

Review

Dance/Movement Therapy and Schizophrenia Spectrum Disorders: A Reflection of Clinical Practices and History

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Abstract

Dance/movement therapy (DMT) is a strengths-based approach to psychotherapy that uses dance and movement as the primary form of communication, while emphasizing the movement relationship in addition to verbal dialogue. Positive and negative symptomatology of a diagnosis on the schizophrenia spectrum often disrupt organized thinking, orientation to reality, overall functioning, communication, and healthy relationships. Therefore, a body-based psychotherapeutic approach can be a pragmatic way to support, join, and process with people who have a diagnosis of a schizophrenia spectrum disorder (SSD). This paper explores the positive and negative symptoms of SSD, bodily manifestations of these symptoms, and particular ways to use DMT as a psychosocial treatment option. The use of creativity with this population can support a psychotherapeutic relationship focused on personal strengths, individuality, community development, and unconditional acceptance. This paper is grounded in the historical framework of DMT, particularly considering the theoretical work of Marian Chace and Trudi Schoop. The work is also substantiated anecdotally through the authors'



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respective clinical practice with individuals diagnosed on the schizophrenia spectrum and through individual research focused on working with individuals experiencing acute and chronic manifestations of SSD. A brief overview of the current research has been included.

Keywords

Schizophrenia spectrum disorders; dance/movement therapy; psychosocial treatment; non-verbal communication; strengths-based

1. Introduction

Schizophrenia spectrum disorders (SSD) are chronic diseases which include cognitive, affective, and behavioral symptoms. A combination of these symptoms can lead to a disruption in psychosocial functioning and an inability to thrive without emotional support [1]. Exacerbation of symptoms of SSD manifest as acute episodes, during which individuals may require hospitalization or other treatment due to an increase in either or both positive and negative symptomatology [1]. Positive symptoms of SSD may include auditory, visual, tactile, or olfactory hallucinations, delusional thinking, paranoia, and racing thoughts; whereas negative symptomatology includes flat affect, apathy, depressive symptoms, social isolation, alogia, and lack of spontaneity [1]. Typically, after an acute episode subsides, individuals are often treated on an outpatient basis and are more likely to struggle with residual negative symptoms, which are classified as amotivation and diminished expressiveness [2, 3]. Negative symptoms of SSD can evolve throughout one's life and may increase or decrease at any time, depending on the individuals' self-perception and environmental perception, which can lead to disturbances in psychosocial functioning. In addition to this more typical positive and negative symptomatology, SSD can also negatively impact the body. These somatic and movement dysfunctions are outlined in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), however, they are only mentioned on a macro level and with gross generalizations. On a broad level, these movement dysfunctions will take the form of movement disorganization or fragmentation, rigidity in movement, or a slowing or lack of movement [1]. The nuances of the movement dysfunctions related to SSD often happen on a micro-level and can be easily overlooked by those who are not trained in the intricacies of movement. Therefore, the use of the body and movement in therapy of individuals with SSD can offer an additional and potentially effective approach to treatment based on the specific needs associated with this population.

2. Movement Manifestations of Positive and Negative Symptoms

The DSM-5 acknowledges movement dysregulations that can be experienced by people with a diagnosis of SSD. However, the dysfunctional movement parameters offered by the DSM-5 are gross movement generalizations that do not account for those observed by a trained dance/movement therapist. Moreover, some of the noted movement dysfunctions in the DSM-5 are rarely witnessed in present day due to the advances of psychopharmacology and the diminishment of traditional movement dysregulations such as extreme catatonia. Davis [4, 5] spent years observing subtleties of movements that were believed to be pathognomonic in the diagnosis of schizophrenia, which culminated in the development of the Movement Psychodiagnostic Inventory (MPI). The MPI is a

catalogue of subtle and involuntary movement dysregulations that are organized in overarching categories with multiple subcategories to reflect specific movement manifestations. This movement diagnostic tool is a guide to inform movement analysts of “troubled” movement patterns. Research indicated that these movement indicators did, in fact, warn analysts of dysregulation; however, multidimensional analyses determined that the MPI patterns could be observed in people with a multitude of psychiatric disorders [6, 7]. The MPI gives dance/movement therapists and movement analysts a structure through which one can determine what type of movement is being performed, how that movement is being performed, and whether there are emergent patterns of movement dysfunction. Both the overarching movement dysregulations noted in the DSM-5 and Davis’ [4, 5] MPI inform how dance/movement therapists have understood the specific movement disruptions, needs, and difficulties associated with a diagnosis on the SSD. Below is a general guide of common movement dysregulations of individuals diagnosed on the schizophrenia spectrum. As with the diagnoses themselves, the noted movement dysregulations are not assumed present in everyone diagnosed with SSD and can manifest differently with each individual.

Positive symptoms that are presented through movement can be broadly generalized into the following three categories:

1. Disorganization - this category of movement can be observed through fragmentation of the body, unsynchronized, sporadic shifts in body movements, or contradictory movements in various parts of the body and overall rigidity in movements. Bodily disorganization often mirrors cognitive disorganization and depersonalization in people diagnosed on the SSD.

2. Rigidity - this category refers to movement activity that is performed in a manner that includes both agonist and antagonist muscles working simultaneously (e.g. robotic-like movement).

3. Excessive movements - this category of movement can be observed through any or all of the following: frequent and large postural shifts, repetition of movements indicative of ritualistic behaviors, an overall increase in movement activity, sudden shifts in one or more parts of the body that appear seemingly unexpected, and limited modulation in movement extension away from the body.

Negative symptoms that are presented through movement can be broadly generalized into the following four categories:

1. Reduced mobility - this category includes psychomotor slowing, akinesia, or bodily representations that express restricted and stereotypical movements. Movement patterns can be observed as the stiffness of the body and low activation in the body which result in motor slowness (e.g. low bodily responsiveness, movement flaccidity, or flaccid or limp characteristics of the body or body parts).

2. Limited movement interaction - this category includes limited use of three-dimensional movement (e.g. maintaining or holding one or two primary dimensions while moving); low spatial complexity (e.g. limited movement directionality, or limited spatial complexity and projections of movement).

3. Limited postural activation - this category includes fixed bodily shapes (e.g. maintaining fixed shapes or positions including facial expression and eye movement, maintaining postural movement, or movement limited to isolated body parts); limited position shifting (e.g. lack of changing of the physical position while standing, sitting, or maintaining a specific position after movement or during pauses); and diminished head movements.

