

Benefits of a Mindfulness Based Art Therapy Approach when Working with Trauma

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By

Rachel Cleary

Chair: Erin Rafferty-Bugher, ATR-BC, LPCC

Reader: Katie M. Kinzer, MA, LPCC

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Abstract

Research has shown that art therapy is a beneficial therapeutic alternative to traditional psychotherapy. Additionally, studies have shown the benefits of mindfulness-based practices for health and overall well-being. The purpose of this experiential project is to provide a review of information to examine the benefits of combining mindfulness and art therapy practices when working with individuals who have experienced trauma. Through examining the negative impact on the brain and human functioning in relation to traumatic experiences, neuroplasticity research helps to support the benefits of art therapy and mindfulness as a means of healing from trauma.

Keywords: Art therapy, mindfulness, trauma, Individual Psychology, neuroplasticity

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Benefits of a Mindfulness Based Art Therapy Approach when Working with Trauma

Therapeutic service providers are focusing their attention on trauma informed care due to expanding research on the impact of trauma on an individual. Obtaining information related to a potential trauma history is helpful for the therapist to provide supportive care. Art therapy and mindfulness practices have been linked to successful treatment outcomes for individuals with a history of trauma. Common symptoms related to trauma may impact daily functioning and overall quality of life. Art therapy and mindfulness approaches target emotional regulation within the mind and body that can assist with the regulation and modification of negative symptoms connected to trauma responses. This paper will provide information related to the neurobiological components affected by trauma while including the changes to brain functioning and structure with the use of art therapy and mindfulness-based practices.

Understanding Trauma

According to Boyd, Lanius, and McKinnon (2018), between 60 and 75% of people in North America will experience a traumatic event during their lifetime. Defining a traumatic event is complex and is based on how the individual experiences the event. Many factors influence how an individual perceives a traumatic event. According to the American Psychiatric Association (2013), Posttraumatic Stress Disorder (PTSD) may apply to an individual who experiences or witnesses a traumatic event such as “threatened death, serious injury, or sexual violence” (p. 271). Exposure to a traumatic event, however, does not necessarily lead to the development of PTSD (Weinberg & Gil, 2016).

Depending on the type, severity, and frequency of the traumatic experience, the individual may have complex or cumulative trauma. *Complex trauma* consists of “exposure to multiple traumatic events that have been prolonged and repeated” (Stace, 2014, p. 12). Some circumstances for complex trauma include sexual or physical abuse, neglect, and domestic

violence. *Cumulative trauma* is defined as two or more traumatic experiences that are not similar to one another, occurring over the individual's lifetime (Samuels-Dennis, Ford-Gilboe, Wilk, Avison, & Ray, 2010). In addition to the specific exposure and type of traumatic event, resiliency - the way the individual processes the event - is another factor to consider in understanding the impact of the trauma (Boals & Schuettler as cited in Naff, 2014). The therapeutic needs differ depending on the various circumstances involved. Adlerian theory can assist in determining therapeutic interventions by providing a framework for understanding an individual's lifestyle in relation to their response to trauma.

Adlerian Approaches to Trauma

“Individual Psychology stresses that the individual needs to be understood holistically, as every biological, psychological, and social aspect is dynamically and systematically connected” (Millar, 2013, p. 250). Through a holistic perspective, all aspects of functioning are considered to be connected to the lifestyle. According to an Adlerian approach to trauma, symptoms of trauma, although uncomfortable, provide a means of distracting the individual from further addressing the tasks of life (Strauch, 2001). The avoidance of facing and processing difficult feelings and memories associated with trauma serve as a safeguarding technique for the traumatized individual, in turn sustaining and increasing negative symptoms.

Symptoms of Trauma

According to a study conducted by Im & Follette (2016), the higher the number of traumatic events an individual experiences, the more likely they are to ruminate, which in turn increases symptoms and psychological distress related to the trauma. Other symptoms associated with trauma include involuntary and intrusive thoughts and memories associated with the event(s), dissociation, flashbacks, psychological distress upon encountering cues to the event(s), avoidance behaviors connected to the trauma, and alterations in mood and arousal

(American Psychiatric Association, 2013). “Detachment from one’s emotional states often occurs in response to repeated traumatization during which the traumatized individual is frequently unable to initiate defensive actions due to overwhelming feelings and emotions” (Lanius, Frewen, Tursich, Jetly, & McKinnon, 2015, para. 13). These symptoms are common among individuals with PTSD or those who have experienced trauma as a means of innate protection in order to cope on a daily basis. Trauma symptoms can significantly impact an individual’s daily life and have an effect on neurological responses and functioning.

Neuroscience of Trauma

The brain develops in a bottom up formation, beginning with the brainstem. The brainstem is considered the least complex and promotes survival and basic functioning. The human brain works to mediate all “emotional, cognitive, behavioral, social, and physiological functioning” (Perry, Pollard, Blakley, Baker, & Vigilante, 1995, p. 273). When an individual experiences trauma, these areas of functioning may be impaired. An infant brain in contrast to an adult brain is more malleable based on its inability to organize information the way a more mature brain does (Perry et al., 1995). The younger the individual is when a traumatic event occurs, the more likely he or she is to consider the event traumatic due to fewer reasoning and cognitive capabilities in comparison to an older individual’s ability to facilitate adaptation (Perry, 1997). Additionally, children who experience a traumatic event are considered more vulnerable as their brain is in an ongoing process of meeting important developmental milestones. These individuals may be more at risk compromised functioning with empathy, humor, attachment, and regulating affect (Perry et al., 1995).

The brain is split into two hemispheres, the right and left brain, which have different purposes related to human functioning and response. “The right is intuitive, emotional, visual, spatial, and tactual, and the left is linguistic, sequential, and analytical” (Van der Kolk, 2014, p.

44). Based on human development, the processing of right brain stimuli such as emotion and visual experience occur earlier in life. “Trauma that has not been healed through reconsolidation will be stored in the right hemisphere and may lack coherence or a complete narrative” (Perryman, Blisard, & Moss, 2019, p. 84). The left hemisphere of the brain is responsible for storing facts and verbal memories related to the event while the right brain focuses on sensory storage such as sight, touch, smell, and sound related to the emotions evoked during the traumatic experience (Van der Kolk, 2014). Different components connected to the trauma are stored in the appropriate brain region based on their function and purpose.

