Rhythmically Rooted:

Exploring the Role of Rhythmic Identity in Dance/Movement Therapy

Christina Maerlender

May 2024

Submitted in partial fulfillment
of the requirements for the degree of
Master of Science in Dance/Movement Therapy
Sarah Lawrence College

Abstract

Historically, in psychology, identity has been defined in Eurocentric, individualist ways. Freud and Erickson's ideas have influenced how the West views identity development. In recent years, there has been a significant shift in perspectives within psychology, sociology, and philosophy regarding identity development (Caldwell, 2016). Contemporary understandings emphasize identity's dynamic, culturally embedded, and multifaceted nature. Building on the ideas expressed by Caldwell (2016) and the conceptualization of rhythm as an inherently embodied phenomenon, the exploration of identity through rhythm emerges as a means to incorporate the Self's evolving experiences while reflecting the dynamic, culturally embedded, and multifaceted nature of identity. A unique identity is embodied and created by layering rhythmic experiences felt within and outside the body throughout the present lifetime and through memory. The systems of White supremacy have led to a dampening and disconnection of the body among those with marginalized identities (Leighton, 2018). The body is the primary location of dominance, as Black and brown bodies have been exploited and oppressed for hundreds of years. Viewing identity through a rhythmic lens underscores the dynamic interplay between agency and structure, acknowledging how societal systems and power dynamics shape individual experiences of rhythm. Dance emerges as a profound expression of rhythm, connecting individuals in unity and movement (Schott-Billman, 2015). Ultimately, the internal/external interplay of rhythm in a dance/movement therapy session mimics the internal/external interplay of rhythm in the body, connecting individuals and offering avenues for expression.

Keywords: rhythm, identity, rhythmic identity, dance/movement therapy, oppression

Acknowledgments

I thank my roots—my family, friends, and community—for supporting and grounding me throughout this process. I am also eternally grateful to the faculty, staff, and my supervisors. Thank you from the bottom of my heart to Adele, Carter, Grace, Haley, Hattie, Jaycie, Jenny, Leanna, Lilah, Mackenna, Madi, Natalie, and Rey, who have made this experience nurturing, challenging, and enriching.

Table of Contents

Abstract…………………………………………………………………………………...2

Table of Contents…………………………………………………………………………4

Literature Review…………………………………………………………………………5

Discussion………………………………………………………………………………..24

References………………………………………………………………………………..36

Historically, in psychology, identity has been defined in Eurocentric, individualist ways. Freud and Erickson's ideas have influenced how the West views identity development. These ideas center on the self or individual as primary in this process. Traditional Western views often portrayed identity as a relatively stable and fixed aspect of an individual, shaped primarily by internal factors such as biology or personality traits. Freud's psychosexual theory of development (1905) states that individuals develop through a series of stages. The personality and identity of the individual are thus made up of the id (unconscious, instinctual), ego (decision-making), and superego (incorporates the values of society), which are formed by passing through each sequential stage of development (Freud, 1905).

Erikson (1950) followed Freud's developmental theory of identity and included social relationships as an integral aspect of identity formation and development. According to Erikson, forming an identity begins when the child recognizes themselves as an individual, separate from the mother. These social interactions were observed among the dominant social groups: White, cis-gendered, heterosexual, nuclear, and patriarchal families (Erickson, 1950).

In recent years, there has been a significant shift in perspectives within psychology, sociology, and philosophy regarding identity development (Caldwell, 2016). Contemporary understandings emphasize identity's dynamic, culturally embedded, and multifaceted nature. Identity is increasingly understood as encompassing various dimensions such as ethnicity, nationality, gender, sexuality, religion, and socioeconomic status (Caldwell, 2016).

Intersectionality theory, developed by Crenshaw (2019), emphasizes the interconnectedness of social categories and how the intersection of multiple social identities and experiences shapes individuals' identities. This perspective challenges simplistic or essentialist views of identity and recognizes the importance of considering the intersections of privilege and

oppression in understanding people's experiences. Narrative Identity has also emerged as a more inclusive approach to identity theory. Narrative Identity is an internalized and evolving story of Self developed over time (McAdams, 1985). While narrative identity includes the individual's experience, it also examines how individuals use their lived experience to construct meaning through their communicated stories in a social context. Narrative identity can take into account the experience of living in a White supremacist, patriarchal, and ableist society, allowing the individual's story of Self to include the effects of this experience (McAdams, 1985).

Caldwell (2016) argues that while Narrative Identity may be a more inclusive lens to view identity development, it does not account for the body and, therefore, misses the non-verbal experience and inner sensing that can be important for emotional and relational connection. Thomas (2015) cites that embodied narrative is just as valid a form of communication for forming this narrative. Caldwell (2016), therefore, introduces Body Identity, which posits that identity, at its core, is a bodily phenomenon. She argues that our fundamental identity stems from our bodily experiences, serving as the foundation upon which other aspects of our identity are constructed. This core identity is shaped, maintained, and expressed through bodily engagement with sensations, movements, physiological functions, relationships, interactions, and emotional awareness. Body Identity persists throughout life and is characterized by its fluidity, multiplicity, non-verbal nature, relational dynamics, situational context, and social influences. Cognitive identity emerges within the framework of Body Identity, influenced by verbal narratives that may align or diverge from bodily experiences (Caldwell, 2016).

Lefebvre (1992) underscores the significance of the body in rhythmic analysis. The perception of rhythm is an embodied experience, and the body cannot survive without rhythm. Lefebvre (1992) describes the body as a polyrhythmic anatomical entity, as multiple rhythms

work together, such as breath and heartbeat, and eurythmic, as the multiple rhythms combine harmoniously to create a whole. Lefebvre (1992) conceptualizes rhythm as containing quantitative aspects, which mark time, and qualitative aspects that connect and help create a whole. Through rhythm, we are simultaneously connected to each other, our bodies, the past, and the present (Lefebvre,1992).

Building on the ideas expressed by Caldwell (2016) and the conceptualization of rhythm as an inherently embodied phenomenon, the exploration of identity through rhythm emerges as a means to incorporate the Self's evolving experiences while reflecting the dynamic, culturally embedded, and multifaceted nature of identity. The bodily engagement with sensations, movements, physiological functions, relationships, interactions, and emotional awareness is primarily through rhythm. Therefore, the multiple layers of rhythmic experience felt within and outside the body throughout the present lifetime and through memory influence identity construction. A unique identity is embodied and created by layering multiple rhythms over time.

As Lefevbre (1992) writes, the body is polyrhythmic. This is evidenced in the activities of the heart, breath, metabolism, and brain function, which have shaped our existence before birth (Tortora & Keren, 2023). While these multiple rhythms happen in their own time, they create a eurythmic body that responds to its environment.

Hall (1983) suggests that life on Earth evolved in response to rhythmic cycles indicating a change. The light turned dark and back again as the planet rotated on its axis. The angle of the sun changed as Earth traveled in its year-long orbit. This brought about periods of seasonal change, from hot to cold or wet to dry. The tides rose and fell with the influence of the moon. Living beings adapted to these shifts and based their migration patterns, mating seasons, and feeding times on the change that occurred rhythmically over time. Today, we see the effects of

this as crabs feed every twelve hours when the tides change, chickens lay more eggs when the days are longer, and bears eat more food as the season changes from fall to winter (Hall 1983).