4. Low movement intensity - this category describes specifics of movement dynamics resulting in psychomotor poverty and a decrease in a spontaneous movement. This includes: low variation in muscle tension fluctuation (e.g. holding low muscular tension or holding high muscular tension while moving and at rest); lack of fluency of movement (e.g. holding bound, restrained or controlled movement or holding free, unrestricted or uncontrolled movement); and limited use of dynamic qualities of movement (e.g. light/strong, sustained/quick, indirect/direct).

3. Dance/Movement Therapy

Dance/movement therapy (DMT) is “the psychotherapeutic use of movement to further the emotional, cognitive, physical and social integration of the individual” [8] (para 1). Dance/movement therapy is a body-based therapy, which allows for assessment and treatment of individuals based on their movement repertoire, style, and choices. As a strengths-based approach, DMT works in collaboration with patients, focusing on the therapeutic process as well as the group outcome [9, 10]. The body and movements are considered natural and effective sources of self-awareness and expression, and can support a multitude of relationships between all dimensions of functioning. Dance/movement therapy has historical roots in working with people with schizophrenia [9]; however, there was a long paucity in research with this population. In recent years, there has been a renewed research interest in DMT as a mode of treatment for individuals diagnosed with SSD [11-16]. Two of the first practicing dance/movement therapists, Marian Chace (1896-1970) and Trudi Schoop (1904-1999) worked in psychiatric hospitals with individuals diagnosed with schizophrenia. Their work and theoretical contributions to the treatment of schizophrenia influenced generations of dance/movement therapists who have worked and continue to work with this population, and most recently researchers investigating various DMT interventions that specifically target either positive or negative symptomatology of SSD.

3.1 Marian Chace

Chace began her career as a dancer, performer, and choreographer having studied with the renowned Denishawn School of Dance [9]. Through witnessing her students, Chace began to understand the power that movement held as a form of communication, which initiated the transition of her work as a dance teacher to a dance therapist. Chace began to test her theories of dance as a form of therapy first with underserved children, then quickly shifted to volunteering in an inpatient psychiatric hospital with people diagnosed with schizophrenia in the 1940s. She developed a methodology for DMT groups that included a warm-up, thematic development, and closure. In each of these group components, the work focused on four healing factors: (1) Body Action; (2) Symbolism; (3) Therapeutic Movement Relationship; and (4) Group Rhythmic Expression [9]. The four healing factors are described below.

3.1.1 Body Action

Body action as a healing factor refers to recognizing body dysregulations and functional disorders as a maladaptive reaction to conflict and pain. For Chace, recognizing parts chosen, breathing patterns, or tension levels in various parts of the body that block emotional expression can provide therapists with knowledge about movement sequences [9]. This can inform the therapist of how to

support the patients to be able to tolerate and explore their emotions and experiences. Through dance and movement, the patients gain not only greater body mobility, but they can also access increased stimulation or relaxation based on their individual and current needs. A combination of the initiation of movement, experience of joining with peers and the therapist, and opportunities to adopt various group dynamic roles prepares participants to engage creatively, express their emotions, and process their experiences. Furthermore, dance acts as a vehicle for beneficial developments such as giving structure to physical activity, promoting feelings of safety, establishing a sense of grounding, and, in time, allows for gradual building of the therapeutic relationship. Chace also noted that through dance and movement one could observe a close relationship between the integration of changes in body posture and changes in patients' attitudes. She pointed out that learning movement, or specific movement sequences, is not enough for the change to occur. Change only occurs when the patient is ready to experience the feelings and movements in the body [9].

3.1.2 Symbolism

The concept of symbolism in Chace's theory refers to the universality of nonverbal symbols. These symbols are often the manifestation of internal feelings that cannot be expressed in words but can be expressed through dance or movement. By working on a symbolic level through movement, it can be easier for patients to express their needs, feelings, and desires that are otherwise difficult to express. Chace believed that specific movements or movement imagery have a direct effect on patients' affect and that different non-verbal symbols are associated with and can evoke specific emotions [9, 10]. Associations between movements and corresponding emotions can be used for emotion recognition and regulation through symbolism. Furthermore, symbolism in DMT can provide the patient with the opportunity to recall, replay, and experience needs, feelings, and desires on a less invasive level. The therapist can use the patients' symbolism to offer inquiries, interpretations, or reactions, or as an introduction to further explore the content. Dance/movement therapists can also introduce motion-initiating images to elicit connection, memories, and nostalgic sentiments. Chace believed that the ubiquitousness of nonverbal symbols can overcome barriers related to disease, age, or culture [9, 10].

3.1.3 Therapeutic Movement Relationship

Chace focused on establishing a therapeutic relationship on a movement level, specifically through the use of DMT techniques such as mirroring or empathic movement reflections, giving the patient a sense of being seen and understood. Within Chace's approach, movement empathy is recognized as a crucial element [9]. This kinesthetic way of connecting empathically helps the therapist a therapeutic alliance or therapeutic movement relationship. During DMT sessions, the therapist joins the patient's movement through their own body in order to develop a deep and authentic connection. This happens through not only a reflection of similar movements, but also by the therapist capturing and embodying the essence of the patients' movements. Chace believed that by recognizing and recreating a meaningful gesture, posture, or simple movement at the right moment, trust in the therapeutic relationship could be established [10]. This, in turn, could lead to the patient's willingness and ability to communicate difficult or repressed feelings and thoughts

through movement. Moreover, this supports an increased ability to enter new experiences and establish new and healthy relationships.

3.1.4 Group Rhythmic Expression

Group rhythmic activity formulated part of the DMT group warm-up. Chace recognized rhythm as a factor that provided structure and aided in group organization and cohesion. Chace's intention behind group rhythmic action was twofold. First, shared rhythms instilled a sense of trust in group participants, and second, the shared rhythms were incorporated into various parts of the body, encouraging a more fully engaged movement dynamic [13]. The latter supported participants in organization of movements, fuller range of motion, and releasing anxiety, which created increased receptivity and processing capacity. Often the containment and organizational components of group rhythmic expression portion of the warm-up guided group members into a place of trust and thus processing abilities. Thematic group developments grew and solidified once participants felt at ease with both the dance/movement therapist as well as with their bodies and amongst their group members [10].

