**Dance Movement Therapy – A shift in focus from traditional communicative therapy to a projective intervention strategy.**

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In Maslow's hierarchy of needs, art and creativity are categorized as higher-level requirements, at the peak of the needs pyramid. Art is frequently associated with the aspiration for self-actualization or the desire to achieve one's fullest potential (Kenrick et al., 2010). Alternative theories propose that art serves as a form of projection (Thipphawong, 2020). One of Freud's fundamental principles in psychoanalysis is the concept of projection and sublimation through artistic expression, which has greatly emphasized the significance of projective techniques in the domains of psychology and mental well-being. Serlin (2020) explains that the arts often offer healing by addressing fundamental human urges such as creativity, communication, coherence, and symbolism. They manifest as symbolic portrayals of human encounters, often taking visual, kinaesthetic (dance), verbal (poetry), or musical (song, music) forms. These artistic expressions are transcultural in nature, conveying universally recognized archetypal symbols that hold relevance throughout history and across various societies. In a time marked by heightened global interconnectedness, we grapple with challenges posed by both natural calamities and human-made crises from different corners of the world. The collision of cultures frequently gives rise to misunderstandings and conflicts. The arts possess the potential to guide us in revisiting the search for life's meaning and our collective experiences' purpose. They encourage us to reimagine ourselves as a human species, ultimately breaking free from the cycle of violence that has marred our historical narrative (Serlin, 2020). In this scenario, dance and movement function as a dynamic method that has demonstrated its effectiveness as a therapeutic avenue to help in conflicting situations.

The rich history of psychotherapy on the other hand, encompassing various schools of thought and groundbreaking movements within psychology, has contributed to the development of diverse techniques and intervention strategies guided by the ideas put forth by influential figures in the field. In hindsight, when different disorders were being identified, dealing with the disorders, and recognising suitable treatment procedures became quintessential. Eventually, in the mid-twentieth century, numerous breakthroughs emerged, leading to the evolution of psychology's practical applications and the recognition of the need for therapy. During this period, psychotherapy was still in its early stages, akin to the fledgling state of medicine and other sciences. This resulted in a scarcity of empirical evidence and a stronger focus on theoretical frameworks. As a consequence, therapeutic approaches were predominantly shaped by theoretical underpinnings (Cruz, 2016).

Following a similar trajectory, Dance Movement Therapy (DMT) was introduced to the field of psychotherapy, pioneered by the works of Marian Chace in the 1940s (Levy, 1995). Before delving into further discussions, it is crucial to establish a shared definition of DMT. According to the American Dance Therapy Association, Dance Movement Therapy (DMT) involves the psychological utilization of bodily movements, including rhythm, to promote a comprehensive integration of an individual's cognitive, conative, and social aspects. This ultimately contributes to the individual's overall physical and mental well-being. The Association for Dance Movement Psychotherapy UK refers to it as Dance Movement Psychotherapy as well, highlighting its role as a mode of "communication and expression" using creative bodily gestures, which enhance both the client's and therapist's self-reflection.

Marian Chace's efforts, involving war veterans supervised by the American Red Cross at St. Elizabeth's hospital, as well as individuals from diverse backgrounds grappling with catatonia (Chace, 1945), initially termed as "Dance for Communication," evolved through several phases of group experimentation. This process aimed to acquire measurable data and ultimately assess outcomes (Chaiklin, 1975 as cited in Cruz, 2016). However, this particular therapeutic avenue was met with numerous contextual challenges and substantial criticism from psychologists and researchers due to the perceived lack of evidence. It took decades for Dance and Movement Therapy to finally gain recognition as a defined method of intervention with the establishment of the American Dance Therapy Association (ADTA) in 1966. Subsequent research conducted by Marian Chace herself and others in this field contributed to fortifying the role of Dance and Movement Therapy in addressing disorders on a larger scale. In contemporary times, a substantial body of literature with compelling evidence now supports the assertions originally put forth by Marian Chace, and subsequently endorsed by other researchers in the domain (Cruz, 2016).