Experiencing trauma has lasting effects on an individual due to the neurobiological components involved. Van der Kolk (2014) described the brain by stating that “long after a traumatic experience is over, it may be reactivated at the slightest hint of danger and mobilize disturbed brain circuits and secrete massive amounts of stress hormones” (p. 2). This natural response to trauma can significantly impact to the individual’s daily functioning and overall quality of life. The human brain works to monitor and evaluate information related to an individual’s surrounding world. “These evaluations are transmitted by chemical messages in the bloodstream and electrical message in our nerves, causing subtle or dramatic changes throughout the body and brain” (Van der Kolk, 2014, p. 94). A reaction to stress in a non-traumatized individual has been shown to be significantly heightened in comparison to normal conditions. According to Van der Kolk (2014), within normal conditions, there is a temporary increase of stress related hormones when exposed to stress; however, the body is able to return to its baseline as soon as the threat is over. For an individual with symptoms of trauma, these hormones may be triggered by mild stress and the return to the baseline level requires more time. This can impact the individual’s daily functioning as their body is continually working to regulate itself in the face of minor stressors.

Humans are continually assessing their environment and experiencing sensory stimulation. “Sensitization may result when experience activates neurosensory apparatus, altering the pattern and quantity of neurotransmitter release throughout neuronal systems responsible for sensation, perception and processing of that specific experience” (Perry et al., 1995, p. 275). The human body’s sensory signals such as sight, sound, taste and touch can be linked to traumatic experiences. These sensory signals can alter neurons, which can ultimately affect brain structure as well as brain functioning (Perry et al., 1995). Conceptualizing the brain into areas of mental processing and development can assist with understanding brain functioning through a trauma informed perspective.

The Amygdala: “Fear Center”

The amygdala is the subcortical structure associated with automatic processing and is responsible for evoking a fight-or-flight response (Tabibnia & Radecki, 2018). An individual who has experienced trauma may have a hypersensitive amygdala response, making them more sensitive and reactive to their environment. When a person encounters a perceived threat, activity in the sympathetic nervous system increases and activates an alarm (Perry et al., 1995). In addition, hormones such as adrenaline and dopamine are connected to a fight-or-flight response. With traumatized individuals, these stress hormones heighten much faster when exposed to stressful stimuli, whether real or perceived, and require more time to return to their baseline levels (Van der Kolk, 2014). Reminders or triggers specific to the individuals traumatic experience activate the sympathetic nervous system response. With repeated exposure to potential threats, this alarm system is activated and reinforced.

Fight-or-flight responses are commonly understood as reactions to trauma; however, a freeze response can also occur. The innate response to freeze allows for the individual to focus on external cues such as sights and sounds and may pause movement as a form of hiding from a

potential threat (Perry et al., 1995). This process occurs with the intention of organizing information in order to respond safely and appropriately to the threat, whether real or perceived.

Dissociation is another freeze response common among traumatized individuals. In the instance of dissociation, the central nervous system is activated in the brainstem resulting in an increase of stress hormones (Perry, 1997). The process of dissociation involves complete disengagement from stimuli in the person's external environment as their attention is solely focused on their internal world (Perry et al., 1995). Some examples and other terminology for dissociation include depersonalization, derealization, fantasy, and daydreaming (Perry et al., 1995). The level and severity of the dissociative episode can be seen on a continuum depending on the individual. The more time the individual spends in a state of fear, the more likely they are to experience persistent hyperarousal symptoms (Perry et al., 1995).

The Prefrontal Cortex (PFC)

“Trauma produces actual physiological changes, including a recalibration of the brain's alarm system, an increase in stress hormone activity, and alterations in the system that filters relevant information from irrelevant” (Van der Kolk, 2014, p. 2-3). According to Liberman (as cited in Tabibnia & Radecki, 2018), regions of the brain that assist in controlled processing include the prefrontal cortex (PFC), the lateral prefrontal cortex, and the medial prefrontal cortex. When exposed to the stressor, the limbic system or emotional brain takes over the PFC and logical thinking systems, which can result in an inability to think clearly, essentially being shut down, thus leading to a fight-or-flight response (Ruisard, 2016). Neurons experience changes in response to these stress signals.

When an individual experiences a stressor that is acute and uncontrollable, his or her prefrontal cognitive abilities can be compromised including his or her working memory. With more prolonged exposure to these stressors, the prefrontal neurons can experience long term

damage (Arnsten, 2009). Long term exposure to stress and stress hormones can significantly impact the brain due to changes in cell growth in the amygdala which can cause neural damage to the hippocampus and PFC (Tabibnia & Radecki, 2018). Structural changes are seen in the PFC much sooner than within the hippocampus. A single exposure to stress can cause structural changes in the PFC whereas changes to the hippocampus typically occur after several weeks of exposure to stress (Arnsten, 2009). Through therapeutic interventions, some of these long-term effects can be or reduced or removed. Reducing and restoring the neural pathways related to trauma requires thoughtful therapeutic interventions, time, and effort. Each experience the individual encounters has the power to form, reinforce, or weaken the neural links connected to the trauma (Clark, 2017).

Treatment Approaches and Considerations

Common treatment approaches for PTSD and trauma include prolonged exposure therapy, cognitive behavioral therapy (CBT), and eye movement desensitization and reprocessing (Banks, Newman, & Saleem, 2015). Ongoing research works to understand the benefits of art therapy as an alternative treatment approach for trauma. “As science learns more about the connection between emotions and health, stress and disease, and the brain and immune system, art therapy is discovering new frontiers for the use of imagery and art expression in treatment” (Malchiodi, 2003, p. 16).

The experience of trauma can be repressed by the individual due to a desire to avoid the thoughts and emotions related to the trauma. “It is the task of the therapeutic interventions to begin to provide a set of alternative memories based upon trial after trial of neutral or positive interaction” (Perry, 1997, p. 11). This requires a thorough understanding of the client’s experience of trauma and associated symptoms to create a connection to memory. Art therapy provides a supportive framework to create new memories and detach from traumatic memories.

Treatment approaches for PTSD with large effect sizes include exposure therapy and cognitive processing therapy; however, it is evident that there is a need for other alternative treatments (Boyd et al., 2018).

Specific to people who have experienced cumulative trauma is the need for connection, guidance, validation of personal strengths, and recognition of their individual potential (Naff, 2014). In addition, an emphasis on establishing safety, assisting with regulating emotions and physiological effects, and improving coping and resilience when working with complex trauma are important therapeutic considerations (Kalmanowitz & Ho, 2017). Understanding the importance of the therapeutic support and relationship is necessary in providing relational care for those who have experienced trauma.