3.2 Trudi Schoop

While Chace was situated on the East Coast of the United States, Schoop began her work as a dance therapist on the West Coast, by way of Switzerland. Schoop began as an untrained dancer with great instinctual talent and chose to pursue professional training in dance at the age of sixteen [9]. Her work was most notably influenced by the art of pantomime through which Schoop was able to embody various characters and use humor to process her personal conflicts. In the 1940s, after volunteering at a psychiatric hospital, Schoop began her career as a dance therapist working with people with schizophrenia [9]. Schoop believed that we reflect our true selves through our bodies, which is indicative of the state of mind in which we reside. She noted an internal conflict between the mind and body for people experiencing psychiatric illnesses and felt that a homeostatic relationship within oneself could be achieved when the mind and body were in sync. Schoop used dance, expressive movements, and rhythm to allow all aspects of one's personality to come into consciousness for catharsis [9, 17]. Her theory and DMT methodological contributions focus on three tenets: (1) An educational approach to therapy; (2) The use of rhythm and repetition in sessions; and (3) Exploration of individual and psychotic fantasies [9, 17].

3.2.1 Educational Approach

Schoop embraced an educational approach to therapy. During her sessions, she incorporated teaching into her therapy by encouraging patients to embody what she described as 'healthy' movements. Self-exploration, which increases body and movement awareness, was at the forefront of Schoop's premise of DMT. She believed that movement dysregulations associated with schizophrenia inhibited agency, functionality, and expressivity. Schoop would encourage movement exploration through joining her patients in an embodiment of various postures and gaits during which they would overly exaggerate the dynamics specific to each patient. Humor played a big role in Schoop's movement improvisation as per her belief in the healing power of humor. She believed in the therapist's ability to laugh at oneself to model healthy self-worth for patients. This allowed

Schoop to remain active and emotionally present in her own expression, while diminishing emotional taboos. These taboos were further debunked through alignment exercises by working with opposite movement qualities (e.g. tight/loose; stiff/limp; round/angular; soft/staccato; slow/fast) to identify split-body conditions [17].

Schoop focused her DMT work on self-acceptance and acceptance of both congruent and conflicting emotions. She believed that spontaneous expression in the form of dance or movement improvisation allowed patients to reveal their personal and unconscious self [17]. A dance/movement therapist can organize movements into sequences that can slow down the process and give time and space for exploration of internal conflicts. Schoop would organize the movement she witnessed and encourage her patients to find new ways to move through various movements. This would help patients increase awareness of their unconscious material. Dancing and moving with Schoop allowed patients to identify extreme thoughts, feelings, or movements, and assign an emotion to them. She would then work towards intensifying those emotions through movement and verbalization, to enliven and find freedom of expression that ultimately led to cohesion and harmony in the body. These movement sequences promoted insight and a sense of control [17, 18].

3.2.2 The Use of Rhythm and Repetition

Schoop placed special attention on the use of rhythm, repetition of movement, and one's rhythmic ability. Rhythms of typical activities such as walking, waking up, or noticing pulse all contributed to patients connecting with their own bodies. Recognition of rhythmic patterns and moving the body to those rhythms creates a conscious connection between the internal and external. In sessions, Schoop would encourage adding rhythm to dramatic expression, often asking patients to add a vocalization (e.g. breath, words, sounds) to strengthen the connection between inner and outer rhythms. She would also encourage groups to move simultaneously to the same rhythm to develop a sense of security and to promote group cohesion [17, 18].

3.2.3 Exploring the Individual and Psychotic Fantasies

Schoop believed that the body is a vehicle for giving form to individual emotions and fantasies, which promotes learning and healing. In her theories, dance can unite two levels of experience: the eternal, ongoing process of cosmic order, and harmony with the reality of life on earth [17]. Recognizing that the body-mind split is a cause of major psychotic concerns, she would temporarily join the patient's fantasy during sessions in two phases: improvisation and planned movement formulation. During the improvisation phase she would guide the patient to give these fantasies a physical form through embodiment. She would use the patients' imaginations in a group process to promote acceptance of self and others. During planned movement formulation, Schoop focused on organizing the fantasy content into a clear movement sequence promoting physical control of the incoming impulses from the unconscious [17, 18].

Both Chace and Schoop were amongst the first women to formulate their theories around the healing components of dance for people experiencing schizophrenia. Common tenets of their DMT theories include the use of movement as a primary form of communication and a pathway to wellness, and the significance of rhythm to stimulate grounding and cohesion. These two primary

theorists did offer individual notions of health; Chace moved towards the role of symbolism while Schoop used humor and education as an entry point into exploration of fantasy. Both theorists understood the power and dynamic process of therapeutic rapport building on an embodied and unconscious level.

4. Schizophrenia Spectrum Disorder Treatment

Treatment for people with SSD is often rooted in mental health facilities: inpatient psychiatric facilities for those experiencing prominent and acute symptomatology and outpatient and rehabilitation settings for those experiencing chronic symptomatology. Acute inpatient settings in the United States of America are typically driven by the medical model in which psychopharmacology is the primary intervention for individuals with SSD. The latter centers the therapeutic milieu on social therapy and has primary goals of providing support and creating opportunities for improved psychosocial functioning. Advancement of various antipsychotic medications have proven effective in lessening positive symptoms of schizophrenia, however, there are still indications for the need for complementary psychosocial treatment options. Research indicates that there are high levels of medication non-adherence rates associated with antipsychotic medication regimes due to many factors including: (1) difficulty obtaining the medication due to financial and accessibility concerns; (2) undesirable side effects; (3) stigmatization associated with taking antipsychotic medication; and (4) limited effects on negative symptoms of schizophrenia [19, 20].

Although psychopharmacological interventions have been the gold standard treatment for SSD, there is now a growing consensus that psychosocial treatment interventions are essential in helping patients achieve better functional and health outcomes beyond symptom stabilization [21, 22]. More attention has been paid to the use of non-pharmacological interventions, particularly cognitive-behavioral therapy, supportive therapy, cognitive training, social therapy, and somatic based approaches to therapy [14, 23-25]. These, however, need to be tailored to patient needs, and specifically address differences in positive and negative symptomatology during acute and chronic stages of SSD.

Based upon the call for additional treatment options for this population, the aims of this paper are threefold: (1) To present the history and theoretical foundation of DMT, particularly in the treatment of SSD; (2) To summarize positive and negative symptoms of schizophrenia and their bodily manifestations; and (3) To present current research on DMT that supports its use in clinical work with this population. Clinical vignettes of DMT approaches for both acuity and chronicity of the disease will be included.

5. The Use of Dance/Movement Therapy in the Treatment of Schizophrenia Spectrum Disorders

Dance/Movement Therapy can be used as a more inclusive language for those with different ways of communicating. This facet of communicating through dance and movement can be particularly useful with populations who may communicate in creative, unique, and unconventional ways [11, 12]. Different reality orientations, and thus, different communication styles, can be seen when working with people diagnosed with SSD. Dance/movement therapy can work two-fold with people diagnosed with SSD. First, it can support symptom management on a movement level through grounding and organizing movements and by fostering motivation to stay active [12]. Next,

through this process of initial movement organization and activation, participants can begin to establish a sense of self, which facilitates improved functioning, healthy relational proximity, and interpersonal skill development [11]. This pattern of ego development to foster interpersonal relationships helps combat depersonalization of people with diagnoses on the schizophrenia spectrum [11, 26].

