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Exploring the Intersections Between Dance/Movement Therapy and Eye Movement Desensitization and Reprocessing: A Literature Review

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Abstract

Dance/movement therapy (DMT) and eye movement desensitization and reprocessing (EMDR) are body-based approaches that facilitate the integration of the emotional, cognitive, and physical aspects of an individual. This literature review explores the intersections between DMT and EMDR and discusses potential ways these two methods may be integrated to support the therapeutic process. Research shows that developing body awareness, self-regulation skills, resourcing, and using movement are common principles and practices with DMT and EMDR. Both modalities are also found to help with decreasing symptoms related to anxiety, depression, and grief. Although limited, common neural networks are activated through the sensory experiences involved in both approaches. There is evidence that incorporating DMT interventions can support with developing a strong therapeutic relationship and an increased sense of safety for individuals engaging in EMDR. Enhancing the therapeutic alliance through DMT also has the potential to support the facilitation of bilateral stimulation. Furthermore, DMT can provide different forms of bilateral stimulation and introduce a creative and expressive element into the EMDR process through movement exploration and the use of props. There is a need for more research on this topic, as literature specifically addressing the combined application of DMT and EMDR was not found. Despite this limitation, the intersections between DMT and EMDR research suggest that integrating these two approaches could further aid individuals in exploring and processing distressing memories and emotions during EMDR treatment, thus providing a more effective therapeutic experience.

Keywords: dance/movement therapy, eye movement desensitization and reprocessing, bilateral stimulation, therapeutic relationship, resourcing

Exploring the Intersections Between Dance/Movement Therapy and Eye Movement Desensitization and Reprocessing: A Literature Review

An emerging topic of interest within the field of dance/movement therapy (DMT) is the connection between DMT and eye movement desensitization and reprocessing (EMDR), a therapeutic approach that uses bilateral stimulation to process distressing memories and alleviate symptoms of trauma (EMDRIA, 2023). Both therapeutic approaches are body-based practices and based on the assertion that the emotional, cognitive, and physical aspects of a person's being are interconnected (Tripp, 2022; American Dance Therapy Association, 2020). Learning self-regulation skills, developing awareness of body sensations, resourcing, and engaging in movement to process trauma, emotions, cognitions, and other therapeutic goals are primary practices within both frameworks (Federman et al., 2019; Grogan et al., 2013; Marich, 2022; Philpott, 2013; Shapiro, 2018; Tripp, 2022).

According to the research, there is evidence that DMT and EMDR help with decreasing symptoms related to anxiety (Gauvreau & Bouchard, 2008; Koch et al., 2007), depression (Hase et al., 2018; Pylvänäinen et al., 2015), and grief (Philpott, 2013; Sprang, 2001). Both treatment modalities also appear to support verbal and non-verbal forms of communication as well as access to conscious and unconscious material (Chaiklin & Wengrower, 2016; Shapiro, 2018). Through the use of body and movement-based interventions, DMT and EMDR can help facilitate the introspection of emotions through the tracking of physical sensations and aid in the communication of one's experiences. DMT and EMDR are bottom-up approaches, therapeutic methods that focus on working with somatic experiences and emotions before addressing cognitive processes (Barnstaple & Dieterich-Hartwell, 2022). One of the benefits of utilizing bottom-up approaches is that they provide individuals with an alternative and accessible way to

engage in therapy without relying solely on verbalization, which is inherent to most therapeutic frameworks (Shapiro, 2018).

There appears to be limited empirical research related to DMT, with most of the literature predominately being conceptual (Levine & Land, 2016). Furthermore, there does not seem to be literature that specifically addresses the combined application of DMT and EMDR. Research associated closest to this topic were studies exploring the application of EMDR and other body-based practices, such as dancing mindfulness (Marich 2022), which incorporates mindfulness concepts, movement, and other art forms.

This literature review was conducted with the objective of finding intersections between DMT and EMDR and to discover the potential ways these two approaches may be integrated to support the therapeutic process. The literature also shows how DMT techniques may support other important factors of the overall EMDR process, such as establishing a sense of safety and developing a strong therapeutic alliance (Shapiro, 2018). Identifying the intersections between DMT and EMDR can support the work of dance/movement therapists by informing the development of body-based interventions. This has the potential to further support how clients access and process memories or emotions related to trauma to facilitate positive changes.

Literature Review

Prior to examining the literature related to DMT and EMDR, a brief overview is provided about these two therapeutic approaches. This is intended to offer a comprehensive understanding of the theoretical orientations of both practices, particularly in regard to how the body and movement are engaged within each method. The nature of these modalities allows clinicians to work in a variety of settings and with an array of populations. Both methods are utilized to

address an expansive range of mental health concerns, including anxiety, depression, post-traumatic stress disorder, eating disorders, grief, and addiction, among others.

Dance/Movement Therapy

DMT is the psychotherapeutic use of movement to promote the integration of the emotional, cognitive, physical, social, and spiritual aspects of an individual (American Dance Therapy Association, 2020). This practice looks at the client as a whole person and believes these different layers of human experience can be accessed through embodied and creative movement (Gray, 2015). This concept is rooted in modern dance, which many primary theorists studied before developing this practice. Throughout cultures and history, dance has been used as celebration, medicine, a connection to nature, collective expression, mourning, and more (Chaiklin & Wengrower, 2016). As movement and dance have been used as a cathartic and therapeutic tool for centuries (Levy, 2005), it is important to acknowledge that the primary innovators of DMT were stepping into practices that had already been in existence for a long time.

The fundamental premise of DMT is "that body movement reflects inner emotional states and that changes in movement behaviour can lead to change in the psyche, thus promoting health and growth" (Levy, 2005, p. 1). Elements of dance and movement, such as rhythm, time, space, shape, and dynamics are applied as a framework for observation, exploration, and intervention (American Dance Therapy Association, 2020). In this approach, there is a focus on internal sensing, tuning into sensation, and responding to it in the moment. Thus, creating and engaging in movement can bring awareness to an individual's internal experience and allow it to come through the external expression; offering the space for a client's personal narrative to emerge.

Eye Movement Desensitization and Reprocessing

EMDR was developed in 1989 by American psychologist, Francine Shapiro, and has been manualized as an evidence-based psychotherapy method (Shapiro, 2018). This approach is used for the amelioration of symptoms related to stress and trauma. Principles, protocols, and procedures of this therapeutic approach are based on the Adaptive Information Processing (AIP) model, which suggests that individuals continue to experience distress and other clinical symptoms due to past disturbing events not being adequately processed. These memories comprise of the associated emotions, cognitions, and physical sensations one experienced when the event took place (American Psychological Association, 2017), which can be triggered by present-day stimuli. Therefore, presenting concerns are considered to be adaptable through a clinician's ability to accurately target the dysfunctionally stored information (Shapiro, 2018).

According to Shapiro (2018), EMDR follows a basic eight-phase protocol. Phase one involves intaking a client's history and developing the treatment plan. Phase two, preparation, consists of developing the therapeutic alliance, educating the client about EMDR theory, and developing relaxation and grounding techniques to help the client cope with emotional disturbance that may arise. Phase three is assessment, which is when the target event to reprocess and its associated images, thoughts, emotions, and body sensations are identified. Initial baseline responses are measured by using the Subjective Units of Disturbance (SUD) scale and the Validity of Cognition (VOC) scale. During phase four, desensitization, a client focuses on the target event while engaging in a form bilateral stimulation. Phase five, installation, focuses on associating and enhancing a positive belief with the target event. In phase six, clients engage in a body scan to assess and address any residual somatic disturbance. Phase seven, closure, must occur at the end of every session. Regardless of whether reprocessing is complete, it is essential

for therapists to support a client in returning to an emotionally stable state (Shapiro, 2018). Phase eight, evaluation, is implemented at the start of each proceeding session. This involves reassessing the client's level of distress to the previously processed target event to ensure that treatment effects have persisted.

