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Dance/Movement Therapy for Reducing Restraints in Inpatient Psychiatry: A Critical Review of the Literature

Olivia Naya
onaya@lesley.edu

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Capstone Thesis

Lesley University

May 21, 2022

Olivia Naya

Dance/Movement Therapy

Donna Owens

Abstract

Physical restraints have been used as a means to control behavior that is harmful to self or others, often times stemming from diagnoses such as schizophrenia and bipolar disorder. Restraints physically manipulate the body, but also have negative effects on thoughts and feelings. Verbal calming has been an option to aid in de-escalation, but there has been growing research on the benefits of using dance/movement therapy to process and resolve extreme emotions. The aim of this literature review is to explore the important work of therapeutic movement in acute inpatient settings, utilizing the power of the mind-body connection. Through a review of the literature, different dance/movement therapy techniques such as mirroring, breathwork, and tension flow rhythms have been shown to aid in calming for both patients and staff. Limitations are also addressed, specifically focused on power dynamics and gender roles within the inpatient psychiatry setting.

Keywords: restraints, de-escalation, mirroring, inpatient psychiatry, dance/movement therapy, breath

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Everything happens in total silence and eh it's sort of just, the only thing that happens is that you feel they are talking over your head; you just hear "yes, you take that one there and you take this and have you got that buckle?" (Interview 9; Lanthen et al., 2015, p. 10).

According to the American Psychological Association, restraints are defined as the "ability to control or prevent actions or behaviors that are harmful or otherwise desirable" (APA n.d., Definition 1). In inpatient psychiatric settings, where patients often become dysregulated and violent, physical restraints are necessary to protect both patients and staff (Hadi et al., 2015). Physical restraints should be a "last resort" option and should never be used for discipline or coercion (CPI, 2010). Most recent research has shown that "two-thirds of hospitals reported restraints rates of < 0.15 hours per 1,000 patient hours, but patients should not be spending an average of 5.5% of their time–over 1.3 hours per day–in physical restraint" (Staggs, 2020, p. 895). Although we have come a long way from coercion chairs and straight-jackets (Topp, 2018, p. 754), the continued use of restraints can be traumatizing for all parties involved, both mentally and physically. Research has shown that patients report feeling "shame, discomfort, and anger" from being placed in restraints, which also disrupts therapeutic relationships with staff (Bystrynski et al., 2020, p. 513). These types of strong emotions can hinder progress patients have been making and bring them further away from healing.

In inpatient psychiatric settings, there tends to be a variety of clinical diagnoses, depending on what type of units the facility houses. Research has shown that in hospital settings, the following diagnoses are the most common: major depressive disorder (42%), neurocognitive

(33%), anxiety (11%), substance related (8%), and schizophrenia spectrum (6%; Scott et al., 2021, p. 10). With these diagnoses there often comes behaviors that could potentially be unsafe, including aggression, agitation, and dysregulation, due to various psychological, physical, and emotional factors (Scott et al., 2021). It has been shown that individuals with personality disorders and schizoaffective disorders are more likely to be restrained during their hospital stay because of the common symptoms of "over-activity, talkativeness, and disturbing behaviors" (Hadi et al., 2015, p. 5) that are present in these diagnoses. Many of the behaviors that stem from these are self-injurious behaviors and physical fights (Rufino et al., 2019, p. 4). Some of these behaviors warrant restraints, due to their violent and aggressive nature, in order to create and keep a safe environment.

Restraints are often not avoidable and necessary in moments of crisis, but there is evidence that has shown that various de-escalation techniques, such as holding ice, talking with staff, medications, and art, are safe and effective ways of preventing restraints (Terry, 2018, p. 45). Although these have been shown to be helpful, there is very little research on what other treatment modalities can assist in calming a patient. There have been evidence-based practices that point to movement and body awareness being beneficial in helping individuals work through strong emotions and dysregulated behavior, symptoms that are often present in inpatient settings (Geng et al., 2021). The mind is most often connected to the body in an emotion dysregulation scenario: the heart starts to beat faster and breathing starts to increase, as the body prepares to have an adaptive and appropriate response based on internal cues or a response that is inappropriate to the situation and problematic for general well-being (Price & Hooven, 2008). Many of the emotions we experience as a society are visible through these intense, outward body sensations (crying, screaming, punching). Based on this evidence, I remain curious about the

effectiveness of movement interventions in strong emotional scenarios (most often referred to as "escalation" in this type of setting), specifically dance/movement therapy (D/MT). The American Dance Therapy Association (ADTA, 2014a) defines D/MT as a "the psychotherapeutic use of movement to promote emotional, social, cognitive, and physical integration of the individual" (p. 1). I am curious how inpatient staff and patients can bring these movement values and strategies such as breath work, kinesthetic empathy, and mirroring to promote positive de-escalation techniques and reduce the use of physical restraints. In this critical review of the literature, I focus on the history of restraints and the traumatic effects they have on patients, what dysregulated behavior looks like on an inpatient unit, and how the body can be used as a source of calming for patients. Finally, based on this review, I make recommendations for de-escalation skills that staff can implement with patients on these units.

Method

The goal of this literature review is to understand how restraints are traumatizing for both patients and staff, to become more familiar with the signs and symptoms of emotion dysregulation, and provide de-escalation strategies through the lens of D/MT for the reduction of restraints.