5.1 Current Research on DMT and Schizophrenia Spectrum Disorders

Research suggests that DMT can be a successful psychosocial and therapeutic intervention for people diagnosed on the schizophrenia spectrum. Positive research findings include: (1) Decreased blunted affect and increased attention and concentration [12]; (2) Increased awareness of body image, body boundaries, healthy embodiment, and self-integration [11, 12, 14]; (3) Increased reality orientation [11, 14]; (4) Decreased negative symptoms and anger [11-14, 16]; (6) Increased emotional expressivity, emotion recognition, and processing [12, 15, 16]; (7) Increased emotional support and enhanced interpersonal connectivity [12]; (8) Increased motivation [14]; (9) Enhanced physical endurance and strength [12]; and (10) Decreased psychological distress and enhanced mood [11-13]. The following section provides a brief overview of the latest research within the last five years (2016-2021).

Priebe et al. [15] conducted a parallel-arm, multisite randomized controlled trial to determine the clinical effectiveness and cost-effectiveness of group body psychotherapy (BPT) as a treatment for negative symptoms of schizophrenia as compared to active control (Pilates) ($N = 248$). Both interventions included 20 90-minute sessions, over a 10-week period, with a frequency of twice per week held on non-consecutive days. Dance/movement therapists delivered the BPT intervention and Pilates' instructors delivered the Pilates intervention; each therapist or instructor could run a maximum of two groups. Prior to and after the intervention, and at a 6-month follow-up, participants reported on negative symptoms, as measured by the Positive and Negative Symptom Scale (PANSS, primary outcome), during a 30- to 90-minute assessment. In addition, psychopathology, functioning, social functioning, service use, and treatment satisfaction were measured as secondary outcomes. Attendance rate in BPT and Pilates group was 55% (median of 11 sessions attended) and 40% (median of 8 sessions attended) respectively. Overall, the results demonstrated no significant difference in means in negative symptoms (PANSS) between pre- and post-test, and at follow-up between the two conditions. In addition, no clinically meaningful benefits of BPT as compared to the active control, and no significant difference in outcomes or costs was determined. The authors suggested no advantage of the intervention. The limited and controversial results of this study inspired a secondary analysis of the data discussed below.

Martin et al. [14] conducted a randomized controlled trial to examine the effectiveness of manualized movement therapy (BPT/DMT) on the negative symptoms of patients with a diagnosis of SSD ($N = 68$). In this study participants were randomized either to BPT/DMT ($n = 44$) or the wait control condition - treatment as usual (TAU) condition ($n = 24$). The BPT/DMT treatment included 20 sessions lasting 90 minutes over the period of ten weeks. Prior to and after the intervention participants took part in the clinical assessment. The Scale for the Assessment of Negative Symptoms (SANS) was used for this study. In addition, Simpson-Angus Scale (SAS/EPS) was used to measure extrapyramidal side effects. There was a high dropout rate noted throughout the study ($n = 21$; 30.9%) mostly due to loss of motivation. Results demonstrated that after completion of 20

BPT/DMT sessions, participants presented significantly lower negative symptoms scores and that treatment significantly reduced overall negative symptom severity. Specifically, BPT/DMT reduced the overall BNSS score, severity of blunted affect, and deficits in attention (20.65% mean symptom reduction with moderate effect sizes).

Savill et al. [16] conducted a secondary analysis of the Priebe et al. 2016 study with the aim of assessing the moderating effects of gender on BPT as a treatment intervention targeting negative symptoms in schizophrenia. Several factors (depression at baseline, extrapyramidal symptoms, social contacts, antipsychotic medication use) that could further explain gender effect on treatment outcomes were included in the analysis. To determine the specific effect of treatment on individual negative symptoms domains, analysis included evaluation of the expressive and experiential deficits as measured by the Clinical Assessment Interview for Negative Symptoms (CAINS). In conclusion, women participating in BPT were found to have significantly greater reduction in negative symptoms in comparison to women participating in Pilates, relative to men. No differences were detected in positive or general symptoms. The authors suggested that BPT may be an effective intervention for the treatment of negative symptoms of schizophrenia in women.

Bryl et al. [12] conducted a mixed methods intervention study with explanatory intent ($N = 31$) to (1) Examine the treatment effects of a 10-week group DMT intervention on negative symptoms and psychosocial functioning of individuals diagnosed with schizophrenia, and (2) Examine the feasibility of the DMT treatment procedures and research protocol. In this randomized controlled trial, followed by semi-structured interviews, participants were randomized to either a DMT ($n = 18$) or TAU ($n = 13$) intervention. The DMT treatment included 20 DMT sessions over ten weeks, with a frequency of twice per week for 60-minutes, held on consecutive days and times. Participants reported on negative symptoms and psychosocial functioning pre- and post-intervention. The following measures were used: Positive and Negative Symptoms Scale (PANSS), Brief Negative Symptoms Scale (BNSS), World Health Organization - Disability Assessment Schedule 2.0 (36-item, interviewer administered version; WHO-DAS 2.0), and Sheenan Disability Scale (SDS). Fifteen participants completed 30-minute semi-structured exit interviews and provided feedback on the intervention. Feasibility results demonstrated a 100% measurement completion rate, 65% session attendance rate, and overall 16.7% attrition rate. Furthermore, the treatment was well accepted by participants [26]. The quantitative data demonstrated no improvement of outcomes in the DMT group. Qualitative data demonstrated that participants benefited from the intervention in the following ways: (1) Increased interpersonal and social connection; (2) Increased self-integration; (3) Increased emotional support; (4) Enhanced symptom management; and (5) Improved physical activation. The author provided possible explanations for discrepancies.

Gökçen et al. [13] conducted a randomized controlled trial ($N = 36$) to determine the effectiveness of a goal-oriented DMT intervention on symptomatology and functional remission in people diagnosed with schizophrenia within a community mental health center. In this study, participants were randomly assigned to a DMT ($n = 18$) or TAU ($n = 18$) intervention. The DMT sessions included a total of 16 sessions lasting approximately 40-50 minutes, with a frequency of 2 times per week for 8 weeks. Prior to and after the intervention, participants reported on symptomatology and functional remission. The following measures were used: Positive and Negative Symptoms Scale (PANSS) and Functional Remission of General Schizophrenia (FROGS). Results demonstrated significant improvements in negative symptoms, general psychopathology, and functional remission in the DMT participants in comparison with the control group.