Common Principles and Practices

DMT and EMDR are holistic approaches, as both address the emotional, cognitive, and physical aspects of an individual. A central principle and practice of both DMT and EMDR is the use of movement (Aithal et al., 2023; Shapiro, 2018). Conscious and unconscious memories and experiences are stored in the body (van der Kolk, 2014). Through movement, individuals can access and process these embodied narratives and their associated sensory, emotional, and cognitive imprints (van der Kolk, 2014).

EMDR incorporates movement through bilateral stimulation. This involves a rhythmic and alternating right-left sensory input through physical actions, such as eye movements and tapping, or through visual and auditory forms (Shapiro, 2018). During EMDR treatment, a client focuses on a distressing memory or traumatic experience while simultaneously engaging in bilateral stimulation. This dual attention movement activates the innate information-processing system and allows dysfunctionally stored material to be processed (Shapiro, 2018). The repeated sets of stimulation accelerate the rate at which the distressing information moves along the correct neurophysiological pathways so that it can be effectively resolved and functionally integrated (Shapiro, 2018).

Research shows that bilateral stimulation encourages communication between the right and left hemispheres (McNeil & Platt, 2016). This activated connection can help unconscious or repressed memories to be brought into conscious awareness, which can then be processed, understood, and integrated into the narrative of oneself. The use of movement in EMDR, through

bilateral stimulation, has been found to facilitate memory retrieval (Nieuwenhuis et al., 2013), reduce the vividness of memory imagery and emotionality (Engelhard et al., 2010), and decrease the intensity of physiological arousal around a memory (Schubert et al., 2016). Bilateral stimulation is utilized for processing traumatic memories, installing resources, and self-regulation. For instance, the Butterfly Hug is a bilateral stimulation technique in EMDR that involves crossing the arms over the chest and tapping one's hands on the shoulders in an alternating motion. This movement can be employed during the processing phases of treatment and can also be used as a self-soothing practice outside of sessions (Shapiro, 2018; Vock et al., 2024).

The value and importance of using movement in EMDR is evident throughout the literature. Eğeci and Özgün (2019) conducted a randomized controlled trial that investigated the effectiveness of EMDR's Recent Traumatic Episode Protocol (R-TEP) in reducing the effects of an induced Learned Helplessness (LH) state. The researchers further examined whether there is an effect difference between R-TEP administered with and without eye movements. This study was conducted in a laboratory setting with a group of non-pathological college students (N = 100), where LH was induced through unsolvable maze tasks. Treatment effects were measured by assessing the participants' performance on an anagram-solving task. The total number of anagrams successfully completed by each group was analyzed using a one-way ANOVA and Fisher's least significant difference (LSD). Post test results revealed that compared to the group without eye movements, participants who received R-TEP with eye movements showed significantly better outcomes ($F(4, 1) = 10.92$, $p < .001$) in reversing the cognitive, motivational, and emotional impairments caused by LH. Participants in the eye movement group also demonstrated greater improvements in problem-solving abilities and cognitive performance. This

intervention was limited to a single EMDR session and excluded individuals with pre-existing psychological conditions and/or exposure to recent traumatic experiences. However, despite these limitations, results from this study provided evidence for how the use of eye movements is a vital component of EMDR therapy and contribute to more optimal therapeutic outcomes.

Unlike EMDR, which employs structured protocols and procedures, the primary theorists of DMT developed a wide range of clinical styles (Levy, 2005) that utilize movement in various ways. Despite there being different approaches within DMT, a fundamental aspect is that movement is used to support communication through a non-verbal medium. As an expressive therapy, individuals are able to reflect their thoughts, emotions, experiences, sense of self, and more through movement (Federman, Zana-Sterenfeld, & Lev-Weisel, 2019). What may not be able to be expressed in words, is expressed in the body.

Similar to EMDR, conscious and unconscious material can also be accessed, explored, and processed through the use of movement interventions in DMT. "The organically occurring sensory stimulation within DMT sessions functions as a catalyst in facilitating cognition and self-expression for members" (Goldstein-Levitas, 2016, p. 432). Authentic movement, developed by primary theorist Mary Whitehouse, is a DMT approach that aims to use movement to make unconscious material conscious (Levy, 2005). Whitehouse believed that authentic movement as a practice could be an embodied form of free association (Levy, 2005). This practice is a self-directed exploration that focuses on tuning into body sensations and allowing internal impulses to take a physical form without judgement. By attending to one's inner kinesthetic experience, unconscious or repressed emotions and images are released through spontaneous movements, offering the space for a client's personal narrative to emerge (Levy, 2005). This movement process can help individuals recognize the symbolic nature of their expressions, as it can unveil

unconscious themes, needs, emotions, and memories (Morningstar & Ruzic, 2022). In DMT, movement is used to help access an individual's inner wisdom, develop self-awareness, support integration of the mind and body, and facilitate potential change (Levy, 2005; Morningstar & Ruzic, 2022).

In DMT, movement is also used for identifying inner resources, developing self-awareness, and supporting self-regulation. Additionally, movement is used to establish and strengthen the therapeutic relationship. Early DMT theorists evolved the therapeutic relationship differently through their approaches. Marian Chace took the idea of relationship and added movement. Through Chace's concept of a therapeutic movement relationship, she integrated the emotional expression observed in a client's actions into her own movement responses (Young, 2017). Mary Whitehouse encompassed this sense of reciprocity through the roles of witness and mover within the authentic movement relationship (Fischman, 2016).

Mirroring is a primary technique used to cultivate kinesthetic empathy as it enables dance/movement therapists to understand the emotions and lived experiences of their clients in an embodied way (Young, 2017). Mirroring can involve reflecting a client's full body expression or it may involve embodying only one qualitative element, such as space, effort, shape, or rhythmic pattern (Berrol, 2006). Through witnessing a client's movement and/or moving in synchrony with their expression, mirror neurons are activated (Berrol, p. 2006). According to research, using movement in this way can enhance empathy and emotional attunement as well as foster a deeper level of understanding and connection between a therapist and client (Berrol, 2006; Homann, 2010).

As DMT and EMDR both involve somatic, affective, and cognitive processing, research shows that these approaches activate common neural networks. Through the use of movement

and other forms of sensory stimulation, DMT and EMDR engage the motor cortex and somatosensory cortex (Amano & Tiochi, 2016; Barnstaple & Dieterich-Hartwell, 2022; Berrol, 2006; Herkt et al., 2014). Both modalities also activate the prefrontal cortex and the limbic system, including structures such as the amygdala and hippocampus. Although this may be done through different movement techniques, activation of these areas supports with emotional regulation, processing of past experiences, and cognitive flexibility (Amano & Tiochi, 2016; Barnstaple & Dieterich-Hartwell, 2022; Berrol, 2006; Herkt et al., 2014). In DMT and EMDR, "the sensorimotor and emotional systems constitute important access points for 'bottom-up processing' whereby somatic and affective states provide a route for deeper exploration via an experiential processing format" (Tripp, 2022, p. 183).

Resourcing

Throughout the literature, resourcing was found to be an important element within DMT and EMDR. This common practice helps to reinforce personal strengths, improve self-regulation, and establish a sense of safety, which further supports the therapeutic process (Marich, 2022). Resourcing in DMT also appears to foster and enhance self-expression (Aithal et al., 2023). Resourcing techniques provide clients with a felt sense that they have resources within them, rather than tools coming from the therapist (McNeil & Platt, 2016). Resourcing are practices that individuals can replicate outside the therapy setting when they are feeling activated or under a state of stress.

Within EMDR, there is a specific resource-building protocol referred to as, Resource Development and Installation (RDI). This protocol focuses on identifying positive resources within functional memory networks and reinforcing those cognitive connections (Korn & Leeds, 2002). RDI aims to enhance self-regulation, resilience, and coping skills by identifying internal and external resources that can support individuals in managing distressing emotions and

experiences. There are three types of resources that can be explored and installed in the RDI process – mastery (internal to the client), relational, and symbolic (Shapiro, 2018). This protocol utilizes bilateral stimulation, positive imagery, and cognitive restructuring to enhance and consolidate positive emotions and adaptive responses. RDI has been shown to strengthen a client's ability to access and employ coping skills associated with these functional networks when they encounter stress-inducing triggers in the future (Korn & Leeds, 2002).