My research included the most common diagnoses on an inpatient psychiatric unit and how likely patients were to be restrained, the history of asylums and coercion, and how core D/MT techniques aid in calming. I have also included research on the demographics of the patients on an inpatient unit, as well as the challenge of the staff-patient power dynamics and how they affect restraints. Search terms included different types of restraints, such as mechanical, physical, and chemical; dysregulated behavior, which expanded to aggression and agitation; DMS-5 diagnoses, such as schizophrenia, psychosis, or personality disorders; and de-

escalation techniques, which included verbal and sensory practices, as well as D/MT interventions.

I mostly searched for literature via Lesley Library and Google Scholar, making sure that I filtered everything besides peer-reviewed articles out. I also read and analyzed various books, training manuals, and other related theses. To keep track and take notes on each of the sources, I created a Google Doc entitled "Thesis Literature Outline" that broke down each source and analyzed the content in relation to my topics and themes, to ensure that my work contained relative cultural information as well.

Literature Review

This literature review will be divided into three sections: the history of restraints, definitions of dysregulated behavior and how it manifests, and D/MT interventions for staff and patients on inpatient psychiatric units.

Restraints: What are They? How are They Done? What are the Effects?

Think back to movies where patients were strapped in a hard, wooden chair because they were about to run away or patients that were tackled to the ground by several staff members because they were exhibiting erratic behavior. Although these were shown in movies, the depiction was not far off from the unethical practices that occurred in early asylums: "in prisons, almshouses, and insane hospitals, prisoners' chains were removed, [but] the systems of control under which they lived were 'highly regimented and repressive'" (Yanni, 2007, p. 11). Such asylums were places where "insane people" could be housed to be cured of these mental diseases, which were not well known about and often medicalized (Yanni, 2007). Due to the lack of education surrounding the various psychiatric diagnoses, numerous traumatic treatments were used to control this often "crazy behavior," such as "involuntary hydrotherapy, electroconvulsive

therapy, and lobotomy" (Starks & Braslow, 2005, p. 93), interventions that are now either banned or discouraged. Additionally, many fast and in-the-moment interventions needed to be used in the early years of the asylums, in order to create a safe environment for both patients and staff: "mechanical restraint was widely seen as a legitimate method for controlling and even calming violent patients in public lunatic asylums" (Topp, 2018, p. 755). The use of restraints appeared to be the only form of an instantaneous calming technique, due to the lack of resources and knowledge about the traumatic effects of restraints.

Most psychiatric centers have moved away from harmful restraint techniques, such as chains and chairs, due to legality challenges and the physical/mental toll on both patients and staff. For this literature review, I primarily discuss the use of mechanical restraints, specifically four-point restraints, as this intervention is still widely used in a variety of inpatient psychiatry centers and hospitals. According to the Department of Health and Human Services, mechanical restraints are defined as, "mechanical devices which, either, directly applied to the patients' body or adjacent to him, and not easily removable, preventing, controlling, or limiting his body movements" (Negroni, 2017, p. 100). With four-point restraints, a "patient's wrists and ankles are secured to four points on a bed with leather, nylon, or vinyl cuffs and straps, while the patient is in a supine position on a mattress to immobilize all movement" (Raveesh & Lepping, 2019, p. 694). Nowadays, soft restraints (Velcro, leather, etc.) have replaced the "metal handcuffs, shackles, and chains that were abolished by the MHCA [Mental Health Care Act] 2017" (Raveesh & Lepping, 2019, p. 696), as these were found to be physically and emotionally traumatic. In addition to the mechanical restraints, chemical restraints often accompany these straps due to the fact that "struggling against [physical] restraints may prevent obtaining a history or completing a thorough physical examination" (Coburn & Mycyk, 2009). Chemical or

medication restraints, such as haloperidol, olanzapine, or risperidol, sedate patients and may decrease the physically harmful effects of mechanical restraints like "hypothermia or dehydration" (Coburn & Mycyk, 2009, p. 656).

Trauma Effects: Restraints and the Body

There continues to be a breadth of research regarding the storage of traumatic memories in the body resulting from the use of restraints. Bessel van der Kolk (2014) paved the way for this concept, which is now used in multiple treatment centers, and with therapists and patients worldwide. Van der Kolk's research combines the physiological and emotional toil of trauma, emphasizing the body as a carrier for these experiences. Van der Kolk explained that adrenaline is the primary hormone in the body that helps people fight or flee when faced with a threat. This hormone increases certain mechanisms of the body (heart rate and blood pressure) to protect the person. For people with trauma, the "hormones take much longer to return to baseline," causing "memory and attention problems, irritability, and sleep disorders" (p. 46). In terms of restraints, numerous patients have reported feeling fearful, angry, and violated (Lanthen et al., 2015), emotions often associated with dangerous situations and heightened for people with trauma, therefore leading to difficulty in returning to that baseline. Even worse, restraints can re-traumatize patients (Steinart et al., 2013) and hinder progress that was already achieved.