Biondo et al. [11] conducted a mixed methods feasibility study ($N = 32$) to determine the feasibility and effects of a single-session DMT intervention on thought and behavioral disorders associated with SSD for people in inpatient psychiatric facilities. In this randomized controlled trial, participants were assigned to either a 45-minute single-session DMT group ($n = 17$) or a 45-minute verbal TAU session ($n = 15$). Pre-intervention quantitative data were collected using the Brief Psychiatric Rating Scale (BPRS) in a 20-minute interview with participants. Post-intervention data were collected both qualitatively, through a semi-structured interview, and then quantitatively with the BPRS. Feasibility results demonstrated that people who were experiencing acute symptomatology of schizophrenia were able to complete the treatment protocol at a 93% completion rate. Quantitative findings showed a statistically significant pre- to post- change score towards health in the following categories for participants in the DMT intervention group: (1) Overall BPRS scores; (2) Psychological Discomfort; (3) Negative Symptoms; and (4) Positive Symptoms. Qualitative findings substantiated the quantitative results for the aforementioned results; however, quantitative and qualitative results showed divergence in the subcategory of resistance. While no statistical significance in this subcategory of the BPRS was noted, participants expressed an increased desire to participate in more therapy sessions and greater feelings of self-control after participating in the DMT intervention groups.

5.2 Dance/movement Therapy Goals for the Treatment of Schizophrenia Spectrum Disorders

5.2.1 Positive Symptoms

High symptom acuity of SSD can cause significant disruption in the lives of people afflicted with the diagnoses as it affects their perception of reality, diminishes healthy ego, inhibits effective communication, and culminates with dehumanization [1, 11]. Dance/movement therapy interventions have multifaceted effects when working with people diagnosed on the SSD who are experiencing high symptom acuity. The use of kinesthetic empathy and therapeutic movement relationships in DMT allow dance and movement to be the primary mode of communication. Non-verbal interpersonal connections more accurately mirror the pre-verbal modes of cognition often experienced in SSD. Moreover, DMT incorporates embodiment, which allows patients to actively embody new movements, narratives, scenarios, and coping skills. In working with positive symptomatology of SSD, common treatment goals include: (1) Increased grounding; (2) Increased bodily organization; (3) Increased development of positive ego strength; and (4) Identification and understanding of self, other, and environment [11].

1. Grounding can often be a difficult concept and experience for people who are oriented to different realities as people with SSD often are. This goal is encouraged through physical connection of the feet into the ground, development of strength through the creation of a solid structural foundation, and simply feeling one's presence and connection to the space on which they are standing [11]. A DMT session will often incorporate grounding techniques in the warm-up portion of the group to establish this early in the session. Grounding techniques may simply be marching in place, bending at the knees to feel the weight into the ground, or gently tapping various parts of the body with one's hands to feel a sense of personal body boundaries.

2. Bodily organization refers to movement dysregulations such as disorganization that can be observed in people diagnosed on the SSD. Disorganization manifests as body part and movement fragmentation, lack of synchrony in movements, sporadic or unexpected shifts in movement, and

an overall rigidity in how one is able to navigate their movements [1, 4]. This disorganization that is displayed in the body is a reflection of the cognitive disorganization; shifting one will inevitably have an impact on the other. To support bodily organization, and therefore positively affect cognitive organization, DMT utilizes mirroring techniques to provide patients with a depth of understanding of their movements as reflected back to them by the dance/movement therapist. In this, the dance/movement therapist can subtly shift the movement to support the patient in more fluidity or sequentially, providing a model for bodily organization. In time, the pair moves towards attunement and thus increased movement organization.

3. Development of positive ego strength is often necessary due to the ego diminishment which often accompanies a diagnosis on the SSD. A combination of low self-worth, feelings of isolation, internal foci or preoccupation, or responses to internal stimuli are contributing factors to patients experiencing a diminished ego [11, 26]. Dance/movement therapists can incorporate the concept of seeing and being seen into movement practice to foster self-awareness, which in turn leads to healthy development of ego-strength. This manifests in DMT interventions such as sharing leadership opportunities with patients, fostering creative and artistic expression, and encouraging and supporting safe and healthy movement choices initiated by the patients. Additionally, the use of the vertical plane, which has associations with self and ego, is implemented to allow patients to “try on” movements that will support a greater sense of self.

4. The aforementioned goals all culminate with this final identified goal of patients diagnosed with SSD being able to differentiate between and have a deeper understanding of one’s own body boundaries and sense of self, their awareness of and ability to engage with others, and a greater exploration of and comfort in their environment [9]. Formulation and embodiment of a clear sense of self can allow people diagnosed with SSD to experience healthy body boundaries. This sense of me/not me can inform interpersonal relationships in that patients can distinguish where their bodies and ego end and others’ begin [11, 12, 14]. Emotional, somatic, and cognitive insights can be embodied and articulated in group DMT sessions. This identification can lead to shared experiences amongst group members, which further supports self-esteem, interpersonal connections, and a sense of community and belonging. A healthy relationship with self and others inevitably leads to a firmer understanding of general environmental awareness and of one’s place in community [12]. A combination of all the aforementioned goals helps individuals diagnosed with SSD move towards a sense of belonging and re-humanization [11].

5.2.2 Negative Symptoms

A DMT approach integrates movement techniques, creative embodiment, non-verbal aspects of self-awareness, and interpersonal communication, and targets core specific features of negative symptomatology [12]. As such, it provides links to outcomes directly related to affective, cognitive, behavioral, and functional processes in the treatment of SSD [21]. In working with negative symptomatology of SSD, common treatment goals include: (1) Gradual building of a coherent body image; (2) Expanding the range of motion; (3) Enrichment of movements associated with interpersonal relations; (4) Physical activation; and (5) Normative perception strengthening [14].

1. Gradual building of a coherent body image recognizes bodily experiences often reported by patients diagnosed with SSD such as centralized body schema leading to disturbed spatial organization of physical actions (e.g. inaccuracy of the periphery), stereotypical movements, size-

change sensations, weight gain, or immobility [12]. The focus is on helping the participant gradually build a coherent body image, which aids the participant in improving self-image and therefore increasing the chance of improving quality of life and restructuring self-image [27, 28]. During sessions, dance/movement therapists may use techniques such as (1) Attuning to the patient's movement and body; (2) Mirroring patients' movements or body postures; and (3) Kinesthetic empathy to acknowledge patients' existing body image, guide the patients through the exploration of the body image, re-organize the body if needed, and develop a coherent body image through movement [27].