The Safe/Calm Place exercise is another resourcing practice within EMDR. This technique is employed in the preparation phase and before processing sessions. The Safe/Calm Place is a mental imagery exercise that involves clients visualizing a place that evokes feelings of peace and safety. While focusing on the identified image, individuals are guided to engage all five senses and notice what they see, hear, feel, smell, and taste in this place (Shapiro, 2018). This image can be used when a temporary rest is needed during processing, a tool to help stabilize clients before closing a session, and a grounding strategy for clients to use if a disturbance arises in between sessions (Shapiro, 2018)**.** This technique helps individuals develop a resource for self-soothing, grounding, and emotional regulation. The objective of RDI and the Safe/Calm Place exercise is not to process trauma, but to help clients feel stabilized, safe, and secure in their bodies.

In DMT, it is widely accepted that the body is considered a resource, as it contains sensations, memories, emotions, trauma, and more (Richardson, 2015). Thus, creating and engaging in movement can bring awareness to an individual's inner knowledge and connect it with outer expressivity. Breathwork is a common technique used to promote a resource for relaxation and self-regulation. Physical grounding exercises, which focus on engaging in movements that connect the body with the ground or a stable surface, are used to help

individuals feel more present and anchored in the moment (Federman, Zana-Sterenfeld, & Lev-Weisel, 2019). Another resourcing technique in DMT is exploring different movement elements, such as space (direct/indirect), time (sudden/sustained), weight (strong/light), flow (bound/free), and shape (directional/carving) (Konie, 2011). This creative process can assist individuals in discovering and learning how to activate parts of themselves that can be supportive. These movements can then be integrated into a person's movement repertoire and be embodied when needed. Similar to EMDR's Safe/Calm Place exercise, DMT works to establish a safe place within one's body and space. Visualization, metaphors, and guided imagery are also used in DMT to help clients tap into positive resources. These techniques serve as powerful tools to aid in emotional processing, communication of experiences, and introspection (Zachou et al., 2022).

Resourcing was demonstrated in Aithal et al. (2023), an arts-based qualitative study examining how DMT can support the well-being of caregivers of children with autism spectrum disorder (ASD). Themes related to identity, relationship, personal strengths and challenges, positive interactions with children, and new ways of being were explored through movement and props. Based on participant reflections, individuals perceived DMT to bolster self-competencies, improve coping skills, and view stressors with a more positive perspective. One caregiver expressed feeling "unbreakable" and compared herself to "a brick wall standing strong" (p. 13). Resourcing techniques in DMT are used to support individuals in accessing and strengthening internal and external resources that help them gain a sense of safety, control, empowerment, and body ownership (Federman, Zana-Sterenfeld, & Lev-Weisel, 2019).

Common Benefits

Upon reviewing the literature related to DMT and EMDR, common benefits of these two therapeutic methods were found. There is evidence that DMT and EMDR support with decreasing symptoms related to depression and anxiety. Federman, Shimoni, and Turjeman

(2019) sought to examine the effectiveness of 'attentive movement' as a treatment method for depression; a therapeutic approach that combines mindfulness concepts and DMT methods developed by Marian Chace and Mary Whitehouse with the use of music. Results from a mixed-design ANOVA confirmed that depressive symptoms significantly decreased for participants in the experimental groups (n = 25) compared to those in the control group (n = 25), who did not participate in any form of treatment. This effect was indicated through the research group and measurement of time (F (1.44) = 14.1, $p < .001$). Federman, Shimoni, and Turjeman (2019) assert that attentive movement in a group setting helps evoke movement from inner sensations, expand movement repertoire, and provides an opportunity to experientially learn how to be non-judgemental about oneself while simultaneously being with others.

Employing body-based interventions that help individuals engage in movement elements missing from their movement repertoire also contributed to the decrease of depressive symptoms found in Koch et al. (2007); a study which investigated the effects of a single DMT intervention on psychiatric patients with a primary or additional diagnosis of depression. Participants (N = 31) were divided into three clusters: a dance group, a music-only group, and a movement-only group. The dance group (n = 11) engaged in a traditional circle dance, which activated jumping rhythms and vertical movements to evoke joy. The music-only control group (n = 10) involved listening to the music of the circle dance and the movement-only control group (n = 10) involved moving on a home trainer bike. Quantitative results from two one-way ANOVA's revealed that participants in the dance group exhibited a significant decrease in depression ($p < .001$) compared to those in both control groups and a significant increase in vitality and positive affect ($p < .05$) than participants in the music-only group. Overall, the treatment group demonstrated

the greatest change in pre and post test scores, with an increase in motivation, coping, strength, energy, and enjoyment and a decrease in depression, lifelessness, anxiety, tension, and tiredness.

A decrease in anxiety and depressive symptoms and an increase in positive states, such as hope and confidence, was found in Schwarz et al. (2019). This study sought to evaluate EMDR as an effective treatment for female survivors who experienced trauma as a result of sexual or domestic violence. Quantitative data was gathered through four standardized assessments that were administered and completed by all participants pre and post engagement in eight EMDR sessions. Using IBM SPSS Statistics to measure changes in assessment scores, results showed significant improvement in participants' levels of depression (t (20) = 5.487, $p < .001$), anxiety ($t(20) = 5.581$, $p < .001$), post-traumatic stress ($t(20) = 4.408$, $p < .001$), and daily functioning ($t(20) = 4.844$, $p < .001$). Reports from participants ($N = 23$) about their subjective experience with EMDR support quantitative results that demonstrated a decrease in symptom severity, a positive impact on overall wellness, and enhanced therapeutic progress.

Similar findings were presented in a study that explored how dance/movement therapists consciously address and employ interventions that promote positive affect in adult group therapy settings (Gordon, 2014). In the context of this study, positive affect refers to a range of positive emotions and sensations that indicate pleasant engagement with the self and environment as well as contribute to one's well-being and quality of life. Based on qualitative interviews with three participants, dance/movement therapists described how they support the development of positive affect through the combination of movement experientials, sensory explorations, and psychoeducation. Body-based interventions integrated the use of humour, play, activating the senses, and group movement. The participants described how these embodied practices allowed clients to engage in positive movement experiences and expand their range of movement

dynamics. Strengthening the mind-body connection was found to be essential in evoking positive affect and supporting individuals in experiencing pleasure, joy, vitality, and an increased sense of connection with themselves and others. This study highlighted the potential benefits of focusing on positive affect and the use of embodied methods in alleviating presenting concerns, such as anxiety and depressive symptoms.

In a study conducted by Gauvreau and Bouchard (2008), preliminary evidence was found for the efficacy of EMDR as a treatment method for generalized anxiety disorder (GAD). This was a single-case design with multiple baselines across a small sample size. All participants (N = 4) had a primary diagnosis of GAD, three of which also presented with comorbid disorders. Participants received fifteen EMDR sessions which focused on targeting past events that were contributing to current GAD, as well as present and future events that trigger excessive worry. A combination of clinician-administered and self-report measures were completed at pre-treatment, post-treatment, and the two-month follow-up. Visual inspection and time-series statistical analyses were employed to evaluate the impact of EMDR treatment. Findings showed a significant reduction in anxiety ($p < .01$) and excessive worry ($p < .01$) levels, resulting in full remission of GAD in all participants. There was also a decrease in comorbid depression symptoms, with three of the four participants no longer meeting diagnostic criteria for major depressive disorder. The main limitation to this study was the very small sample size.