Over time, external cycles became internalized and developed a life of their own (Hall, 1983). Entrainment is the synchronization of individuals to an external rhythm (Osborne, 2009). The current internal rhythms within the human body are entrained by external signals, such as light and temperature (Dragoi et al., 2022; Andrade, 2022). Circadian rhythm is the rhythmic meter that human bodies maintain, determined by a system of inter-corporeal regulators. Input signals from the environment, such as light and temperature, perpetually entrain output pathways that interconnect with the body's endocrine and autonomic nervous systems. Photons of light enter the eyes, and this information is carried by optic nerve cells to the hypothalamus, which harmonizes the circadian clocks in every cell of tissues in the body. This causes hormone levels to fluctuate throughout the day, influencing our feelings of tiredness or hunger based on the rhythm of external light. These systems are intertwined with the autonomic nervous system, which controls breathing and heart rate and fluctuates throughout the twenty-four-hour cycle (Dragoi, 2022; Andrade, 2022).

The environment influences the rhythms of the human body, but the first time in life that one experiences rhythm is within the womb. The fetus hears and feels the rhythm of the pregnant parent’s heartbeat, breath, and spoken language. Fetuses remember these rhythms, which allow them to recognize rhythm outside of the womb (Hepper, 1996). According to Hepper (1996), this promotes social bonding and attachment to primary caregivers later in life. This interaction with rhythm begins a lifelong pattern relating the internal world to the external environment.

The external rhythm of the parent’s heartbeat eventually individuates and becomes an independent rhythm within the body. The powerful muscle of the heart pumps blood throughout

the body by contracting and releasing the chambers within (Gomes, 2021). This action pulls oxygenated blood from the lungs, first nourishing the heart and then pushing the blood throughout the body (Hartley, 1995). This wave of contraction and release echoes through the body as arteries bring blood to vital organs. The veins push blood back to the lungs, and valves open and close rhythmically to stop the backflow of blood. Veins also rely on rhythmic contractions of skeletal muscles to help push the blood along to the lungs to exchange waste for nourishment. This heartbeat continues throughout life and only stops in death (Hartley, 1995; Gomes, 2021).

The heart rhythm joins other body rhythms to create a polyrhythmic and eurythmic being. Breath, according to Hartley (1995), is known as *prana, ch'i*, or vital energy. When a baby takes its first breath outside the womb, this is the first time their unique breathing pattern is initiated (Hartley, 1995). Like heartbeat, breathing can be an unconscious process dictated by the autonomic nervous system; however, breathing can also be voluntarily controlled (Hartley, 1995). The repetitive act of breathing draws the life force to connect the external world with the internal environment. The diaphragm and pelvic floor muscles expand and contract in a rhythmic synchronization that allows oxygen to be pulled into the lungs as one breathes (Hartley, 1995). The uterus and other vital organs are between the pelvic floor and the diaphragm, allowing the fetus to be at the center of their parent's respiration long before one's unique breathing rhythm is established (Hartley, 1995).

Neuronal activity also exhibits rhythm. The rhythmic functions of breath and heart rate rely on the rhythmic impulses of neurons (Hartley, 1995). As the nervous system constantly processes external stimuli internally, the nerves convey messages and direct responses through electrical and chemical impulses. Nerve cells use sodium and potassium ions to create electrical

impulses. When a message needs to be sent, sodium rushes into the cell, and potassium rushes out, creating a brief electric charge that travels along the cell. Once the message is sent, sodium and potassium return to their original places, ready for the next message. This rhythmic shift of sodium and potassium moving into and out of the cell membrane allows for the chemical shift, followed by the electrical impulse, ultimately allowing for breath, heartbeat, and movement to occur (Hartley, 1995).

Nerves exhibit rhythmic activity and are stimulated to exhibit this activity by rhythm. The first nerve to develop in utero is the vestibular nerve, and this nerve is stimulated by the sucking rhythm (Hartley, 1995). The sucking rhythm is the first organizing rhythm in life. Other early rhythms that activate the nervous system include rocking or swaying, as a parent may rock, sway, or bounce a baby (Tortora, 2023). Entrainment has also been seen to stimulate the neuromotor systems of the body, creating an embodied relationship between rhythm, the brain, and autonomic systems, such as breath and heartbeat (Osborne, 2009). We move and are moved by the repetitive measure of body rhythms, and as these propel us through life, we begin to find our own rhythmic identity.

As the eurythmic body develops, language adds to the layers of rhythm experienced and created. Mazokopaki and Kugiumutzakis (2009) illustrate that newborns mimic the rhythmic temporal patterns expressed in the vocal sounds of their parents within the initial 45 minutes following their birth. The rhythm of the language spoken by the parents is one of the first rhythms that a fetus is exposed to, and later on, it allows the infant to recognize rhythm elsewhere in the world (Mazokopaki & Kugiumutzakis, 2009). The frequency range for basic speech rhythms in all languages is around one hertz, the same for chewing, the heartbeat, walking, running, and arm movements. The rhythms experienced inside the body are reflected in

harmonious aspect to each other in these externalized actions. However, within this range, spoken language carries rhythmic patterns that vary across cultures (Gibbon, 2022). Speech rhythms, as observed in numerous languages, establish a framework for rhythmic patterns over time (Gibbon, 2022). Ordin and Polyanskaya (2019) showed that in learning a language, rhythm patterns matter for the perception of an accent by native speakers.

As Tortora and Keren (2023) mention, the rhythmic patterns of language become embodied and help contribute to our overall understanding and engagement with rhythm. Those born into families speaking one language will embody those rhythms as a layer of their rhythmic identity. For example, the Chinese language showcases the influence of cultural preferences on rhythm patterns, affecting word choices and sentence structures (Link, 2013). The Chinese language is distinctive in that rhythmic flexibility is common, as morphemes, or minimal grammatical units, are almost always monosyllables and easily combined to make a particular rhythmic sound. Link (2013) gives the example of the terms "electrocardiogram" and "xindiantu" (心电图), which translates to "heart-electric-chart" in English. While "electro" and "dian," "cardio" and "xin," and "gram" and "tu" can each pair with other morphemes to create different words, these are chosen specifically to create balance in the sentence in Chinese (Link, 2013). According to Manana (2013, as cited in Fuhr, 2013), in Madagascar, the same 6/8 rhythm that seems to dominate music also appears in the Malagasy language. Gibbon (2022) found that affixes affected the rhythm patterns of spoken language. Affixes are groups of letters that attach to the end or beginning of a word to create a new word, such as un- (unattached/attached). Rhythm patterns differ between languages with affixes like Ibibio, German, or English and languages without affixes like Chinese (Gibbon, 2022). The Mi'kmaq language integrates rhythmic songs and chants, transmitting knowledge through nature's rhythms, therefore using

their language's unique syntax to reflect their culture's experience of reality through grammar and rhythm (Sable, 2012).

Language can serve as a rhythmic reflection of a culture's perceptions and experiences of time. Hall (1983) writes that in European American languages, time is a noun separated into past, present, and future. Past, present, and future verb tenses differentiate and externalize the image of the passage of time. Time markers are nouns, such as summer and winter. This means they can be numbered and made plural, just like other objects. In English, one "has a good summer." The use of summer as a noun allows one to possess it. Due to the nature of this, it is possible in these languages to commodify time. In Western culture, the language creates a feeling of being able to manage, control, spend, save, or waste time. According to Hall (1983), there are no past, present, or future verb tenses in the Hopi language. Hall (1983) writes that this language presents time as a natural, rhythmic part of life. For example, summer is not a noun but a condition indicating the light and dark cycles and the temperature. For the Quiché indigenous people, it is impossible to separate time from the events that led to that moment and continue to flow from it. Anything new is added to everything already integrated (Hall, 1983). The Mi'kmaw language similarly intertwines time with events, challenging the Western separation of time into distinct categories. Mi'kmaw language does not have any words to describe the concept of time. This is apparent at powwows, pipe ceremonies, and smudges, where the ancestors are part of the circle, just as they are. It is as if time converges into a dimension where past, present, and future coexist or cease to exist altogether (Sable, 2012). Their experience of their time is reflected in the language.

