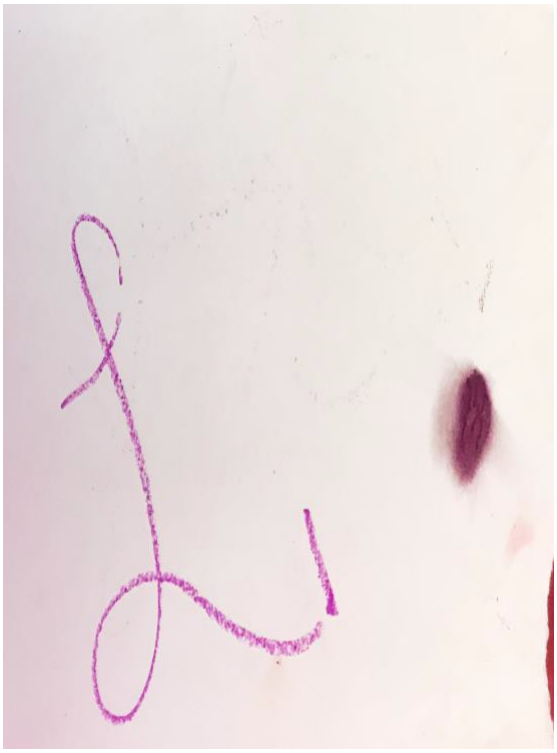


Pre mindful eating activity



Post mindful eating activity

Image 5. Participant Five



Pre mindful eating activity



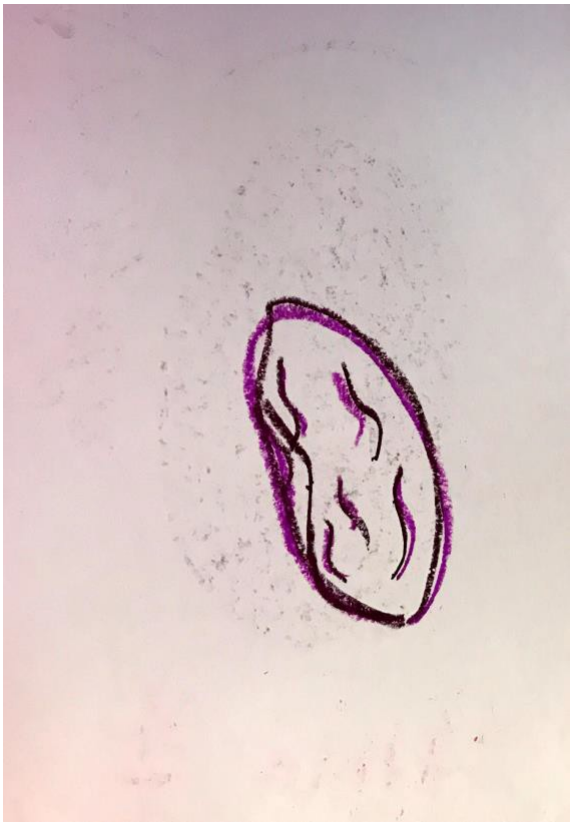
Post mindful eating activity

Image 6. Participant Six



Pre mindful eating activity *Post mindful eating activity*

Image 7. Participant Seven



Pre mindful eating activity



Post mindful eating activity

Image 8. Participant Eight



Pre mindful eating activity *Post mindful eating activity*

Appendix E

Pre- and Post-Loving Kindness Meditation Images

Appendix E: Pre- and Post-Loving Kindness Meditation Images

Image 1. Participant Two



Pre-meditation *Post-meditation*

Image 2. Participant Three



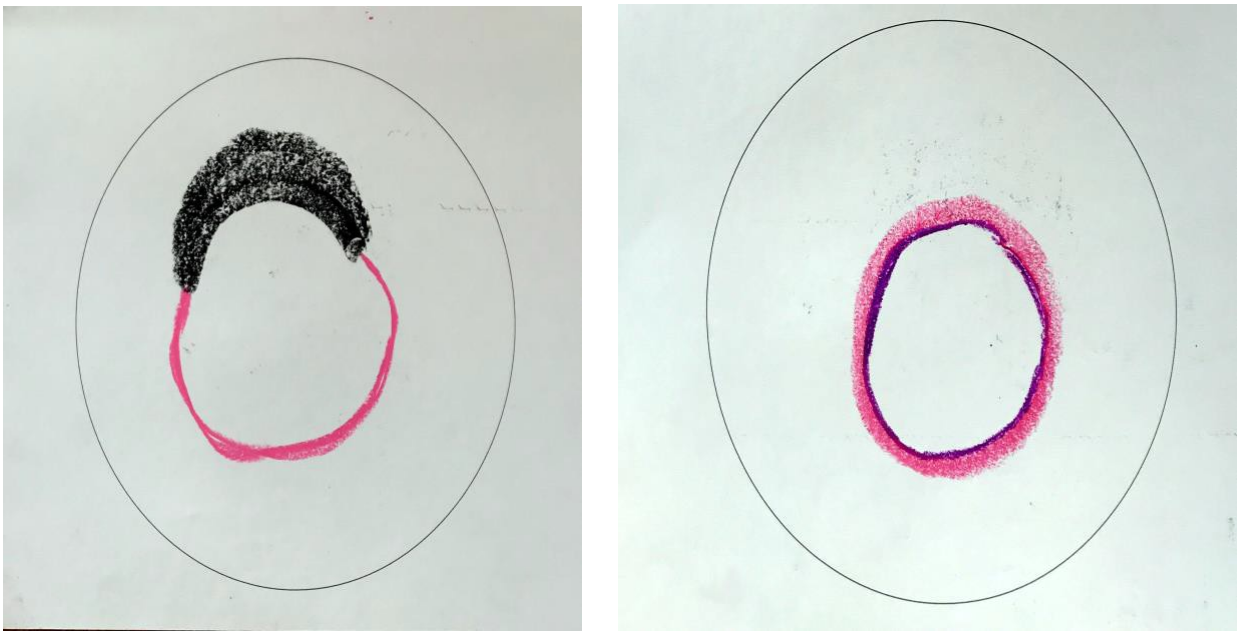
Pre-meditation *Post-meditation*

Image 3. Participant Five



Pre-meditation *Post-meditation*

Image 4. Participant Six



Pre-meditation *Post-meditation*