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The Creative Process of Choreography and Performance: The Brain Injury Rehabilitation Within Dance/Movement Therapy

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THE CREATIVE PROCESS OF CHOREOGRAPHY AND PERFORMANCE: THE BRAIN INJURY REHABILITATION WITHIN DANCE/MOVEMENT THERAPY

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Abstract

The underlying creative process in the acts of choreography and performance has not yet been fully researched for use in clinical practices. It is rarely addressed for adults with brain injury in rehabilitation. This study investigated the perceived effects of the creative process within the performance as therapy (PAT) framework on the brain injury population. In a collaborative process engaging the participants as co-researchers and as co-performers in a final dance performance at a public venue, the role of PAT in brain injury rehabilitation was explored. By using artistic inquiry methodology through participatory action research (PAR) paradigm, the study addressed the following research questions: How can PAT impact the rehabilitation process of the brain injury population? What is the role of the creative process in the PAT intervention for the brain injury population? Due to the subjective and transient aspects of movement, and the inherent nature of embodied experience, the data analysis occurred simultaneously during the data collection phase using methods of movement observations, video recording, and personal journal entries. Findings suggested that the engagement in a creative process could address co-researchers' individual and group treatment goals, including enhancing their overall physical mobility, memory functioning, self-confidence, personal expressivity, and relational responsibility. The study also indicated that PAT interventions could be effective in facilitating rehabilitation for brain injury population through kinesthetic empathy and holding of a therapeutic environment. The final dance performance was shared in a public dance concert and through a video recording.

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Chapter One: Introduction

"We only believe in those thoughts which have been conceived not in the brain but in the whole body" (Yeats, 1961, as quoted in Mester, 1997, p. 32). Poet Yeats illustrated well how human thoughts are an integrated part of the whole body rather than just the product in the mind. What our body does is a manifestation and merger of our thoughts and feelings; how our body does also affects the configuration and pattern of our thoughts and feelings. Movement to me has never been just about its beautiful shape and form. Rather, movement is about the intrinsic purpose and the authentic moving process. In other words, movement is an inherent part of me because it bears significant importance in my learning and understanding of the world. I first encountered dance when I was nine, but I never enrolled in a formal dance school until I went to University of Iowa for my Master of Fine Arts in dance in 2008. I am originally from Taiwan, where my dance technique, enthusiastic vision, love for movement, and interplay with explorations between academia and performing arts are rooted. Although no one before me in the family took the path of an artist, I was fortunate to grow up in a supportive and nourishing family environment, which gave me the opportunity to be a dancer in a semi-professional children's folk dance company in my home country.

Originally, I was very much influenced by my background in folk and ethnic Chinese dance, and the general idea of dance education in Taiwan. I valued disciplined and structured

ways of thinking, viewing, making, and performing dance as a young dancer. I found myself enjoying the rehearsal process and the actual performance, as they both helped me with my character building, community forming, and establishment of a unique way of communicating with the larger world. During the years of international touring with the folk dance company, I fostered immense pride and a sense of belonging in the act of performance that I did not quite feel anywhere else. However, I grew tired of doing the company's rigorously restricted approach to moving, learning, and being. I began to wonder about the purpose of dance for myself.

In looking for other ways of constructing movement while expanding new ways of engaging in moving, I became very curious about my relationship with movement and the moving process. I decided to quit the company as I was being promoted to take on more administrative and assisting roles. In an act of rebellion, I began to try out diverse dance forms and styles by taking movement classes, workshops, and teacher trainings. It was in that rebellious act against the rigid training, and the seeking to make sense of the world through movement that I dove into exploration of my inner self within the creative and moving processes. That process drove me to continue looking deeper into how movement connects with and for people, and how it relates to real life. In that process I began to look for something that seems elusive, yet is still much more meaningful than merely the joy of the audience's applause and cheer.

With further immersion into the modern/contemporary and improvisational dance world in college, I became fascinated by the freer use of time and space in movement. I discovered different ways to play with time and space respectively to set movement scores. A movement score is like a verbal phrase; it has different qualities and elements and has a beginning and an ending of its own. The explorations of time included the change of tempo, rhythm, beat, and pace; the explorations of space involved the occupying, the surrendering, the confronting, and claiming of space. Therefore, I connected to the spontaneity as well as heightened awareness, which are significant elements in these two dance styles. There were periods when I struggled to let go of the ingrained technique patterns and find more risk-taking and spontaneity in every moving scene that evolved. I found myself becoming more receptive, accepting, and patient in my approach to dancing and making works with other dancers. Even my subjective experience and ways of relating to my surroundings changed. The process of creating and moving presented me with different options and perspectives in understanding my human experience. I also got a better glimpse of the experiences of other humans.

I started to value the fundamental aspects of movement, such as the association with neural development, role in individual learning styles and patterns, and importance in relationship building experiences. As an authentic and vulnerable being in the transient and ever-shifting moving process, I became my own witness. Additionally, I developed a special

somatic and kinesthetic connection with the people I danced alongside. I greatly value this to this day. More importantly, I realized that by working with a group of like-minded people in a moving process, I was also building a community relationship. I therefore gained friendships and my sense of belonging was reinforced. At that point of collaborative moving, the significance of having an outside eye not only helped reflect my personal growth but also strengthened my capacity to be open to the world.

As I grew into the role of artist, my grandma was diagnosed with Alzheimer's. It was certainly shocking news to my family. I was worried when I was about to see her for the first time after her diagnosis because I did not know what to expect and wondered what changes might befall upon her and the family. Neurodegenerative and all brain-related diseases intrigued but dismayed me for their seemingly mysterious functions and impacts on the person who bears the disease. The thought of my grandma and the care for her became the motivation for me to move on to the next stage of my life. I was determined to find a way to be of service to her if possible in this life. I also desired to find something that would help equip me with enough relevant knowledge and skills in order to serve people who have similar diagnosis as my grandma.

After searching for the purpose of moving and how movement can be used to serve others, I enrolled in the Dance/Movement Therapy and Counseling program at Columbia College

Chicago in 2012. Dance/movement therapy (DMT) is known as the "psychotherapeutic use of movement to further the emotional, cognitive, physical and social integration of the individual," under the premise that there is an interconnection of body, mind and spirit (American Dance Therapy Association [ADTA], 2011). The DMT interventions emphasize proprioceptive and emotional understanding and functioning (Berrol & Katz, 1985). Other than sensations and awareness generated through movement, there are also others that arise in stillness and from other body systems, emotions, and the mind's complex interpersonal "flow of energy and information" (Siegel, 2006, p. 248). With this general definition and concept in mind, I became especially interested in investigating the emotional and social potential through DMT framework. I want to use DMT to examine how movement and the moving process can bridge disconnections, and allow the congruence and coherence to manifest in both intrapersonal and interpersonal relationships

During an elective Performance as Therapy course at Columbia College Chicago, I learned how dance/movement therapists use performance to work with people to promote health and healing. Although I was a performer for most of my life, I was still largely fascinated by the notion of how performance was explicitly seen and used as an effective therapeutic instrument. The specific performance as therapy (PAT) framework applied was developed by the course instructors, Goldman and Larsen (2011). They created the framework based on two models that

are true to their own personal process while also being symbiotic of one another: the Wallas Model and the Simplex Model. Originally, Goldman and Larsen (2011) investigated these two models in conjunction with their own creative processes in formulating the curriculum for the course, while bearing the insight in seeing the possibility that this framework may also be further applied to clinical use.

In this course, we were assigned several movement practices and process exercises and eventually, a performance working with people among whom we might just have met when the course started two days ago. Those exercises in essence all bore a common theme - a personal quest and intimate reflection of who we are and how we are in relation to others within a larger constructed society and culture. The class was a memorable experience because it was the first time ever I experienced so much frustration and anger, specifically in my engagement in the creative process as a collaborator and performer. I still remember the visceral reactions I had in the process of collective creating. It was awkward to face two people in the team who did not necessarily have a movement background and dance making experience, and it made effective communication difficult. The challenges imposed by the dual roles or multiple roles (including every team members' individual identities) also made me realize how important roles are in the creative process. In addition, I started to question how the creative process can affect people's psychological and emotional processing. At the inquiry of the creative process, I finally

understood how I found healing from performing as a child. My intrinsic path of learning through movement began to make sense to me in my strong intention to serve people this way.

As part of the experiences in the PAT course, a guest group of adults with brain injury performed a dance piece. The very first reaction that I could muster was fascination and joy from watching them file into the room, maneuver their way to the right spot, and gaze at the facilitator to cue them with music and preparation countdown. Watching them reminded me of my grandmother who had been enduring as much and with the adversity that followed. My attachment to my grandmother and her illness made me feel attached to those guests immediately. The experience was both a unique and a valuable one, in terms of my opportunity to have an up and close interaction and reflection with people who withstand brain injury. Except for the apparent physical and occasional language impairment, I would not have realized that they were much different than me just by watching them perform. I was moved and wanted to know more about brain injury and the population. The thought that perhaps body movement could be used as an intervention for social and community reintegration intrigued me. Social and community reintegration are usually used to describe the goal of bringing people with brain injury back to a restored function within the larger society, to reach the full participation possible in socially acceptable interpersonal relationships and appropriate social responsibility with regained functional abilities (Berrol & Katz, 1985; BIAA, 2012; Brain Injury Network [BIN],

2010; Engberg & Teasdale, 2004). To me, the experience of each one of the brain injury people is precious and I would like to be a story-teller to pass on the story of their process of change and growth.

The Problem

I chose for my field placement to work with adults with brain injury (including both traumatic brain injury [TBI] and acquired brain injury [ABI]) at a day rehabilitation program. I began to more intently explore the causes and issues of brain injuries, different treatment modalities with this population, and the process and potential contributions to changes in their recovery processes. During my time at the agency, I was privileged to assist in the annual dance rehearsal and community performance organized by the program manager. According to the manager, the process was indeed a first-hand demonstration of the PAT framework by Goldman and Larsen (2011). I was intrigued and very excited. I helped with playing music, stepping in to take the place of people who were absent for the day, offering feedback after rehearsal, and partaking in the costume making. As both a participant and an observer in such a collective creative process, I witnessed excitement, self-confidence, hope, and community. I was also, however, saddened by different levels of memory, self-awareness, initiation, and relationship building within each individual as well as between them.

Not just the challenges occurred in the rehabilitation setting and therapy sessions, more realistically, the clients have to make accommodations in the face of the unexpected disruption to their familiar lives and onward to their day-to-day living. Three things I noticed that especially sparked my interest. First, memory impairment is one of the biggest issues within the brain injury population. People with brain injury usually struggle with forming and retaining new information; they also have difficulty retrieving past memories (Chen, 2014; Mcallister, Flashman, Sparling, & Saykin, 2004). Second, the brain injury population seems to have great difficulty in intra- and interpersonal relationship experiences, thus the integration of information and awareness of the self within society is challenged (Bay, Kreulen, Shavers, & Currier, 2006). Lastly, I wondered if people with brain injury could still benefit from interventions that are not as structured as I observed. In a world that is largely unpredictable, flow and flexibility can be crucial. I began to wonder how the brain injury population can benefit from being involved in group DMT where more creative and free flow interventions occur. In those searches and wonderings, I realized that the way I related to my clients were similar to how I related to my grandmother, especially in encountering her irreversible memory loss. My empathy toward my clients deepened through that realization.