Therapeutic Relationship

The therapeutic relationship is an essential component in therapy. Humans are psychological beings and have an innate wiring for relational learning (Kapitan, 2010). It is important for therapists to assess the client's readiness to address their traumatic experiences while making sure to establish realistic and appropriate goals for them (Naff, 2014). A trusting therapeutic relationship can assist with this process to best understand the client's needs.

“Looking through the lens of attachment theory, there is a solid framework that supports the healing nature of the human connection inherent in the therapeutic relationship” (Ruisard, 2016, p. 279).

The right hemisphere of the brain connected to emotion can shut down and minimize the rational portion of the brain if the therapeutic relationship is not strong, which may negatively impact the client based on the potential for retraumatization (Rauch et al.; Schore, as cited in Perryman et al., 2019). Humans are known to be relational beings, and the brain develops in response to interactions with others (Ruisard, 2016). Focusing on helping the client feel a sense

of safety in therapy is necessary in helping them open up and begin the therapeutic process. “Unconditional positive regard for the client was seen as crucial, given that traumatized people generally are in need of emotional support” (Naff, 2014, p. 82). An individual with a history of trauma may also experience a heightened sense of shame or guilt. Carl Rogers (1957) defined empathy as “the therapist’s sensitive ability and willingness to understand clients thoughts, feelings and struggles from their point of view” (p. 98). Through developing a trusting and supportive therapeutic alliance, the client may feel more comfortable sharing his or her trauma in order to get the necessary treatment and support.

Art Therapy and Trauma

The use of art therapy when working with trauma requires a thoughtful and strategic approach. Art therapy provides a unique alternative for processing information related to life experiences. Margaret Naumburg, a leading figure in the field of art therapy “concluded that art psychotherapy was equal or superior to verbal therapy in its ability to release repressed material” (Hinz, 2009, p. 24). In a contemporary model of trauma theory, “the experience of a traumatic event is understood as unavailable to memory, because the event was itself experienced without any awareness, even unconscious awareness” (Levine, 2009, p. 71). Creative art processes in therapy are helpful when working with trauma due to the ability to access nonverbal material and information (Kalmanowitz, 2016). The therapist assists in the process of retrieving and re-awakening the memories in order to re-experience these memories in a safe and therapeutic environment (Levine, 2009).

The integration of creative arts modalities with talk therapy may be beneficial to an individual who experienced a fight-or-flight response to their traumatic event (Perryman et al., 2019). The use of creativity involves a mind and body experience, which assists with processing and working through trauma. Through specific art techniques connecting the mind and body, the

therapist can work with the client to understand his or her response to the trauma. Individuals who respond to trauma with a freeze reaction or have an immobilized response may especially benefit from the kinesthetic process of creating art through movement (Perryman et al., 2019).

Additionally, art therapy can function as a less intimidating approach to reveal trauma. Art functions as an alternative form of expressing trauma and may provide a more profound experience with long lasting benefits as opposed to standard treatment forms (Mandić-Gajić & Špirić, 2016). “Because the brain changes in a use-dependent fashion and organizes during development in response to experience, the specific pattern of neuronal activation associated with the acute responses to trauma are those which are likely to be internalized” (Perry et al., 1995, p. 283). Art therapy serves as a modality to expose the internalized trauma response, helping the individual to become aware of their innate response to daily stressors.

The interpersonal environment involved in art therapy assists in creating a foundation for safety and security which is a necessary component in brain development (Kapitan, 2010). The art can also assist in creating a nonverbal conversation between the therapist and the client and allows for the therapist to witness the processing of difficult experiences in a non-judgmental way. It can help to create an alliance between the client and therapist, showing their willingness to collaborate (Duncan, Miller, Wampold, & Hubble, 2009).

Creating safety is essential with trauma processing in order to prevent a dangerous or negative experience for the client. “Art therapy accesses chaotic feelings, perhaps unconsciously expressing feelings of invasion and loss of boundaries” (O’Brien, 2004, p. 5). The art can create a sense of containment for the individual as the brain works to activate multiple systems within the brain connected to the traumatic memory (Saltzman, Matic, & Marsden, 2013). The use of materials that are considered to be highly structured can help to create a sense of containment and provide the feeling of being in control (Naff, 2014).

The process of art making in a session can help diffuse tension as it allows the client to alter the focus from the self and onto another physical object (Naff, 2014). The art process and product can be useful in understanding the client's trauma through a process of reflection. Additionally, "clients may come to view their artwork as an extension of their sense of self" (Naff, 2014, p. 82). This may assist in the externalization of the trauma experience in order to help with processing and healing. The artwork and process of art making with the therapist as a witness can promote feelings of connection and community.

Social Interest

"Social interest is a humanistic concept that stems from the idea of a progressive improvement of the human condition" (Oberst & Stewart, 2012, p. 17). Adler believed that social interest is central to healthy human functioning (Paige, DeVore, Change, & Whisenhunt, 2017). The Adlerian concept of striving for perfection is related to social interest based on human needs. "This goal of perfection must contain the goal of an ideal community, because everything we find valuable in life, what exists and what will remain, is forever a product of this social feeling" (Carlson & Maniaci, 2012, p. 52). Within the Adlerian understanding of trauma, the degree of the individual's social embeddedness is connected to resiliency and the way the individual responds or is affected by trauma (Strauch, 2001). Alfred Adler's holistic approach to understanding human nature includes "the person's creative solutions to overcome feelings of inferiority and insecurity in order to meet the essential needs to belong and to strive toward meaning" (Millar, 2013, p. 245). The impact of trauma on an individual may create feelings of inferiority. Increasing social interest and community feeling is necessary in the process of healing from trauma as it creates a supportive foundation to process and feel connected to others while expressing complex feelings. The use of art therapy can assist in identifying the

individual's strengths as the therapist promotes social interest through witnessing and providing encouragement.

The Creative Self: An Adlerian Influence

The process of encouraging an individual to engage in creative processes can provide the therapist with an opportunity to activate and engage the individual's creative self (Nystul, 1978). "Adler supposes that there is a creative force inborn to the child, which increases with activity; it enables people to make their own decisions and to develop their opinions on what happens to them" (Oberst & Stewart, 2012, p.12). In Adlerian theory, the individual is seen in a holistic manner. The way the individual responds to situations such as traumatic events reveals their individual uniqueness and personal traits. In promoting healing and change within trauma, "mere exploration of goals and intentions may not be sufficient to stimulate client change, and may, in some cases, actually reinforce the individual to maintain his or her current orientation" (Chandler, 1991, p. 222).