Engaging in dialogue with others also generates rhythm in interpersonal patterns, as noted by Schott-Billman (2015). A discussion is characterized by consistent cadence and

recurring rhythm, forming a dynamic flow oscillating between binary pairs (Schott-Billman, 2015). These rhythms become important ways we interact with each other, encouraging social cohesion and promoting regulation of the nervous system (Mazokopaki & Kugiumutzakis, 2009). This conversational rhythm reflects entrainment (Mazokopaki & Kugiumutzakis, 2009). Conversational rhythm is different depending on the individual and cultural context. Learning these rhythms and adapting to the rhythm of the culture is important for social cohesion and connection (Mazokopaki & Kugiumutzakis, 2009).

The interpersonal rhythms of conversation are important for social cohesion but can also support that culture's hierarchies and systems. Brazazaitis (2021) discusses the role of White women in society and how they maintain power. She mentions how White women's conversation style can tend towards ambivalence as another way to show their meekness when in relationship with White men. According to her, White women are expected by society to act obedient, and this notion is dictated by the pressures and expectations imposed on them. They often support White male colleagues and defend them at the expense of others in the group, continuously lifting White men to power to maintain their position. Women who do not engage in this way would be disrupting the status quo and losing the power they earn by being close to men (Brazaitis, 2021). Another way that conversational rhythm may support structures and systems of power is through code-switching. People may engage in code-switching, a term coined by Haugen (1956), by adapting one's speech, among other things, to ensure the comfort of others, often in pursuit of equitable treatment and to avoid causing tension or disrupting the social status quo (Haugen, 1956).

Rhythm within language and the rhythms generated in conversation also reflect specific worldviews. According to Hall (1983), the perceptions of time and space reflected in language

vary worldwide and are experienced as different rhythms. Humans live all across the globe, and as the Earth turns throughout the year, the rhythms of day and night are different between countries as light exposure fluctuates (Hall, 1983). Ariry (2013, as cited in Fuhr, 2013) notes how visiting West Africa and France disrupted his sense of internal rhythm due to changes in the sun's position from his perspective. This phenomenon was also cited by Huntington (2009), who describes a voyage from New York, USA to Accra, Ghana. She describes how, in New York, the temperature was 67 degrees. The sun rose at 5:45 in the morning and set around 8 pm. The streets were constantly bustling, and people hurried to work or to do other errands. Rhythmic sounds like taxi cab horns, the subway chimes, and the English language surrounded her. The lunch hour was timed to one hour, and people were generally rushing and impatient to get food at the deli before the lunch hour ended (Huntington, 2009).

In Accra, the temperature was 88 degrees, and the sun set at 6:00 pm. Due to Ghana's position on the Earth, the wet and dry seasons are considered based on average rainfall. During Huntington's journey, Accra was experiencing intense rains and humid days. Delays in transportation are common, and people adapt to this with a patient, go-with-the-flow attitude that permeates their language, proverbs, and physical pace. Rhythmic sounds of the Ghanaian language and different-toned bus horns surrounded her. It took her time to adapt her circadian rhythm to the new light/dark cycle and temperature; therefore, she experienced jet lag. She had to acclimate to a different rhythm of life and way of moving in the world. Huntington (2009) observed that personal rhythms become entwined with the new layers added by travel, such as distance, time, and exposure to new languages and cultures.

The space and surrounding environment impact our internal rhythms (Huntington, 2009). In Madagascar, the environment shapes musical rhythms. In the mountains, songs are created

with call-and-response patterns that mimic the echoes of voices reverberating off mountain peaks (Manana, 2013, as cited in Fuhr, 2013). Ariry (2013, as cited in Fuhr, 2013) describes the songs in the Plateau regions as monotone, reflecting the monotonous geography of the flat planes. The environment also influences how instruments are made, which could influence how the instrument is played, thus resulting in a different rhythmic sound. In the High Plateau region of Madagascar, the *vahila* is built out of long bamboo with strings attached to it. Bamboo does not grow in the south of Madagascar, so there is a type of *vahila* called a *maraovany,* constructed out of wood or metal (Fuhr, 2013). The rhythms created by musicians and played for others to hear permeate quotidian life in Madagascar. As the environment influences musical creation, these rhythms become internalized and become personal and collective identity markers. Internalized rhythms influenced by local music, sunlight, daily rhythms, and perception of time become layers of rhythmic identity (Huntington, 2009).

Rhythmic identity extends to the historical context of enslaved West Africans, where music served as a marker of identity and resistance (Munro, 2010). As West African enslaved people arrived in the Caribbean in the 1700s, they brought music and rhythms that served as comfort and a marker of identity (Munro, 2010). The calls, hollers, and other vocalizations also served as a means of communication that White people and enslavers did not understand. White people often suppressed this music, but sometimes, enslavers allowed the music only as it benefited them. At the time, it was documented that enslaved people worked more efficiently when they sang, so enslavers would appoint singers to lead the workers in song. In Haiti, slavery had many rhythmic sounds. These industrial and musical rhythmic sounds characterized their daily lives, creating a unique rhythmic layering that manifested in the music and rituals of Haiti (Munro, 2010). The music that resulted in Haiti was not an escape from the rhythms of plantation

life but became a cultural expression of those same rhythms. The collective and individual experiences of these rhythms were transmitted through music. This can be seen in the present-day dances and rituals of Haitian Vodou Petro ceremonies, where the crack of a whip is a constant sound (Munro, 2010).

In 18th-century Haiti, there was also a clashing of temporal realities, as seen in the religious practices of the enslavers and the enslaved (Munro, 2010). The African and Christian religious calendars followed different rhythms. The African deities are associated with calendrical occurrences and are connected to natural cycles, such as the spring New Year festivals. In contrast, the Christian calendar is influenced to a lesser extent by natural elements and more so by the cycle of religious holidays (Munro, 2010). The enslaved people began to celebrate African ceremonies on Christian feast days. Time and culture in the plantation world were structurally interrelated and interdependent and were always facilitated by rhythm. To maintain their traditions in an oppressive environment, enslaved people had to adapt to the Christian cycles. Over time, these religions fused into a new syncretic religion, with roots coming from African lineage but mutating with the new context, also known as Haitian Vodou (Munro, 2010).

In modern-day practices like Haitian Vodou ceremonies, spirituality becomes deeply entwined with rhythm (Munro, 2010). Today, the drum, integral to a Vodou ceremony, is considered a tangible form of divinity. The divinity of the drum is believed to come from the continent of Africa, again inviting the past into the present. Rhythms draw in the spirits, who must be pleased by music and dance. Rhythm in these ceremonies ultimately becomes a conduit for trance, connecting believers to community, individuality, and both past and present (Munro, 2010). In times of hardship, rhythmic acts like "bat tenèb" or “beating back darkness” in Haiti

transform into powerful expressions of resistance, echoing historical struggles by creating rhythm with everyday objects (Munro, 2010). The rhythms that resulted from enslavement and oppression still exist through the embodiment of descendants in the creation and practice of music, dance, and religious and spiritual celebrations (Munro, 2010).

There is some biological evidence that echoes of previous generations are passed down through DNA to descendants (Meloni, 2023). Epigenetics is the study of cellular changes that are caused by external and environmental causes, which influence genes to be turned “on” or “off” and, therefore, change the expression of the genes (Krippner & Barrett, 2019). Krippner and Barrett (2019) state that this phenomenon can be seen in a study conducted on birthing parents who were pregnant during World War II. The children born had many health issues that were attributed to stress undergone by the pregnant parent. In another study, the grandchildren of those who had been tortured during World War II also had higher rates of Post-Traumatic Stress Disorder than those who did not, indicating that trauma can affect descendants who were not present at the time of the trauma (Krippner & Barrett, 2019).