During my internship, I learned that adults recovering from brain injury benefit most from structured interventions and space interactions (Berrol, 2009; Berrol & Katz, 1985; Chen,

2014; Fluty, 2010; Prospero, 2007), which made sense to me. I observed how my clients were given repetitive and structured therapy sessions, exercises, and tasks to accomplish day after day in order to facilitate their rehabilitation. It made me wonder: is it possible that people sustained brain injury may also respond to a relatively creative and spontaneous therapeutic approach and benefit from it? I asked myself, how a creative process of making, organizing, and performing dance, in this context, help them with their rehabilitation? What aspects within the creative process would be of impact on brain injury people's re/integration? How would such a process be facilitated through a DMT framework?

In reviewing the literature, I found that when creative arts therapy interventions were used in brain injury rehabilitation, participants showed improvements in physical capacity, mood, self-expression, memory functioning, and inter/intrapersonal relationships (Berrol, 1990; Berrol, 1992; Berrol, 2006; Berrol & Katz, 1985; Fluty, 2010; Prospero, 2007; Talbot, Elias, & Weider, 2012). The idea that the body and mind are so closely linked has increasingly been addressed in recent studies (Berrol, 2006; Berrol, 2012; Doidge, 2015; Merleau-Ponty, 2002; Siegel, 1999), it is suggested that the brain is actually a dynamic, adaptive organ with incredible potential to change, a phenomenon called neuroplasticity (Ashley, 2012; Bach-y-Rita, 2003; Doidge, 2015; Siegel, 1999; Taub, 2004; see Appendix A).This to me, resembles a creative process that dynamic adjustment and problem-solving skills are called for.

Therapeutic Approaches

Through further research and my work experience with the brain injury population, I recognized the invisibility and the complexity of disability that the population endures (CDC, 2013). I became inquisitive and empathic for the invisible, or any minority who lacks an outlet to express their needs and wants in society. I wanted to explore ways of making connections with them while allowing them to recover and reconnect with themselves. The following are theoretical frameworks used as my study foundation to inform my research process and work with the participants.

Dance/movement therapy frameworks. With Chacian DMT having a history of being utilized in my study rehabilitation program, most of the clients recognized and were familiar with the style. In addition, Chacian DMT was my foundation in engaging with the brain injury population on both individual and group levels that facilitated the creativity and authenticity. A circle is usually utilized to promote social interactions among participants, and the structured steps helped with organization of physical movement and their emotional and cognitive functioning (Levy, 2005). The circle forming is an organic process through Chace's personal engagement with and acknowledgement of everyone in the group being a unique individual. A Chacian group usually consists of three phases: warm-up, theme development, and closure (Levy, 2005). Her four core concepts included body action, symbolism, therapeutic movement

relationship, and rhythmic group activity (Chaiklin & Schmais, 1993; Levy, 2005). The warm-up is utilized for three purposes: initial contacts, group development, and rhythmic expression and physical warm-up. The initial contact is an intuitive and mostly spontaneous process. At this time, therapist will make interventions based on specific needs a patient projected at a given moment through empathic mirroring, clarifying, expanding, and broadening the expressive movement potential, and dialogue movements (Levy, 2005). Being sensitive to the patients' needs, group formation may develop freely at first and then slowly form into a circle. Therapist then may introduce some body actions and rhythmic movement, such as a stomp, into the group to engage body parts. During the theme development, the therapist acts as a medium and introduces several theme-oriented actions such as movement, visualization, and imagery to bring cohesion (Chaiklin & Schmais, 1993; Levy, 2005). Repetitive communal movements are used to acknowledge all group members and put a closure on the individual relationships. For example, therapist may invite patients to hold hands, or do a swing ending with hands high together in the center of the circle. Frequently, verbal processing is included in closure as well (Levy, 2005).

Another DMT framework utilized in this study is a methodology developed by Blanche Evan and her concept of "creative dance as therapy" (Levy, 2005, p. 29). Similar to Chace, Evan's also applied physical warm-up as one mode of intervention. Other interventions included: "Evan's system of functional technique," improvisation/enactment, and verbalization (Levy,

2005). These interventions varied in order and were not all consistently present in sessions. The purpose of the physical warm-up is for clients to reach a meditative state with reduced tension that body receptivity can be increased. It also helps clients to elevate from their depressed states, by bringing them in contact with their psychological realities (Levy, 2005). The system of functional technique was described by Evan (Levy, 2005) as "corrective exercise designed to retrain muscles in relation to nature's design in a rhythmic expansion and contraction" (p. 34). According to Evan, spontaneity and resilience are enhanced through self-discovery of rhythm and tempo by the clients. She especially stressed the importance of verticality and believed that the spine carries an emotional responsibility and a physical task of supporting and balancing the whole body (Levy, 2005).

According to Levy (2005), Evan placed equal emphasis on both the physiological and psychological, and this was evident in her improvisational intervention (Levy, 2005). Projective technique was used in the improvisation for self-expression and diagnostic purposes. There were three approaches Evan guided improvisation: developing creative themes, eliciting clients' fantasies, and verbal facilitation of projection through body movement. By attuning to the clients' repressed needs, the therapist decides whether the themes should be specific or general. Sometimes, therapist helps clients to enact their fantasies in dance. Other times, quick toss of words, phrases, and sentences may be used to encourage clients to move with their most

spontaneous responses to the images that arose from the words; the images utilized are spontaneously emerged from the therapeutic process. This may free clients from over-intellectualization and inhibition. Evan also developed ways to stimulate dynamic movement during movement exploration, by stimulating elements of dance (i.e., time, space, content, intensity, rhythmic flow) for mobilization and use of props. Throughout the whole process, therapist by exaggerating and externalizing the physical representation of the clients' emotional state encourages clients to fully engage in their own emotional experiences.

Counseling frameworks. The two counseling theoretical frameworks in conjunction with the DMT frameworks used in this study are client-centered therapy by Rogers (1961) and interdependence paradigm by Condeluci (1991). In developing client-centered therapy, or also known as person-centered therapy, Carl Rogers (1961) stressed the idea that every individual has the capacity and desire for personal growth and change. This growth and change should be fostered in an effective therapeutic relationship between the therapist and the clients (Rogers, 1961). Rogers believed that people are ultimately self-actualizing, a term now commonplace in counseling and therapy and the general western society (Ivey, D'Andrea, & Ivey, 2012). By tapping the dimensions of human potential and getting in touch with one's authentic self, an individual will be forward-moving toward positive actions and personal fulfillment (Ivey et al., 2012). Rogers referred to the actualizing tendency in physical terms by describing the

relationship between acknowledging human's actualization potential and changes in people's biological processes. These biological changes include marked growth by differentiation of biological organs and other physiological functions (including neuronal functions) that are a result of the acknowledgement (Ivey et al., 2012).

Rogers (1961) emphasized the effective therapeutic relationships, where congruence, unconditional positive regard, and empathic understanding pertain to both the therapist himself and the clients. It is therapist's responsibility to be attentive and maintain the space and relationship that are conducive for healthy and positive growth of the clients. Congruence is shown by therapist being open and genuine toward his own and clients' feelings and needs. It requires therapist's self-reflexive capacity. Therapist's unconditional positive regard toward is an acceptance of and regard for client to be a separate individual, and what underlies this acceptance is therapist's respect and value for the clients that he shows willingness for them to be themselves. According to Rogers, the empathic understanding is a continuous desire and curiosity to understand clients' feelings and thoughts and eventually leads to a clients' freedom to explore on both conscious and unconscious levels.

Interdependence exists where the accomplishment of each individual's goals are interrelated and interlinked by the actions of others (Condeluci, 1991), suggesting a blending of actions that are rooted in the value of self-esteem and empowerment, and actualized in the

community. Therefore, the interdependence paradigm is about interrelationships between entities that lead to a mutual acceptance and respect while acknowledging that everyone is different (Condeluci, 1991). Community integration is often said to be the ultimate aim of rehabilitation, and also one of the primary goals of the clients of this rehabilitation program (BIAA, 2012). Thus, the paradigm was introduced to this program by Brain Injury Association of America for this purpose and also allowed participants to receive services. The interdependence paradigm also emphasized the concepts of inclusion and self-determination (Condeluci, 1991). Individuals in an inclusive community are respected, regardless of their disabilities, and so they are welcomed as they are. According to Condeluci (1991), the concept of self-determination revolves around four principles: clients' freedom, authority, support, and responsibility. Individuals with disability have right to decide their preferred way to live with preferred support (freedom), they have control over the resources for access this support (authority), they can use resources to live in the community (support), and they are ultimately accountable for engaging in the community in life-enhancing and caring ways for self and others (responsibility).

In this study, I integrated these theoretical approaches to inform my research process and the facilitation process. Under the larger PAT framework by Goldman and Larsen (2011), Chacian DMT underlay my personal engagement and acknowledgement of each individual in the study that highlights the intuition and authenticity of creative process. In conjunction with the

personal connection by Chace (Levy, 2005), I utilized Evan (Levy, 2005)'s idea of movement techniques of physical warm-up, rhythm, improvisation, and prop-use to bring self-discovery to the co-researchers that allowed their spontaneity and resilience to be enhanced. These DMT approaches were for me to externalize the co-researchers' physical representation of their emotional state, in other words, full engagement in their own emotional experiences were encouraged. The study was conducted through building a therapeutic relationship that consists of congruence, unconditional positive regard, and empathic understanding with the groundwork by Rogers (1961) and Condeluci (1991). Along with my acknowledgement of individual differences established through acceptance and respect, I aimed to address the community reintegration goal for the group as a whole.

Conclusion

Overall, this study, done in collaboration with a group of adults with brain injury, investigated the perceived effects of the whole creative process within the PAT framework on their treatment goals. This study addressed issues within the population and different therapy modalities implemented to provide a theoretical background for the researcher, while my goal was to further highlight the needs and potential recovery of this population to the public. Investigation of how the creative process can be used to promote my participants-co-researchers'

rehabilitation as well as how the performance as therapy (PAT) approach in dance/movement therapy (DMT) can be used shall be presented in both descriptive and practical manner.

Chapter Two: Literature Review

French poet Paul Valéry once said, “At the end of the mind, the body. But at the end of the body, the mind.” (as quoted in Morris, 1991). The interlinked mind-body connection has been largely researched in the past decade and impacted study advancement in various fields. This review draws upon literature associated with the adult brain injury population, dance, choreography/performance studies, performance as a component in the creative arts therapies field in general and within DMT process, as well as DMT in brain injury rehabilitation.

In this review, issues and needs of individuals with both TBI and ABI during emerging adulthood and adult life will be examined. After reviewing the definitions of creative arts therapies and DMT respectively, I inquired into the use of creative arts therapy approaches in brain injury and how the rehabilitative practice of creative arts therapy has been effective on such population. The existing literature will provide the definitions of what classifies an act as choreography and as performance and the definition of the creative process. I will further examine the literature which describes the therapeutic use of drama and dance performances. A review of the therapeutic value of the creative process and performance itself in DMT framework will ensue. This review will then focus on how DMT and PAT may help address rehabilitative needs and concerns associated with brain injury population. Along with the benefits of engaging performance as an inherent part of such therapeutic process, I will also discuss the limitations of

performance from both private and public aspects. Finally, I will discuss the future considerations of utilizing PAT approach in DMT with the brain injury population in hopes of expanding the therapeutic practice for a better rehabilitative outcome.