The concept of *encouragement* is common among Adlerian psychotherapy. Encouragement may apply to traumatized individuals who feel a sense of discouragement and require motivation to process their trauma. "Encouragement is important to creativity because in order for an individual to cope creatively with life, innovative and unique ways of living must be fostered and encouraged" (Lemire, 1998, p. 111). Providing a space for the individual to express themselves creatively can assist in the process of helping them cope with their trauma.

Expressive Therapies Continuum and Trauma

The use of different mediums and approaches evoke different therapeutic responses and experiences (Hinz, 2009). The expressive therapies continuum (ETC) provides a foundation for understanding art media with brain processing based on the stages of development. "The ETC organizes media interactions into a developmental sequence of information processing and image

formation from simple to complex” (Hinz, 2009, p. 4). The ETC begins on a non-verbal kinesthetic and sensory level and moves towards more complex cognitive and symbolic concepts.

Tactile stimulation with the use of art materials helps the individual shift his or her focus onto external sensations which can lead to realizations regarding their internal state and emotions (Hinz, 2009). In regard to working with traumatized individuals, this is beneficial as it increases internal awareness which may be suppressed as a result of trauma. Kinesthetic and sensory experiences begin during childhood on a preverbal level. The information a child takes in is predominately through their senses until they are able to process their environment on a higher cognitive level.

Art allows for the individual to engage in sensory, kinesthetic, as well as cognitive processing. Art therapy creates a connection to the body and somatic responses related to the trauma which can assist with promoting self-regulation of the body as a mechanism for coping (Kalmanowitz & Ho, 2017). Art in combination with therapeutic approaches can assist with the neurobiological processing of the trauma narrative and imagery through verbal and non-verbal methods (Hass-Cohen, Findlay, Carr & Vanderlan, 2014, p. 69). The trauma gets stored as a somatic memory when the body provides information to the mind, just as the mind provides information to the body (Riley, 2004). “Although verbal memory is stored in the prefrontal cortex, many traumatic memories are nonverbal and stored in the visceral response centers of the limbic system” (Naff, 2014, p. 85). Making a mess in art functions on the kinesthetic and sensory level of the ETC. The processes of creating a mess in art therapy can help to access preverbal memory (O’Brien, 2004). Through the use of art processes, stored traumatic memories and events can surface in the artwork and through somatic experiences connected to the stored somatic memory (Riley, 2004). It is important to be cautious when using loose and messy

materials in art therapy as this can cause emotional dysregulation. Understanding how and when to contain this process is necessary for the therapist to maintain safety in processing trauma.

Certain art practices can work to stimulate and engage all areas of the continuum. “Artistic practice can access imagination, creativity, the ability to symbolize, to work cognitively as well as kinesthetically, and parallel the different levels of brain functioning” (Kalmanowitz, 2016, p.76). On the more complex levels of the continuum, symbolic expression and connections are possible. As the individual becomes more capable of conceptualizing, verbalizing, and understanding their trauma, the easier it is to understand abstract thought and engage in problem solving skills that exist on the cognitive level of the ETC (Hinz, 2009). Engaging in media that evokes the cognitive level will continue to increase the individual’s cognition skills. According to Hinz (2009), “creative problem solving encourages contact with healing inner wisdom, increases self-acceptance, and promotes peaceful self-understanding” (p. 142) which are important aspects of trauma recovery.

The use of art therapy can work to reveal the internalized trauma the individual carries in a non-threatening approach with the use of symbolism. According to Chapman, “the art media, as the facilitator of expression, allows for the creation of symbols and metaphors which become a psychological mechanism for change” (Chapman, as cited in Perryman et al., 2019, p. 83). The use of metaphors and symbolism also provide of means of creating distance in externalizing the trauma (Kalmanotiwz, 2016). For some individuals, however, a result of their trauma may include difficulties in functioning outside of their cognitive state. “Clients who have not gained the ability to move past concrete experiences and generalize beyond their own life events may not be able to profit from use of the Symbolic component of the Expressive Therapies Continuum” (Hinz, 2009, p. 158-159). If their cognitive thinking process is dominant,

processing on the symbolic level may be more difficult and ultimately blocked (Hinz, 2009). Through art therapy work, this ability may be brought forward.

Brain Changes with the Use of Art

Art therapy creates an opportunity for an individual to process his or her trauma through a unique and effective approach. In a study examining brain activity during the process of drawing, researchers determined “that even simple drawing involves complex interactions between many parts of the brain” (Frith & Law, as cited in Malchiodi, 2003, p. 19). Both the right and left hemisphere of the brain are necessary in the process of art expression (Malchiodi, 2003). “Unlike talk therapy, art therapy helps to build new networks through imaging, patterning, somatic sensory cues, touch, and movement” (Kapitan, 2010, p. 159). The creative arts process not only helps to access stored trauma, but it helps in the modification and creation of new neural processes.

Understanding memory storage as either explicit or implicit is important for trauma work. This is another benefit of art therapy as it allows for the client to reconnect both the implicit (sensory) memories related to the trauma and the explicit or declarative memories in a safe and less threatening manner (Malchiodi, 2003). “Art expression may help to bridge the implicit and explicit memories of a stressful event by facilitating the creation of a narrative through which the person can explore the memories and why they are so upsetting” (Malchiodi, 2003, p. 21). This process may assist in helping the individual find meaning within his or her trauma.

Emotional regulation. When processing trauma, emotional regulation helps to protect the client from overwhelming feelings or experiences. The client can engage in emotional regulating art processes as a means of healthy coping and to prevent emotional dysregulation. The use of art therapy techniques for regulating emotions involves the amygdala as a means of integrating components of emotion (Lusebrink, 2004). “The amygdala activates in response to

fear and threat associated with the abuse or assault while the prefrontal cortex works to regulate these intense feelings (as cited in Salzman et al., 2013, p. 227). When processing trauma, art can provide an alternative modality in emotional regulation based on the physical handling of art materials providing a sense of grounding (Clark, 2017).

Left and right brain processes. Perryman et al. (2019) proposed that it is necessary to understand how the left and right hemispheres of the brain function with the use of creative arts therapies. “Neuropsychological research in trauma and trauma recovery has found that unresolved trauma leads to dysregulation of the emotional centers of the (right) brain, making them less amenable to regulation by the cognitive, rational centers of the (left) brain” (Schoore; Taylor et al., as cited in Hinz, 2009, p. 136).

Both the right and left brain are involved in the process of art making which is necessary for integration and to create movement in trauma processing (Malchiodi, 2003). In terms of art making, the right hemisphere creates and stores images (O’Brien, 2004). Emotions are typically processed within the right hemisphere of the brain which is predominately intuitive and works to process negative emotions such as fear and sadness (Lusebrink, 2004). Alternatively, the left hemisphere is responsible for analytical and sequential processing (Lusebrink, 2004). According to Van der Kolk (as cited in O’Brien, 2004), individuals who re-experienced their trauma showed an increase in activity in the right hemisphere of their brain.