The biological reactions to this trauma have been passed onto descending generations, even after that specific trauma has been removed. The descendants feel these echoes in their cellular DNA (Krippner & Barrett, 2019). DeGruy (2005) contends that Post Traumatic Slave Syndrome (PTSS) emerges as an outcome of unresolved Post-Traumatic Stress Disorder stemming from the historical experience of enslavement. This trauma is transmitted across generations, persisting into contemporary times alongside the stress induced by current racial prejudice, such as racial microaggressions. DeGruy (2005) asserts that PTSS necessitates profound social transformations at both individual and institutional levels to address and rectify the persistent inequalities and injustices experienced by the descendants of enslaved Africans.

The systems of White supremacy have led to a dampening and disconnection of the body among those with marginalized identities (Leighton, 2018). The body is the primary location of dominance, as Black and brown bodies have been exploited and oppressed for hundreds of years. Black, brown, disabled, and queer bodies have been fetishized, sexualized, and considered threatening. The manifestation of oppression in the body, including disconnection from one's body, was evident in a study involving five people who identified as having one or more oppressed identities. In this study, it was found that body responses to systemic and interpersonal oppressive experiences were similar to somatic responses to trauma, such as vigilance, alienation and withdrawal, and physiological flashbacks or memories. Furthermore, marginalized groups must adjust their body language, movement patterns, and verbal expressions to conform to the dominant cultural norm, thereby imposing further constraints on movement and expression. The outward manifestations of oppression may differ from the true underlying embodied identity, as many people of color must assimilate or change how they move or speak to remain safe (Leighton, 2018). Munro (2010) also highlights this idea, as enslaved people had to adapt and change to fit their songs, religious ceremonies, and other traditions within the White supremacist systems.

As the experience of oppression can be passed down through generations, the experience of privilege is also passed down this way (Bhopal & Alibhai-Brown, 2018). Oppression and enslavement were practices used by White Europeans to control people and products. The wealth created due to these practices was passed down through generations, along with the associated feelings and ideas. Non-White bodies were viewed as products in this system, and the dehumanization that resulted created the concept that Whiteness was bestowed upon White individuals and allowed a claim to freedom. This ensured their vested interest in maintaining

their position within the system. This mechanism persists today, as individuals from privileged White backgrounds leverage their Whiteness to uphold and safeguard their power and privilege within the societal hierarchy. They are often reluctant to alter systems that favor and serve their interests. Instead, many exert effort to safeguard their advantages and oppose modifications to systems where they might face disadvantages. Additionally, institutional racism's impacts and mechanisms are frequently employed by White people to rationalize their superior status, wherein they wield authority. This perpetuates, strengthens, and upholds the advantages of White ancestry and its associated identity. (Bhopal & Alibhai-Brown, 2018).

Just as experiences of enslavement shaped the creation of music and dance and oppression and privilege shaped the systems of today, these experiences can shape the creation of identity and sense of self. Leighton (2018) describes embodied filtering, or the titration of experiences as an act of resistance, imagining metaphorical protection that is tough on the outside and soft where it touches her skin. The filters are purified through ritual, aided by invoking ancestors, elders, and the memories of those who have cherished her in this lifetime. This process allows Leighton to remain in touch with and care for her Black body. As the memories and experiences of ancestors and elders are embodied and transmitted through generations in various ways, rhythmic memories may also be passed down this way. Schoop (2000) alludes to a connection to memory, ancestors, and the body as she describes the *ur* experience. She describes in each of us a life-present and a life-everlasting. Our beating heart keeps rhythm in our bodies today, but the same heart has beat for millions of years (Schoop, 2000). As each layer of rhythm interacts and shifts with other layers in the body, a polyrhythmic and eurythmic identity emerges, combining past knowledge and present discoveries.

Dance emerges as a profound expression of rhythm, connecting individuals in unity and movement (Schott-Billman, 2015). As we dance, we feel the memory of the movements passed down through generations and the beating heart of the present moment. Mazokopaki and Kugiumutzakis (2009) found that infants' responses to music and rhythms were to move in their rhythmic patterns, increasing the emotional expression of joy and pleasure. They also found that infants recognized the melody of their mother's singing and joined in rhythmic vocalizations and body movements (Mazokopaki and Kugiumutzakis, 2009).

In Madagascar, dance intertwines with cultural rhythms, reflecting the Earth, speech, and music (Munro, 2010). Similarly, the Mi'kmaq view dance as an entry into the world, connecting with drums, Earth, and ancestors. In New Zealand, the Kappa Haka dance connects the Maori to the physical and spiritual worlds. The rhythm of this dance closely resembles the rhythm of a beating heart (Capello et al., 2020). The connections between body, space, and spirit join with those in the space as the power of shared rhythm amplifies the collective experience. In Afro-Cuban dance, matching specific movements to rhythm is crucial. Movers listen to the rhythm and respond with their bodies, moving authentically. This interpersonal rhythmic dance fosters organization and strengthens group connections (Capello et al., 2020). Espenak (1981) discusses how rhythm in dance evokes a sense of sharing and response, a sensual pleasure that catalyzes freedom in movement. Rhythm has the power to evoke different body states, including trance and frenzy (Espenak 1981).

Rhythm can be used in various ways to promote internal regulation, organization, and soothing. Porges (2011) discusses how activities such as rocking, swinging, sucking, and slow exhalation breathing can facilitate a state of calmness by augmenting the influence of the myelinated vagus nerve on heart function. By repeatedly using these rhythmic activities in

dance/movement therapy, Betty (2013) found that, over time, children can internalize these rhythms and learn to employ them for self-soothing.

In Multi-Sensory Dance Movement Therapy (MSDMT), rhythm is used to soothe and organize a child's experience of pain (Tortora & Keren, 2023). While some of these techniques can be done internally through interoception, external rhythmic stimulation the dance/movement therapist or caregiver provides is also instrumental. MSDMT uses a layering of sensory input to encourage the child to engage and regulate their feelings and support coping with the help of their caregivers and the dance/movement therapist. Tortora and Keren (2023) cite that rocking, swaying, or massaging children in pain can be calming and organizing. In some sessions, alternating pressure from one body half to the other creates a rhythmic dialogue that can organize and stabilize the felt experience of the child, as it involves the proprioceptive sensors, which are directly related to the systems that calm the brain. Rocking the child's ankles and feet to create a rhythmic wave through the body can also have a soothing effect. Similarly, using rhythmic vocal tones that resonate with the child's vocalizations creates an organizing structure to aid coping (Tortora & Keren, 2023).

Kestenburg-Amighi et al. (1999) discuss how using rhythm can assist children in calming down from negative emotional states. This can be done by tuning in to their movement patterns and aligning their voice, breath, facial expressions, or touch with the child's tension patterns. For instance, a caregiver can match the intensity and rhythm of a child's intense crying by gently holding and rocking them in sync with their vocalizations. This provides a sense of validation and enables the child to follow the caregiver's lead in reducing the intensity and prolonging the rhythmic movements (Kestenberg-Amighi et al., 1999). Tortora and Keren (2023) have also found that rhythmic lullabies and culturally based songs passed down through generations

provide infants with a sense of containment, resilience, and safety. Similarly, Fischman (2016) noted that folk songs, which rely heavily on repetitive rhythm, can evoke memories that provide emotional release.

Chace (1993) noted the power of rhythm in group dance/movement therapy. The body is almost compelled to move when listening to rhythm. She describes how group rhythm in a circle was the only movement that enabled patients to freely join the activity in a psychiatric ward. If the group achieved a group rhythm, Chace (1993) noted improved coordination and posture from releasing tension invoked by shared rhythm. She writes that rhythmic action in unison promotes well-being, relaxation, and companionship. She also describes how rhythmic actions that are out of a patient's awareness are brought to awareness within a group through shared rhythmic action. Therefore, rhythm is a tool for body awareness and communication of emotion (Chace, 1993).