Brain Injuries

There are two types of brain injury: TBI and ABI. Following brain injuries, an individual may lose functions in several areas, including "emotional awareness and sensitivity to their own and others' emotions" (Queensland Health, 2011, p. 1), which may reduce their capacity for modulating their emotions. Therefore, both overreaction and lack of responses to people or events are common. Other major issues with brain injury also include psychological obstacles, physical and cognitive impairment, and social difficulties. People who incur a brain injury face a lifetime of challenges and a long road to recovery.

Brain injuries can happen at almost any developmental stage. For example, closed-head injury, a type of TBI in which the skull and dura mater remain intact, is the leading cause of death in children under 4 years old and the most common cause of physical disability and cognitive impairment in young people. Contrasted with the belief that children's brains are more resistant to injury than that of the adults, mounting evidence has shown that adult brains might actually be less susceptible to permanent injury when equivalent forces were applied (Braininjury.com, 2006). This may shed some light on more current studies with adults with

brain injury that the neuroplasticity can be an important mechanism in their rehabilitation, and therefore inform the choice and practice of different treatment modalities for neurerehabilitation (Ashley, 2012; Bach-y-Rita, 2003; Braininjury.com; Doidge, 2015; Siegel, 1999; Taub, 2004).

According to Centers for Disease Control and Prevention (CDC), "A TBI is caused by a bump, blow or jolt to the head or a penetrating head injury that disrupts the normal function of the brain" (CDC, 2013, para. 1). The consequences of TBI are debilitating and persistent especially when they remain untreated (Tsaousides & Gordon, 2009). Because of the relatively invisible issues in cognitive functioning and emotional disturbances resulting from TBI and the limited general public awareness of this type of injury, TBI is frequently referred to as a silent epidemic (Lash, 2006). Although there is a high occurrence rate of TBI in the United States every year (Braininjury.com, 2006; CDC, 2013, para. 1), Lash (2006) claimed that TBI remains largely unrecognized even though it presents a major public health problem. Based on the severity of the injury, people with TBI can display different levels of impairment and deficits. It is widely recognized that the impairment of cognitive functioning, disturbances of emotional behavior, and changes in personality traits are the most important factors to insufficient social integration after severe brain injury (Hynes, Stone, & Kelso, 2011).

Lezak and O'Brien (1998) examined the emotional, social, and physical changes after TBI with 42 male patients during the first five years posttrauma. Interestingly, Lezak and

O'Brien documented that although the participants had improved in those functioning aspects in the six to 12 months period, their degree of emotional distress rose after 12 to 24 months as they had increased awareness of their altered status, which led to further social disconnection and withdrawal. Lezak and O'Brien also noted that such diminished social contact from personality or behavior changes need to be brought to the family's attention. Patients' families need education and patience in understanding the effect of brain injury so not to increase patients' stress in their rehabilitation or threaten their emotional stability and social reintegration process.

ABI is another type of brain injury with consequences and issues that are often easily overlooked by the general public. Defined by BIAA (2012), ABI is "an injury to the brain, which is not hereditary, congenital, degenerative, or induced by birth trauma." Basically, ABI occurred after birth with a sudden onset, including stroke, anoxia, ruptured aneurysm, tumor, and others (BIAA, 2012; Headway, n. d.). Although sufficiently researched, general public remain less aware of the effects and difficulties of ABI on the affected people, including their family members, partners, or professional caretakers. Even with loved ones or caretakers, however, psychological difficulties such as stress and frustration are common and can be persistent.

The type, severity, and location of the injury all played a part in determining the expressed symptoms and coping abilities for each brain injury individual. Every individual's pre-injury personality and cognitive and physical abilities also affect their post-injury

functioning (Bay, Blow, & Yan, 2012; Headway Brain Injury Services & Support [HBISS], n. d.). Although TBI and ABI have different causes, they in actuality are similar in terms of their treatment modalities. The most common treatment modalities are physical therapy, speech therapy, vocational therapy, and cognitive-behavioral therapy.

Emotional and social integration. Problems with emotion regulation, responsiveness and social functioning can also result from moderate to severe TBI (de Sousa, McDonald, Rushby, Dimoska, & James, 2011; Milders, Fuchs, & Crawford, 2003; Saunders, McDonald, & Richardson, 2006). Siegel noted that it is not only in the development of intrapersonal relationship that we form a sense of self, but also through the relatedness and interaction with our surroundings and others in society that we recognize and establish our identities within a broader spectrum, one which inextricably affects our perspective and capacity in learning . For individuals with brain injuries, group process benefits their rehabilitation in their cognitive, emotional, psychological and social functioning through maintaining social connections; however, they face a difficult paradox (Hynes et al., 2011). TBI clients' social involvement may be inhibited due to emotional regulation and responsiveness impairment (Hynes et al., 2011). For example, they may experience difficulty both in reading others' emotional expressions and inhibiting inappropriate remarks, which lead to misunderstanding and rejection by others (Berlin,

Rolls, & Kischka, 2004; Kim, 2002; Knox & Douglas, 2009; Temkin, Corrigan, Dikmen, & Machamer, 2009).

Some people with ABI exhibit emotional lability, which refers to "the rapid and drastic changes in emotional state inappropriately without apparent reason" (Queensland Health, 2011, p. 1). Emotions like uncontrollable laughing or crying, or heightened irritability or rudeness can be displayed in situations where they would previously have been able to be in control. Further, transient emotional problems could be developed that may give rise to behavioral problems, such as aggression, lack of initiation, and sexually inappropriate behaviors (Hynes et al., 2011). These symptoms further aggravate their social conditions and cause resistance to increase in the rehabilitation process.

Hynes et al. (2011) found that changes in personality and emotional expression largely affect emotion recognition, which is the ability to accurately interpret others' verbal messages and behaviors. Hynes et al. asserted the importance of lack in ability of emotion recognition for such ability is a prerequisite for empathy with others. Such ability to resonate with others' feelings is essential in making appropriate and effective verbal and behavioral transactions at the appropriate time. Brain injury clients often struggle with this issue and have a high possibility in long-lasting social deficits post-injury (Hynes et al., 2011). Additionally, people with brain injury, TBI especially, seemed to have deficits in theory of mind which further underlie their

social difficulties (Stone & Hynes, 2011). With a broader social construct, theory of mind has been defined as "the ability to infer other's mental states," including intentions, thoughts, beliefs, desires, emotions, focus of attention, or attitudes. Belief understanding and meta-representation in theory of mind category do not seem to be impaired with TBI clients, but difficulty in forming understanding of others' intentions and feelings were noted (Hynes et al., 2011).

Memory. In addition to cognitive, emotional functioning, and social deficits, TBI clients often experience memory issues. Vanderploeg, Crowell, and Curtiss (2001) presented an interesting and detailed account of different aspects in the deficient memory functioning with TBI patients, comparing them to healthy controls in quasi-experimental design. Three groups of participants, one with a brain injury and two control samples matched on different features were used. The findings showed that the impaired consolidation of memory in TBI was the primary deficit underlying memory impairment, rather than encoding or retrieval deficits (Vanderploeg et al., 2001). Vanderploeg et al. (2001) also indicated that it is the integration of information and organization of stream of time within the brain that determines the level of memory functioning for brain injury patients. Similar to the process of relationship building in social settings, brain injury clients struggle with utilizing the relational components in different stages of memory functioning.

With a vast amount of research dedicated to the salient and persistent memory deficits in TBI clients, few evaluated meta-memory, which refers to the process involved in the conscious monitoring of and control of, as well as knowledge about, one's own memory functioning. Schmitter-Edgecombe & Woo (2004) conducted a study on this phenomenon in hopes of examining the accuracy in memory self-awareness and memory self-monitoring abilities in people with close-head injury. A performance-prediction paradigm was used with a total 62 participants, 31 with closed-head injury and 31 controls, with the majority of participants with close-head injury being a result of motor vehicle accidents. For memory self-awareness, participants were asked to predict the amount of information they would remember for each task before completing story recall, visual reproduction, and list learning memory tasks. And for memory self-monitoring, participants' ability to increase the accuracy of their predictions following experience with each memory task was evaluated. Schmitter-Edgecombe and Woo (2004) found that people with closed-head injury exhibited better meta-memory functioning than the actual memory performance that requires them to recall or store memories. Based on task experience, participants with closed-head injury were able to successfully self-monitor their memory abilities and update memory knowledge. Schmitter-Edgecombe and Woo's (2004) findings implied that rehabilitation for people with closed-head injury might be made more effective if clients' meta-memory skills were developed through help with more consistently

using compensatory strategies that aide memory performance, such as memory notebook, calendar, smart phone alert, journal, and other such methods.

Socioeconomic and cultural factors. An important consideration on socioeconomic and cultural differences in the study of establishing tools for assessing the social and emotional competence of TBI was presented by Hynes et al. (2011). Different cultures can have varied interpretations of the appropriate behaviors and norms based on social roles and social status; different emphases on harmony during social interactions may also result in different responses (Hynes et al., 2011; Singer, 2006). To understand the brain injury population, it is not only necessary to consider the invisible effects possible on the physical, cognitive, social, and emotional impairment post-injury, but also necessary to take into account the socioeconomic and cultural influences to have a more comprehensive and unbiased perspective. This understanding would shed light on future studies on the rehabilitation of brain injury population (Bay, Kreulen, Shavers, & Currier, 2006; Berrol, 2006; Berrol, 2012).

Human brains' natural inclination post-injury is to adjust and normalize to compensate for the lost functioning of the injured areas. It is as if the brains have a built-in pathway to recovery, or so more commonly termed, neuroplasticity (Ashley, 2012; Bach-y-Rita, 2003; Doidge, 2015; Taub, 2004). Based on this concept, a more holistic and interdisciplinary approach to the rehabilitation has been proposed and advocated (Ashley, 2012; HBISS, n. d.) to promote

the maximal care and recovery. To note, the brain injury rehabilitation process is not a linear process; clients will have to visit and revisit different points on the continuum as they progress in their recovery and as new challenges arise (HBISS, n. d.).

Creative Arts Therapy with Brain Injuries

Within the scope of scientific research on a variety of creative arts therapies with the brain injury population, the body of literature that focuses mainly on dance/movement therapy interventions is still relatively small to this date. Creative arts therapy, also called expressive arts therapy in institutions in the United Kingdom and in some places in the United States, includes a variety of artistic approaches such as dance and movement, music, art, and drama. The International School of Interdisciplinary Studies (ISIS, 2004) described the expressive arts as using the arts and artistic media to uncover the hidden potential in utilizing resources and the capacity in creatively responding to difficult situations within each individual. Instead of dwelling on deficiencies and problems, patients work collaboratively with creative arts therapists by engaging in play and arts to experience bodily and emotional relationships with themselves (International School of Interdisciplinary Studies [ISIS], 2004). Through the artistic group practice, the arts can facilitate opportunities for active self-reflection, increasing bodily awareness, and interpersonal skills and communication in a formation of social support network, where social learning can occur and be nurtured (ISIS, 2004). Knill, Levine, and Levine (2005)

made a distinguish between expressive therapy and expressive arts therapy by clarifying that the psychological element of the work of art consists not in the expression of the self, but in the effect that the expressive art work has upon the psyche.