Mindfulness Based Practice

The practice of mindfulness originates from the Buddhist tradition of observing one’s thoughts in the present moment with a non-judgmental mindset (Yang et al., 2016. “Mindfulness emphasizes the importance of observing a wide range of stimuli as a whole, including one’s own internal sensations as well as external phenomena outside the body” (Murakami et al., 2015, p. 2). Proponents of mindfulness-based practices believe that through engaging in the present

moment, the individual can experience a sense of peace, clarity, and be free from suffering (Clark, 2017). The use of mindfulness-based interventions (MBIs) has increased significantly over the past 15 years (Dimidjian & Segal, 2015). “Adopted in western societies among enthusiasts of transcendental and metaphysical practices, mindfulness increasingly attracted scientific research to become recognized as an effective psychological practices for stress, pain management, and mental health problems” (Grecucci, Pappaianni, Siugzdaite, Theuninck & Job, 2015, p. 2).

Mindfulness Practices for Trauma

Mindfulness practices for healing trauma aim to reduce avoidance behaviors, target emotional regulation, and increase distress tolerance (Banks et al., 2015). Today, mindfulness practices are commonly associated with cognitive behavioral therapy (CBT) and dialectical behavioral therapy (DBT). Dialectical behavioral therapy is a framework created by Marsha Linehan that integrates components of CBT and mindfulness practices. “Mindfulness is the first module taught in DBT skills training and is considered the most important because effectively practicing the other skills requires this basic ability to achieve and maintain attention” (Clark, 2017, p. 85).

“*Decentering*, central to both CBT and mindfulness, involves changing one’s relationship to one’s thoughts and emotional experiences by observing them with a greater degree of objectivity” (Clark, 2017, p. 83). Symptoms of PTSD can be managed through the use of anxiety management strategies, which are frequently utilized in CBT. These treatments include “relaxation training, breathing exercises, fostering mindful awareness, decreasing ruminations, and thought stopping to decrease distressing thoughts and associated worries” (Lanius et al., 2015, para. 15). Within the approach of CBT, individuals are taught to practice ways of developing alternative relationships to unpleasant somatic experiences, thoughts, and emotions

(Coholic, 2010). “Increasing awareness of bodily sensations and encouraging the individuals to map what sensations are associated with specific emotions may therefore be an important strategy in overcoming emotional detachment” (Lanius et al., 2015, para. 14). This mindfulness approach for working with trauma helps the individual to become aware of when they are experiencing sensations, emotions, and thoughts that may take them out of the present and into their past memories or experiences (Kalmanowiz, 2016). With the integration of mindfulness, the individual can begin to practice being present in their body to gain more self-control and heighten their sense of awareness.

Emotional suppression is a common symptom of trauma due to the desire to avoid and escape from experiencing one’s emotions (Murakami et al., 2015). Avoidance behaviors of situations related to traumatic events and processing of the trauma are common due to negative associations. Mindfulness training and specific skill work can help to address these avoidance behaviors while moving towards acceptance (Kalmanowitz, 2016). Practicing mindfulness can lead to a greater understanding of the self which assists in detaching the individual from previous traumatic events (Gordon, Staples, He, & Atti, 2016). “Controlled body awareness and sensation exercises can help trauma survivors to decrease hyperarousal symptoms, reconnect when dissociated from their body, and differentiate past trauma memories from here-and-now sensations” (Goodman & Calderon, 2012, p. 254). Through practicing being in the present moment, reductions in neural connectivity to trauma related stimuli may be possible (Boyd et al., 2018).

Another benefit includes developing helpful grounding techniques such a mindful breathing to strengthen coping skills in order to support the client through the processing of their trauma (Hass-Cohen et al., 2014). Survivors of trauma often engage in repetitive thinking patterns of their trauma or use strategies to avoid addressing or processing their experiences (Im

& Follette, 2016). “Mindful, intentional shifting of attention to the present moment fosters a capacity for attentional control and may lead to reductions in attentional bias to traumatic related stimuli” (Boyd et al., 2018, p. 8). With the use of mindfulness-based interventions, the individual can begin to observe and alter their state of mind to increase their attentional control.

Brain Changes Through the Use of Mindfulness Practices

Studies using neuroimaging have shown many positive connections related to mindfulness practices. The practice of meditation can create changes in brain connectivity both during meditation and in a resting state (Lardone et al., 2018). According to Tang, Hölzel, and Posner (2015), commonalities in research have found that “mindfulness practice leads to (or is associated with) a diminished activation of the amygdala in response to emotional stimuli during mindful states” (p. 218). Due to the fight-or-flight response occurring within the amygdala, mindfulness practice can work to regulate these responses. Research has shown that experienced meditators show enhanced activation within the anterior cingulate cortex (ACC; Tang et al., 2015). “The ACC may contribute to the maintenance of attention, alerting neural systems to solve the conflict by a top-down regulation mechanism that prioritizes cognitive control” (Grecucci, 2015, p. 3). As the individual increases and strengthens his or her emotional regulation skills through meditation, the amygdala will be less reactive, and the individual will be more in control of responses and reactions. With continuous practice of mindfulness meditation, long term structural changes are possible (Lardone et al., 2018).

Emotional regulation with mindfulness practices. *Emotional regulation* is a necessary function that helps humans adapt to their environment (Murakami et al., 2015). “Emotional regulation refers to strategies that can influence which emotions arise and when, how long they occur, and how these emotions are experienced and expressed” (Tang et al., 2015, p. 218). Neurobiological models related to PTSD examined a loss of top-down brain processing within

the amygdala, in turn causing heightened emotional reactivity such as hypervigilance and a heightened startle response (Boyd et al., 2018). Mindfulness meditation has been found to enhance emotional regulation (Tang et al., 2015). According to Boyd et al. (2018), the use of mindfulness-based practices may work to restore top-down processing, thereby increasing emotional regulation among individuals with PTSD.

“Research shows that mindfulness-based treatments have the potential to target emotional undermodulation (associated with hyperarousal and intrusion symptoms) and emotional overmodulation (associated with dissociative symptoms)” (Boyd et al, 2018, p. 21). In a study by Im & Follette (2016), “individuals with higher mindfulness were less likely to engage in ruminative thinking, which in turn was linked to lower levels of trauma related symptoms” (p. 403). Mindfulness helps the individual shift from ruminating thought patterns to being more present (Im & Follette, 2016).