Capello (2016) wrote that sharing and taking on group rhythms can promote group cohesiveness, providing an organizing structure that may energize or bring a group to a satisfactory close. This can provide thematic material for the group, leading to a deeper group process. By offering rhythm exploration through an external force created by the group, recorded music, or internal rhythms, such as heartbeat or breath, emotion and expression may be invoked by an individual and shared with the group (Capello, 2016). Moving in rhythmic unison brings patients into the present moment, providing comfort and group community (Capello, 2016).

Menakem (2021) discusses the effect of joining as a group through rhythmic settling in. He suggests that internally grounded and safe bodies, or "settled" bodies, can help settle other bodies nearby. He describes joining together in group harmonization to settle together through singing, chanting, rocking, and massaging someone or yourself (Menakem, 2021).

Kleinman (2016) acknowledges the importance of the dance/movement therapist being in rhythmic synchrony with their patient. This could occur by moving rhythms with the patient, including walking, breathing, or speaking at their rhythmic pace. She argues that if the dance/movement therapist cannot attune their rhythms to their patient's rhythms, this may cause the patient to detach and become overwhelmed. However, through conscious attunement, the sharing of rhythms may allow for emotional vulnerability and expression later in the process. Rhythm sharing is essential in attunement, allowing for a successful therapeutic relationship (Kleinman, 2016).

To attune to oneself and others, attending to the inner witness is necessary (Kleinman, 2016). Authentic Movement, established by Whitehouse and later expanded upon by Adler and others, is the practice of forming a relationship between the mover, one who is seen, and the witness, one who sees (Adler, 1999). During this practice, movers turn their attention inward and move from impulses arising from various sources. These sources can include internal rhythms, spiritual insights, or personal history. As the relationship develops, a conscious witness develops in the mover, and unconscious activity emerges in the witness's experience. The mover and the witness must practice profound non-judgment of the impulses, movements, and each other. Adler (1999) states that this is only possible when a safe context for practice is created, and she calls this a container. Social conventions and rules are discarded within this container, and judgment is suspended. Integral to this practice is the inner witness, an awareness of what that person is doing or feeling, even when moving from a subconscious source (Lowell, 2007).

Leighton (2018) questions the use of authentic movement, particularly the role of witnessing. Being seen is often used as a therapeutic tool in connection with healing. Leighton (2018) points out that being seen in the context of White supremacy may feel dangerous, as

Black bodies feel that being noticed can lead to stigmatization, pathologization, incarceration, punishment, and more. Leighton (2018) questions if safety in this context can truly exist and if the White therapist can tolerate only making a place safer.

As Chang (2016) describes, nonverbal interpersonal interactions can be interpreted differently across cultures. What a Western dance/movement therapist perceives as unique movement preferences in an individual may stem from unconscious habits influenced by their culture, or cultural rhythms. Our ability to perceive and understand movement or behavior is inherently shaped by our cultural, professional, and life experiences, affecting our psychophysical orientation. A therapist's interaction and assessment are influenced by their own identity, formed by racial experiences and personal backgrounds (Chang, 2016). White therapists, including myself, have a responsibility to consider this and be mindful of the privileges held while witnessing others. The demands of the simulation of Whiteness, straightness, and able-bodiedness must be avoided.

Discussion

Rhythm begins in the body. The first experiences of life are felt through rhythms, as the fetus feels and remembers the pregnant parent's heartbeat, breath, and vocal sounds. Eventually, the body conducts its unique rhythmic dances as the polyrhythms of heart, breath, nerve impulses, and muscle contractions move together within the body. While the polyrhythms of the body propel humans to move through space, the body also adapts and changes to move in synchrony with the rhythms of the external environment. Layer by layer, these rhythms are embodied and shape one's embodied identity. We are made of rhythms. Rhythm is inside the body, rhythm is between bodies, and rhythm surrounds the body.

Viewing identity through a rhythmic lens underscores the dynamic interplay between agency and structure, acknowledging how societal systems and power dynamics shape individual experiences of rhythm. By critically examining how privilege and oppression intersect with rhythmic expressions, dance/movement therapists can support clients in navigating, revealing, and fully embodying their rhythmic identity. Using rhythm in a dance/movement therapy session may allow the nervous systems to regulate and activate the social engagement system (Porges, 2011). Once the capacity for social connection is established, inner bodily rhythms and outer rhythms created by other bodies or sounds, such as music and instruments, can influence each other, leading to various rhythmic dialogues and group rhythmic synchrony. Ultimately, the internal/external interplay of rhythm in a dance/movement therapy session mimics the internal/external interplay of rhythm in the body.

Understanding my internal rhythms and the external rhythmic expressions I engage in will allow me to be fully present in sessions with clients. My background as a White woman raised in a Western, patriarchal, and White supremacist country has shaped how I view people and how I move through the world. Becoming aware of how my body and identity shape the space around me is integral to disrupting systems of harm and oppression. This identity includes the rhythms of where I grew up, the languages I speak, my family composition, and my conceptions of time. Many of these rhythms are part of the dominant culture in this country and context. Understanding my own unique rhythmic identity is necessary before beginning any other interaction.

Growing up, I spoke English in my house and belonged to a nuclear family that followed the social norms that society expected. I had access to nature, education, food, and housing. I am able-bodied, which means that my body is viewed by our capitalist society as worthy since I can

work and contribute. My rhythm of moving, walking, chewing, and talking matches what society expects and prioritizes. I move through spaces with ease. Due to my white skin, I belong in most places, from stores to schools to hospitals. I can take up space, open my chest, release my shoulders, and make direct eye contact. It is not a danger for me to be perceived or noticed. The likelihood that my mother and I would survive my birth so that I could be here today is influenced by our white skin. My body is safe in many places, which frees me of fear and anxiety when moving through the world or interacting with strangers. I see myself reflected positively in multiple role models, media, toys, and books. I feel free to become whatever I want, express myself creatively, and show my identity without consequences or fear. I feel comfortable taking risks, traveling to new places, and voicing my concerns, needs, and opinions. Because I do not often have to question if my body is safe or valued, my identity is easily accessible. However, I also hold marginalized identities, some that are invisible. This invisibility keeps me safe outwardly so that I can move and dance freely, easily accessing all body parts and joining or creating rhythms. Internally, fear and conformity also impact my body state, triggering my nervous system.

Living in a capitalist, patriarchal, White supremacist society, body-mind connection and embodiment of rhythmic identity may be hard for marginalized bodies to access. Marginalized bodies include bodies that have been systematically excluded, oppressed, or disadvantaged within society or social structure based on factors such as race, ethnicity, gender, sexual orientation, socioeconomic status, disability, or other aspects of body identity. Oppression may have hidden or dampened true rhythmic identity in many. As a result, individuals in marginalized bodies may have hidden or separated themselves from this identity as a way to regulate and find safety. Leighton (2018) cites that this may appear in White spaces as inability or hesitancy to

move, disengagement from others around them, taking on protective postures, making their bodies smaller, dissociation, and hypervigilance. Gender performativity, or the performing of gender through the unconscious reenactment of gesture, speech, and dress, perpetuates society's norms, which can restrict the ways that the body moves through the world. To perform gender, the individual may ignore innate desires in exchange for safety. Leighton (2018) describes wearing metaphorical armor to filter out racism before its arrival. Resistance includes invoking some of the body-mind-emotional-spiritual connection to defy racist structures (Leighton, 2018). The dance/movement therapist must be firmly grounded in their own rhythmic identity to create space for this examination. The internal witness must be present and embodied so that the dance/movement therapist may be present to witness others, as well as their unique reactions and influence, free of judgment or expectation. This embodiment is an ongoing investigation for me.