One of the primary and primitive ways humans use to express and communicate is through movement. Sheets-Johnston (2010) described from personal experiences how movement can be therapeutic and explained the connection between movement and emotions. He first addressed the importance and preeminence of movement by mentioning Darwin's passages on observation of animal life. Humans, just like all other species, are also animated and with an innate ability to move since infancy. For example, babies cry with trembling body to express hunger and discomfort, people burst out laughing when feeling joy and excitement, and hands are clapped to catch attention or convey some heightened emotions. Movement is intimately connected with our emotional contents and expressiveness. As the intensity and propensity of human emotions fluctuate, our movement also varies in its effort and shape and trajectory through time. Sheets-Johnston (2010) called this "kinesthetic dynamics" (p. 3). A certain extent of awareness derived from the moment individual's attention paid to the self-movement and the feelings and results after moving. Such awareness can awaken a feeling of liveliness, which in foundation assures that movement is self-proclaiming (Sheets-Johnston, 2010).

Sheets-Johnston (2010) further discussed the uniqueness of human movement and the synergies of meaningful movement. By bringing in phenomenological philosopher Husserl (1980) and Husserl's associate Landgrebe's (1977) articulation of *I move* precedes the conception of *I can* (Sheets-Johnston, 2010), the awareness of *I cans* arises from tactile-kinesthetic activities like chewing, grasping, reaching. Movement is thus a manifestation and symbol of our capacity and body becomes an agency for empowerment and change. Movement gives validation and expression of *I* in the sense that we are capable of doing things, accomplishing tasks, making things happen, as much as there is the possibility that we are capable of changing how we do things, accomplish tasks, and make things happen (Sheets-Johnston, 2010).

Inherently, creative arts therapies are mental health professionals who engage in arts modalities and creative process "for the purpose of ameliorating human disability and illness, and optimizing health and wellness" (National Coalition of Creative Arts Therapies Associations [NCCATA], para. 1). Various types of creative arts therapies have been used in rehabilitation treatment with brain injury: Music therapy, drama therapy and psychodrama, and dance/movement therapy (DMT). Each treatment modality will be introduced in the following paragraphs.

Music therapy. Phillips-Silver's (2009) noted that music and dance/movement are recognized as inseparable beginning from the early days of human lives. The co-occurring relationship between music and movement is manifested in the mother-child rearing motion of rocking, in dances of courtship of lovers as they press their bodies together to feel the beat and rhythm of the other body (Phillips-Silver, 2009). Aboriginal or tribal dances make music/sound with their own bodies as one kind of instrument; they either sing or clap in praises of worship (Butterton, 2008; Phillips-Silver, 2009). The interplay of music and movement has been regarded very early on as being able to bond personal and collective memories of the world (Miller, 2000; Nettl, 2000; Phillips-Silver, 2009). The role of the body came into play when we verbally described the music experience with feeling the beat and sensing the vibration. In various other methods like Alexander Technique, Feldenkrais Method, and Kodaly concept, to name a few, the notion of body as an instrument of rhythm could also be found (Phillips-Silver, 2009). Therefore, it is not surprising to see studies on the use of music or more specifically musical activity and music therapy with the brain injury population or other degenerative disease often involves dance or/and movement (Brown, Martinez, & Parsons, 2006; Cross, 2001; Epstein, 1995; Gilbertson & Aldridge, 2008; Janata, & Grafton, 2003; Jones, 1976; Patel, 2008; Ridder, 2005; Tucek, 2005; Wilson, Pressing, & Wales, 2002).

Phillips-Silver (2009) described the spatial patterning of dance/movement as one of the core components of dancing to music. It was examined on tango dancers by comparing the brain activation elicited in the metrically timed dance movement condition, versus the condition in which the timed dance movement was preserved (the muscle contraction of legs) but removing the spatial patterning required to actually place legs and feet in the spatial locations. The results showed that the spatially patterned dance movement triggered relatively higher activation in the medial superior parietal lobe, which is known for its involvement in processing proprioceptive information during spatial navigation. It mapped out a complex and interacting neural network that subserves dancing to music. Phillips-Silver (2009) also stated that the motor activation based on auditory feedback occurs in our brains. In our brains' processing of musical beat information, there is an auditory-motor integration in both music perception and production (Phillips-Silver, 2009). As most caregivers move (walk, rock, stoll) while talking and singing to the infants, infants develop capacity to perceive beat through an intrinsic connection between rhythm and movement (Cross, 2001; Nettl, 2000; Phillips-Silver, 2009). Hearing and feeling music as a two-way relationship was an important finding resulted from Phillips-Silver's (2009) perceptual experiment with 7-month-old infants. Three respective sets of tests were conducted on infants listening to unaccented music: the first one with adults holding them with bouncing motion while listening, the second ones were blindfolded to control other sensory input (e.g. visual cues), and

the third ones were engaged in passive observation of the experimenter bouncing up and down. The results demonstrated that music not only moves us, but how we move shapes the way we hear the music (Phillips-Silver, 2009). The question then is how we can further strengthen the integration between auditory and motor regions to make it more efficient or more sophisticated, which could be essential to infant growth and their speech development. The integration also allows them to synchronize to the beat later in life (Phillips-Silver, 2009)

Similar to that discussed by Phillips-Silver (2009), it has long been speculated that music and musical activity might have positive impact on the development and thrive of mind, body, or community at large. It was argued that music is universal and cross-culturally present and shared by all humans (Butterton, 2008; Cross, 2001; Nettl, 2000). Croom (2012) proposed the idea that in order to increase the level of people's well-being, we should focus on increasing the levels of the factors that are characteristic of well-being. And his hypotheses centered around the seemingly positive influence music engagement on positive and meaningful living. He reviewed the five factors of human well-being or flourishing proposed by positive psychologist Seligman (2011): (1) "positive emotion," (2) "relationships," (3) "engagement," (4) "achievement," and (5) "meaning" (p. 24). Croom pointed out that human capacity of anticipation and expectation (perception of danger and capitalization on opportunities; in music, the prediction of the next melody or chord) and energy regulation (the solicited physiological, psychological, and

autonomic responses by emotional and anticipatory episodes from engaging in music activity) are important to survival and reproduction. In addition, the active listening of music enables us to reap the experiential rewards or punishment by the accuracy of our predictability (Croom, 2012). Croom's study had offered a novel contribution to the connection between the psychology of music and the psychology of well-being.

Croom (2012) argued that musical engagement not only influence one's emotional states, but also can positively strengthen one's social bonds. For example, dopamine, a type of hormone and neurotransmitter in our brain and body, can be released as a result from intense pleasure in response to music (Croom, 2012). One type of dopamine plays a major role in reward-motivated behavior, while another is involved in motor control and determining the release of several other important hormones. With our emotional states changed by listening to music, our observable orientation to the world and readiness of behaviors are also influenced (Croom, 2012). Therefore, one way music can influence our relationships with others is by influencing our emotions that in turn influence our social interactions (Croom, 2012; Cross, 2001). Another characteristic of a flourishing life is the presence of flow experiences. Defined by Csikszentmihalyi (1990), flow experiences are where "psychic energy flows effortlessly" (p. 36), featuring self-control, attentiveness, and absence of public self-consciousness when someone is completely absorbed in an activity. With structured and repeated motor behaviors in practicing music or engaging with

musical activity, a sense of accomplishment is also generated. Such accomplished sense leads to a sense of purpose and may further form consistent goals that drive a person in daily life (Croom, 2012).

Clients with TBI encounter physical, cognitive, social or emotional difficulties. Gilbertson (2005) concluded from various studies that techniques in music therapy such as vocal exercise, song creation, and improvised singing, certain rehabilitative aspects improved or were impacted during the patients' recovery process. These rehabilitation aspects included: awareness, orientation and memory, speech and language, emotional expression, mood, level of involvement in rehabilitation, interpersonal aspects of human experience, arm and hand coordination, gait, independence, identity, and the families' understanding and support (Gilbertson, 2005). Through song creation and improvisation both independently and collaboratively, therapists encouraged clients to "fill in the blank" (p. 126) to compensate for areas of limitation post-injury. Those areas included word retrieval, abstract thinking, vocabulary and association (words to ideas pairing). Clients were also able to engage in music therapy groups with an appropriate mode of emotional expression. This brought them energy, enjoyment, a sense of purpose and accomplishment, components that are important to a quality life (Gilbertson, 2005).

Gilbertson and Aldridge (2008) suggested that it is important to provide TBI clients with a holistic approach in healing rather than only focus on the physical and social functioning

deficit. Gilbertson used therapeutic narrative analysis to illustrate three clients' music therapy experiences. Through constructs like harmonic simplicity-harmonic complexity, simple timbre-complex timbre, isolated actions-integrated actions, being directive-non-directive, vocal-instrumental, conventional use of instrument-individual use of instrument, Gilbertson (Gilbertson & Aldridge, 2008) formed categories – musical expression, communication, agency, emotionality, motility, and participation – which he then used to build narratives for each client. Those categories were later linked to form four superordinate categories: isolated, integrated, idiosyncratic, and conventional. Gilbertson also stressed that the core to the narrative is relationship, both the feeling of connection and being connected were essential to change. He stated that people who withstand neurorehabilitation in this study are not seen as mechanical or from a medical perspective, rather, they are "communicative, expressive, and reflective beings" (p. 141). Those behaviors in the music therapy were their "performed identity" (p. 141). In addition to the encouragement for clients to actively engage in their own recovery processes, the importance for the therapists to reach out to clients with breath and finding balance through rhythm were also proposed (Gilbertson & Aldridge, 2008).

The intimate relationship between music and movement across human cultures indicated that together, they form an integral part of our perceptual, cognitive, and social-emotional experience (Brown et al., 2006; Cross, 2001; Janata & Grafton, 2003; Jones, 1976; Miller, 2000;

Phillips-Silver, 2009). The involuntary process of pulse synchronization and beat perception is often inferred automatically in musical experience; such processes reflect one of the most basic aspects of hearing and moving to music in time. And group cohesion may also be able to depend on the synchronization of the movement with sound and the others' movement (Huron, 2006; Phillips-Silver, 2009).

Drama therapy and Psychodrama. Life is full of dramatic changes and people are constantly confronted with and must respond to those changes. Drama is therefore an inevitable and necessary practice both in theater and in other healing rituals to reflect on life experiences, and to help face issues and challenges (Kedem-Tahar & Kellermann, 1996). Using similar techniques such as role playing, impersonation, improvisation, and performance, drama therapy and psychodrama are not identical in spite of their commonalities (Kedem-Tahar & Kellermann, 1996). However, there have been longstanding debates about the definitions of dram therapy and psychodrama, and which field they respectively fall into (Kedem-Tahar & Kellermann, 1996).

Drama therapy is defined as "an active, experiential approach to facilitating change" (North American Drama Therapy Association [NADTA], 2014). It is a systematic and intentional use of the theater process and product in the hopes of achieving therapeutic goals, such as symptom relief, emotional expression, social integration, and personal growth (NADTA, 2014). Through a wide array of exercises, such as projective role play, narratives, purposeful

improvisation, music and sound, and guided daydreaming and imagery, drama therapists guided participants to reenact desired behaviors, practice relationship building, expand and find flexibility in life roles, and perform the coveted change in themselves and the world (Kedem-Tahar & Kellermann, 1996).