2. Expanding the range of motion directly responds to patients' reports of reduced mobility, loss or impairment in voluntary movement, anhedonia, lack of motivation, and social withdrawal. Exploration of the environment and expanding range of motion aims to stimulate and motivate patients, and can lead to initiation of movements that can stimulate productive and effective actions [27]. During sessions, dance/movement therapists may use specific techniques such as initiating movement, naming movement qualities regarding the body, dynamic qualities of movement, body shape, postures, or the use of space (physical environment and personal space), and promoting movement exploration of the above.

3. Enrichment of movements associated with interpersonal relations addresses emotional and social withdrawal, somatic depersonalization, and loss of body boundaries in patients diagnosed on the SSD [29]. During sessions, dance/movement therapists (1) Promote movement exploration of movements associated with interpersonal relations, communicative behaviors, and defining boundaries either through movement improvisations, structured movement play, or choreography; and (2) Support and acknowledge the movements related to interpersonal relations [27].

4. Activation recognizes psychomotor poverty, psychomotor slowing, and a decrease in a spontaneous movement experienced by patients diagnosed on the SSD [27, 30]. Fostering activation on a physical level based on increasing muscle tone and spontaneity may promote activity engagement. During sessions, dance/movement therapists bring awareness to the patients' physical expressions, the use of expressive gestures, and postural organization. Dance/movement therapists acknowledge slow movements and movements that require a considerable amount of effort, and propose or lead integrative and mobilizing movement sequences to stimulate increased muscle tone, physical activation, and motivation to stay active.

5. Normative perception strengthening addresses the importance of normative and adequate perception of the body, which is often distorted in patients diagnosed on the SSD, either as a cause of symptomatology or due to medication or neurological complications. Focusing on normative perception or adequate perception may strengthen a patient's recognition of the body, movement, and emotions [27]. During sessions, dance/movement therapists mirror, recreate, and actively co-create patients' movements to (1) Understand and resonate with the patients' movements; (2) Bring awareness to the patient's physical expression; and (3) Help patients reorient to the body and body's perception. By utilizing DMT techniques such as leading and following, synchronous movement or structured movement sequences, dance/movement therapists also promote the exploration of the environment to foster patients' body orientation and adequate perception [27].

5.3 Clinical Considerations

A strengths-based approach to treatment, dance/movement therapists adopt a collaborative approach with participants on a variety of levels including movement, relationship building, and emotional processing on a bodily level to increase healthy, functional movements [9, 31]. Through DMT sessions, participants can increase their understanding of personal and relational boundaries, which will ultimately lead to improvements in self-awareness, self-expression, and social interactions. The combination of verbal and non-verbal approaches in DMT is often useful when working with people diagnosed with SSD, which help participants access their primary process. Oftentimes, patients' experiences with positive symptomatology affect their ability to relate in a shared reality base with others who do not experience these positive symptoms. The second author conducted a mixed methods feasibility study to determine the feasibility and effects of a single-session DMT intervention for people diagnosed on the SSD in inpatient psychiatric facilities [11]. Within that research study, the second author conducted a qualitative analysis of the DMT session field notes to understand the specific mechanisms and components within the single-session DMT interventions that supported stabilization [32]. Each group session consists of a warm-up, thematic development, cool down, and verbal discussion. The DMT sessions were theoretically framed by a theory of holding and potential space for creativity [33] with DMT tenets rooted in the work of Chace and Schoop.

The DMT single-session protocol has a foundational structure to act as a guideline for DMT clinicians; however, it also has flexibility in delivery to meet the here-and-now needs of each individual group dynamic. Group warm-ups begin with the intention of grounding through establishing a physical connection with the ground, then moving upwards through each part of the body. The warm-up continues by utilizing synchronous movements amongst group members often motivated and supported by group rhythmic action. Group members are invited to move freely within their own movement repertoires as well as throughout the space in order to engage in self-directed movements, have brief interactions with peers, and explore the environment. The dance/movement therapist names and acknowledges movement choices while encouraging others to do so as well. Identified imagery, metaphors, and narrations of movements, interactions, and emotions are further developed into a group theme. In this thematic growth, group members fully embody their own movements as well as the movements of their peers and the group facilitator. Through this embodied processing, participants are invited to be part of a community in which group dynamics are explored, exchanged, and mastered. Finally, group closure occurs through movement modulation during which size, intensity, and speed of movements are decreased and eventually come to a place of stillness. Further acknowledgements of time spent together, dances shared, and energies exchanged are offered between group members. This continues into a verbal discussion during which self and other experiences are revisited verbally as the dance/movement therapist holds space, witnesses, and validates the group experience.

Within a DMT approach to treatment of negative symptoms, dance/movement therapists consider movement and body-based experiences as natural and effective sources of self-awareness and expression, which can illuminate the interrelationships between the many dimensions of human behavior [34]. Dance/movement therapists assess patient functioning through non-verbal indicators in everyday behavior, postural and gestural patterns, and qualitative elements in both functional and expressive actions, dance, movement, and paralanguage, all of which emerge during

therapeutic interactions. Within this approach, patients benefit from improved interpersonal and social connectivity, self-integration, emotional support, and physical activation. In addition, by helping patients with symptom management, we can help them improve psychosocial functioning and support them on the transition to health. The first author conducted a mixed methods intervention study to examine the feasibility and treatment effects of a 10-week group DMT intervention for people diagnosed on the SSD [12]. The author developed and tested a treatment manual [27] with the aim of providing a clear and competent framework for dance/movement therapists when working with individuals with residual or chronic schizophrenia under outpatient psychiatric care. The manual follows the therapeutic principles structure [27, 35] and is informed by DMT therapeutic models and clinical guidelines for people diagnosed on the SSD.

The DMT sessions follow participants' needs and run accordingly to the five phases: (1) Preparation phase (introduction); (2) Warm-up phase (movement warm-up); (3) Incubation phase (structured movement); (4) Illumination phase (creative movement); and (5) Evaluation phase (closing) [27]. Sessions start with a verbal check-in with the group members to gather information about current mental and physical state. Next, the dance/movement therapist introduces short integrative and mobilizing movement sequences to provide a physical preparation for movement. These movement sequences are a result of group members' bodily needs shared during the preparation phase. In the next phase, group members are invited to move freely, individually or with others, and to focus on their own bodies and movements as well as thoughts, feelings, and emotions. The dance/movement therapist encourages self-, other-, and environmental-awareness by heightening, diminishing, or intensifying movements; mirroring of gestures, postures, and/or full body movement; naming movements; and leading and/or following movements or moving synchronously with the group members. The dance/movement therapist focuses on movements and themes emerging from the members' movement and accompanying verbal expressions. These themes are later explored through creative improvisational movement. In the illumination phase, group members are encouraged to move freely, engage in movement interactions with peers, and express their emotional states. Through the creative process and expression, the therapist aids group members by encouraging full body expression, interaction with the environment, dynamics of movement, and by directing focus to increase self-awareness, awareness of others, and self-reflection. In the last phase, participants are invited to engage in a verbal and movement summary to integrate their experiences. The dance/movement therapist brings group members attention to self and group experiences, group and individual's level of energy, and emotions/feelings/thoughts after the session.