Restraints emphasize the physical manipulation of the body, whether strapped to a bed, in a chair, or held to the ground. Oftentimes, restraints must be imposed by numerous staff members, based on the height, weight, and body size of the patient: "the team leader maintains the safety of the patient's head while each of the other members takes control of a preassigned extremity" (Coburn & Mycyk, 2009, p. 658). Once the restraints are on the person's body, staff are able to let go, but there is often a period of time where there is harsh physical touch, resulting

in a possible flood of traumatic memories. Human beings are constantly receiving input from the outside world, taking in sensations and analyzing information through bodily awareness and "bodily habits," such as daily motor tasks (Oh, 2021). There is constant communication between the environment and the body, each one relying on the other to create a functioning society and person. Merleau-Ponty's phenomenology of the body explains this concept in depth and its application to the traumatic experience of restraints (Oh, 2021). Merleau Ponty's theory has its roots in the idea of bodily autonomy that comes from being able to experience everything the world has to offer through "senses, ideas, and bodily movements" (Oh, 2021, p. 5). Merleau-Ponty proposed that there is a significant difference between the body and the "lived in" body, which has intentionality and perception (Oh, 2021, p. 5). When a patient is restrained research has shown that they consistently feel objectified and not in control of their own bodies, due to the fact that they are not able to interact with the world around them (Oh, 2021, p. 2). The ability for one to have independence with their body, use voice and choice, and be empowered by their own feelings, sensations, and emotions is completely removed when a patient is restrained. The patient is still able to be inside their bodies, but they are unable to use their bodies to communicate, an important part of the lived experience. In the moments before, during, and after restraints, patients become merely puppets, rather than the humans that they are meant to be.

Patient Perceptions of Restraints

Safety and stabilization are the primary goals for inpatient psychiatric hospitalization (Sharfstein, 2009). When a patient arrives on the unit, the focus is mostly on medication changes/initiations and crisis interventions, so that they can quickly be discharged home or to another placement. It is important to recognize that patients are still taking in copious amounts of

information even in such a short amount of time. The effects of restraints are vast and often

negative and patients are a great source of information for these detrimental results.

In a study by Steinert (2015), researchers gathered information on experiences patients

had when they were restrained, through interviews and surveys, specifically the Coercion

Experience Scale (CES) and the Impact of Event Scale-Revised (IES-R; p. 3). The patients, all

102 of them, had to have been mechanically restrained or secluded in an inpatient type setting to

participate in the study. The researchers found that patients had a higher CES score when being

restrained, implying that they had higher degrees of suffering, loss of human rights, and a

decrease in autonomy. Patients also experienced feelings like "helplessness, tension, fear, and

rage" (p. 4). They also found that the restraints not only created long-term negative effects

(intense emotions), but also other long-term effects like "self-stigmatization, negative attitudes

towards psychiatric treatment and psychiatric institutions and even symptoms of PTSD" (p. 4).

These types of effects can continue throughout a person's treatment and even prevent someone

from seeking help in the future. Although this study provided much needed information, the size

of the population was small and the results only came from one hospital, making the findings

generalizable to only hospitals of this size and population.

In another study that focused on patient perceptions of violent events, such as seclusion

and restraint, patients reported how physical restraints made them feel and affected their

continued stay at the institution (Terry, 2018). The study showed that patients felt "fearful and

lonesome" after a restraint, therapeutic relationships were damaged, and assault memories were

triggered (Terry, 2018, p. 41). The study also found that patients were able to accurately identify

and self-report what types of situations and triggers lead them to escalate, which included staff

interactions, lack of rules or explanations, and not having access to the outdoors. Patients were

also able to identify what types of skills aided in their de-escalation, such as journaling and walking around the unit. Although there was value in self-reporting by patients, there were also several limitations that this research posed based on environment, staff, and assessment. As discovered, patients with more severe diagnoses, such as schizophrenia or personality disorders, were more likely to be restrained, therefore were also the patients who were often self-reporting their experiences. Since these are the types of patients that are often disorganized and non-compliant with unit policies, the self-report was found to be unreliable and skewed (Terry, 2018). Additionally, the hospital where the data was collected was already on a path to reduce restraints, a concept that is increasing in hospital settings through trauma-informed care and de-escalation trainings. In terms of this research, the decision to use reports only after the reduction was implemented, could have lessened the intensity of the long-term effects and increased the use of preventative measures before implementing restraints, therefore making data misleading (Terry, 2018).

The negative outcomes of physical restraints are not only long-lasting, but occur in various areas of the world in different types of inpatient settings. In a study by Ye et al. (2018), evidence has shown that there has been an 8.7% increase in restraints between 1994 and 2012 in inpatient psychiatric settings in China (Ye et al., 2018, p. 68). Research points to patients feeling "demoralized, fearful, and angry" (Ye et al., 2018, p. 69) after being restrained, results that often pose threat to clinical and ethical judgment. There are several basic human rights that are necessary to protect both patients and staff in medical and psychiatric settings. These types of rights are meant to be "expectations" (Olejarczyk & Young, 2021, p. 5) for best practice and universal when providing patient care. During restraints, the ethical principles of autonomy, beneficence, and justice are often stripped away (Ye et al., 2018). Research has shown that

autonomy, or patient freedom, is disrespected during times of restraints, due to the physical and involuntary nature of the process. Therefore, it is necessary to inform the next of kin, in order to obtain consent and keep the line of communication open, if the patient is not allowed to have the independence of choice (Ye et al., 2018). In terms of justice, patients should be treated as human beings, even when restrained. This means allowing patients access to a bedpan for toileting, checking the patient's mental status, offering food/fluid, and assessing vital signs often (Springer, 2021). Lastly, the concept of beneficence is important to keep in mind when restraining a patient. This refers to the idea that restraints should be a last resort and only implemented if there is a threat to oneself or to others (Ye et al., 2018). There must be a justified reason for putting a patient in restraints and it must be documented as to why it was done. Even though these rules and regulations are important, this is only one example of how the mental health laws in China are taking steps to prevent restraints or to make restraints safer and more ethical. There is much more work to be done to reduce the continued use of restraints.