Stanislavski's Method Acting and Brecht's concept of epic theatre were two salient techniques contributed to the development of drama therapy (Eddershaw, 1982; Thomas, 1986). Both as drama therapy pioneers, Stanislavski and Brecht tapped into people's unconscious and imaginative worlds. Stanislavski used images from the unconscious, and eventually reached an artistic form by sublimating the repressed energies (Thomas, 1986). This natural approach had an underlying distancing effect; clients expressed emotional experience while still maintaining a sense of safety knowing that it is only a game (Kedem-Tahar & Kellermann, 1996). Brecht focused on the symbolic meaning and metaphor and shaped clients' experiences more social than psychological (Thomas, 1986). To him, a play is only a representation of reality and not reality itself. Thus, the constructed realities are changeable (Eddershaw, 1982; Thomas, 1986).

The Greek root of the word "psychodrama" literally means presenting the soul in action. Psychodrama was developed by Jacob, L. Moreno, revolving around his idea of different roles in a developing self (Thomas, 1986). It employs guided dramatic action to examine individual or group conflicts (Kedem-Tahar & Kellermann, 1996). Both verbal and non-verbal techniques are

utilized for communication (Kedem-Tahar & Kellermann, 1996). Similar to Chacian groups and various DMT approaches, psychodrama usually consists of three distinct phases: warm-up, action, and sharing. There may sometimes be a post-session verbal processing as well (ASGPP, n.d.; Kedem-Tahar & Kellermann, 1996).

Andres-Hyman, Strauss, and Davidson (2007) underscored a central role of healing as related to therapeutic relationship. The study made a connection between several techniques derived from schools of theatrical traditions and the empathetic understanding of health care providers with their patients. It addressed the importance of creating a healthy and safe therapeutic relationship by recognizing the uniqueness of every individual, paying respect to people who are different, and facilitating the unspoken/unexpressed emotional experiences to be revealed. Andres-Hyman et al. (2007) used four method acting exercises with health care providers in an attempt to hone their clinical skills and further cultivate and investigate therapeutic relationships. They claimed that patient prognosis is relevant to their biological changes, which in this study referred to as human connection and physiological functioning. The essential idea that everything occurred mentally originated from and correlate biologically was stated. Subjective experiences at all levels and biological phenomena are intimately tied together (Andres-Hyman, Strauss, & Davidson, 2007). Therefore, rather than focusing on the technical

aspect of the interventions, it is more fundamental and effective to cultivate the humanistic aspect of it, i.e. the healing relationship.

Transformation can be made from the narratives illustrated through the client's subjective experiences and lived truth. Much like an actor embodies a character onstage, blending imagination (expressivity and creativity), experiences (both first-hand and second-hand relationships), and collected information (similar to goal-setting, research, problem-solving) to create the most authentic impression possible of the character (Thomas, 1986). By using imaginative exercises, health professionals can better put him-or herself in the clients' shoes to take in the whole person, including their external and internal conflicts (Andres-Hyman et al., 2007). This kind of empathy should be addressed in relating and working with brain injury population for strengthening their capacity in social reintegration.

With the lack of evidence of using drama therapy for adolescents with acquired brain injuries (ABIs) in existing literature, Goyal and Keightley (2008) first conducted a systematic review with a broad range of populations, and then by comparison investigated the effectiveness of drama therapy interventions on adolescents with ABIs who exhibited difficulties in physical, cognitive, social, or emotional functioning in order to strengthen their social and community integration skills. In the hopes of enabling meaningful and productive participation throughout life spans with adolescents with ABIs, therapeutic approaches emphasized social and community

integration. Goyal and Keightley (2008) distinguished these two provisions of integrations respectively as social integration referred to interpersonal communication, while community integration indicated “participation in activities outside of mandated vocational activities” (2008, p. 338).

From the 10 studies reviewed, Goyal and Keightley (2008) presented the outcomes through descriptions of used theater-based interventions, concluding the mentioned theoretical frameworks, and their therapeutic components and focuses. A variety of drama therapy interventions were used. The most common intervention, playback theatre, is where participants dramatize a story back to the group. Through this act, stories can be transformed during collective development by participants. Only two of the 10 studies identified their theoretical foundations for interventions; Jungian psychology and humanistic philosophy were mentioned (Goyal & Keightley, 2008). With these theoretical frameworks, participants’ physical and emotional expressions were equally encouraged and guided for the purpose of increasing self-awareness in a safe environment (Goyal & Keightley, 2008). Most drama therapy interventions in the study were group-oriented for dynamic peer interactions such as interpersonal communications and conflicts. However, a tailored approach to meet individual needs was also applied in some (Goyal & Keightley, 2008). While all 10 studies succeeded in engaging participants in the theater process as a rehabilitative approach, a small number of them

also focused on product such as a final public performance or the production of dramatic performance. Goyal and Keightley (2008) found that an environment that is conducive to therapeutic facilitation and interventions often applied expressive art work and opportunities to use bodies for participants' personal expression and communication.

In connecting with brain injury population, the aforementioned techniques and therapeutic relationships can be important in terms of laying a foundation for therapeutic process to occur (Andres-Hyman et al., 2007). It is essential for therapists to relate with clients with a trusting and supportive manner, and role-modeling for clients how they could relate to others in reestablishing interpersonal relationships (Kedem-Tahar & Kellermann, 1996; NADTA, 2014). Moreover, the therapists should also address the reality setting and potential self-agency of change when working with brain injury population, as their post-injury states can often associate with issues of self-acceptance, self-empowerment, adjustment, skills relearning, flexibility, problem-solving, and depression (Goyal & Keightley, 2008).

Dance/movement therapy (DMT). Dance/movement therapy (DMT) is another treatment modality that aims to offer a holistic and integrative approach to neurological rehabilitation. Through techniques of movement observation and practices, verbal and art processing, and individual and group psychotherapy, dance/movement therapists treat patients/clients from a humanistic perspective integrating both functional and expressive aspects

to facilitate growth and change (Berrol, 1992; Berrol, 2006; Fluty, 2010; Prospero, 2007; Talbot et al., 2012).

One of the essential principles in working with TBI and ABI clients aligned with DMT pioneer Marian Chace's approach. The individual engagement and acknowledgement was cultivated as Chace first started her work in the psychiatric hospital using music and dance. In the classical Chacian group, Chace greeted and interacted with each participant individually in order to understand where their energy was and to choose the appropriate music to match that energy and the group's dynamics (Chaiklin & Schmais, 1993). This approach informed clinical work with TBI and ABI because the importance and effectiveness of using strength-based therapy and humanistic paradigm.

Unlike the traditional therapy approaches that focus on fixing problems, innately suggesting there is only one right way to be for the patients/clients, DMT emphasizes the mind-body-spirit connection (Cognitive, physical, psychosocial dimensions), believing that every individual is unique (ADTA, 2011; Berrol & Katz, 1985; Chaiklin & Schmais, 1993; Levy, 2005). The creative and expressive movement activities in DMT promote self-discovery and empowerment by guiding participants to develop a heightened awareness of personal emotional experiences, which in turn enhances their own participation and engagement in groups and in communities (Talbot et al., 2012). This aligns with two of the primary treatment goals of TBI

and ABI rehabilitation in social reintegration and vocational reeducation. Reflecting the human relationship and validating achievement of potentials are where healing takes place. In utilizing Laban Movement Analysis (LMA) in DMT with TBI population, Talbot et al. (2012) asserted that in addition to giving TBI clients a creative outlet of self-expression, dance and movement also plays an important role in guiding patients to relearn functional movements and to reconnect with their environment. DMT is a treatment modality that focuses on kinesthetic awareness. It can be facilitated as a means to integrating the old and the new self on the basis of unifying mind, body, and spirit (physical, cognitive, and psychosocial dimensions (ADTA, 2011; Berrol & Katz, 1985; Chaiklin & Schmais, 1993; Levy, 2005).

Similar to Talbot et al. (2012), Fluty (2010) stated, “The pursuit of spatial awareness supports the goal of increasing awareness of self (intrapersonal), others (interpersonal), and the environment” (p. 14). Fluty discussed how the specificity and clarity of utilizing the space harmony - dimensional scale and diagonal scale in Laban Movement Analysis (LMA) can benefit adults recovering from brain injury. She combined DMT and LMA frameworks, with the application of LMA falls within the paradigm of cognitive-behavioral therapy (CBT) in implementing her interventions in this single-subject quasi-experiment research study with a brain injury adult client. The participant’s general awareness of space from self-report by the Santa Barbara Sense of Direction Scale was recorded as a pre-text and post-test. LMA provided a

more specific but common everyday language for describing, notating, and assessing Fluty's (2010) movement observation, which in this case with a client of limited movement that initially focused only on the eye movement.

The dimensional scale and diagonal scale were chosen because they are the simplest in the LMA's scales regarding to the arrangement of the sequence of points. Fluty (2010) remarked on the dimensional and diagonal scale as respective prototypes for stability and mobility, which were two important components for the participant's treatment goal in improving her overall functioning of physical movement. In the dimensional scale, one moves through the center of the kinesphere into the vertical, horizontal, and saggital dimensions and following the pathways from one point to the next. In the diagonal scale, one also moves through the center of kinesphere but moving along the cubic diagonals with three equal spatial pulls in each dimension. Movers are taken off their upright posture and into mobility. Fluty's (2010) study result described improvement of the participant's spatial awareness by addressing the evidence in her increased clarity of movement and more specific points in space with the line of sight.

Prospero (2007) also utilized Laban's diagonal scale with adults with brain injuries for the same reason that it promotes mobility. According to Prospero (2007), three-dimensional movement was used with the diagonal scale practice. When movers moved into three dimensions, the feeling of off-balance and pull of gravity return the mover to a stability that is

more realistic. The diagonal scale was also a movement phrase incorporated with cross-lateral movements, which are movements that cross the midline of the body. As the mover executed the movement phrase, the left and right hemispheres of the brain had to work collaboratively. This task may help with brain injury rehabilitation by teaching the clients' brains to rewire themselves (Prospero, 2007). What differs the study of Prospero (2007) from that of Fluty's (2010) is that Prospero (2007) used the diagonal scale in conjunction with the eight effort action drives in order to teach and encourage her participants to incorporate a variety of dynamic movement in their daily life. The eight action drives are float, punch, glide, slash, dab, wring, flick, and press, movements that are consciously or unconsciously used in everyday life (Heckney, 2002; Prospero, 2007).

One interesting point raised by Fluty (2010) from connecting her personal experience in performance to the study results was the cultivation of spatial intent and the importance of being witnessed in personal process (Adler, 2002). She stated that her spatial clarity with eyes and gestures is more acute in performance than in rehearsal and personal exploration. The concept of being witnessed in moving can be transcribed into being witnessed by a therapist or health professional and in overall relationship development as a healthy individual (Fluty, 2010).