Guided imagery for trauma. “Imagery techniques are especially helpful during the synthesis of traumatic memories (Van der Hart, 2012, para. 17). Guided imagery can support the recreation or stimulation of an individual’s senses. “Various devices are used in guided imagery, such as audiotapes of verbal suggestions, music or sounds of nature, pictures of places or objects, scents or aromas” (Veena & Alvi, 2016, p. 198). A study conducted by Gordon et al., (2006) determined that the practice of guided imagery with relaxation techniques significantly decreased PTSD related symptoms in refugee children. “When an individual faces chronic or prolonged traumatizing events, particularly in childhood when integrative capacity is naturally lower due to developmental limitations, dissociation can become more complex and chronic” (Van der Hart, 2012, para. 4). The process of engaging in a vivid guided imagery practice allows for the individual to explore potential situations in a safe manner to manage dissociative episodes related to their trauma response.

The integration of guided imagery with trauma processing can allow for the individual to feel a sense of confidence, protection, and relaxation while exploring events that were formerly stressful, all while remaining in a calm state (Van der Hart, 2012). The imagery instruction involved in guided imagery can recreate existing pathological beliefs within the client's mind (Moral, 2017). Through this process of engaging in guided imagery, the individual can begin to better understand their learned responses and explore ways to manage those responses. With a consistent practice of mindfulness meditation, arousal connected to daily stressors have been shown to be reduced as the individual works to increase emotional regulation and control over stimuli (Moral, 2017).

Creating safety. Bruce Perry (2006) considers the relational aspect in the therapeutic environment as one of six essential elements of therapy. The initial stage of therapy should consist of building a safe and trusting relationship between the therapist and the client. According to Perry (2006), it is important that the “activities are provided in a healthy relational context; this is necessary to provide the sense of safety and predictability necessary for optimal healing and learning” (p. 49). With an established and trusting relationship, the client can explore their trauma with a feeling of safety.

There are important safety considerations when using guided meditation and imagery with a client who has experienced trauma in their lifetime. With the use of guided imagery, unwanted, involuntary, or negative emotions and memories may arise (Moral, 2017). When processing traumatic memories, the therapist can guide the individual through images of highly contained spaces or items to provide a sense of containment and safety (Van der Hart, 2012).

Acting “as if” with mindfulness approaches. “In the traditional approach to using the acting ‘as if’ technique, counselors ask clients to begin acting as if they were already the person they would like to be” (Watts & Garza, 2008, p. 114). With mindfulness practices and guided

imagery, the individual can imagine and reflect on an experience of being free of their symptoms related to their trauma. The intentional mindfulness guidance can assist in this process. A mind and body connection may be beneficial in this process as symptoms of trauma are both somatic and cognitive. Acting *as if* they are separated from their encounter and experience of trauma may help with emotional regulation and coping skills to utilize on a daily basis to manage and reduce symptoms connected to their trauma.

Mindfulness Techniques in Combination with Art Therapy

Art therapy can be utilized to help access a relaxation response within the body (Malchiodi, 2003). The use of visual art activities are used as mindfulness based practices through the intention of being mindful and present. “Both art therapy and mindfulness can lead to a potential for the individuals to gain distance from the overwhelming nature of emotions” (Kalmanowitz, 2016, p. 81). While mindfulness practices can be learned through basic communication, the incorporation of the arts provide a tangible experience to teach and practice mindfulness. Additionally, the use of different art materials provide a sensory experience which engage the individual in different textures, colors, and movement, providing an opportunity to reflect on mindful decision making.

Cognitive behavioral therapy influences. “Cognitive-behavioral therapy (CBT) is an evidence-based, practical, and goal-oriented treatment that targets specific problems in the here-and-now” (Clark, 2017, p. 60). Cognitive-behavioral therapy is a framework that combines art therapy with mindfulness (Kalmanowitz & Ho, 2017). Although CBT primarily functions on a language-based cognitive level, the use of visualization is also utilized. In this framework of mindfulness and art therapy with CBT, the individual can create “concrete pictorial representations of their negative thoughts and assumptions, which they then challenge with images of more rational/desirable cognitions” (Clark, 2017, p. 65).

Focusing-oriented art therapy. Focusing-Oriented Art Therapy (FOAT) is a theoretical model that combines the use of art with a mind and body practice (Rappaport, 2008). To better understand the benefits of FOAT, examining a person's bodily experience helps to understand new growth within the individual. Gendlin (1981) defined the term *felt sense* as the "global bodily way one experiences something" (p. 13). "Focusing accesses the inner sanctum of our ongoing experiential process, while art is a natural expression for communication of life's meaning" (Rappaport, 2008, p. 139). Through connecting art processes with an inner sense of self, bodily reactions and learned responses related to the trauma experience may be modified. Focusing provides a welcoming sense to what may be considered traumatic or frightening. The art making engages the *felt sense* through a somatic and bodily experience (Rappaport, 2008). Creating safety for the client is essential with FOAT based on the involvement of somatic experiences that may trigger negative feelings. This process creates an opportunity for healing and growth as the client works to manage and experience challenging feelings with the support of the therapist.

Concluding Thoughts and Considerations for Future Research

Symptoms associated with trauma can affect the individual on both a conscious and unconscious level. Post-traumatic stress disorder may inhibit the individual's emotional processing due to repressed memories and neurobiological changes associated with the experience of trauma (Hinz, 2009). The integration of a mind and body approach when working with trauma has shown positive results. Engaging in sensory stimulation processes can work to evoke information processing to bring the trauma into a conscious state. The sensory experience involved in both art therapy and mindfulness practices provide an opportunity to regulate emotions and develop healthy approaches to live in the present moment thus diminishing challenging symptoms resulting from the trauma.

Neuroscientific research on trauma and successful treatment outcomes display the connection between neurological changes with the use of art therapy and mindfulness practice. These alternatives to talk therapy provide a safe space to reveal and express traumatic memories, thoughts, and experiences as a means of changing neural pathways and creating new neural connections.

Building a trusting therapeutic relationship allows for the individual to feel safe when processing challenging experiences. Additionally, this creates a sense of community feeling as the therapist witnesses the individual's trauma through their expression while promoting social interest. The process of art expression also allows for the therapist to observe the client's creative self, to understand their lifestyle, and assist by providing encouragement.