Throughout the literature, there are various studies that seek to compare DMT or EMDR to treatment as usual (TAU). According to the research examined, both DMT and EMDR consistently demonstrate to be more effective in alleviating anxiety and depressive symptoms and improving overall well-being than therapeutic approaches that do not involve body or movement-based interventions (Cvetek, 2008; Hase et al., 2018; Koch et al., 2007; Pylvänäinen

et al., 2015). For example, Pylvänäinen et al. (2015) conducted a study that compared TAU to DMT + TAU with adults in a psychiatric outpatient clinic who were diagnosed with moderate to severe depression. All participants ($N = 33$) received individual counselling, with the DMT + TAU group also participating in twelve DMT group therapy sessions. Similar to Federman, Shimoni, and Turjeman (2019), DMT interventions employed techniques from Marian Chace and Mary Whitehouse, which focused on developing body awareness, mindfulness, and verbal reflection of movement experientials to help patients connect to the emotional core of their experiences. Results from hierarchical linear modeling (HLM) confirmed that depressive symptoms significantly improved ($p = .013$) for participants in the DMT + TAU group ($n = 22$) compared to those in the control group ($n = 11$), who only engaged in individual counselling with no form of movement involved. Findings also revealed significant improvement in social interactions, reduction in anxiety levels, and increased motivation, engagement, and overall well-being in patients in the DMT + TAU group.

Relatedly, EMDR appeared to provide additional benefits for the treatment of depressive disorders in Hase et al. (2018). The researchers in a part of a multicentre randomized control trial, examined and compared the effects of EMDR + TAU to TAU on adults with moderate to severe depression. All participants ($N = 30$) received TAU, which entailed psychodynamic or behavioural group therapy, individual counselling, and antidepressant pharmacotherapy. In addition to TAU, individuals in the EMDR + TAU group ($n = 14$) received between four and eight EMDR sessions. Using an analysis of covariance (ANCOVA), results showed that the EMDR + TAU group exhibited significantly lower scores on the Symptom Checklist 90-Revised Global Severity Index ($p < .05$) compared to the TAU group at the end of treatment. The EMDR + TAU group also showed significantly more improvements in Beck Depression Inventory-II

scores (p = .02) and had more participants achieve full remission than the control group. In addition, no side effects were reported during the course of treatment, which suggests that EMDR has good tolerability.

Cvetek (2008) sought to examine the effectiveness of EMDR on reducing anxiety and event-related distress caused by stressful experiences that do not meet the criteria for post-traumatic stress disorder (PTSD). Participants (N = 90) were randomly assigned to three treatment conditions: EMDR therapy, active listening (AL), and waitlist (WL) control groups. Two assessments were used in the study, the Slovene version of the State-Trait Anxiety Inventory and the Impact of Event Scale. Results from independent-sample t-tests showed that EMDR was significantly superior to decreasing state anxiety with memory recall ($p < .001$) and event-related distress ($p < .01$), compared to both the active listening and waitlist approaches. Although the AL group was more effective than the WL group who did not receive any form of treatment, symptom reduction was to a lesser extent than the EMDR group. The therapist's role in the AL approach involved active listening, summarizing, and asking questions to ensure a clear and comprehensive understanding of an individual's experiences. A prominent difference between the treatment conditions was the incorporation of the body and sensory exploration. Throughout the literature, this is an aspect of DMT and EMDR that has shown to benefit the therapeutic process and the client's therapeutic outcomes (Aithal et al., 2023; Cvetek, 2008; Federman, Shimoni, & Turjeman, 2019; Gauvreau & Bouchard, 2008; Gordon, 2014; Hase et al., 2018; Koch et al., 2007; Marich, 2010; Pylvänäinen et al., 2015; Schwarz et al., 2019).

Although the literature appears to be minimal, there is evidence that DMT and EMDR support with the treatment of grief. Regarding EMDR, a specialized protocol for complicated grief has been developed. This procedure is similar to the standard protocol for trauma as clients

often express that their feelings related to grief are connected to intrusive memories and dreams, which hinders their ability to access positive memories and associations of the deceased individual (Shapiro, 2018). Research shows that EMDR increases positive recall of the deceased person by addressing the trauma of the loss (Shapiro, 2018; Sprang, 2001).

In Sprang (2001), a study that compared EMDR and Guided Mourning (GM) for individuals experiencing traumatic stress and complicated grief, EMDR was found to be a more effective and efficient treatment approach overall. Results from psychosocial and behavioural measures showed that both treatments decreased anxiety levels and increased self-esteem, although to a greater extent for the EMDR group. The two approaches also led to a significant decrease in the intensity of grief, with no remarkable difference between the EMDR and GM groups. However, participants in the EMDR group reported a significantly greater reduction of PTSD symptoms ($p = .001$) and improvement in the rate of positive memory recall ($p = .029$) compared to those in the GM group.

The effectiveness of EMDR treating grief and mourning was also exhibited in Solomon and Rondo (2007). The researchers focused on how EMDR can be used to process negative memories, distressing emotions, and present triggers related to a loss. Seven case examples were presented which illustrated how EMDR allowed individuals to access positive memories and helped to form an adaptive inner representation of their loved one, thus aiding the grieving and mourning processes.

There is limited literature that has investigated how EMDR supports with the treatment of grief. Although these studies are more dated, it is important to consider this research by Solomon and Rondo (2007) and Sprang (2001) in the present time because findings suggest that EMDR

positively impacts levels of grief and facilitates healthy mourning by the way in which it addresses traumatic symptomatology, resolves barriers, and promotes positive memory recall.

While EMDR supports with grief by increasing an individual's capacity for positive memory recall through processing trauma and distressing emotions associated with a loss, DMT helps individuals to explore, release, and cope with their emotional responses to grief through embodied and expressive movement experientials (Callahan, 2011; Philpott, 2013). In Philpott (2013), the researcher focused on exploring the experiences of three dance/movement therapists who work with grieving children and the interventions they employ with this population. In-depth interviews were conducted with each participant, which were audio and video recorded. Qualitative data was transcribed and analyzed using a multi-layered coding process to help identify themes within the responses. The author also used analytic memo writing to reflect on their personal biases and experiences throughout the whole research process. Findings revealed that cultivating a safe therapeutic environment was important for children to be able to express their grief. DMT was found to support with the treatment of grief through the way in which it helps individuals develop body awareness, learn self-regulation techniques, and receive peer support.

The same themes were also identified in Callahan (2011), a heuristic and arts-based study that investigated the experiences of bereaved parents coping with child loss through DMT. Dance/movement therapists in Callahan (2011) and Philpott (2013) employed common practices to help individuals embody, communicate, and navigate through the complexities of grief. Creative and body-based interventions included guided mediation, mirroring, letter writing, walking a grief pathway, and breathing exercises. Callahan (2011) and Philpott (2013) highlight how DMT helps individuals to recognize and regulate physical and emotional responses to grief.

A group therapy setting, which is common practice in DMT, is also a valuable aspect for processing grief as it fosters a sense of connection and support from others who have experienced loss. DMT research suggests that an expression of the body's feelings and sensations associated with grief can be beneficial and aid the healing process (Callahan, 2011; Philpott, 2013).

DMT and EMDR also appear to support verbal and non-verbal forms of communication and access to emotional content (Chaiklin & Wengrower, 2016; Shapiro, 2002). Marich (2010) sought to examine the personal experiences of women related to their engagement in EMDR as part of their continuing care for addiction. This phenomenological study was conducted at an extended-care treatment facility with female identifying individuals ($N = 10$). All participants were alumnae of the facility's treatment program for substance addiction, with lengths of sobriety ranging from one to six years. The research qualitatively studied the impact of EMDR on their lives in recovery. Based on participant interviews, safety was considered an essential component of treatment which was established through the facility's milieu, developing strong therapeutic relationships, addressing skepticism about EMDR, and therapists adhering to EMDR protocols. Participants asserted that the EMDR accessed suppressed emotional material that was creating barriers to their recovery. The EMDR process also addressed and shifted negative cognitions, according to one participant who said, "EMDR was like having a car window defogged" (p. 503). The authors suggested this facilitated positive behavioural and attitudinal changes that helped individuals maintain sobriety.