5.3.1 Dance/Movement Therapy Clinical Vignettes

Per the previous clinical considerations, the authors will provide two clinical vignettes below to exemplify their theoretical models in clinical practice. The first vignette demonstrates the journey a patient took beginning in an acute state of psychosis, moving into a place of grounding, and coming to emotional resolution through a sense of acceptance and belonging. The second vignette demonstrates an excerpt from a group session in a community mental health setting. In this session, sharing common experiences while maintaining a sense of individuality allowed patients to initiate and experience a sense of belonging and relatability with others.

Acute Hospitalization (Second Author). I sat in the group room excitedly welcoming patients into the first DMT group I was facilitating since attaining my Master's degree. I was hired to work with involuntarily committed patients at an acute care inpatient psychiatric unit. Just as we were ready to begin the group, I heard a patient screaming, which was progressively getting louder. I thought to myself, "Please, do not let her come to dance therapy." I was immediately frustrated with myself for having that thought, but mindful that this was my first day as a professional dance/movement therapist and I had reservations about my own skills. The screaming did, in fact, get progressively louder and more threatening until the group room door flew open and the patient presented herself. She had been assigned a one-to-one staff member for safety, as the patient had been aggressive on the unit. At this point, the patient, Ms. A, was threatening the life of her staff support. Her verbalizations were loud, disorganized, threatening, and only somewhat based in reality. Ms. A briefly turned her attention to me and stated, "I'm coming to your group and you cannot make me leave." She then continued threatening her staff support. I quickly interrupted and responded, "You can come to dance therapy, but you cannot scream and threaten like that. You are scaring people!" In that moment, Ms. A was scaring me; however, I knew that sharing that knowledge would not benefit anyone. I asked her staff support to wait outside the room, as she was clearly a trigger for Ms. A. Not sure what I was going to do, or how I was going to hold the space, I thought to myself, "Trust the process." I turned on Motown music, stood up, and gestured for the group members to join me in standing. Without thought, I immediately began marching in place to the rhythm of the music. Group members all joined in this marching movement with me. I gently shifted the movement to a two-step with a clap on the second step and everyone joined. I mirrored the intensity of Ms. A's yelling with a strong, prominent step and clap with intentions of meeting Ms. A's intensity, yet organizing its manifestation differently. From this movement, we again non-verbally transitioned into a wide stance with knees bent and arms reaching mid-way in front of us. I picked up on a patient's swaying movement and joined in a fluid sway from side-to-side, again, non-verbally inviting patients to join. As we swayed together, I could feel the tension in the room begin to dissipate and with that, I invited others to share spontaneous movements for the group to join. Ms. A first offered a movement in which she touched her shoulders and then strongly tossed her hands into the air. She repeated this movement with vigor as we all joined her. She later engaged in a movement in which she held her arms as if she was holding a baby and rocked her arms back and forth quite fast. As the group progressed, Ms. A was able to join others in their movements; however, she primarily engaged in her own movement repetitively moving between her shoulder touch and arm toss to her fast rocking motion. Her affect and demeanor shifted through our time together. Although Ms. A began the group with anger and defending against seemingly everyone, she settled into the movement with ease. At various moments of the group, Ms. A could be seen singing, laughing, and offering accolades to her peers as they engaged in movement together. However, it was clear that Ms. A was focused on her own movements with such thoughtful intention and dedication: she seemed hard at work in her process. I made sure to find times to invite Ms. A into the group process as well as allow her space to engage in her own movement. I offered gentle invitations to try on other patients' movements, bold acknowledgements of her own movement choices, and positive affirmations of her affect, participation, and glimpses of a mixture of joy and intense focus. At times, Ms. A seemed to receive my verbal accolades and at other times, she was too focused on her movements. After about 45-minutes of creative, spontaneous, and joined movements we began to shift into our cool-down. I

invited the patients to re-join me in the swaying movement from the beginning of our group. I encouraged everyone to notice sensations in their bodies, shifts of emotions and energies, and others with whom they danced. I watched Ms. A sway with a gentleness and decided to end our session in the sway of the movement rather than to invite discussion. Once we came to stillness, patients spontaneously left the group silently. However, Ms. A stayed behind until all her peers left the room. She turned to me, made clear and direct eye contact with me, and stated, "Thank you for letting me stay in your group. Most others kick me out and make me get injections [PRN medication for anger and aggression]. Dance therapy helped me get my anger out in a healthy way and I feel better. Sometimes I just feel like I have the weight of the world on my shoulders. My Mom did the best she could raising me, but I didn't always feel loved. It was hard." Although she had not engaged in movement as she was sharing with me at the end of group, I felt as though I had already heard Ms. A's story through her movement. The clear articulation of feeling the weight of the world on her shoulders was dutifully shared as she touched her shoulders and strongly tossed her hands in the air. Her mention of longing for her mother's love was represented in her rocking motion. At that point, Ms. A stepped into the role of her mother to rock her own inner child, meeting unmet needs. Ms. A left the group having such clarity in her internal conflicts. She was able to continue to regulate her mood and attended every DMT session offered until her successful discharge.