**Physiological impact of DMT**

At a fundamental level, similar to how exercise functions, dance involves individuals in physical activities that enhance bodily coordination. It promotes body balance, flexibility, and mobility, leading to a significant reduction in the risk of falls. Extensive research conducted over several decades has demonstrated that Dance/Movement Therapy has a notable impact on reducing the fear of falls, particularly in the elderly population (Veronese et al., 2017). Studies also indicate that Dance/Movement Therapy positively influences individuals' "functional fitness", primarily older women, by enhancing their flexibility and agility. Conversely, women who lead sedentary lifestyles lack body balance, gait, strength, and cardiorespiratory endurance in comparison to those who actively participate in therapeutic dance and movement (Plowman et al., 1979; Hopkins et al., 1990).

A notable transformation occurring at the physiological level due to dance is neurological plasticity. Elaborate movements necessitating the coordination of distinct body segments contribute to alterations in the gray matter volume among elderly individuals (Müller et al., 2017 as cited in Nascimento, 2021). Dance, in comparison to other physical activity-based interventions, demonstrated a more pronounced enhancement in advanced cognitive functions like attention, memory retention, and executive functioning (Nascimento, 2021). The multifaceted nature of dance engages various brain regions simultaneously, leading to heightened interconnectivity between the brain's right and left hemispheres, along with simultaneous stimulation of motor, somatosensory, and cognitive areas (Hamacher et al., 2015). This substantiates the efficacy of Dance/Movement Therapy as a potent approach to fostering both structural and functional neuroplasticity in older adults (Nascimento, 2021). There is a growing body of research in the realm of motor activities and related diseases that supports the efficacy of Dance/Movement Therapy as a psychotherapeutic intervention for treating Parkinson's Disease (Michels et al., 2018). Parkinson's Disease is a neurodegenerative disorder characterized by motor impairments and non-motor symptoms such as cognitive deficits, mood fluctuations, and disruptions in sleep patterns (Jankovic, 2008). Key motor symptoms include slowness of movement (bradykinesia), instability in posture, and muscle rigidity (Jankovic, 2008), which can be addressed through the flexible steps integral to Dance/Movement Therapy (Sharp & Hewitt, 2014 as cited in Michels et al., 2018).

Building upon our earlier discussion on how DMT affects neuroplasticity, it's evident that dance and movement also enhance cognitive functions (Nascimento, 2021). This implies that Dance/Movement Therapy might also serve to alleviate the non-motor symptoms experienced by individuals with Parkinson's Disease. As highlighted in the meta-analysis conducted by Koch et al. (2019), dance, akin to physical exercise, enhances muscle dynamics, which holds global significance. However, in the context of Parkinson's Disease, dance improves physical aspects and aids cognitive abilities through rhythmic movements and responses to music that demand imagination. This, in turn, assists in mitigating the non-motor impairments associated with this neurodegenerative condition (Hashimoto et al., 2015).

Besides the numerous other advantages of dance and movement for maintaining a well-functioning cardiovascular system and enhancing fitness in individuals with diabetes through the regulation of serotonin levels, glucose, and insulin in the body (Passos et al., 2021), additional research focusing on the impact of Dance/Movement Therapy on cancer patients and its potential within the realm of Oncology indicates that while there isn't a direct established link demonstrating the effectiveness of DMT in aiding cancer patients, it does play a significant role in enhancing quality of life (QoL), enthusiasm, and somatization (Bradt et al., 2015). To sum up, Dance/Movement Therapy has demonstrated substantial influence in diverse domains of physical health, underscoring its success as an intervention that bridges both physical and psychological aspects of health and well-being (Koch et al., 2019).