Melhuish et al. (2017) aimed to explore how DMT and music therapy (MT) can assist residential care workers in enhancing the quality of care they provide for people with dementia. A dance/movement therapist and music therapist offered separate weekly group sessions for

residents and staff to attend together. Qualitative data was gathered through semi-structured interviews with each staff member (N = 7) who participated in the DMT and MT sessions; residents were not included in this process. Open-ended questions were primarily used to prompt staff members to provide reflective and descriptive accounts of their experiences, which were examined using interpretive phenomenological analysis (IPA) methods. Responses indicated that interventions provided staff with new knowledge of resident's emotions and capabilities and introduced more empathic approaches to use in their care practice. Findings also suggest that shared experiences in DMT and MT sessions helped improve staff members' communication skills and increased their sense of connection with residents, which was reported to be valuable in providing more effective support.

Themes within the literature related to safety, relationship, accessing emotional content, processing distressing experiences, and improving overall wellbeing were also identified in Aithal et al. (2023). Caregivers of children with ASD participated in weekly group DMT sessions, which incorporated the use of props. Sessions concluded with reflective focus groups where individuals shared about their experiences through verbal communication, visual art, and/or movement. The therapist and researcher also maintained notes, movement observations, and personal creative reflections about each session. Retrospective observation of video recordings was used to analyze these verbal and arts-based data. "Dialoguing" was also used to examine the arts-based data, a process in which participants viewed the visual art and movement they created in each session and offered their interpretation of different aesthetic elements. Based on the verbal and arts-based data, caregivers perceived DMT to help them develop mind and body awareness, experience relaxation, enhance self-expression, reinforce personal strengths, improve coping skills, address unprocessed trauma, and view stressors with a more positive

perspective. One caregiver shared, “I actually realised that there is a space in my mind for challenges, but it just has to sit in the right space and make sure that I don’t over think that it is challenging and giving it right support. It is not locked in. It is free to go if it wants to go” (p. 13). Movement observation was a valuable practice for the researchers and therapists as it helped them become aware of movement patterns, track changes, and increase attunement.

DMT and EMDR were also both found to help strengthen mind and body awareness. By developing this awareness, a common benefit of these two methods is improving self-regulation. DMT and EMDR are bottom-up models of treatment, which primarily focus on the immediate felt sense of an experience; having clients recognize and track sensations and impulses happening within their bodies in the present moment (Tripp, 2022). Both therapeutic approaches increase regulation by supporting clients in staying connected to somatic experiences and encouraging physiological states within one’s window of tolerance (McNeil & Platt, 2016). According to research, adaptive self-regulation involves the stabilization and integration of an individual across emotional, physical, and cognitive domains (Seoane, 2016), which is a fundamental objective in DMT and EMDR.

Movement is an expressive form that allows individuals to access, share, and process their experiences in an embodied way. Federman, Zana-Sterenfeld, and Lev-Weisel (2019) conducted a study that explored the interplay between the mind and body in trauma survivors. Participants were asked to recount their traumatic memories while dance/movement therapists observed their body’s non-verbal expression and how it corresponded with their verbal narration. The researchers identified three types of movement: illustrative, rhythmic, and comforting. Based on the findings, the researchers created a structured DMT intervention model which was used to assess and treat trauma survivors. Federman, Zana-Sterenfeld, and Lev-Weisel (2019)

found that movement interventions encourage personal narratives to emerge and be re-explored, which allows for a new, deeper understanding and less harmful meaning to be created. This process aids in the development of better emotional regulation. Interventions that involve engaging in movements that activate different flow, weight, time, and spatial dynamics is another way DMT helps increase awareness of sensations and movement patterns. Breathing exercises, tension release techniques, guided imagery, and comforting movement gestures are also DMT practices that help individuals learn how to modulate emotional and physical responses, thus promoting relaxation, establishing safety, and enhancing self-regulation skills (Aithal et al., 2023; Federman, Zana-Sterenfeld, & Lev-Weisel, 2019; Pylvänäinen et al., 2015).

In Philpott (2013), the researcher discusses how dance/movement therapists utilize their own physical and emotional self-regulation skills as a resource to support children in learning how to care for themselves and maintain relationships with others during times they are feeling overwhelmed by grief. Practitioners mentioned the importance of employing techniques such as relational movement games (ex. mirroring) to promote body awareness. Dance/movement therapists also utilize their body as a container, which serves as a way to help facilitate and validate an individual's emotional expression, establish healthy boundaries, teach self-regulation on a body level, and internalize a new way of coping.

Prior to engaging in the reprocessing phases of EMDR treatment, an individual must learn how to establish safety and stabilization. Part of phase two, preparation, consists of developing relaxation and grounding techniques to help clients regulate their nervous system and manage distressing emotions (Shapiro, 2018). This may include methods such as breathing exercises, mindfulness practices, and progressive muscle relaxation (Marich, 2022; Star, 2023). Individuals remain in the preparation phase until effective self-regulation skills are developed. In

Hase et al. (2018), participants demonstrated increased self-regulation during EMDR treatment. The researchers noted that clients rarely experienced hyperarousal during sessions and how any intense affect that arose was able to be stabilized and reprocessed. Participants were able to effectively implement stress-reduction techniques practiced during the preparation phase, which helped them to cope with emotional disturbances that arose during processing. Equipping clients with a range of grounding strategies and improving this skill is necessary to facilitate the therapeutic process and not only support individuals during treatment but also in between sessions, as material can continue to undergo processing (Shapiro, 2018).

EMDR also enhances self-regulation through the way it facilitates the reprocessing and integration of traumatic memories in a more adaptive way. Using bilateral stimulation, this process helps to reduce the level of distress and emotional intensity associated with traumatic experiences and makes it easier for individuals to manage their responses to triggers, which can lead to improved self-regulation (Aranda et al., 2015). In addition, a significant part of EMDR involves replacing negative, trauma-related cognitions with positive ones while processing a memory. Strengthening positive beliefs helps to decrease distressing emotions and enhance self-perceptions, which further aids in strengthening emotional regulation (Star, 2023). Although many research studies do not explicitly measure self-regulation as a construct, positive outcomes observed, such as a reduction or remission of anxiety, depression, and post-traumatic stress symptoms (Aranda et al., 2015; Cvetek, 2008; Gauvreau & Bouchard, 2008; Schwarz et al., 2019; Sprang, 2001), indicate an overall improvement in self-regulation skills as a result of EMDR treatment.

Discussion

Findings from qualitative, quantitative, and arts-based studies support the connection between DMT and EMDR, as they demonstrate the effectiveness of activating both the mind and

body to help process uncomfortable emotions and distressing events. Overall, the literature provides empirical evidence that DMT and EMDR have significant benefits for the treatment of anxiety and depression. Research demonstrates that these body-based approaches have positive impacts on symptom reduction and overall wellness. Findings also support the effectiveness and potential advantages of employing DMT or EMDR as an adjunctive treatment for these clinical presentations.

The literature also provides evidence for how DMT and EMDR both support with the treatment of grief. Just as EMDR helps to resolve emotional blockages to healthy mourning through processing traumatic memories, DMT can help individuals release physical holding patterns or emotional blockages related to grief through movement and developing body awareness. Research emphasized how interventions typically focused on establishing a safe environment that supported children's engagement in the grieving process and where their dynamic range of physical and emotional expressions would be validated (Philpott, 2013). Similarly, EMDR does not remove or diminish appropriate emotions, such as grief, but enables individuals to have a deepened sense of peace while mourning (Shapiro 2018). DMT and EMDR both engage individuals in a process that allows them to access and integrate their emotional, physical, and cognitive responses to grief (Callahan, 2011; Philpott, 2013; Solomon & Rondo, 2007; Sprang, 2001).