Behavioral Dysregulation: What Does This Look Like?

When talking about the effectiveness of de-escalation strategies, it is important to first discuss how dysregulated behavior comes about and how it manifests on an inpatient unit. Different life situations render different emotional reactions and it is important to be able to elicit an appropriate response. Now, what responses are considered appropriate? Luebbe et al. (2012) researched how children show proper emotion regulation: "control over both behavior (eg, refraining from impulsivity) and emotion (controlling anger, inhibiting crying)" (p. 231). If someone strays from this ability to control their emotions, they often show dysregulated behavior in the form of tantrums, suicidal gestures, or aggression. This type of behavior on an inpatient unit can disrupt the environment and potentially place staff and patients in unsafe scenarios.

In addition to the generalized definition of dysregulated behavior, it is also important to understand what kind of diagnoses appear in an inpatient setting and how they are externalized through both actions and words, in order to prevent further escalation. It has been found that the majority of restrained patients "were diagnosed as having schizophrenia, personality disorder, acute psychosis, mania, and substance abuse" (Moghadam et al., 2014, p. 21), identified by symptoms that manifest as "aggression, running away, and suicide attempts" (Hainsworth et al., 2011, p. 492). There is a breadth of literature that covers the rigid criteria for these types of diagnoses (Hainsworth et al., 2011; Moghadam et al., 2015), but there is still a lot missing about how exactly they lend themselves to restraints, as well as the how behaviors can differ amongst individuals.

In a study by Knutzen et al. (2014), the researchers broke down the diagnoses that are more likely to be restrained, the most common ages, genders, and socioeconomic status. The primary goal of this study was to analyze these particular characteristics in order to prevent restraints and implement effective de-escalation strategies (p. 128). In a Norwegian hospital, 375 patients were restrained based on their uncontrollable behavior such as "self-injury, assault, damage, agitation, and loss of control" (p. 128). The researchers found that the individuals who were most likely to get restrained had been in the facility for more than 6 days, had been admitted to the unit previously, and were between 18-29 years of age (p. 131). Most importantly, they found that gender differences did not account for the amount someone is restrained (p. 131), although it was shown that female patients were mostly restrained for anti-social behavior or self-harm and male patients for physical assault (Kotze et al., 2020). Although these conclusions provided much needed information, there are several other factors that increase the use of

restraints, such as the environment of the unit, varying personality traits of the patients, and the access to proper treatment/discharge planning (Kotze et al., 2020, p. 132).

There is also value in looking at a specific diagnosis such as personality disorders, to understand how different symptoms can lead to emotion dysregulation. In a study by Hatkevich et al. (2019), the researchers use the Difficulties in Emotion Regulation Scale (DERS) to predict crisis situations and safety concerns in adolescent psychiatric inpatients with a variety of mood disorders (p. 230). The DERS encompasses these six markers: "nonacceptance of emotional responses or distress, lack of emotional awareness, difficulties engaging in goal-directed behaviors and strategies, difficulties in impulse control, lack of emotional clarity, and limited access to emotion regulation strategies" (p. 231). The researchers found that the adolescents had difficulty coping with challenging feelings and having emotional flexibility in certain situations because of the perceived notion that they are not able to effectively use positive skills (p. 235). This then creates more chaos, dysregulation, and acute safety concerns for the patients. Based on these findings, it is important to give patients not only the tools necessary to regulate their behavior, but the encouragement that the skills are valuable and effective if used before peak escalation.

Dance/Movement Therapy Interventions and De-escalation

As I have gathered from the research, there are several externalizing behaviors that occur on an inpatient unit based on different diagnoses. These range from agitation, screaming or crying, and even assaultive actions. To be able to effectively prevent restraints, it is important for evidenced based de-escalation strategies to be implemented and practiced. Before considering how D/MT skills can aid in this process, it is also crucial to mention the other strategies that aid

in calming and returning the patient to a safe baseline, oftentimes called de-escalation (Berring et al., 2016).

Verbal Calming with Agitated Patients

Agitation is a common behavior on inpatient psychiatric units due to it being "a common manifestation of bipolar and schizophrenia" (Roberts et al., 2018, p. 10), and such patients being the majority of individuals that are restrained. Agitation is characterized by numerous features such as "unease, restlessness, irritability, uncooperativeness, motor activity that is excessive, and motor tension (Roberts et al., 2018, p. 10), often warning signs that aggression might occur in the near future. Many of these features can be seen through both physical actions like "foot tapping, hair pulling, and fiddling with clothes" (Roberts et al., 2018, p.12), clenched fists, furrowed eyebrows, pacing and posturing, as well as repeated verbalizations such as "'I've got to get out of here!'" (Roberts et al., 2018, p. 12). These types of outwards behaviors, if not caught early, can often escalate into more harmful behaviors, which then warrant restraints (Hankin et al., 2011).