**DMT and Mental Health**

At a psychological level, Dance Therapy engages the cognitive aspects of an individual, including skills such as learning, attention, memory, rhythmic motor coordination, and visual-spatial abilities. Additionally, it stimulates the creative and emotional facets, involving movement improvisation accompanied by music, imaginative thinking, emotional expression, and interactions with others (Pessoa et al., 2019). While a substantial amount of knowledge exists regarding the physical health advantages of dance and Dance/Movement Therapy (DMT), research within the realm of mental health regarding its connection to dance and movement therapy is still in its nascent stages and continually evolving. From a biological standpoint, alterations in neurotransmitter levels in the brain and other biomolecular compounds show a clear correlation with mood disorders. Research focusing on the impact of Dance/Movement Therapy (DMT) on neurochemical levels highlights a noteworthy association between the two factors. Notable findings demonstrate a positive link between DMT and changes in neurochemicals. An experiment by Jeong et al. (2005) involving 40 middle school girls displaying mild depression revealed that DMT led to enhanced serotonin levels. The same study observed significant modifications in dopamine concentration in the blood plasma of the DMT group after 12 weeks, resulting in reduced negative emotional symptoms in adolescents with mild depression. This underscores DMT's substantial influence on the neurohormonal balance in clients (Jeong et al., 2005).

Additionally, investigations by West et al. (2004) involving regional African dance and yoga revealed heightened cortisol secretion, a hormone crucial in stress management, in participants subjected to Dance/Movement Therapy sessions. This elevation indicates a reinforced stress response system in individuals who engaged in DMT (Lopez-Nieves & Jakobsche, 2022). Furthermore, the impact extends to other biomolecules like nitric oxide, whose increase contributes to improved cardiovascular health (Lopez-Nieves & Jakobsche, 2022).DMT could serve as an additional therapeutic approach for various psychological conditions; however, the focus here primarily revolves around some of the prominent mental health challenges addressed by practitioners today. Recent experimental studies have revealed that females with mild depression demonstrated improvements after undergoing 12 weeks of structured DMT sessions. Specifically, they exhibited reduced negative mental symptoms, encompassing lower levels of anxiety, somatization, paranoid ideation, and other similar manifestations (JEONG et al., 2005). Plausible explanations for such changes could involve muscle relaxation and a decrease in cortisol levels, aligning with our prior discussion on hormonal shifts (Bojner-Horwitz et al., 2003 as cited in JEONG et al., 2005).

DMT proves to be a comprehensive tool for stress reduction and has showcased effectiveness in the realms of cancer research and fibromyalgia (Cohen & Walco, 1999; Bojner-Horwitz et al., 2003). Earlier conversations concerning African dance forms and 'Hatha yoga' also contribute significantly to the existing body of literature.

The earliest indications of the applicability of DMT can be traced back to the endeavours of Marian Chace, who worked with World War II survivors at St. Elizabeth's Hospital (Chace, 1945). DMT has demonstrated promising results in the treatment of patients with schizophrenia, particularly those with catatonia. Catatonic schizophrenia, as outlined in DSM-IV-TR, is characterized by physical rigidity or the adoption of peculiar postures (APA, 2022). Chace's work involves her extensive history of collaborating with patients in the psychiatric ward of St. Elizabeth's, where she engaged with individuals with catatonic schizophrenia in group settings (Chace, 1945). The omission of this subtype from DSM-5 underscores a more symptom-focused approach, and a scarcity of recent research underscores the need for further investigation in this domain.

Research concerning the effectiveness of DMT in children and adults with Autism Spectrum Disorders (ASD) dates back to the 1970s, and findings suggest encouraging effects through the mirroring mechanism inherent in DMT, involving interventions that include imitation (Takahashi et al., 2019). These changes encompass enhanced social skills, particularly in terms of synchronizing and conveying emotions (Takahashi et al., 2019). The incorporation of dance with music evokes potent emotions that are often impaired in individuals with ASD, thereby contributing to the holistic enhancement of individuals within the ASD spectrum.