Lastly, research shows that DMT and EMDR both offer a holistic and integrative approach to developing self-regulation, as they address all aspects of an individual and their experiences. Tripp (2022) asserts that effective trauma-informed therapy involves interventions that help develop a client's relationship with their body and their awareness of the physical sensations underlying emotional responses. This leads to increasing a client's self-awareness,

adaptability, and capacity to manage stressful situations. By considering the interconnection between mind, body, and emotions, DMT and EMDR are found to support in developing more effective self-regulation strategies and a greater sense of control over one's internal states.

Potential Integrations of DMT and EMDR

An interesting point of intersection that has emerged within the literature is the importance of having a strong therapeutic relationship. Regarding EMDR, the research discusses how a positive and trusting alliance encouraged participants' engagement in the therapeutic process and was a central factor related to safety (Dworkin & Errebo, 2010; Marich 2010; Shapiro, 2018). Upon reviewing the literature, there are various studies in which DMT has demonstrated to increase a sense of connection both between therapist and participants as well as among participants (Callahan, 2011; Gordon, 2014; Melhuish et al., 2017; Philpott, 2013). This has sparked curiosity for a potential clinical application about how DMT interventions could help strengthen a sense of safety for individuals engaging in EMDR treatment by further supporting the development of the therapeutic alliance.

Marich (2010) asserted that a strong rapport was an important factor related to safety in EMDR. It is paramount that a foundation of trust and safety is established in the early sessions, as clients need to feel they have a sense of control and will be safeguarded throughout processing (Shapiro, 2018). Processing should not be initiated until there is an adequate level of trust between the client and therapist. Research indicates that "individuals impacted by traumatic experiences struggle physically and neurologically with trust, engagement in relationships, self-control, and experiences of pleasure, all of which can be addressed through creative and healing movement processes" (Morningstar & Ruzic, 2022, p. 272).

In Melhuish et al., (2017), shared experiences in DMT sessions were found to help increase their sense of connection with residents, provide them with new knowledge of resident's emotions, and introduce more empathic approaches to use in their care practice. Kinesthetic empathy is a core concept of DMT, which is deeply connected to the relational aspect of this work. Mirroring is a prevalent technique within DMT literature that has shown to cultivate kinesthetic empathy and strengthen the therapeutic relationship (Berrol, 2006; Homann, 2010). This DMT intervention activates the mirror neuron system and promotes a spontaneous process of sharing perspective through movement, which permits a therapist to be in a state of connection with an individual or group and gather information (Berrol, 2006). Kinesthetic empathy is an embodied and intersubjective experience that is essential for gaining an understanding of another person and their experiences (Young, 2017).

The concept of mirror neurons can be leveraged in the context of EMDR to support practitioners in developing a strong rapport with clients. Incorporating DMT practices that activate the mirror neuron system within EMDR treatment may enable therapists to gain a deeper understanding of a client's experiences. Mirroring, as used in DMT, can be employed to enhance empathy, emotional resonance, attunement, and interpersonal connection (Berrol, 2006; Dworkin & Errebo, 2010; Homann, 2010). DMT expands an individual's ability to form healthy and meaningful relationships with others because of the full-body, sensory, and emotionally rich experiences it provides (Homann, 2010). Furthermore, activating mirror neurons through DMT may lead to increasing a client's sense of trust and level of engagement in EMDR treatment (Eberhard-Kaechele & Goll-Kopka, 2022). Based on the research, it is believed that integrating DMT interventions, such as mirroring, during the preparation phase of EMDR will support the development of a stronger therapeutic alliance. This enhanced connection may then help create a

safe environment for individuals to explore and process distressing memories and emotions during EMDR treatment, thus providing a more effective therapeutic experience.

Strengthening embodied attunement between therapist and client through DMT may also support the facilitation of bilateral stimulation. According to Dworkin and Errebo (2010),

> The appropriate dosage, speed and rhythm of bilateral stimulation within resource installation and memory reprocessing is of great importance. If the therapist is able to monitor the clients process and adjust the BLS to the client's needs, this contributes to the safe environment and the special therapeutic relationship in EMDR Therapy. This could also contribute to the formation and representation of new memories of experiences of empathy by fine attuned co-regulation of affective arousal within the therapeutic relationship, and is related to the interpersonal experience, the dance between client and therapist, in EMDR Therapy (p. 5).

As previously discussed, both DMT and EMDR uses movement in the therapeutic process. EMDR incorporates movement through bilateral stimulation, primarily through eye movement or tapping. Although this may not necessarily be used as a specific technique as in EMDR, bilateral stimulation is inherently employed in DMT as this modality encourages full-body activation and self-expression (Homann, 2010). There is curiosity in how DMT may offer alternative forms of bilateral stimulation. Physical actions such as, walking, marching, and swaying can engage both sides of the body while also promoting a sense of grounding and consistent rhythm (Eberhard-Kaechele & Goll-Kopka, 2022). Mirroring movements that require coordination between the right and left sides can also facilitate bilateral stimulation while simultaneously maintaining the connection between a therapist and client (Homann, 2010).

In Aithal et al. (2023), identified themes were explored creatively through movement interventions, some of which incorporated the use of props. There is an interest in how moving with props could be integrated and used as a form of bilateral stimulation within the EMDR process. In DMT, various props can be used to support engagement, communication, and embodied expression (Aithal et al., 2023). Individuals could potentially promote bilateral stimulation through creatively moving with objects such as scarves, balloons, hoops, wooden sticks, feathers, or bouncing a ball. Props may provide different forms of sensory stimulus that feel better for individuals when installing resources and reprocessing memories. Props can allow for a degree of control on behalf of the client (Eberhard-Kaechele & Goll-Kopka, 2022), as they are able to adjust the pace and effort quality of the stimulation. Furthermore, props encourage creativity and can introduce an expressive element into the EMDR process. According to Tripp (2022), "by keeping the client in a relaxed and creatively engaged state, the trauma processing can be titrated, thus enhancing a sense of safety and control for the client, keeping them in their 'window of tolerance' while dealing with the intensity of the traumatic memory" (p. 192).

Conclusion

DMT and EMDR are body-based approaches that address and facilitate the integration of the emotional, cognitive, and physical aspects of an individual. Both modalities can access and engage with one's internal and external states through sensory experiences. According to the literature, increasing body awareness, developing self-regulation skills, and resourcing are primary practices within both methods. The use of movement is fundamental to DMT and EMDR, as it allows for individuals to process trauma, emotions, cognitions, and more, serving as a transformative tool in the therapeutic process.

Based on the research reviewed, there does not seem to be literature that specifically addresses the combined application of DMT and EMDR in a therapeutic process, rather it

includes studies that discuss DMT or EMDR independently. Research associated closest to this topic was a chapter related to dancing mindfulness (Marich 2022), a therapeutic approach that incorporates mindfulness concepts, movement, and other art forms. As an EMDR therapist and trainer, Marich offers a clinical and theoretical exploration of how to integrate movement and mindfulness practices within the EMDR process. Although this approach involves the use of body and movement-based methods, Marich differentiates it from DMT due to its integration of mindfulness elements and other arts modalities. Upon reviewing the literature related to DMT and EMDR, there is a need for further research on this topic.

There also appears to be limited empirical research related to DMT, with most of the literature predominately being conceptual (Levine & Land, 2016). Due to the experiential, creative, and process-oriented nature of DMT, there is a strong emphasis on using qualitative methods to explore and understand the subjective experiences of participants, the nuances of movement-based interventions, and the therapeutic effects of DMT. In addition, the majority of researchers identify themes that were explored through movement; however, most do not provide a description of the specific DMT interventions employed during the study. Once again this may be due to the spontaneity and adaptability of DMT sessions, which poses a challenge in standardizing interventions (Pierce, 2014). This element also makes it difficult to replicate results and compare outcomes across studies. Lastly, DMT research is primarily conducted with small sample sizes, which limits the generalizability of findings. Regarding the potential mechanisms underlying these two therapeutic approaches, there is limited research in relation to DMT. Further investigation in the area of neuroscience and DMT is needed within the literature.