Outpatient Treatment (First Author). We started our group as usual by gathering in a circle, and checking in with each other. I welcomed seven patients, and asked how they were feeling on a body level, what their energy level was, and what feelings and thoughts they brought to the session. Some participants talked about the community meeting during which the disturbing behavior of one patient was discussed. This caused anxiety and stress in most of the patients. Some expressed experiencing mood swings, others expressed feeling withdrawn from others. Two patients specifically requested to include some dances/movements to help them mobilize as they felt tired. We began with the warm-up focusing on physical preparation for movement. In our warm-up, patients were asked to develop a movement that reflects their bodily needs and to pass the movement to the next person. Each patient chose a different body part and presented different dynamic qualities of movement. I proposed we continue moving freely and asked patients to create their own one-minute movement sequence of choreography, which best expressed how they felt to allow for self-exploration. I encouraged the use of expressivity and spontaneity in gestures, postures, and free, unrestricted movements. During the movement, I acknowledged the patients' movement repertoires, naming changes as they occurred. I moved with patients to actively support the group, joining, mirroring, and attuning their movements. I verbally reflected patients' movements throughout the session by naming movements, body parts, body actions, and interactions with others. I asked patients to perform their dances in front of the group to which patients reacted with great excitement. Patients created a designated place in the room for a stage and for the public. The group worked collaboratively, reorganizing and preparing the room. Once the space was set, we watched each other's performances. I encouraged patients to give each other feedback on their performances. A theme of being seen and heard in the community became very clear by performing and presenting their own movement sequences in front of the others. After each patient performed, the group collaboratively worked on finding a title for the performance, discussing what they saw, what it reminded them of, and how they felt while watching the performance. Patients cheered and supported each other verbally, and often asked the performer

if they could try their sequences themselves. There was a sense of joy and excitement. After everyone performed, the group gathered in the circle to reflect on the process. These verbal reflections were related to individual and group experiences and levels of energy, individual's movement qualities, movement patterns, and the use of the body with everyday life.

Some participants shared that their performances represented how they felt or how they would like others to see them. We shared our thoughts, feelings and emotions related to the group process and individual work. For example, Mrs. A, who titled her performance "The model walk," shared that it represents how she feels torn between feeling at ease and disturbed. Her movements felt unsynchronized and odd; however, she had a delicate quality while walking back and forth on the runway. She shared how she dislikes her body. The group offered support and a common understanding of the bodily changes as a result of medication. Patients supported Mrs. A by saying "you look great, you walk like a real model!" To this Mrs. A smiled, and once more walked on the runway to the sound of clapping hands and applause from the group.

Mr. W requested a specific song for his performance. The lyrics of the song were about the influence drugs have on one's life. Mr. W began moving slowly, then moved rapidly, without control of his body. He referred to his movement as "being high on drugs." He quickly became tired and was left with no energy. He reflected that his movement represented his illness, that he feels like he is "high on symptoms" and because of this he often feels tired, has no energy, and no motivation. The group acknowledged Mr. W's experience, and there was a sense of common understanding.

Mr. D performed a dance named by the group, and approved by him, "Kung-Fu Master." He shared that he practiced Kung-Fu as an adolescent and travelled across the country competing with great success. He reflected that he wished his movements were "as good as in the past." Despite his stiff and immobile body due to side effects of his medications, he was able to perform with adequately dynamic movement qualities. The group recognized his movement competence and his ability to reflect on the impact of his illness. Mr. D smiled and shared that he felt supported.

Mr. M chose to dance to the song "U Can't Touch This" by MC Hammer. The group offered a huge applause as we never saw Mr. M dance so freely and expressively. His body tension and movements transformed from bound and restricted to free and unrestricted. The use of his kinesphere changed from his usual close movements to movements on the periphery of his kinesphere. He was actively engaging and utilizing the space around him. His affect and ability to make eye contact also shifted, from a flat affect with almost no eye contact, to smiling and actively engaging in eye contact with others.

Two patients' movements seemed consistent with no dynamic shifts and less active than usual. When the group asked these patients about their movements, they said that it was better for them to "stay in their shell" as this is how everyone perceives them. The group encouraged the two patients to express themselves and acknowledged their feelings by sharing their own experiences of "not being believed." One patient said that if he shares how he feels no one would believe him as "they only see my illness. They do not see me, so why bother?" The group members shared these sentiments and offered support by saying "we believe you."

As our time together was ending, the group reflected on the differences and similarities between their everyday life inside and outside of the therapy setting. They again stressed their need to be seen. When I asked patients how they would like to end our session, one patient said, "I wish others would see me as I truly am." Another patient said, "I think we should end with shouting out loudly that we are more than our diagnosis." Patients decided to count to three and to shout out together

“we are more than our diagnosis!” After this we all laughed, smiled, and clapped for a few minutes. The session ended with a sense of relief and joy.

6. Summary

Schizophrenia spectrum disorders can manifest through many different representations: with positive and/or negative symptoms, with acute episodes or chronicity, and with a myriad of presentations amongst individuals. The diagnoses may interrupt healthy ego strength, the ability to relate with others, and the ability to function without supports. Dance/movement therapy works from a premise that the body and mind are interconnected: movement can express aspects of the personality and serve as a non-verbal means of communication. As such, DMT promotes body, mind, and spirit integration, thus increasing self- and body-awareness. Integration of dance, movement, and non-verbal components into the therapeutic process not only enhances physical activation, coordination, and mobility, but also increases attention, grounding, concentration, motivation, ego-development, and healthy interpersonal skills. The symbolic and expressive functions of movement allow for representation of unconscious material and processing of emotions and feelings that can be difficult to verbalize. As such, DMT can be a successful approach to working with this population in its many forms, as it addresses all levels of participants' functioning: psychological, cognitive, social, and functional. Although positive and negative symptoms often manifest quite differently on a movement level, DMT is uniquely capable of addressing their non-verbal nature, and has the ability to support the vast needs of those diagnosed with SSD. The noted limitations of psychopharmacological interventions for people with a diagnosis of SSD, and recent DMT research, suggest that inclusive, strengths-based, and body-informed therapy options could greatly benefit this population.

Ethics Statement

No human, animal, or plant subjects were involved, therefore this review article did not require any ethical approvals or informed consent.

Author Contributions

Both authors contributed equally to conceptualization, original draft preparation, writing, reviewing, and editing of the article. Both authors have read and agreed to the published version of the manuscript.

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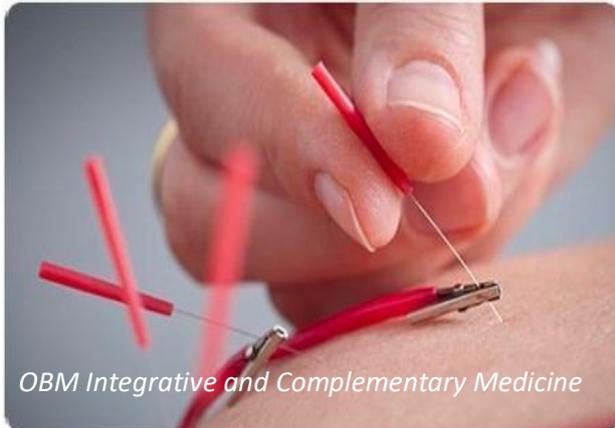
Competing Interests

The authors have declared that no competing interests exist.

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