Research has shown that a lot of inpatient settings have moved away from the notion that staff must calm the patients on their own and into a more teamwork focused approach where the goal is to "help the patient calm themselves…a form of treatment in which the patient is enabled to rapidly develop his own internal locus of control" (Richmond et al., 2012, p. 20). Through this lens, the patient is able to learn how to manage their own emotions, instead of requiring the staff to take on a dominating role in telling them what to do in the moment. Richmond et al. (2012) discuss the importance of verbal strategies when a patient is becoming escalated, techniques that empower patients to make safe choices and manage their own feelings. These strategies include active listening, identifying wants and needs, and setting clear limits. In terms of listening and

identifying, it is important to focus on what the agitated behavior is trying to achieve, such signaling a need for food or drink and then making it known an attempt will be made to fulfill the request. It is salient though, that a limit is set on appropriate behavior in order for the request to be processed so that the patient knows certain actions will not be tolerated and that emotional control is necessary in the space.

De-escalation Using Body Language

As we have seen throughout the literature, "an estimated 60 to 65 percent of interpersonal communication is conveyed via nonverbal behaviors" (Foley & Gentile, 2010, p. 40). On an inpatient psychiatric unit, it is important that staff understand the way they communicate with their bodies can either escalate or calm patients.

Berring et al. (2016) note the critical need for physical distance between staff and patients, called the "safety zone" (p. 504). This not only creates enough separation if a patient starts to become aggressive, but shows the patient that staff are respecting their personal space (p. 504). In addition, the researchers gathered information from various inpatient environments (prisons, emergency department, psychiatric intensive care unit) and reports from patients with different backgrounds (SES, sex, culture, social contexts), to measure the effect that body language from staff had on the patients. They found that patients were able to pick up staff's mood and thoughts on a given day based on actions and gestures: "You can tell as soon as they enter the room, is it do as you're told or is it a merciful angel" (p. 506). This illustrates that patients pick up on the slightest change in posture or facial expression, making it beneficial to have bodily awareness in acute settings. This awareness can be as simple as staff turning their bodies in an angled stance with one foot in front of the other and uncrossing their arms when talking to a patient to decrease perceived threat from those individuals (Speegle-Clark, 2013).

Goodman et al. (2020) studied the importance of staff members "keeping their calm" during moments of patient escalation, in order to prevent further agitation and possible restraints. This looked like maintaining a "composed exterior with open and non-threatening body language" (p. 10). The researchers found that if a staff member showed signed of anxiety and fear (i.e., sweating, rapid breathing, limited eye contact), patients were more likely act out in violence or aggression, due to the now uncertainty that they cannot access their own self-control (p. 10). Staff are often role-modeling the appropriate behavior on these units, making any signs of dysregulation on the staff part potentially triggering for patients.

Mirroring & Kinesthetic Empathy

A very important aspect of the dance/movement therapy field is the concept of mirroring and the utilization of the mirror neuron system (MNS). Mirroring is defined as "imitation by the therapist of movements, emotions, or intentions implied by a client's movement" (McGarry & Russo, 2011, p.180), and is often used to achieve kinesthetic empathy, "the intentional perception of other's experiences" (p. 181). Research has shown that the MNS starts firing at birth, as babies will begin to imitate facial expressions and arm/leg movements of their caregivers (Simpson et al., 2014). This system is constantly activated throughout life, but especially when a therapist and client engage in a mirroring session. This then leads to an increase of activation in the limbic system, the part of the brain that manages emotion processing and regulation (McGarry & Russo, 2011). As the limbic system continues to take shape, non-verbal communication and understanding increases, allowing the client to feel seen and heard (McGarry & Russo, 2011).

As shown above, psychosis is one of the major diagnoses on an inpatient psychiatric unit, and one that can lead to dysregulated behavior and restraint. Research has shown that the MNS

has been linked to social cognition and theory of mind, two concepts that are often not as present in individuals with psychosis (Choe et al., 2017). These concepts allow for individuals to understand that other people's mental states are different from their own allowing for appropriate social engagement and the ability to have emotional self-awareness (Choe et al., 2017). Choe et al. (2017) studied 52 patients in a Korean psychiatric hospital, who had experienced "first episode psychosis", the primary onset of psychotic symptoms (p. 244). Through fMRI scans and theory of mind social stories, they found that the patients who had experienced these symptoms had "impairment within the network that supports MNS function" (p. 245), leading them to the conclusion that there is difficulty in empathizing with another person and challenges in understanding how to react and interact in different situations. Although these findings support several important aspects of social and emotional functioning, the sample size was limited and anti-psychotic medication was not controlled, leading to potential changes in the brain imaging data. This study, though, begins to open up inquiries about the state of the MNS and how individuals with altered emotional states can have difficulties in relational aspects of life.