Regarding EMDR, the literature consists of both quantitative and qualitative studies, however, there is a lack of arts-based research. An area that could be further explored within

EMDR research is the investigation of both the therapist's and client's experience of EMDR treatment. Aside from what is included within the eight-phase protocol, conducting studies that involve a qualitative or arts-based component could be appropriate methodologies that may provide insight into other treatment conditions that individuals perceive to further support the overall EMDR process. For both DMT and EMDR, there is also a need for more longitudinal studies as most research is focused on short-term results. Additional long-term follow-up data is needed in order to assess and understand the lasting treatment effects of DMT and EMDR over an extended period of time.

As demonstrated throughout the literature, body and movement-based practices appear to facilitate a stronger mind-body connection that allows individuals to access, explore, and express their thoughts, emotions, and experiences through verbal and non-verbal forms of communication. The literature related to DMT and EMDR emphasizes the benefits of utilizing body and movement-based interventions to support clients experiencing depression, anxiety, grief, low vitality, disconnection from self and others, and self-criticism (Federman, Shimoni, & Turjeman, 2019; Gordon, 2014; Koch et al., 2007; Schwarz et al., 2019). Embodied practices, which are inherent to DMT and EMDR, allow individuals to experience their body as a resource, increase self-knowledge, promote self-expression, and enhance the therapeutic process (Aithal et al., 2023; Aranda et al., 2015; Federman, Zana-Sterenfeld, & Lev-Weisel, 2019; Marich, 2022; McNeil & Platt, 2016).

Examining common principles, practices, and benefits between DMT and EMDR has led to discovering potential clinical applications for integrating these two approaches. Based on the research, there is evidence for how DMT techniques can support with important factors of the overall EMDR process, such as establishing a sense of safety and developing a strong therapeutic

relationship. Engaging in mirroring, a primary DMT intervention, creates an interneural connection between two individuals because it simultaneously activates mirror neuron networks in both participants (Berrol, p. 2006). This practice does not just entail a mimicking of a client's movement but embodying the emotional essence of their expression (Eberhard-Kaechele & Goll-Kopka, 2022) and offering a response. Integrating mirroring into EMDR treatment can help promote empathy and strengthen the therapeutic alliance. In turn, this could increase safety for individuals engaging in the reprocessing phases. DMT can also integrate self-expression and creativity into EMDR treatment. Exploring different movement qualities and actions, mirroring, and using props could encourage engagement and provide different forms of bilateral stimulation (Eberhard-Kaechele & Goll-Kopka, 2022; Tripp, 2022).

Although there is a need for more research on this topic, discovering the intersections between DMT and EMDR offers insight into how these two modalities may be integrated and enhance the therapeutic process. The combined application of DMT and EMDR has the potential to provide more effective treatment, as it would offer holistic interventions that further support how clients access and process memories or emotions related to trauma, thus promoting well-being and facilitating positive therapeutic changes.

References

Aithal, S., Karkou, V., Makris, S., Karaminis, T., & Powell, J. (2023) Supporting the wellbeing of caregivers of children on the autism spectrum: A qualitative report on experiences of attending group dance movement psychotherapy. *PloS ONE, 18*(8), 1-29. https://doi.org/10.1371/journal.pone.0288626

Amano, T. & Tiochi, M. (2016). The role of alternating bilateral stimulation in establishing positive cognition in EMDR therapy: A multi-channel near-infrared spectroscopy study. *PloS ONE, 11*(10), 1-8. https://doi.org/10.1371/journal.pone.0162735

American Dance Therapy Association. (2020). *What is Dance/Movement therapy?*. https://adta.memberclicks.net/what-is-dancemovement-therapy

American Psychological Association. (2017, July 31). *Eye movement desensitization and reprocessing (EMDR) therapy*. https://www.apa.org/ptsd-guideline/treatments/eye-movement-reprocessing

Aranda, B., Ronquillo, N., & Calvillo, M. (2015). Neuropsychological and physiological outcomes pre- and post-EMDR therapy for a woman with PTSD: A case study. *Journal of EMDR Practice and Research, 9*(4), 174-187. http://doi.org/10.1891/1933-3196.9.4.174

Barnstaple, R. & Dieterich-Hartwell, R. (2022). Neurobiological considerations in the treatment of trauma from a dance/movement therapy perspective. In R. Dieterich-Hartwell & A. Melsom (Eds.), *Dance/Movement therapy for trauma survivors: Theoretical, clinical, and cultural perspective* (pp. 40-58). New York: Routledge.

Berrol, C. (2006). Neuroscience meets dance/movement therapy: Mirror neurons, the therapeutic process and empathy. *The Arts in Psychotherapy, 33*(4), 302-315. https://doi.org/10.1016/j.aip.2006.04.001

Callahan, A. (2011). The parent should go first: A dance/movement therapy exploration in child loss. *American Journal of Dance Therapy, 33*(2), 182-195. https://doi.org/10.1007/s10465-011-9117-3

Chaiklin, S. & Wengrower, H. (Eds.). (2016) *The art and science of dance/movement therapy: Life is dance* (2nd ed.). New York: Routledge.

Cvetek, R. (2008). EMDR treatment of distressful experiences that fail to meet the criteria for PTSD. Journal of EMDR Practice and Research, 2(1), 2–14. https://doi.org/10.1891/1933-3196.2.1.2

Dworkin, M. & Errebo, N. (2010). Rupture and repair in the EMDR client/clinician relationship: Now moments and moments of meeting. *Journal of EMDR Practice and Research, 4*(3), 113-123. https://doi.org/10.1891/1933-3196.4.3.113

Eberhard-Kaechele, M. & Goll-Kopka, A. (2022). Bridging the chasm and calming the storm: The relational perspective on dance/movement therapy for trauma. In R. Dieterich-Hartwell & A. Melsom (Eds.), *Dance/Movement therapy for trauma survivors: Theoretical, clinical, and cultural perspective* (pp. 59-79). New York: Routledge.

Eğeci, İ. S., & Özgün, S. (2019). Randomized controlled trial: EMDR early intervention with and without eye movements for learned helplessness state. *Journal of EMDR Practice and Research, 13*(2), 90–99. https://doi.org/10.1891/1933-3196.13.2.90

Engelhard, I., van den Hout, M., Janssen, W., & van der Beek, J. (2010). Eye movements reduce vividness and emotionality of "flashforwards". *Behaviour Research and Therapy, 48*(5), 442-447. https://doi.org/10.1016/j.brat.2010.01.003

Federman, D., Shimoni, S., & Turjeman, N. (2019). 'Attentive movement' as a method for

treating depression. *Body, Movement, and Dance in Psychotherapy, 14*(1), 14-25. Routledge. https://doi.org/10.1080/17432979.2019.1586773

Federman, D., Zana-Sterenfeld, G., & Lev-Weisel, R. (2019). Body movement manual for the assessment and treatment of trauma survivors. *American Journal of Dance Therapy, 41*(1), 75–86. https://doi.org/10.1007/s10465-019-09298-3

Fischman, D. (2016). Therapeutic relationships and kinesthetic empathy. In S. Chaikilin & H. Wengrower (Eds.), *The art and science of dance/movement therapy: Life is dance* (pp. 33-46). New York: Routledge.

Gauvreau, P., & Bouchard, S. (2008). Preliminary evidence for the efficacy of EMDR in treating generalized anxiety disorder. *Journal of EMDR Practice and Research, 2*(1), 26-40. https://doi.org/10.1891/1933-3196.2.1.26

Goldstein-Levitas, N. (2016). Dance/movement therapy and sensory stimulation: A holistic approach to dementia care. *American Journal of Dance Therapy*, *38*(2), 429-436. https://doi.org/10.1007/s10465-016-9221-5

Gordon, A. (2014). Focusing on positive affect in dance/movement therapy: A qualitative study. *American Journal of Dance Therapy, 36*(1), 60-76. https://doi.org/10.1007/s10465-014-9165-6

Gray, A. (2015). Dance/movement therapy with refugee and survivor children: A healing pathway is a creative process. In C. A. Malchiodi (Ed.), *Creative interventions with traumatized children* (pp. 169-190) New York: Guilford Press.