**DMT as a futuristic intervention strategy**

The favourable impacts of Dance Therapy (DT) on both physical and mental well-being establish its significance as a pertinent psychotherapeutic technique for handling psychological unease. Given its focus on the body, DT is particularly suitable for certain clinical environments where individuals struggle with the utilization of traditional language-based psychotherapy methods (Taylor et al., 2020). As a result, healthcare and social service establishments are progressively turning to Dance Therapy (DT) to meet the requirements of their patients. Presently, numerous institutions that integrate and investigate the outcomes of DT approaches believe that DT holds potential benefits for individuals dealing with psychological trauma (Levine & Land, 2015).

In the rapidly evolving landscape of healthcare and psychotherapy, Dance Movement Therapy (DMT) emerges as a visionary and forward-looking intervention strategy. Grounded in the profound recognition of the interconnectedness between body and mind, DMT harnesses the expressive potential of movement to facilitate holistic healing and well-being. In a world where advancements in psychology, neuroscience, and technology are reshaping conventional approaches to therapy, DMT stands out as a dynamic and innovative methodology with vast potential for the future. Central to the appeal of DMT is its capacity to transcend language barriers and cultural divides. In an era characterized by unprecedented global interconnectivity, effective modes of communication are paramount. DMT operates as a universal language, utilizing movement as a means of expression that surpasses linguistic limitations. This intrinsic universality positions DMT as a catalyst for cross-cultural understanding and inclusivity, fostering connections that extend beyond verbal articulation.

DMT embraces a comprehensive methodology that amalgamates physical movement, emotional expression, and cognitive participation. This inclusive strategy resonates with the increasingly acknowledged understanding of the intricate mind-body relationship within therapeutic practices. In an age characterized by mounting stressors and mental health challenges, DMT emerges as a viable solution for stress reduction and emotional well-being. By orchestrating movement sequences designed to trigger the release of endorphins and alleviate tension, DMT offers a unique avenue for emotional regulation. As research delves deeper into the neurobiological mechanisms at play, the potential of DMT to influence neurotransmitters and rewire neural pathways gains credibility. This sets the stage for a future in which DMT is seamlessly integrated into stress management and mental health promotion initiatives.

Dance Movement Therapy (DMT) proves to be an efficacious approach to addressing depression among adult individuals. Additionally, through the utilization of a diverse array of study designs varying in quality, a recent meta-analysis managed to assemble a holistic understanding of significant patterns associated with the application of DMT for depression treatment (Karkou et al., 2019). While the shortage of high-quality studies is evident, the outcomes hold implications for policy decisions and clinical applications, while also serving as a foundation for future research endeavours (Karkou et al., 2019).

DMT can be integrated into elderly care facilities to promote active ageing, social interaction, and cognitive stimulation among residents. The demographic shift towards an ageing population further underscores the relevance of DMT as a futuristic intervention strategy. By employing movement sequences that challenge motor skills (Veronese et al., 2017) and stimulate cognitive engagement, DMT can mitigate the cognitive decline commonly associated with ageing. This dimension gains additional importance with the rising prevalence of neurodegenerative disorders. DMT's ability to enhance memory, coordination, and overall well-being could redefine elderly care, creating dynamic and enriching environments for senior citizens (Hashimoto et al., 2015).

Furthermore, DMT can be integrated into collaborative care models where various healthcare professionals work together to address a patient's physical, emotional, and mental health needs. DMT aligns seamlessly with the burgeoning trend towards personalized medicine and individualized treatment approaches. Its inherent adaptability empowers therapists to tailor interventions to cater to distinct needs and preferences. Whether addressing trauma, anxiety, or enhancing creative expression, DMT can be tailored to align precisely with the objectives and circumstances of each individual. This personalized approach mirrors the contemporary shift towards patient-centred care, recognizing that standardized approaches often fall short of meeting diverse and nuanced needs.

Dance Movement Therapy stands as a beacon of futuristic intervention strategy, harmonizing ancient wisdom with contemporary science and technology. Its embodiment of the intricate mind-body connection, transcultural communication capabilities, readiness to embrace technology, and potential to address a myriad of health challenges position it at the vanguard of forward-thinking therapeutic methodologies. As our understanding of psychology, neuroscience, and technology advances, DMT is poised to play a pivotal role in shaping the future of healthcare and psychotherapy, meeting the evolving needs of a complex and interconnected world.