Although art therapy and mind and body research for trauma is available, these approaches are considered new to the field of therapy. "Fortunately, with the advent of increasingly sophisticated technology that has broadened an understanding of the brain and its relationship to the body, more evidence is emerging that will demonstrate why, how, and with whom mind-body interventions are effective" (Malchiodi, 2003, pp. 17-18). The information supported in this experiential project emphasizes the beneficial findings related to trauma work within an expressive therapy's framework. With ongoing research, there is a hope for more empirical data supporting these results to strengthen the field of trauma work, mindfulness, and art therapy.

References

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.
- Arnsten, A. F. T. (2009). Stress signalling pathways that impair prefrontal cortex structure and function. *Nature Reviews Neuroscience*, *10*(6), 410–422. <https://doi.org/10.1038/nrn2648>
- Banks, K., Newman, E., & Saleem, J. (2015). An overview of the research on mindfulness-based interventions for treating symptoms of posttraumatic stress disorder: A systematic review. *Journal of Clinical Psychology*, *71*(10), 935–963. <https://doi.org/10.1002/jclp.22200>
- Boyd, J. E., Lanius, R. A., & McKinnon, M. C. (2018). Mindfulness-based treatments for posttraumatic stress disorder: A review of the treatment literature and neurobiological evidence. *Journal of Psychiatry & Neuroscience*, *43*(1), 7–25. <https://doi.org/10.1503/jpn.170021>
- Carlson, J., & Maniacci, M. P. (2012). *Alfred Adler revisited*. New York, NY: Routledge.
- Chandler, C. K. (1991). Tapping creative personal power. *Individual Psychology: The Journal of Adlerian Theory, Research & Practice*, *47*(2), 222–228. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=keh&AN=9103498&site=ehost-live>
- Clark, S. M. (2017). *DBT-informed art therapy: Mindfulness, cognitive behavior therapy, and the creative process*. London, UK: Jessica Kingsley.
- Coholic, D. (2010). *Arts activities for children and young people in need: Helping children to develop mindfulness, spiritual awareness and self-esteem*. London, UK: Jessica Kingsley.
- Dimidjian, S., & Segal, Z. V. (2015). Prospects for a clinical science of mindfulness-based intervention. *American Psychologist*, *70*(7), 593–620. <https://doi.org/10.1037/a0039589>

- Duncan, B. L., Miller, S. D., Wampold, B. E., & Hubble, M. A. (2009). *The heart and soul of change: What works in therapy* (2nd ed.). Washington, DC: American Psychological Association.
- Gendlin, E. T. (1981). Focusing and the development of creativity. *The Focusing Folio*, 1(1), 13-16. Retrieved from http://www.focusing.org/gendlin/docs/gol_2062.html
- Goodman, R. D., & Calderon, A. M. (2012). The use of mindfulness in trauma counseling. *Journal of Mental Health Counseling*, 34(3), 254–268.
<https://doi.org/10.17744/mehc.34.3.930020422n168322>
- Gordon, J. S., Staples, J. K., He, D. Y., & Atti, J. A. A. (2016). Mind–body skills groups for posttraumatic stress disorder in Palestinian adults in Gaza. *Traumatology*, 22(3), 155–164. <https://doi.org/10.1037/trm0000081>
- Grecucci, A., Pappaianni, E., Siugzdaite, R., Theuninck, A., & Job, R. (2015). Mindful emotion regulation: Exploring the neurocognitive mechanisms behind mindfulness. *BioMed Research International*, 2015, 1-9. <https://doi.org/10.1155/2015/670724>
- Hass-Cohen, N., Findlay, J. C., Carr, R., & Vanderlan, J. (2014). Check, change what you need to change and/or keep what you want: An art therapy neurobiological-based trauma protocol. *Journal of the American Art Therapy Association*, 31(2), 69-78.
[doi:10.1080/07421656.2014.903825](https://doi.org/10.1080/07421656.2014.903825)
- Hinz, L. D. (2009). *Expressive therapies continuum: A framework for using art in therapy*: New York, NY: Routledge.
- Im, S., & Follette, V. M. (2016). Rumination and mindfulness related to multiple types of trauma exposure. *American Psychological Association*, 2(4), 395-407. [doi:10.1037/tps0000090](https://doi.org/10.1037/tps0000090)
- Kalmanowitz, D. (2016). Inhabited studio: Art therapy and mindfulness, resilience, adversity and

- refugees. *International Journal of Art Therapy*, 21(2), 75-84,
doi:10.1080/17454832.2016.1170053
- Kalmanowitz, D. L., & Ho, R. T. H. (2017). Art therapy and mindfulness with survivors of political violence: A qualitative study. *Psychological Trauma: Theory, Research, Practice, and Policy*, 9(1), 107–113. <https://doi.org/10.1037/tra0000174.supp>
- Kapitan, L. (2010). The empathetic imagination of art therapy: Good for the brain? *Journal of the American Art Therapy Association*, 27(4), 158-159.
doi:10.1080/07421656.2010.10129384
- Lanius, R. A., Frewen, P. A., Tursich, M., Jetly, R., & McKinnon, M. C. (2015). Restoring large-scale brain networks in PTSD and related disorders: A proposal for neuroscientifically-informed treatment interventions. *European Journal of Psychotraumatology*, 6(1).
<https://doi.org/10.3402/ejpt.v6.27313>
- Lardone, A., Liparoti, M., Sorrentino, P., Rucco, R., Jacini, F., Polverino, A., ... Mandolesi, L. (2018). Mindfulness meditation is related to long-lasting changes in hippocampal functional topology during resting state: A magnetoencephalography study. *Neural Plasticity*, (2018), 1-9. <https://doi.org/10.1155/2018/5340717>
- Lemire, D. (1998). Individual psychology and innovation: The de-Freuding of creativity. *Journal of Individual Psychology*, 54(1), 108-118. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=aph&AN=9054722&site=ehost-live>
- Levine, S. K. (2009). *Trauma, tragedy, therapy the arts and human suffering*. Philadelphia, PA: Jessica Kingsley.
- Lusebrink, V. B. (2004). Art therapy and the brain: An attempt to understand the underlying processes of art expression in therapy. *Journal of the American Art Therapy Association*

21(3), 125-135. doi:10.1080/07421656.2004.10129496

Malchiodi, C. A. (2003). *Handbook of art therapy*. New York, NY: Guilford Press.

Mandić-Gajić, G., & Špirić, Ž. (2016). Posttraumatic stress disorder and art group therapy: Self-expression of traumatic inner world of war veterans. *Vojnosanitetski Pregled: Military Medical & Pharmaceutical Journal of Serbia*, 73(8), 757–763.