Berrol's (1992) approach to DMT included facilitating rhythmic group activity where beat perception and synchronization happen. Through her research, Berrol sought to understand

the inter-connection between motion and emotion within the brain. When head injuries occur, the neural communication between different areas and levels of the brain is inhibited that results in behavioral and movement changes. With the intentional movement in rhythmic group activities in DMT, TBI clients' brains were able to engage through movement mirroring and music synchronization. The body's receptor systems are thus actively engaged in the process where the physical, cognitive, and emotional functions can be reorganized. Therefore, behavioral changes and well-being can be enhanced (Berrol, 1992; Berrol, 2006).

Focusing on the intervention and effect of Chacian DMT, Chen (2014) explored the short-term memory functioning of adults with brain injuries in a concurrent mixed-methods single subject design. A total seventeen participants were divided into four groups during the study; each group partook in a modified version of the Sternberg memory test on a computer as a pretest, and engaged in an hour long Chacian DMT session as the intervention, and then returned to complete the same computer memory test as a posttest. Chen (2014) inquired specific interventions used in Chacian DMT that would be effective for improving the short-term memory of the brain injury population. She also addressed the participants' responses and other memory-related themes emerged within the DMT groups. Chen observed and documented the therapist's interactive Chacian DMT style, utilized in conjunction with the client-centered therapy, the interdependence paradigm, and LMA.

Chen (2014) found that there was no statistically significant improvement in accuracy for the computer test. And consistency in the response time data with both increase and recurrent decrease was also shown in all four groups. However, looking at the correspondent Chacian DMT four core concepts (body action, symbolism, therapeutic relationship, rhythmic group activity) and participants' response themes, a clear relationship between short-term memory responses and the concept of symbolism was revealed. Working memory response was evoked with the use of rhythmic group activity without incorrect memory responses. Additionally, Chen found that long-term memory responses were noticeable at the end of each session when therapeutic relationship was employed (2014). To examine the effect of Chacian DMT on memory, Chen explored the therapist's memory interventions in relation to the participants' memory responses. Memory tasks, guided questions, and specificity of the therapist's interventions were supported by the therapeutic relationships. And the memory processes included rehearsing new information using working memory or retrieving prior knowledge stored in long-term memory. Like how Prospero (2007) and Fluty (2010) noted that their participants were gradually able to more successfully perform the diagonal scale sequence through repetitious movement, Chen discussed the use and effect of repetition in the Chacian DMT interventions (2014). These study results indicated that repetition as a substantial approach in memory's rehabilitation process.

Overall, current studies on music therapy, drama therapy, and DMT with the brain injury population have shown how the integrative approaches of creative arts therapy may provide benefits in the rehabilitation process. Some used relatively structured and specific interventions such as cognitive-behavioral therapy and LMA in DMT to investigate how self-awareness, awareness of others and their environment can be increased through the directness of the spatial scale. Some others used repetition and rhythmic music and activities from Chacian tradition and artistic inquiry methods. Yet others used more imaginative role play, free-association, improvisation, authentic movement, and imagery. Nonetheless, therapeutic relationships were found present in all interventions which implied its fundamental importance for brain injury rehabilitation. This indicated that creative arts therapies have been a growing form of intervention in brain injury rehabilitation by providing more solid theoretical frameworks and proof of benefits.

Creativity and the Creative Process

The earliest creativity research can date back to the late 19th century (Getzels, 1987; Guilford, 1950; Isakson, 1987; MacKinnon, 1961). Since then, three overlapping periods on the systematic creativity investigation were: genius, giftedness, and originality (Getzels, 1987; MacKinnon, 1987). Different studies tried to identify genius and giftedness as determining factor of creativity by a single criterion, respectively of recognized achievement and an intelligence test

score with little avail. Whatever the specific emphasis for each definition and measure, they had in common the notion of novelty or originality (Getzels, 1987). This originality refers to the ability to make or do something out of a person's independent manner and approach to gain freshness for an older invention.

Thriving studies on different models about creative process and creativity in social and psychology fields really awoke in the 1950s. The idea that creativity should be considered as a complex, multi-faceted concept was proposed. But the cornerstone of creativity research was laid by Guilford (1950)'s writings on creativity and emphasis on the complexity as part of the human behavior. Another popular theory was developed by Mooney (1963) where four approaches in examining creativity were proposed: process, product, press, and person. The process was described as stages of imaginative and evaluative thinking process in confronting with a challenge or opportunity. The product can range from concrete and tangible objects as a sculpture to intangibles as leadership which permits those in them to express their creativity in full potential (Mackinnon, 1987). The press refers to the environment or situation that facilitates or inhibits the appearance of creative thought and action. The person refers to a person who has the characteristics of using novel means or making novel inventions. And the characteristics are decided based on the person's value, personality, motivation, leadership, and roles.

Graham Wallas's (1926) description of the creative process derived from problem-solving model was one of the earliest, and it later had become an important and a popular theoretical foundation for creativity researchers. Wallas (1926) identified four phases (some stated there are five; the last three stages are: intimation, illumination, verification) of the creative process, which have lasted to the present day. Using the common language of more recent writers, I summarized them as follows:

1. Preparation: The initial stage of research, including gathering facts, assembling people or materials--whatever is needed to have all domain-specific information at our disposal before the creative act.
2. Incubation: Allowing the collected materials to gestate, to be assimilated into our preexisting schemas, and to interplay unconsciously or consciously in our minds without the stress of having to produce. The length of incubation stage greatly varies for each individual and for different projects. It asks us to let go of the data long enough to gain some perspective. A commonly reported form of incubation is dreaming.
3. Inspiration: The actual Aha! or Eureka! moment when preparation and incubation produce an insight, which further inspires the act of create and implementation. This stage has also been called illumination and discovery. It can take the form of focusing

attention on coming up with a solution, through the sheer force of our will, or it can consist of merely participating in a structured idea-generating session such as brainstorming.

4. Evaluation: The attempt to verify that the proposed solution is domain-relevant and logically fits the requirement of the original need or stimulus. It is also called confirmation. The question asked is Will it work?

The experiences and creative process involved in dance performance and choreography has not been a regular topic in academic studies. Notwithstanding expensive innovations and development dance underwent through the ages, it had not yet been taking seriously enough to hold a significant place or have much association with intellectual history or any other scientific fields. Nevertheless, dance imagery has been prevalent in the modernist works, especially those of W. b. Yeats, T. S. Eliot, D. H. Lawrence, and William Carlos Williams (Mester, 1997). Poet W. B. Yeats confessed in many of his works about his fascination and imagination about dance and dancers; Yeats said “We only believe those thoughts which have been conceived not in the brain but in the whole body” (as quoted in Mester, 1997, p. 32).

Therapeutic use of the creative process. The creative process of moving usually requires an individual acts based on an image he has of himself, however, most people are not aware of their self-images when they act. Still, to maximize the potential of a whole person, an

integration of sensory experiences and awareness based on scientific examination is needed. A whole person can allow his energy and intention to flow freely and thus fully express himself.

Chyle (1999) was one of the first in DMT who began a study focused on both the theoretical and practical application in association with creativity and the creative process. He built upon the creativity research and Chacian DMT principles in exploring the internal and external landscape of the clients. He proposed the idea “creative empathy” (p. 27) for therapist to identify their creative potential and characteristics. Chyle clarified the usually vague fashion in describing creative process and the therapeutic process in DMT to gain an understanding of the nature of both. By demonstrating how theories of creativity are related to change and growth, Chyle not only exhibited the significance in making connections between the creative and therapeutic processes, but also provided a thoughtful foundation in understanding the potential role creativity has to play in the therapeutic process (Chyle, 1999). Similar emphasis was explored by Hayes (2010), when she noted the tensions between the artifice of dance choreography and performance and the more organic as well as therapeutic use of dance in DMT. Within the majority of research conducted on the practice and effect of DMT, Hayes (2010) found only a few examined that with dancer population. Not to mention the potential correspondence between DMT and choreography and performance.

Hayes attempted to bridge this gap by conducting studies on three cohorts of Bachelor of Arts dance students in experiential DMT sessions (Hayes, 2010). She realized how creativity can be manifested in a variety of activities and events in using images and symbols, and connected the presence of emotional expressiveness and relational fluidity with DMT participation. Increased playfulness, self-confidence, and heightened sensitivity in relationship were perceived. Hayes' (2010) work suggested a unique and important viewpoint: creativity is not only able to be utilized as a DMT intervention, but it can be the result of intervention as well.

Performance as Therapy (PAT) in DMT

As known by many dance/movement therapists through their personal experiences and dance background, the processes and acts of creating, rehearsing, and performing can be therapeutic and rewarding. However, there has only been a small body of research existed about the application and effectiveness of performance in the therapeutic use in rehabilitation settings. Performance as therapy (PAT, see Appendix A) is a relatively new intervention in DMT field.

The PAT framework. In hopes of creating her own methodology for using PAT in conjunction with DMT, Gates (2006) searched the existing methodology and the ones that followed, looking at the relevance of the therapeutic environment and the facilitator's intervention techniques. Her developed methodology not only organized the process of PAT but also provide a more concrete idea of what constitutes a therapeutic environment. Gates defined

PAT as “dance creation for the purpose of performance involving dance/movement therapy techniques within a therapeutic environment” (p. 5). Feelings of trust, support, and safety in order for vulnerability to reveal and be validated are mentioned to be important elements in the therapeutic process. Through creating, rehearsing, and performing the choreography, people gain a better understanding of and connection to themselves and are thus able to strengthen the connections with others (Gates, 2006). Gates described the process of PAT in three separate descriptive case studies. One consistent theme that emerged was that they all described feeling of personal worlds being exposed that leads to feeling of vulnerability. After further exploration, Gates found that personal growth and change can actually be promoted if creating and performing dance are taken place within a therapeutic environment, where enhanced self-reflection and self-awareness occur through trust, support, validation, and connection with others (Gates, 2006).

After the data collection, Gates (2006) analyzed the cases using the criteria: looking for commonalities. She reviewed the notes, personal journals and reflective papers and highlighted phrases which reflected the methodology followed to create the performance piece, as well as statements that would explain the therapeutic environment and techniques used by the facilitator. As a result, Gates discovered that the methodologies which supported the process in all three

case studies were the artistic creation process theory of dance/movement therapist Lenore Hervey (2000) and Susan Imus's performance creation process theory.

Pavelka (2007) also acknowledged the importance of the therapeutic environment in PAT where being "witnessed and validated" by others allowed them to be willing to reveal their inner selves (p. 2). Artistic inquiry with a heuristic component about her personal process of PAT was applied. Throughout the PAT process, enhanced self-awareness, promoted interpersonal connections, and increased empathy were noticed. Building upon this "true empathy," the intrapersonal transformations can then be achieved (p. 31). Pavelka made the connection between PAT and authentic movement, which uses improvisation and empathetic witnessing to facilitate mindful, present, authentic emotional experiences. Such connection supports the use of PAT as a therapeutic tool in the realm of DMT (Pavelka, 2007).