Within Dance Movement Therapy (DMT), a diverse array of dance forms proves to be highly effective. From traditional cultural dances to contemporary styles, each form brings a unique blend of movement, expression, and emotional release. Whether it's the rhythmic footwork of Kathak, the fluidity of contemporary dance, or the expressive storytelling of ballet, these diverse forms offer a wide range of therapeutic benefits. By harnessing the power of movement and creativity, these dance forms provide individuals with versatile avenues for self-discovery, emotional healing, and holistic well-being. The next section centres on Kathak as an approach within Dance/Movement Therapy and examines the prospective role of this dance style in the realm of psychotherapy and therapeutic interventions in the near future.

**Kathak as a potential DMT modality – a case study.**

Kathak, a traditional Indian classical dance form, has gained attention as a plausible and culturally rich practice within the realm of Dance Movement Therapy (DMT). Rooted in history and cultural significance, Kathak holds the potential to serve as a transformative therapeutic approach, leveraging its intricate movements, storytelling, and rhythmic expressions to address physical, emotional, and psychological well-being (Vishwakarma, 2022).

Kathak's foundations lie in its captivating blend of movement and storytelling. The dance form is characterized by its intricate footwork, graceful hand gestures, and vibrant expressions, which collectively narrate tales, myths, and emotions. This amalgamation of movement and narrative aligns seamlessly with DMT's emphasis on non-verbal communication and creative expression. By weaving stories through gestures, Kathak offers a unique channel for individuals to convey their experiences, emotions, and thoughts, enabling a cathartic release that transcends linguistic barriers (Chatterjee, 2013).

The rhythmic component of Kathak is another facet that lends itself to therapeutic applications. The footwork and rhythmic patterns, often accompanied by musical instruments like *tabla*, contribute to a dynamic and repetitive cadence. This rhythmical aspect can be harnessed in DMT to facilitate grounding, stress reduction, and emotional regulation. The synchronicity of movement and rhythm can promote a sense of harmony and connectedness within the individual, fostering a balanced state of mind.

Furthermore, Kathak's intricate movements and postures demand focus, precision, and mindfulness from practitioners. The concentration required to execute complex sequences aligns with DMT's emphasis on present-moment awareness and mindful movement. Through the practice of Kathak, individuals can engage in a form of moving meditation, allowing them to be fully immersed in the present and temporarily detach from stressors or anxieties (Vishwakarma, 2022).

One of the distinctive attributes of Kathak is its improvisational element. While adhering to a structured framework, Kathak dancers often engage in spontaneous improvisation, responding to the music, emotions, and energy of the moment. This improvisational component resonates with DMT's principles of spontaneity and creative expression. Encouraging individuals to explore their movements and emotions in the present moment, Kathak as a DMT practice can foster a sense of liberation and authenticity. The potential of Kathak as a DMT practice extends to diverse populations, including those dealing with trauma, anxiety, or even individuals seeking personal growth and self-expression. The healing power of cultural practices is well-recognized, and Kathak, steeped in cultural heritage, holds the capacity to evoke a sense of identity, belonging, and connection for participants. For individuals from South Asian backgrounds, engaging in Kathak within a therapeutic context could also create a safe space to navigate cultural complexities and address intergenerational experiences (Vishwakarma, 2022).

Kathak emerges as a promising candidate for Dance Movement Therapy, offering a rich blend of movement, storytelling, rhythm, and cultural significance. Its potential to facilitate emotional expression, mindfulness, creative improvisation, and cultural resonance aligns well with the principles of DMT. Its embodiment of the mind-body connection, cross-cultural communication potential, adaptability to technology, and potential to address diverse health challenges place DMT and forms such as Kathak at the forefront of innovative therapeutic approaches. As our understanding of human psychology, neuroscience, and technology continues to evolve, DMT stands poised to play an increasingly vital role in shaping the future of healthcare and psychotherapy.

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