Grounding myself first in the rhythms of the heart and breath allows me to become present in the moment. As each breath fills my body, I can feel the rhythmic pulsing of blood through my veins and imagine the thousands of electrical impulses of nerves that allow this to occur. As elongated breaths soothe my nervous system, I allow other natural rhythms to unfold within my body. Rhythmic rocking, swaying, and shaking often emerge as I ground myself and become present. I may tune into my senses, feeling what is around me and which rhythms are present that may impact how I move. I allow sound, touch, smell, taste, and inner images to unfold in my body. I feel my feet connected to the Earth and feel rooted in this rhythmic planet. Listening to a particular song, including rhythmic ocean waves or rainfall sounds, can also help me settle in the present moment. By tuning into internal rhythms with the help of external rhythms, I begin to connect to something larger than myself.

Once my body is present and settled, more internal rhythms may be able to emerge. Rocking, swaying, and shaking develop into larger and more expressive movements. I feel the rhythm of my heart, muscles, and breath pulsating within me, connecting me to the present moment while echoing the legacy and lineage of past generations. This polyrhythmic body, infused with layers of rhythm inherited from diverse experiences and ancestries, finds expression through dance, bridging the gap between past and present. The inner witness is alive in this process, attuning to the various sensations, images, and memories wrapped in my body. This inner attunement is necessary before witnessing others to recognize my biases and privileges. This process is also life-long.

Once my internal body is settled, I can approach my interactions open to all possibilities while continuously accessing my inner witness to make intuitive choices to continue the session. This is also an internal rhythmic dialogue. Rhythm is everywhere and shapes each person differently. Therefore, allowing space and time for unique rhythms to appear and take shape is essential. Considering my rhythmic identity's effect on the group or patient, finding ways to open the space and include aspects of various rhythmic identities will be necessary. I carry an innate power as both a White cis-woman and a dance/movement therapist practicing in traditionally White supremacist spaces.

As I approach each interaction with a patient, the relationship can be formed through layers of our rhythmic interaction. Establishing safety within the bodies in the room is the first step before continuing. As previously discussed, this may not always be possible, and allowing myself to accept this reality is also important. Matching the rhythms of my patients and attuning to them in these first moments is key. The dance/movement therapist attunes to the patient's breathing and rhythm of movement or speaking, which is necessary for beginning the therapeutic

relationship. Allowing the patient to lead as much as possible and resisting pathologizing, the patient's rhythms will affect my choices as I help shape the container of the session.

Here, I notice my own internal rhythms, which may be a clue to the atmosphere of the space. Do I feel a need to shift and fidget? Is my breathing and heart rate quick? I notice the patient's rhythms - how their body faces me and the rhythm with which they shift their body. I notice the rhythm of the patient's breath, as well as how they speak, or if they speak at all. I also notice any other sounds already unfolding in the room. I pay attention to the rhythms between the patient and myself or others and the rhythms surrounding us.

I may slow down or speed up my speaking rhythm or movement to match the patient's rhythms in their present state. Approaching a still, quiet patient, I elongate my words, speak quietly, and use varying tonality, which may help to signal that I am not a threat while matching the patient's state. I kneel to their level to not tower over a small child. I give them space around their body and allow them to approach me. I match a patient exhibiting quick and bouncing verbal and bodily rhythms with my gestures, speech, and any props or music I choose, joining them before attempting to shift or change anything in the room. Ultimately, our rhythmic interactions become a dialogue and a communicative collaboration. We build the session together by continuously sharing rhythms and creating our own rhythmic communication as we dialogue back and forth. Approaching a session as a collaborative experience helps to ensure space for rhythms to unfold and the sharing of rhythmic selves.

I encourage patients to notice sensations of breath, heartbeat, and other bodily rhythms at the beginning of a session, allowing them to connect with their embodied experiences. Beginning with elements of breathwork can help regulate a patient's nervous system and manage stress responses. Slowing down the breath can immediately impact the heart, slowing heart rate and

communicating to the nervous system that the body is safe. As Porges (2011) describes, the ventral vagus nerve complex is connected to the heart, face, and lungs. It plays a key role in regulating the social engagement system, promoting feelings of safety and connection. Activation of this branch results in relaxation, improved heart rate variability, facial expressions conducive to social engagement, and vocalizations that facilitate communication and social bonding. The social engagement system is activated as exhalation slows and the heart rate calms, readying the body for connection and attunement (Porges, 2011). This nerve complex is on the ventral side of the body, relating to a literal opening in the chest, revealing the self’s vulnerability and deep emotions. By beginning simply with breathwork, the body’s natural rhythmicity can prepare the body to allow for deeper, buried rhythms to eventually emerge.

Similarly, bouncing, swaying, or bilateral massage can calm an agitated body. As Tortora and Keren (2023) describe, creating a rhythmic wave by rocking the body, using bilateral touch, rocking, shaking, or swaying can all contribute to calming the nervous system and organizing and soothing a dysregulated body. Rhythmic self-massage or self-touch can be another way to bring body awareness and grounding. If there is significant trust and safety, the rocking can be done by another person or the dance/movement therapist. Just as with infants, rocking and bouncing provided by another person can calm children and adults. The added layer of sensory input from the touch can be used as another tool for bringing the body into a present, settled state. However, I must choose when to do this wisely. Touch can be seen as an oppressive gesture and could also be coming from a subconscious rhythm in my own body that feels welcome to touch others due to ingrained supremacy. This must be done with consent and through properly exploring my intuitive response.

Betty (2013) describes tuning into the emotions and sensations within the body and developing them into rhythmic movements with children. The experience of participating in and creating a shared rhythm can be regulating for individuals and can encourage a sense of community and connectedness. Beginning with a “hello” song to greet each patient allows an opportunity to engage in shared rhythm through song or dialogue. Based on my initial rhythmic assessment, I may change the volume or rhythm of the song to match where the patient or group is at that moment. This song can often evolve into a more complex rhythmic interaction.

Children often express anger, frustration, or happiness through physical or rhythmic movements (Betty, 2013). I have found it helpful to structure these movements by tapping, shaking, or singing out a rhythmic pattern that aligns with the gestures. I have seen patients enter a session, crossing their arms, kicking things, throwing their hands down, or nodding quickly. Exclamations of “No!” accompany these body actions. By creating a rhythm matching these actions, one can enter the child's inner world and reflect these feelings outwardly through rhythm, allowing them to be seen and heard. This must be done in a way so that the child does not think I am mimicking or making fun of them, so verbally validating the feeling experience is necessary. Creating a chant of “No!” of the same quality as the child, clapping, shaking, stomping, or banging on a drum, may encourage the child to express their emotions through movement and engagement with the dance/movement therapist. As we synchronize our rhythms, the connection is felt, and often, this moment leads to a shift in state. This may be the beginning of trust or safety felt together through a shared rhythm, as the patient has the freedom to express themself while connecting with another person through rhythm.

With older patients, verbally establishing an opening ritual may be a helpful way to begin creating a safe rhythmic container. Listening to each body’s words or movements could

potentially uncover whatever is masking the rhythms of that person and begin to allow them to come through (Rachel Collins, personal communication, April 2024). Bodies together in space can work together to create a container for safety, allowing expression and exploration through the rhythms of the rhythmic identity. Once other bodies hear another body, settling together into a rhythmic pattern and establishing safety through rhythm may allow the layers of compression around inner rhythmic identity to soften and open (Rachel Collins, personal communication, April 2023).