Unlike other research relating to PAT, Pavelka (2007) focused more on the psychological processing, embodiment of issues, and the creating process than the performance itself alone. An emotionally-based dance piece was created as a result of Pavelka's collaboration with two other fellow dancers. She divided her process into four phases: Initial development, relationship forming, data review and organization, and continuous rehearsal process. Initial development of common struggles was achieved through verbal processing, journaling, and improvised movement phrases embodying the struggle. Relationship then started to form, and the idea of

empathy towards each other in the study was incorporated into the journaling and processing portion of data collection. Pavelka began to review and organize previously collected data. Eventually, the initial process conducted through discussion and interviews between the three participants were turning into a continuation of the rehearsal process, with changes occurring when necessary. Final performance was the culmination of the above process (Pavelka, 2007)

In Goldman and Larsen's (2011) presentation of a PAT framework for creative collaboration, four stages of the act of performance were developed: request, claim, promise, and execute. Blending two symbiotic creative process models: the Wallas Model and the Simplex Model and the long-term creative partnership, Goldman and Larsen's the PAT process evolved illustrating their process of curriculum development for the PAT course. They also have been using it as researchers and in clinical practices with modifications from personal experiences. Goldman and Larsen proposed the idea of utilizing performance than simply the moving as a focus in therapeutic practice due to the essentiality to healing of being seen in a creative process. Intense decision making and community building were also explored as part of the PAT process (Goldman & Larsen, 2011).

Within this framework, therapist and their clients together asked the questions of the roles of self in creativity and how that process is fundamental to therapeutic performance. The implicit and explicit connections were engaged and brought forth so that community building and

discussion on therapeutic process can be possible. Further, the reason creativity is integrate to human existence was inquired and investigated (Goldman & Larsen, 2011). The following is an overview list of movement exercises that Goldman and Larsen (2011) used in the PAT framework, which is a synthesis of adaptation and construction from existing theories/applications and both their personal and professional experiences.

1. Bartenieff's fundamental patterns of total body connectivity to explore the core where inner expressivity and outer connectivity meets (Goldman & Larsen, 2011; Hackney, 2002; Larsen, personal communication, 2014). The progression and organization of the six fundamental patterns are: breath, core-distal, head-tail, upper-lower, body-half, and cross-lateral.
2. Authentic movement exercises based on the basic idea of the Authentic Movement practice created by Mary Whitehouse to inspire exploration on inner impulse through generating choreographic movement patterns (Larsen, personal communication, 2014).
3. Buddhist meditation master Chogyam Trungka Rinpoche's exploration on presence (Goldman & Larsen, 2011). Through moving the truths about ourselves by asking the following three questions: I love_____, I want_____, I am afraid of_____, we intended to delve deep into the palpable intimacy and vulnerability that we do not

usually have access to (Larsen, personal communication, 2014).

4. Mirror activity proceeded from Chogyam Trungka Rinpoche's exploration of self. This helped with honest expressivity while cultivating awareness and empathy for self and others.
5. Expanding consciousness of self through attunement, empathic reflection, and somatic acknowledgement.
6. Marian Chace's circle structure to share movement and find partnerships within the group. Most movement exercises began in a circle formation which promotes social interactions (Levy, 2005).

PAT in Clinical use. Within the already small amount of scholarly writing and research about PAT, most has been conducted with normal neurotic adults. More recently, some dance/movement therapists have begun to apply PAT in their clinical work and administered research on the practice. Cook (2008) was one of the dance/movement therapists that did so. She used PAT with a group of nine adolescents with mild to moderate developmental delays. In realizing the difficulty from her participants' cognitive abilities to choreograph a dance to their own experiences, Cook turned herself into the choreographer and instructor, created and performed the dance with movement materials from her participants. Cook (2008) found that her participants' expressivity in emotional content increased by engaging the PAT process. She also

observed increased focus, attention span, and memory capacity during the rehearsal process. Lastly, Cook believed that the feeling of shame in her participants about their disabilities was reduced in PAT.

Similarly, D'Annunzio (2013) conducted a study using PAT with a group of adults with developmental delay. She utilized artistic inquiry methods with choreography and performance as a way of data collection and analysis. The participants in the study were called co-researchers; they engaged in a process and a final performance with movement derived from improvisation and set choreography (D'Annunzio, 2013). D'Annunzio realized that PAT is a promising therapy intervention for her co-researchers because they were the one who decided what the intervention looks like. Through increased interpersonal skills and overall high group attendance rate, co-researchers experienced universality and altruism which are both important therapeutic factors of change.

Malling (2012) investigated how the use of choreography and performance techniques can empower Deaf adults with severe and chronic mental illness, as well as share their artistic message. Under the constructive framework, the author engaged in participatory research through artistic inquiry which all participants, like in D'Annunzio (2013)'s study, were deemed as "co-researchers" that the research-knowing and understanding and action-making changes were to occur simultaneously. The participatory artistic inquiry presented under the topic noted

the collaborative nature of the relationship between the researcher and co-researchers. As Malling (2012) learned, the choreography and performance techniques used in the study increased collaboration and peer support; focus on the present, self-esteem, range of authentic emotional expression, and expressive movement were enhanced. Although the issue of generalizability from a small body of sample size was discussed, Malling's study was the first known example researching choreography and performance with Deaf adults with severe and chronic mental illness. It also supported the small but growing body of PAT literature.

No definite answer has been given to the questions for creativity, the creative process, and the therapeutic process, however, the importance of creativity as an approach within a therapeutic environment has begun to be noted and noticed. As creativity is an essential component in choreography and performance processes, how the creative process in PAT can play its effect into the therapeutic practice of DMT and the degree of its effectiveness are to be investigated. Additionally, a stronger link between PAT theory and the application of PAT in various clinical setting should be further examined. Such research may be particularly feasible in recovery-oriented treatment settings that encourage active participation in goal setting and treatment planning.

Conclusion and Research Questions

Rich studies on brain injury rehabilitation have been presented throughout the years, yet, there was little pre-existing literature on the use of creative arts therapy, especially DMT interventions with the brain injury population. Although a few current studies have shown evidence of effectiveness using the creative arts therapy approach with the brain injury population, there is still a great need for further research examination and clinical application using a holistic perspective. The goal is to provide more concrete interventions and modality structures that can be of benefit for brain injury clients. With the easily overlooked nature of the issues with the brain injury population, appropriate and effective rehabilitative care for them requires interventions from organized and culturally affirmative frameworks. Additionally, positive environmental reinforcement is also a crucial factor that facilitates the progress of brain injury rehabilitation (Ashley, 2012). Therapists and researchers who study the theoretical and clinical practice of interventions that may be effective on neurorehabiltiation, therefore, also need to be mindful of the framework and level of environmental demand they choose to work with. Only do when clinicians assume a culturally affirmative and humanistic perspective that people in need can flourish on top of regaining functioning (Condeluci, 1991; Rogers, 1961; Malling, 2012).

As seen from the literature and mentioned earlier, several creative arts therapy treatment approaches including drama therapy, music therapy, and DMT with brain injury rehabilitation have been identified. Nevertheless, not only is the application of DMT for brain injury population under-researched, but there is no existing literature exploring the use of choreography, performance, and specifically performance as therapy (PAT) model as a possible therapeutic and effective intervention on brain injury rehabilitation. The purpose of this study is to conduct this investigation, thereby bridging the gap and stimulating discussion between the creative and holistic interventions on the impact of brain injury rehabilitation.

In Fluty's (2010) study, a more acute and clear personal spatial intention with eyes and gestures in performance were declared. She proposed the concept of being witnessed by the audience can be transcribed into being witnessed in a therapeutic relationship and in overall relationship development as a healthy individual (Fluty, 2010). This statement proved to be linked to the performance and creative process aspect essential in my study. It gave me a starting point to perceive and investigate spatial awareness and relationship more distinctively in my own research endeavor.

My motivation and exploration into the literature led me to the following research questions: How can PAT impact the rehabilitation process of the brain injury population? What is the role of the creative process in the PAT intervention for the brain injury population? Further

clinical and philosophical questions may be explored includes: What is the importance of vulnerability and spontaneity in the creative process and further contribute to the therapeutic process through PAT? How would creativity and vulnerability be manifested in the creative process and performance? If any, what aesthetic choices will the co-researchers make during the creative process? Is there any direct connection between the engaged movement and creativity? What aspects of the creative process and moving process do align and aid the rehabilitation of brain injury population?

Chapter Three: Methods

For this study, I aimed to use performance as therapy (PAT) approach within DMT as rehabilitation intervention with adults with brain injury. In examining the effect and impact of PAT as a potential effective treatment modality for this population, and how the role that creative process plays in PAT can augment the rehabilitation process, I looked at some of the most primary issues with people with brain injury. For example, memory functioning, self-initiation and motivation, problem-solving skills, abstract thinking, social (re)integration, physical capacity, and emotional regulation were the focal points. I engaged in a collaborative rehearsal and performance process for five-month duration with my participants to create and develop a dance piece that was ultimately performed at a public venue, where a group of audience shared and witnessed not only the difficulty in my participants' rehabilitation, but also the creativity at play in telling their stories in a way that was unique to each one of them.

Participatory Action Research Paradigm

I chose participatory action research (PAR) paradigm to guide my study procedure and process. PAR is culturally appropriate, and ethically as well as informatively beneficial. I chose PAR because the nature of the research topic, the contextual details, the empowerment agenda for the researched population, participants' intrinsic engagement in a creative research process, and the way the end product was considered and presented (Hervey, 2012).

I believed that knowledge generation upon exploring a topic which dealt with creative process, emotional content, and embodied content would need to be reached through a relatively democratic exploration and study conduction, rather than traditional scientific or empirical methods (Foeday, 2011; Hervey, 2012). Participatory Action Research (PAR) is a paradigm that carries an emancipatory interest in improving human welfare and as such employs critical reflections and actions through developing partnership, in-depth understanding of lived experiences, and unconventional ways of interpreting the world (Bradbury & Reason, 2003; Dick, 2006; Lofman, Pelkonen, & Pietila, 2004; Ozanne & Saatcioglu, 2008). PAR is a paradigm where research is done "with and for people rather than on people" (Lofman et al., 2004, p. 333). This neutrality and emphasized value are in line with my therapeutic framework, a client-centered approach (Rogers, 1951) within humanistic perspective. It also highlights my embodied enactive approach in my practice. I served more as a support and facilitator rather than as a sole dominant knower and/or director within the PAR paradigm. My co-researchers were viewed as empowered individuals whose embodied cultural knowledge are valued and made sense in order to contribute to an understanding of the experience and issues faced in this collaborative process (Bradbury & Reason, 2003; Dick, 2006; Lofman et al., 2004; Ozanne & Saatcioglu, 2008; Schneider et al., 2004). Thus, the power differential issue was minimized comparing to other traditional empirical research methodologies. Through PAR, I aimed to

involve all participants in dialogue within the research design; the emphasis was that participants' voices were to be heard and respected through the use of different data collection methods, interventions, and presentation (Hayes, 2010; Kemmis & McTaggart, 2012; Mertens, 2005; Schneider et al., 2004; World Bank Group, 2003).

Participants in this study took primary ownership of their own process and end products/presentation within participatory action research (PAR). This ownership "generally results in some type of action or change" (Forinash, 2012, p. 147). PAR has been used in research with people with a variety of disabilities, including physical disabilities, learning disabilities, and schizophrenia (Balcazar, Keys, Kaplan, & Suarez-Balcazar, 1999; Schneider, et al., 2004). Schneider's (2004) study encouraged participants to engage in their own treatment planning, processing, and execution through a series of collective, creative, and personal engagement. I also carried this idea in mind through the collaborative and creative process with my participants.