McCormick et al. (2011) found that individuals on the schizophrenia spectrum scale have decreased or impaired *Mu* wave suppression (neural activity for voluntary movements) when witnessing another person's motions, rhythms that are supposed to be increasingly suppressed when seeing another person move around (p. 237). These rhythms illustrate that an individual with symptoms or a diagnosis of schizophrenia have lower rates of mirror neuron activity than individuals who do not have this diagnosis (p. 238). These lower rates can then lead to decreased ability to understand differences between self and other, as well as difficulties in processing socio-emotional cues (p. 238). Now imagine one of these patients locked in a psychiatric unit with limited ability to calm themselves or limited understanding about how to cope with their

own agitated state, how are they going to react? Oftentimes with externalizing behavior that were mentioned above, along with the need for understanding and role-modeling, signals the importance of staff's ability to provide this emotion regulation through body language.

Shafir (2016) discussed that the ability to regulate emotions from movement starts with "suggesting to move in specific ways which promote movements associated with a desired emotion and/or by suggesting to reduce and avoid motor patterns associated with undesired emotions" (p.20), as well as mirroring these desired patterns to increase acceptance, noticing, and relational awareness. For example, if a client is becoming increasingly agitated, a therapist could initiate desired patterns of movement, such as relaxed shoulders and facial expressions, to promote calming in the body and to activate the MNS. As patients continuously witness these movements and are guided to regulatory patterns, it will be easier to stimulate these actions in the future (p. 6).

Kestenberg Tension Flow Rhythms & Attunement

The work of Dr. Judith Kestenberg reflects the importance of understanding movement rhythms for de-escalation, as the study of tensions in the body awaken new ideas regarding the movement between tense and relaxed states (Koch & Rautner, 2017). Movement rhythms are defined as

> tension-flow changes that occur in the body, when our muscles go from tense to relaxed and vice versa, they build a constant stream of information for us about where and how our body is, what we need and how do it. (Koch & Rautner, 2017, p. 5)

Kestenberg discovered 10 different rhythms that start right after birth: sucking, biting, twisting, straining-releasing, running-drifting, starting-stopping, swaying, birthing-surging, jumping, spurting-ramming (p. 5). During these rhythms, there is a continuous flow from indulgent to

fighting and back (tensing and releasing). Biondo (2017) studied the potential effects of D/MT interventions on individuals in inpatient psychiatry, with specific focus on how staff can implement these strategies. Biondo discussed the importance of being attuned to tension flow rhythms, specifically soothing ones. When a patient starts to become agitated, there is value in matching their tense flows and bringing them back to a relaxed state through the initiation of more nurturing flows, to combat undesired behaviors (Biondo, 2017, p. 9).

Koch (2014) also studied the different effects tension rhythms had on emotional expression. Koch inquired about the difference between smooth and sharp rhythms and the types of emotions that came up while in these flow states. Smooth rhythms were accomplished by jumping and bouncing in place, while sharp rhythms were done by kicking the air (p. 10). The participants who engaged in smoother rhythms felt more "relaxed, indulgent, peaceful" (p. 10), whereas participants who engaged in sharper rhythms felt "tense, intruding, fighting, aggressive" (p. 10). Some smoother rhythms might be swaying, rocking, or embracing (p. 15). This type of finding informs staff members on these units of the benefits of smooth and round flows and shapes to encourage "better moods, more agreeableness, and more openness" (Koch & Rautner, 2017, p. 15), both in themselves and in patients.

In addition to matching and shifting tension flow rhythms, research has shown that joining and/or clashing behavior by the therapist is beneficial in de-escalation (Lundy & McGuffin, 2017). The joining behavior looks like walking towards the agitated patient (on an angle to avoid frontal vulnerability) and sitting next to the patient in a non-threatening manner, making sure to maintain a safe enough distance (Lundy & McGuffin, 2017, p. 138). This allows for the patient to be seen and heard through a non-verbal manner, where even just the presence of another person that cares effectively calms their agitation.

Therapeutic Breathwork

Breath is vital to human life. It is one of the first experiences that happens when a baby comes out of the womb and is an important foundation for D/MT. Without breath, humans would not be able to move, digest, or regulate (Victoria & Caldwell, 2013). If breath starts to become distorted, poor, and/or labored, it can "decrease our ability to sense our emotional states" and lead to further dysregulation (Victoria & Caldwell, 2013, p. 218). Breathing patterns are directly correlated with the ability to cope with a distressing situation.

The environment of an inpatient psychiatric unit can feel threatening, based on sounds, sights, and interactions with staff, especially if a patient is already struggling with mental health challenges. If the body perceives the environment as a threat, it will begin to subconsciously prepare itself to cope in order to achieve safety and stabilization, a process that has allowed humans to survive in this world (Kozlowska et al., 2015). A lot of these protective factors manifest in the form of externalizing behaviors and a vast array of dysregulated emotions, as the body prepares to fight, flight, or freeze (Kozlowska et al., 2015). Within these behaviors are numerous physiological changes that one needs to remain safely in this world, including changes in the respiratory system. When human behavior is triggered by a threatening event, the sympathetic nervous system is activated to help the body defend itself: "all muscles, both smooth and striated, increase in tone, heart rate and respiration become more rapid, and posture is stabilized" (Kozlowska et al., 2015). This is why someone who is in active fight or flight mode is often hyperventilating, panicking, yelling, or sobbing.