Continuing to make space for each person to share their unique bodily rhythms and identity, providing a variety of rhythmic stimuli, such as music, percussion instruments, or natural sounds, may also help create this shared rhythmic container. As Ariry (2013, as cited in Fuhr, 2013) suggested, the material of a musical instrument or prop can lend itself to a particular kind of rhythmic play. Shakers exhibit a tinny, high-pitched tonality that often invites a quick rhythm that can be highly repetitive. Drums also carry different and specific pitches and require different strikes to make a sound, affecting how patients may use their bodies to play it. Streamers are lightweight and long and are often used with broad sweeping gestures that may be slower and less repetitive. Each musical prop may evoke a memory of connection to a person, ancestor, or spiritual practice. These associations, rooted in the rhythmic identity of individuals, communities, and cultures, can be powerful catalysts for healing, expression, and connection within the group. Incorporating these rhythmic connections into dance/movement therapy sessions facilitates exploring emotional experiences.

Recorded music can also evoke memories and bodily sensations. Inviting group members to share favorite songs to create a collaborative playlist or inviting individuals to choose which music to listen to can invite various rhythmic identities to emerge. It is important to note that

authentic sharing may not feel safe for specific individuals, which group leaders should recognize. However, when individuals feel safe enough to share, listening to this music may powerfully shift the body and the unfolding rhythmic movement. I have witnessed a profound change in movement and an incredible opening as individuals have chosen music from their childhood, in their primary language, or that they feel connected to. Once this experience is shared with others in the layered dialogue of the session, the visual and auditory experience of rhythm shared out loud in the group is unifying and organizing.

Props that mimic natural sounds, such as an ocean drum or rainstick, can match breath and heartbeat rhythms. At the same time, these sounds may connect to a patient's larger rhythmic identity, linking them to nature and the Earth's natural rhythms as they are being created anew within this shared context. Internal rhythms are impacted by external rhythms once again, and the body experiencing these rhythms may also transcend the limits of time as memories, spirits, and ancestors are evoked through nature's sounds.

As the session continues and trust and safety are felt, the body's rhythms may be freer to unfold through dance, movement, or play. Rhythms may begin to clash with others in the space, but allowing discordance can be important in exploring new avenues of expression and understanding (Rachel Collins, personal communication, April 2023). In these moments of contrast, individuals can delve deeper into their emotions, motivations, and understanding of privilege or oppression. The experience of creating dissonance through rhythm can reflect the process of sitting in discomfort as a way to practice social justice. This experience can be uncomfortable, as humans are entrained in matching the rhythms around them. However, learning to sit in discomfort can lead to acknowledging the systemic inequalities, biases, and injustices within society and ourselves that have been layered over time, especially within

privileged bodies. Bellamy (2020) notes that when White supremacy is triggered, it disconnects the body and mind. When White individuals encounter racial triggers, they often describe sensations such as numbness, ringing ears, tunnel vision, and a quickened heartbeat. However, upon venturing away from the confines of Whiteness, they discover authentic and uplifting ties to their own cultural roots, offering affirmation, sustenance, and empowerment (Bellamy, 2020). By embracing the discordance in rhythms emerging in a session, individuals may discover unexpected connections between seemingly disparate aspects of themselves, ultimately leading to a more integrated and authentic sense of self through rhythm.

Whether clashing or matching, dance, movement, and play rhythms can expand once safety is felt. The rhythms that emerge can reflect the rhythmic identity that has been hidden or unexplored. Through movement, individuals tap into the innate rhythms of their bodies, allowing emotions, sensations, and experiences to flow freely. Every movement and rhythm reflects the individual's history, individuality, and connection to others in the world.

The group or duet can find organization and connection as the individuals and dance/movement therapist find rhythmic synchrony through music, body percussion, movement, prop play, and dialogue. Emotions and sensations can be shared and explored. Through the shared experience of being in rhythm with a group, we can feel the multiple layers of our rhythmic self in interaction with those around us. This collective rhythm can potentially add another layer to the rhythmic identity that the group now shares, and this shared identity can be further developed in future sessions. This opens up an opportunity for more sharing of the various aspects of the rhythmic self, fostering a deeper sense of connection and understanding within the group. The interaction between internal and external rhythms in a dance/movement

therapy session mirrors the interplay of rhythms within the body, linking an individual's unique identitiy and providing channels for expression.

Our identity undergoes a continuous evolution throughout our lifetime, but the roots of this evolution will continuously be in rhythm. With each new experience, language learned, place explored, revelation uncovered, and connection made—both human and spiritual—our rhythmic identity gains new layers within the fabric of our being. Engaging in rhythmic practices allows us to embody these layers, facilitating healing and deep connection. We are rhythmically rooted to each other, our bodies, and the Earth. Fighting the systems that separate communities and diminish the body-mind-emotional-spiritual connection will be essential to reparation and healing.

References

Adler, J. (1999). Who is the witness? A description of authentic movement. In P. Pallaro (Ed.), *Authentic movement: Essays by Mary Starks Whitehouse, Janet Adler, and Joan Chodorow* (pp. 141-159). Jessica Kingsley Publishers.

Andrade, M. J. O. (2022). Circadian sensation and visual perception. In C. Drăgoi (Ed.), *Circadian rhythm: New insights into physiological and pathological implications*. (A. C. Nicolae & I. B. Dumitrescu, Eds.) essay, IntechOpen.

Bellamy, S. (2020, June 8). Performing whiteness. *The Paris Review*. https://www.theparisreview.org/blog/2020/06/08/the-performance-of-white-bodies/

Betty, A. (2013). Taming tidal waves: A dance/movement therapy approach to supporting emotion regulation in maltreated children. *American Journal of Dance Therapy: Publication of the American Dance Therapy Association*, *35*(1), 39–59. https://doi.org/10.1007/s10465-013-9152-3

Bhopal, K., & Alibhai-Brown, Y. (2018). *White privilege: The myth of a post-racial society.* Policy Press. https://search.ebscohost.com/login.aspx?direct=true&scope=site&db=nlebk&db=nlabk&AN=1791294

Brazaitis, S. J. (2021). White women - protectors of the status quo:Positioned to disrupt it. *Group Dynamics, Organization and Social Complexity: Group Relations Reader,* 3, 99-116.

Caldwell, C. (2016). Body identity development: Definitions and discussions. *Body Movement and Dance in Psychotherapy*, 11(1), 3-20. https://doi.org/10.1080/17432979.2016.1145141

Caldwell, C., & Leighton, L. B. (Eds.). (2018). *Oppression and the body: Roots, resistance, and resolutions*. North Atlantic Books.

Capello, P. P. (2016). BASICS: And Intra/Interactional model of DMT with the adult psychiatric patient. In S. Chaiklin & H. Wengrower (Eds.), *The art and science of dance/movement therapy: Life is dance* (pp. 77–102). essay, Routledge, Taylor & Francis Group.

Chaiklin, S., & Wengrower, H. (Eds.). (2016). *The art and science of dance/movement therapy: Life is dance*. Routledge, Taylor & Francis Group.

Chace, M. (1993). Therapeutic concepts and techniques. In Sandel, S. L., Chaiklin, S., & Lohn, A. (Eds.). *Foundations of Dance/Movement Therapy: The life and work of Marian Chace*. Marian Chace Memorial Fund of the American Dance Therapy Association. (Reprinted from *Group Psychotherapy: A Symposium.* pp. 243-245, by J.L Moreno, Eds., 1945, New York: Beacon House, Inc.)

Chace, M. (1993). Dance therapy at St. Elizabeth's. In Sandel, S. L., Chaiklin, S., & Lohn, A. (Eds.). *Foundations of Dance/Movement Therapy: The life and work of Marian Chace*. Marian Chace Memorial Fund of the American Dance Therapy Association. (Reprinted from *The Psychiatric Aide, 8.* pp. 3-4, 1951, National Association for Mental Health, Inc.)