<https://doi.org/10.2298/VSP150512083M>

Millar, A. (2013). Trauma therapy: An Adlerian perspective. *The Journal of Individual Psychology*, 69(3), 245-261.

Moral, A. (2017). Guided meditation: A regimen for mental health. *Indian Journal of Health & Wellbeing*, 8(2), 180–182. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=aph&AN=122565568&site=ehost-live>

Murakami, H., Katsunuma, R., Oba, K., Terasawa, Y., Motomura, Y., Mishima, K., & Moriguchi, Y. (2015). Neural networks for mindfulness and emotion suppression. *PLoS ONE*, 10(6), 1–18. <https://doi.org/10.1371/journal.pone.0128005>

Naff, K. (2014). A framework for treating cumulative trauma with art therapy. *Journal of the American Art Therapy Association*, 31(2), 79-86. doi:10.1080/07421656.2014.903824

Nystul, M. S. (1978). The use of creative arts therapy within Adlerian psychotherapy. *Individual Psychologists*, 12(4), 11-18.

Oberst, U. E., & Stewart, A. E. (2012). *Adlerian psychotherapy: An advanced approach to individual psychology*. London, UK: Routledge.

O'Brien, F. (2004). The making of mess in art therapy: Attachment, trauma and the brain, *International Journal of Art Therapy*, 9(1), 2-13. doi:10.1080/02647140408405670

Paige, M., DeVore, J., Chang, C. Y., & Whisenhunt, J. (2017). The trauma-competent clinician: A qualitative model of knowledge, skills, and attitudes supporting Adlerian-based trauma

- psychotherapy. *Journal of Individual Psychology*, 73(1), 8–37.
<https://doi.org/10.1353/jip.2017.0002>
- Perry, B. D. (1997). Incubated in terror: Neurodevelopmental factors in the ‘cycle of violence’
In J Osofsky (Ed.). *Children in a violent society*. New York, NY: Guilford Press, , 124-148.
- Perry, B. D. (2006). Applying principles of neurodevelopment to clinical work with maltreated and traumatized children: The neurosequential model of therapeutics. In N. B. Webb (Ed.), *Social work practice with children and families. Working with traumatized youth in child welfare* (pp. 27-52). New York, NY: Guilford Press.
- Perry, B. D., Pollard, R. A., Blakley, T. L., Baker, W. L., & Vigilante, D. (1995). Childhood trauma, the neurobiology of adaptation, and “use dependent” development of the brain: How “states” become “traits.” *Infant Mental Health Journal* 16(4), 271-291.
- Perryman, K., Blisard, P., & Moss, R. (2019). Using creative arts in trauma therapy: The neuroscience of healing. *Journal of Mental Health Counseling*, 41(1), 80–94.
<https://doi.org/10.17744/mehc.41.1.07>
- Rappaport, L. (2008). *Focusing-oriented art therapy: Accessing the body’s wisdom and creative intelligence*. London, UK: Jessica Kingsley.
- Riley, S. (2004). The creative mind. *Journal of the American Art Therapy Association*, 21(4), 184-190.
- Rogers, C. R. (1957). The necessary and sufficient conditions of therapeutic personality change. *Journal of Consulting Psychology*, 21(2), 95-103.
- Ruisard, D. J. (2016). Transformation through attachment: The power of relationship in clinical social work. *Clinical Social Work Journal* 44(3), 279-292. doi:10.1007/s10615-015-0537-2

- Saltzman, M. R., Matic, M., & Marsden, E. (2013). Adlerian art therapy with sexual abuse and assault survivors. *Journal of Individual Psychology, 69*(3), 223-244.
- Samuels-Dennis, J. A., Ford-Gilboe, M., Wilk, P., Avison, W. R., & Ray, S. (2010). Cumulative trauma, personal and social resources, and post-traumatic stress symptoms among income assisted single mothers. *Journal of Family Violence, 25*(6), 603-617. doi:10.1007/s10896-010-9323-7
- Schore, A. N. (2002). Dysregulation of the right brain: A fundamental mechanism of traumatic attachment and the psychopathogenesis of posttraumatic stress disorder. *Australian and New Zealand Journal of Psychiatry, 36*, 208-213.
- Stace, S. M. (2014). Therapeutic doll making in art psychotherapy for complex trauma. *Journal of the American Art Therapy Association, 12*(20), 12-20.
doi:10.1080/07421656.2014.873689
- Strauch, I. (2001). An Adlerian reconceptualization of traumatic reactions. *Journal of Individual Psychology, 57*(3), 246-258.
- Tabibnia, G., & Radecki, D. (2018). Resilience training that can change the brain. *Consulting Psychology Journal: Practice and Research, 70*(1), 59–88.
<https://doi.org/10.1037/cpb0000110>
- Tang, Y. Y., Hölzel, B. K., & Posner, M. I. (2015). The neuroscience of mindfulness meditation. *Nature Reviews Neuroscience, 16*(4), 213-225. <https://doi.org/10.1038/nrn3916>
- Taylor, G. J., Bagby, M., & Parker, J. D. A. (1997). *Disorders of affect regulation: Alexithymia in medical and psychiatric illness*. Cambridge, England: Cambridge University Press.
- Van der Hart, O. (2012). The use of imagery in phase 1 treatment of clients with complex dissociative disorders. *European Journal of Psychotraumatology, 3*, 1–8. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=aph&AN=80826657&site=ehost>

-live

Van der Kolk, B. A. (2014). *The body keeps the score: Brain, mind, and body in the healing of trauma*. New York, NY: Viking.

Veena, D., & Alvi, S. (2016). Guided imagery intervention for anxiety reduction. *Indian Journal of Health & Wellbeing*, 7(2), 198–203. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=aph&AN=115097096&site=ehost-live>

Watts, R. E., & Garza, Y. (2008). Using children's drawings to facilitate the acting "as if" technique. *Journal of Individual Psychology*, 64(1), 113–118. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=keh&AN=32482587&site=ehost-live>

Weinberg, M., & Gil, S. (2016). Trauma as an objective or subjective experience: The association between types of traumatic events, personality traits, subjective experience of the event, and posttraumatic symptoms. *Journal of Loss & Trauma*, 21(2), 137-146. doi:10.1080/15325024.2015.1011986

Yang, C.-C., Barrós-Loscertales, A., Pinazo, D., Ventura-Campos, N., Borchardt, V., Bustamante, J.-C., ... Walter, M. (2016). State and training effects of mindfulness meditation on brain networks reflect neuronal mechanisms of its antidepressant effect. *Neural Plasticity*, 2016. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2016-18248-001&site=ehost-live>