The ability to get someone back to a secure baseline when they are in a state of dysregulation often involves the breath, due to the fact that oxygen intake often decreases during these moments (Kozlowksa et al., 2015, p. 265). It has been found that a part of the body called

the vagus nerve, which controls heart rate and breathing, is activated when a triggering situation occurs. Through slow and deep breathing this nerve is recalibrated and strengthened, sending messages to the brain and heart that the parasympathetic nervous system (the "rest" system) can start doing its job (Kozlowska et al., 2015). The more constant training of this nerve through breathing practices then allows for the parasympathetic nervous to become activated quicker and more effectively during emotional states (Kozlowska et al., 2015). Betty (2013) studied the effect that D/MT had on maltreated children, a population that often struggles with dysregulated behavior (p. 46). Through the study of maltreated children at a residential center, the researcher found that the process (and opposition) of inhaling and exhaling promoted calming rhythms and the ability to "expel waste" in the body (p. 47). The initiation of the in and out breath allows for the body to slow down and pause before acting in a negative way, as well as increasing self-soothing.

Melo-Dias et al. (2019) studied the effects of progressive muscle relaxation (PMR), a technique that involves both breath and body movement, on individuals with schizophrenia. PMR "involves tensing a group of muscles while breathing in, holding the contractions for a short period of time, and then releasing the muscles while breathing out" (p. 5). The researchers found that the combination of both of these concepts allowed for these individuals to achieve relaxation and lessen anxiety surrounding daily life and social relationships, areas that are often challenging for people with this diagnosis. They also found that PMR increased self-control, an area that is often difficult for individuals to achieve when in heightened emotional states. Although the results showed positive trends towards calming, there is still work to be done around the physiological effects of deep breathing, especially in acute clients and how staff can use this skill to assist in de-escalation.

Touch

There is constant conflict in the therapeutic field surrounding the appropriate use of

touch, as there are often gray areas in settings where firm boundaries between patients and staff

are necessary. A dance/movement therapist would argue that physical contact aids in the

connection between the mind and body; touch can allow individuals to feel "alive and

embodied," engaged in effective relationships, and connected to the senses (Cristobal, 2018).

Through touch a therapist can encourage self-soothing by offering the patient the opportunity to

explore the different parts of their body and promote emotion regulation by coming in contact

with the skin, an organ that is directly connected to the nervous system (Cristobal, 2018).

Although touch can be beneficial to patients, it is necessary to understand what kind of

touch is considered appropriate and beneficial for the patient. The ADTA Code of Ethics

(ADTA, 2014b) implements several standards and practices that the dance/movement therapist

must follow to remain in an ethical relationship. This includes obtaining written or oral consent

to touch, refraining from touching any body parts that might lead to sexual arousal, and using

clinical judgment to explore if the touch adds value to the treatment plan. On an inpatient

psychiatric unit where physical touch is often a necessity due to restraints, it is important to

"ensure that there is in-process communication to the client about the procedure and attempt to

maintain an attuned relationship presence" (p. 2).

Salzmann-Erikson and Eriksson (2005) studied the impact that touch had on patients in a

psychiatric care unit, particularly patients with psychosis. They found that therapeutic touch,

often a hand on a shoulder or a light hand hold, increased connection, belonging,

communication, and the feeling of being seen. On the other hand, when "physical contact was

unwarranted or undesired, and if they didn't know the other person, it gave rise to feelings of

inferiority, fear, and annihilation" (p. 849), feelings that are often present during and after a restraint.

Power Dynamics

As mentioned earlier, there is great benefit in how staff members handle themselves when interacting with patients, especially on a locked unit, where there are several instances of aggression and agitation. Staff members (e.g., nurses, counselors, occupational therapists, etc.), make up a large part of the system, and can both help and hinder patient progress. It is important to discuss the power and privilege that is present within the inpatient system and weaved throughout the patient/staff dynamic.

Therapeutic relationships and the way staff interact with patients plays a large part in the success of inpatient treatment: "positive therapeutic alliance, alongside lengths of stay and preadmission functioning, independently predicts outcomes of admission (Hartley et al., 2022, p. 2). As previously stated, staff on inpatient units are often helping the most aggressive patients using potentially harmful interventions which ultimately leads to burnout and challenge in providing the best care. Hartley et al. (2022) found that there are several factors in determining positive staff/patient dynamics through the study of adolescents and nursing staff on an inpatient unit in the UK. The first theme that emerged from this was trust and maintenance. Allowing for the development of strong connections before seeking deep treatment goals creates a sense of reliance and protection. The ability to repair a rupture in the relationship also allows for the patient to see that the staff is not giving up on them. Another theme that the researchers studied was the knowledge staff had regarding psychiatric disorders and treatment. They found that when staff knew more about why the patient was getting treatment it established "roles, reflecting and conferring mutual power and thus engendering meaningful collaboration" (p. 10).

The last theme that was developed is the idea of the staff balancing professionalism and humanness. This concept comes with practice in setting limits, but also acknowledging that every person on the unit (even staff), are humans with strong emotions and can relate in some way to the patients.