Hase, M., Plagge, J., Hase, A., Braa, R., Osctacoli, L., Hofmann, A., & Huchzermeier, C. (2018).

Eye movement desensitization and reprocessing versus treatment as usual in the treatment of depression: A randomized-controlled trial. *Frontiers in Psychology, 9*(1384), 1-12. https://doi.org/10.3389/fpsyg.2018.01384

Herkt, D., Tumani, V., Grön, G., Kammer, T., Hofmann, A., & Abler, B. (2014). Facilitating access to emotions: Neural signature of EMDR stimulation. *PloS ONE, 9*(8), 1-8. https://doi.org/10.1371/journal.pone.0106350

Homann, K. (2010). Embodied concepts of neurobiology in dance/movement therapy practice. *American Journal of Dance Therapy, 32*(1), 80-99. https://doi.org/10.1007/s10465-010-9099-6

Koch, S. C., Morlinghaus, K., & Fuchs, T. (2007). The joy dance: Specific effects of a single dance intervention on psychiatric patients with depression. *The Arts in Psychotherapy, 34*(4), 340-349. https://doi.org/10.1016/j.aip.2007.07.001

Konie, R. (2011). *A brief overview of Laban Movement Analysis*. https://psychomotorischetherapie.info/website/wp-content/uploads/2015/10/LMA-Workshop-Sheet-Laban.pdf

Korn, D. & Leeds, A. (2002). Preliminary evidence of efficacy for EMDR resource development and installation in the stabilization phase of treatment of complex posttraumatic stress disorder. *Journal of Clinical Psychology, 58*(12), 1465-1487. https://doi.org/10.1002/jclp.10099

Levine, B. & Land, H. (2016). A meta-analysis of qualitative findings about dance/movement therapy for individuals with trauma. *Qualitative Health Research, 26*(3), 330-344. https://doi.org/10.1177/1049732315589920

Levy, F. (2005). Introduction: The shoulders on which we stand. *Dance movement therapy: A*

healing art, (2nd Ed., pp. 1-13). Reston, VA: National Dance Association.

Levy, F. (2005). Mary Whitehouse: Movement-in-depth: A jungian approach to dance therapy. *Dance movement therapy: A healing art*, (2nd Ed., pp. 51-60). Reston, VA: National Dance Association.

Marich, J. (2010). Eye movement desensitization and reprocessing in addiction continuing care: A phenomenological study of women in recovery. *Psychology of Addictive Behaviors, 24*(3), 498-507. https://doi.org/10.1037/a0018574

Marich, J. (2022). Dancing mindfulness: Flowing synchronicities with EMDR therapy. In E. Davis, J. Fitzgerald, S. Jacobs, & J. Marchand (Eds.), *EMDR and creative arts therapies* (pp. 281-294). New York: Routledge. http://doi.org/10.4324/9781003156932-10

McNeil, E. & Platt, J. (2016, September 15). *Using bilateral simulation to treat trauma: The interface between Dance/Movement Therapy and Eye Movement Desensitization and Reprocessing (EMDR)* [Webinar]. American Dance Therapy Association. https://adta.mclms.net/en/package/1230/course/1929/view

Melhuish, R., Beuzeboc, C., & Guzmán, A. (2017). Developing relationships between care staff and people with dementia through Music Therapy and Dance Movement Therapy: A preliminary phenomenological study. *Dementia*, *16*(3), 282-296. https://doi.org/10.1177/1471301215588030

Morningstar, D. & Ruzic, A. (2022). Dance/Movement Therapy and trauma stewardship: A practical guide for helping professionals. In R. Dieterich-Hartwell & A. Melsom (Eds.), *Dance/Movement therapy for trauma survivors: Theoretical, clinical, and cultural perspective* (pp. 270-285). New York: Routledge.

Nieuwenhuis, S., Elzinga, B., Ras, P., Berends, F., Duijs, P., Samara, Z., & Slagter, H. (2013).

Bilateral saccadic eye movements and tactile stimulation, but not auditory stimulation, enhance memory retrieval. *Brain and Cognition, 81*(1), 52-56. https://doi.org/10.1016/j.bandc.2012.10.003

Philpott, E. (2013). Moving grief: Exploring Dance/Movement therapists' experiences and applications with grieving children. *American Journal of Dance Therapy, 35*(2), 142-168. https://doi.org/10.1007/s10465-013-9158-x

Pierce, L. (2014). The integrative power of dance/movement therapy: Implications for the treatment of dissociation and developmental trauma. *The Arts in Psychotherapy, 41*(1), 7-15. https://doi.org/10.1016/j.aip.2013.10.002

Pylvänäinen, P., Muotka, J., & Lappalainen, R. (2015). A dance movement therapy group for depressed adult patients in a psychiatric outpatient clinic: effects of the treatment. *Frontiers in Psychology,* 6(980). 1-11. https://doi.org/10.3389/fpsyg.2015.00980

Richardson, C. (2015). Expressive arts therapy for traumatized children and adolescents: A four-phase model. New York: Routledge.

Schubert, S., Lee, C., & Drummond, P. (2016). Eye movements matter, but why? Psychophysiological correlates of EMDR therapy to treat trauma in Timor-Leste. *Journal of EMDR Practice and Research, 10*(2), 70-81.https://doi.org/10.1891/1933-3196.10.2.70

Schwarz, J., Baber, D., Barter, A., & Dorfman, K. (2019). A mixed methods evaluation of EMDR for treating female survivors of sexual and domestic violence. *Counseling Outcome Research and Evaluation, 11*(1), 4-18. Routledge. https://doi.org/10.1080/21501378.2018.1561146

Seoane, K. (2016). Parenting the self with self-applies touch: A dance/movement therapy

approach to self-regulation. *American Journal of Dance Therapy, 38*(1), 21-40. https://doi.org/10.1007/s10465-016-9207-3

Shapiro, F. (2018). *Eye movement desensitization and reprocessing (EMDR) therapy: Basic principles, protocols, and procedures* (3rd ed.). Guilford Press.

Solomon, R. & Rando, T. (2007). Utilizing EMDR in the treatment of grief and mourning. *Journal of EMDR Practice and Research, 1*(2), 109-117. https://doi.org/10.1891/1933-3196.1.2.109

Sprang, G. (2001). The use of eye movement desensitization and reprocessing (EMDR) in the treatment of traumatic stress and complicated mourning: Psychological and behavioral outcomes. *Research on Social Work Practice, 11*(3), 300-320. https://doi.org/10.1177/104973150101100302

Star, K. (2023, November 21). *What is EMDR therapy?.* Verywell Mind. https://www.verywellmind.com/emdr-for-panic-disorder-2584292

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

Vock, S., Delker, A., Rinderknecht, J., Engel, F., Wieland, S., Beiner, E., Friederich, H., Jarero, I., Seidler, G., & Tesarz, J. (2024). Group eye movement desensitization and reprocessing (EMDR) in chronic pain patients. *Frontiers in Psychology, 15*(1), Article 1264807. https://doi.org/10.3389/fpsyg.2024.1264807

Young, J. (2017). The therapeutic movement relationship in dance/movement therapy: A phenomenological study. *American Journal of Dance Therapy, 39*(1), 93-112. https://doi.org/10.1007/s10465-017-9241-9

Zachou, E., Panhofer, H., & Bareka, T. (2022). Metaphor and movement: Exploring the

unspoken with a group of frontline workers. *Body, Movement, and Dance in Psychotherapy, 17*(4), 326-342. https://doi.org/10.1080/17432979.2022.2052185

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In the judgment of the following signatory this thesis meets the academic standards that have been established for the above degree.

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