Chang, M. (2016). Cultural consciousness and the global context of dance/movement therapy. In S. Chaiklin & H. Wengrower (Eds.), *The art and science of dance/movement therapy: Life is dance* (pp. 317–334). essay, Routledge, Taylor & Francis Group.

Crenshaw, K. (2019). *On intersectionality: Essential writings*. New Press.

DeGruy, J. (2005). *Post traumatic slave syndrome*. Joy DeGruy Publications.

Drăgoi, C. M. (2022). *Circadian rhythm: New insights into physiological and pathological implications* (A. C. Nicolae & I. B. Dumitrescu, Eds.). IntechOpen.

Drăgoi, C. M., Nicolae, A. C., & Dumitrescu, I. B. (2022). Untangling the essential links among the circadian rhythm, homeostasis of the human body, and the nutritional, behavioural, and pathological interferences. In C. Drăgoi (Ed.), *Circadian rhythm: New insights into physiological and pathological implications*. (A. C. Nicolae & I. B. Dumitrescu, Eds.) essay, IntechOpen.

Espenak, L., Adler, A., & Lowen, A. (1981). *Dance therapy: Theory and application*. Thomas.

Fischman, D. (2016). Therapeutic relationships and kinesthetic empathy. In H. Wengrower & S. Chaiklin (Eds.), *The art and science of dance/movement therapy: Life is dance* (pp. 33–52). essay, Routledge, Taylor & Francis Group.

Freud, S. (1905). *Three essays on the theory of sexuality.*

Fuhr, J., (2013). *Experiencing rhythm: Contemporary Malagasy music and identity.* Cambridge Scholars Publishing. Retrieved October 12, 2023

Ekpenyong, M. E., & Udoh, I. I. L. (2023). *Current issues in descriptive linguistics and digital humanities: A festschrift in honor of Professor Eno-Abasi Essien Urua*. Springer. https://doi.org/10.1007/978-981-19-2932-8

Gibbon, D. (2022). New Perspectives on Ibibio Speech Rhythm. In *Current issues in descriptive linguistics and digital humanities: A festschrift in honor of Professor Eno-Abasi Essien Urua.* (pp. 457–486). essay, Springer .

Gomes, J. A. (2021). *Rhythms of broken hearts: History, manifestations, and treatment of heart rhythm disorders and heart disease*. Springer. February 20, 2024.

Kestenberg-Amighi, J, S. Loman, P. Lewis, & K. M Sossin (1999). (Eds.), The meaning of movement: Developmental and clinical perspectives of the Kestenberg Movement Profile (pp. 291-308). New York: Brunner-Routledge.

Lowell, D. (2010). Authentic movement. In P. Pallaro, M. S. Whitehouse, J.Adler, & J. Chodorow (Eds.) *Authentic movement: Moving the body, moving the self, being moved: A collection of essays, vol. 2* (pp. 50–56). essay, Jessica Kingsley Publishers.

Leighton, L.B. (2018). In Caldwell, C., & Leighton, L. B. (Eds.). *Oppression and the body: Roots, resistance, and resolutions*. (pp. 17-30). North Atlantic Books.

Pallaro, P., Whitehouse, M. S., Adler, J., & Chodorow, J. (Eds.). (2010). *Authentic movement: Moving the body, moving the self, being moved: A collection of essays volume Two*. Jessica Kingsley Publishers.

Hall, E. T. (1983). T*he dance of life: The other dimension of time* (First). Anchor Press/Doubleday.

Hartley, L., & Society for the Study of Native Arts and Sciences. (1995). *Wisdom of the body moving: An introduction to body-mind centering*. North Atlantic Books.

Haugen, E. (1956). *Bilingualism in the Americas: A bibliography and research guide.* Tuscaloosa: University of Alabama Press.

Huntington, J. A. (2009). *Sounding off: Rhythm, music, and identity in West African and Caribbean Francophone novels (Ser. African Soundscapes).* Temple University Press. Retrieved October 12, 2023

Krippner, S., & Barrett, D. (2019). Transgenerational trauma: The role of epigenetics. *The Journal of Mind and Behavior*, 40(1), 53-62.

Link, P. (2013). *An anatomy of Chinese: Rhythm, metaphor, politics*. Harvard University Press. https://doi.org/10.4159/harvard.9780674067684

Lefebvre, H., & Lourau, R. (1992). *Eléments de rythmanalyse: Introduction à la connaissance des rythmes (Ser. Explorations et découvertes en terres humaines)*. Editions Syllepse.

Malloch, S., & Trevarthen, C. (Eds.). (2010). *Communicative musicality: Exploring the basis of human companionship*. Oxford University Press.

Mazokopaki, K., & Kugiumutzakis, G. (2009). Infant rhythms: Expression of musical companionship. In S Malloch & C. Trevarthen (Eds.), *Communicative musicality: Exploring the basis of human companionship* (pp. 185–208). essay, Oxford University Press.

Menakem, R. (2021). *My grandmother's hands: Healing racial trauma in our minds and bodies*. Penguin Books, Limited ; Penguin Random House [Distributor].

McAdams, D. P. (2011). Narrative identity. In *Handbook of Identity Theory and Research*. https://doi.org/10.1007/978-1-4419-7988-9_5

Munro, M. (2010). *Different drummers: Rhythm and race in the Americas* (Ser. Music of the African Diaspora, 14). University of California Press. https://doi.org/10.1525/9780520947405a

Polyanskaya, L., & Ordin, M. (2019). The effect of speech rhythm and speaking rate on assessment of pronunciation in a second language. *Applied Psycholinguistics*, 40(3), 795–819. https://doi.org/10.1017/S0142716419000067

Porges, S. W. (2011). *The polyvagal theory: Neurophysiological foundations of emotions, attachment, communication, and self-regulation* (1st ed.). W.W. Norton.

Sable, T.(2019). *Language of this land, Mi'kma'ki.* Nimbus Publishing.

Schmais, C., & Chaiklin, S. (1993). The Chace approach to dance therapy. In Sandel, S. L., Chaiklin, S., & Lohn, A. (Eds.). *Foundations of Dance/Movement Therapy: The Life and Work of Marian Chace*. essay. Marian Chace Memorial Fund of the American Dance Therapy Association.

Sandel, S. L., Chaiklin, S., & Lohn, A. (Eds.). (1993). *Foundations of dance/movement therapy: The life and work of Marian Chace*. Marian Chace Memorial Fund of the American Dance Therapy Association.

Schoop, T. (2000). Motion and emotion. *American Journal of Dance Therapy*, 22(2), 91-116.

Schott-Billmann, F. (2015). *Primitive expression and dance therapy: When dancing heals* (Ser. Explorations in Mental Health Series). Routledge, Taylor & Francis Group.

Thomas, E. (2015). The Dance of cultural identity: Exploring race and gender with adolescent girls. *American Journal of Dance Therapy*, 37, 176-196.

Tortora, S., & Keren, M. (2023). *Dance/movement therapy for infants and young children with medical illness: Treating somatic and psychic distress* (Ser. DMT with Infants, Children, Teens, and Families). Routledge. https://doi.org/10.4324/9781003134800

Wehrs, D. R., Nalbantian, S., & Tucker, D. M. (Eds.). (2023). *Cultural memory: From the sciences to the humanities*. Routledge. February 8, 2024.

Meloni, M. (2023). Molecular epigenetics, the biology of memory, and biology as memory. In D. R. Wehrs, S. Nalbantian, & D. M. Tucker (Eds.), *Cultural Memory: From the Sciences to the Humanities*. essay, Routledge.

Osborne, N. (2009). *Towards a chronobiology of musical rhythm.* In S. Malloch & C. Trevarthen (Eds.), *Communicative Musicality: Exploring the Basis of Human Companionship* (pp. 545-564). Oxford University Press.