Verbeke et al. (2019) studied the impact of power dynamics on an acute inpatient unit in Belgium between the years of 2016-2017, specifically the use of coercive interventions on staff/patient relationships. The researchers defined coercion as putting patients in "restraint, seclusion, and involuntary treatment" (p. 89), which in turn creates the feeling for patients of being "reduced to the passive patient role" (p. 89). There were several instances in this study where patients felt negatively impacted by power challenges which included: only being seen as a patient with a mental health disease, rather than a human that struggles with intense emotions; an "us/them" attitude, meaning that staff would have places on the unit that patients were forbidden to go and that staff could decide how to live their lives, whereas patients could not; views of the staff as a "whole" rather than as individuals, meaning that patients clump staff into one stereotype, instead of seeing each of their personalities individually. In addition, patients also discussed the silence staff would give them (ie., dropping off food in the seclusion room and not saying one word), as increasing negative power dynamics, as this type of "cold-shoulder" attitude turned the patient into a "passive recipient" (p. 93).

Knowles et al. (2015) studied the effects that physical restraints had on the relationship between staff and patients, specifically differences in power. The researchers found that putting a patient in restraints, increases the "us/them" concept, as it allows the staff to have full control over the patient, both physically and emotionally. Not only is the staff member logistically taller as they stand over the restrained patient, but staff often use harsh words to control the patient

("sit down, be quiet"), which automatically puts the staff in an authoritative role. This often one-sided dynamic in an acute setting can hinder progress on treatment goals and place patients in a rather submissive role. Although this research gives prominent information on power dynamics, the sample size was small and did not include any female patient perspectives which leaves out various gender differences.

Discussion

On an inpatient psychiatric unit there are numerous mental health diagnoses, such as schizophrenia, bipolar disorder, and personality disorders, that often lead to aggressive or assaultive behavior. Often this behavior gets out of control and the only means to keep both the patient and staff safe is to use physical restraints. Throughout this literature review, evidence has shown that restraints damage therapeutic relationships, traumatize and re-traumatize patients who have vulnerability to touch and authority, and strips patients of autonomy and control (Bystrynski et al., 2020). Research has shown that although restraints are often necessary there are several therapeutic techniques that can be implemented before a restraint needs to be used (Terry, 2018). Understanding the detrimental effects of restraints and how to create an environment of safety and comfort aids in the effectiveness of treatment on an inpatient unit.

D/MT has been shown to help people in heightened emotional states, by using the body as a source for calming through deep breathing and body awareness (McCormick et al., 2017). Tensions flow rhythms, specifically soothing ones, have also played a role in regulating behavior that is harmful (Koch, 2014). Not only does D/MT help patients, but it also aids staff in understanding the placement of their own bodies and how to use them in the most effective way possible. Staff on these units are often the backbone for these environments, and understanding how to promote regulation in patients is the key to keeping everyone safe. This process starts

with noticing their own body language and placement in the space, as well as attuning to the patient's expressions, bringing the patient back to safety and stabilization. With a population that often has challenges with understanding other peoples thoughts, intentions, and feelings, this type of kinesthetic empathy allows them to feel seen, heard, and supported non-verbally (McGarry & Russo, 2011). However, a large part in effectively managing dysregulated behavior and keeping the unit safe is adequately training staff on the benefits of movement and implementation of specific D/MT techniques, which still needs to continue to be developed.

There were numerous studies on the negative effects of physical restraints and the positive effects of calming skills to prevent these traumatizing events (Biondo, 2017; Choe et al., 2017; McGarry & Russo, 2011; Shafir, 2016; Ye et al., 2018), but only limited research regarding the intersection of race and gender on dysregulated behavior (Kotze et al., 2020) and the number of restraints that happen during admission (Staggs, 2020). Further research would need to be done to study the impact of staff and patient relationship from a multicultural perspective. In addition, there has been little movement towards studies on larger sample sizes, as well as information on how to best support patients during crises, specifically with staff workshops and trainings. My hope with this literature review is to start the conversation about trauma-informed movement techniques for de-escalation and the implementation of these practices on inpatient psychiatric units, as well as encourage the use of the body for a source of important information.

Conclusion

Throughout this literature review, I have learned about the function of restraints, the various types of diagnoses on inpatient units and the common behaviors, and the benefit of dance/movement therapy in scenarios of dysregulation. The emergence of more body-based

practices in inpatient psychiatric settings has proved to help strengthen therapeutic relationships, as well as prevent sometimes unnecessary re-traumatization of individuals. I hope to continue to explore how movement can engage both patients and staff in therapeutic prevention and healing.

Overall, this literature review helps in understanding the need for more D/MT-informed principles on a unit where behaviors can escalate to dangerous levels, as a lot of these outward expressions of emotion can be ascertained through the body. D/MT, a practice where mind and body are interconnected, offers positive coping tools for both patients and staff in acute settings where harmful behaviors and impulsivity are at an all-time high.

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THESIS APPROVAL FORM

Lesley University
Graduate School of Arts & Social Sciences
Expressive Therapies Division
Master of Arts in Clinical Mental Health Counseling: Dance/Movement Therapy, MA

Student's Name: Olivia Naya

Type of Project: Thesis

Title: Dance/Movement Therapy for Reducing Restraints in Inpatient Psychiatry:
A Critical Review of the Literature

Date of Graduation: May 21, 2021

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

Thesis Advisor: Donna C. Owens, PhD