PAR assumes knowledge as being relative, evolving, contextual, and value-laden (Borda, 2008; Bradbury & Reason, 2003; Ozanne & Saatcioglu, 2008), which corresponds to the fundamental component in studying the ever-evolving human society and human behaviors. PAR differs from the traditional positivist methods in two primary ways. Firstly, the relationship with my participants was intentionally collaborative in part because the most culturally appropriate

knowledge can be generated in order to foster the participants' growth. The collaboration with participants underscores the significance of reflective citizenships by encouraging a knowledge society (Bradbury & Reason, 2003; Foeday, 2011). Due to my participants' active involvement in the study process and the deliberation of the research design, I considered the client participants to be co-researchers (Bradbury & Reason, 2003; Reason, 1998, p. 262; Schneider et al., 2004, p. 564). In other words, their general opinions, aesthetics, safety concerns, and the ethical decision-making processes were particularly respected and taken into account in my own study design. Secondly, the end-product derived from PAR, or like how I would like to call it, the presentation of the creative process is different from that of the conventional research paradigm. As Mertens (2005) pointed out, PAR emphasizes the voices of the oppressed, and uses methods that allow them to be heard. I therefore gave life to the product with a story-telling manner and in some form of community engagement and action (Foeday, 2011; Kemmis & McTaggart, 2007), meaning the collective final public performance of the study.

Methodology

Artistic inquiry was selected as the research methodology for data collection and analysis. Although a growing number of studies are dedicated to the body-mind connection and how movement or the moving process can affect the overall emotional experiences and human interactions, the creative process, movement, and the functions and relatedness of human minds

are still mostly mysterious and deserve more exploration. In my study, the intrinsic nature of those subjects is elusive and implicit and cannot and should not be treated with the same methodology that applies to the positivism or postpositivism paradigms. The creative process, movement, and the functions and relatedness of human minds are principally hard to measure with numbers or tangibly manifested data. They are embedded in social and cultural contexts wherein the knowledge and energy are constructed by thus also shared among people who actually live through those experiences.

Hervey (2012) suggested that in order to better comprehend human experiences, ways of knowing that are kinesthetic, aesthetic, emotional, and intuitive, are required. Movement is essential to the practice of a dance/movement therapist; therefore the embodied artistic inquiry was chosen for this study due to its focused, systematic, and body-felt approach. As an artist who is undertaking research, I utilized artistic inquiry not only to offer my co-researchers a medium to represent and present their easily overlooked internal worlds, but also for me to engage in an appropriate and imminent mode of exploration and inquiry. In artistic inquiry, the immersive reality into the unknown and uncertainty of an artist can be manifested.

In DMT, body is believed and valued “as a vehicle of expression and a rich source of information” (Hervey, 2000, p. 83). Hervey (2000) suggested that dance/movement therapist assess and make meanings from those with whom they work through body expression and

sensory input. Body itself is trusted to be “a source of data” and the therapist’s understanding of body experience is relied on as a form of data analysis (p. 83). Through artistic inquiry, the products (milestone art reflection during rehearsals and the performed dance) of the study, the making process (the creative process and the PAT stages through movement), and the relationship between the maker of the art (co-researchers and all other participants) and the final presentation (the dance) can be examined (McNiff, 1998). By examining the creative process in the PAT framework through using artistic inquiry methodology, I was able to unravel changes and produce interpretive narratives. It was also appropriate and important to use artistic inquiry methodology with my co-researchers with varying cultural backgrounds. Body provides itself as an agency for potential change through revealing and relating embodied experiences (including thoughts, feelings, sensations, imagery, imagination, and aspirations). Across cultures, peoples do not always dwell and depend on the learning and practicing of language to communicate; rather, body languages and movement are a more direct and significant way to involve in expressing feelings and evoking meanings (Boas, 2006; Hackney, 2002; Lerman, 2011; Levy, 2005; Merleau-Ponty, 2002; Sheets-Johnston, 2010; Singer, 2006).

Performance itself is an ongoing process; it is dynamic and usually chaotic. In PAT, performance is the focus of the investigation and ultimate purpose through the embedded creative process. And the process of getting to the actual presentation of the performance and the

performance process itself are what really matters in the context of PAT. Within the process, every individual's unique journey is displayed and each of them contributes their creative impulses and emotional efforts to accomplish the dance. As engaging and being witnessed in the creative process was essential for the co-researchers' integration and recovery, the idea behind performance is therefore therapeutic (Cook, 2008; D'Annunzio, 2013; Goldman & Larsen, 2011; Hayes, 2010; Malling, 2012; Pavelka, 2007). I oriented myself to an unconventional epistemology by using the PAT framework with my co-researchers for the very reason that performance and the creative process have the characteristics of being immediate, intimate, particular, and dynamic (Gray, 2003). These characteristics aligned with the need for immediate empathic and situationally conditioned feedback and facilitation for appropriate behaviors and interactions, which is similarly emphasized in interdependence paradigm (Condeluci, 1991).

Participants.

There were several different types of participants in this study. In total, the 11 participants were: six co-researchers, one primary researcher, one primary co-researcher, and three staff participants. There were five males and six females. Among the 11 participants, four were Caucasian, three African American, three Hispanic, and one Asian.

Co-researchers. There were six co-researchers (also called client participants) who were identified by pseudonyms made for this study respectively as Rose, Qui, Sean, Cyla, Von, and

James. The co-researchers were current clients of the day rehabilitation program for adults with brain injury. They were selected and invited to participate in this study based on their enrollment in the program. They ranged in age from 20 to 55. Two were female and four were male. Two were African American, three were Hispanic, and one was Caucasian. Cyla also sustained aphasia, a loss of ability to communicate with articulation and use of language. Her cognitive functioning was mostly intact but she had difficulty conversing with ease or finding the right words in a timely fashion. Von was the only one whose primary language is Spanish and had to frequently depend on a walker for support. He had a personal assistant, who was also one of the staff participants with him throughout the study for translation and physical assistance purposes.

These six co-researchers will be consistently addressed using their pseudonyms in the remaining chapters of this study. They were all engaged in and familiar with DMT groups from attending the program. Some co-researchers also had experience with individual sessions as well. Some of the co-researchers and I had a previously established working relationship from when I was the DMT intern at the site a summer before the implementation of the study. This allowed for the therapeutic relationship to be more easily established.

Each co-researcher had individual treatment goals to attend to. As a group, they all worked toward a list of common goals that are salient in the brain injury population. The most prominent group treatment goals lie in the four domains: physical, cognitive, emotional, and

relational. In the physical domain goals include: improve motor/gross movement, coordination, balance, and overall mobility. In the cognitive domain goals include: increase focus concentration, attention span, memory functioning, self-initiation, and motivation. In the emotional domain goals include: become more comfortable with altered states, strengthen body image and usage, as well as realize potential growth and improvement, and develop hope. In the relational domain goals include: develop awareness of deficits and acceptance of such change, build resolve for facing disability, develop expression of aphasia and community building, and enhance reintegration to social responsibility.

My goal was to provide the co-researchers with a therapeutic space and an attentive therapeutic relationship in which to explore the possible growth and change that met their treatment goals and personal needs. This was achieved through the final performance, which ultimately shared a creative and personal message with a larger community. The co-researchers' personal interests, ability to maintain responsibility in their personal affairs with appropriate degree of assistance, consistent attendance in the program, familiarity with the DMT group were primary criterion for participation in this study during the selection process. Other factors that were also considered included motivation and initiation level, and family coordination and support. Clients with violent tendencies were excluded from the study for the safety of all other participants and the researchers.

Primary researcher. During this study, I held many roles; sometimes they occurred simultaneously, other times they appeared one after another or overlapped. These roles included: primary researcher and participant, artist and scholar, choreographer and dancer, and facilitator and observer. Similar to Moustakas (1990) and Fenner (1996), my research process was one of complete immersion and surrender, a process these authors have referred to as "indwelling" (Hervey 2000, p. 70). As primary researcher, I had a sense of responsibility to the community of co-researchers; I was mindful of not getting lost in my internal world and inner landscape (Chyle, 1999).

To adhere to the framework of PAR and be attentive to the culturally and ethically affirmative practice, I also considered myself one of the co-researchers throughout the creative process and the performance. I constantly and clearly stressed this point to my co-researchers throughout the rehearsal process in order to assure that my engagement and reflection would never come from a judgmental place, but rather, from an ever respectful and authentic view and presence. Due to the simultaneous embodying of roles and the need to switch roles quickly, I encountered challenges that impacted my and the co-researchers' level of engagement in the creative process and relatedness with each other. I will discuss this and other, limitations in the subsequent chapters of this study.

Primary co-researcher. I invited and requested the program manager, who was also the primary dance/movement therapist onsite, to be my primary co-researcher for a more successful implementation of the PAT model. Because of her extensive expertise and experience in developing and applying the PAT model as a therapist and DMT educator, she offered the best possible guidance for my research. In addition, she was most familiar with the clients and their family members, so she could select the most appropriate group of clients to be my co-researchers.

During the study, my primary co-researcher occasionally facilitated sections of the rehearsals with me. She also occasionally guided me in my facilitation of the PAT model. She provided suggestions and questions in order to help me more precisely clarify my questions for the co-researchers during movement explorations. She also helped me identify co-researchers' needs and wants with images, sensations, feelings, and thoughts. Furthermore, she helped me organize the observation and description of the movement data.

Staff participants. There were three staff participants who assisted and supported the co-researchers through the process of rehearsal and performing. Two were Caucasian, one was Hispanic; two females and one male. One of the staff participants are also personal assistant (PA) and translator for one of the co-researchers. Originally, four staff participants were enlisted to assist in this study. One of them dropped out after the second session of the study because of her

schedule issues and a personal engagement concern. Her withdrawal from the study was early, thus it did not impact the overall design and proceeding of the study. The three remaining staff participants were enlisted and also then agreed to be assistants for the co-researchers through the creative process and the final study presentation. Because of their familiarity with the co-researchers and expertise in cultivating therapeutic relationship in a contained environment, they were invited and voluntarily gave the consent to partake in this research project with a creative and collaborative nature.

Setting

The day rehabilitation program for adults with brain injury provides comprehensive services for clients with TBI and/or ABI. Clients enrolled in the program are usually under two different tracks: vocational and home services. These tracks are based on their functioning and rehabilitative needs and objectives, which differ in the number of days clients are required to attend the program. The rehabilitation services include speech therapy, verbal counseling, art therapy, DMT, exercise group, organizational skills, goal identification, cognitive (including memory tasks, math) retraining, computer group, life and vocational training, recreational and social skill building, brain injury education group, environmental jobs, and community outings. The primary goal of the program is to help individuals with brain injuries improve their coping

skills, build new relationships, and fit into living a post-injury life full of quality, capacity, and purpose.

Clients in the program share a milieu space with four staff members, which included seating, open spaces, group rooms, and an exercise area. Each client has an assigned seat in order to maintain the consistency and organization in the space. The assigned seats developed both their memory functioning and ability in spatial orientation.

Due to the intensive rehabilitation schedule, most of the clients had established long-term (i.e., longer than one year) therapeutic relationships with the staff and the program manager. The long-term therapeutic relationships fostered the clients' trust in the therapists and other staff members, which also increased the clients' willingness to follow the instructions. Through those therapeutic relationships, the program established several norms to help the clients improve their memory, initiation, and independence. The clients understood that they participated in the program to work on their individual rehabilitation goals. Meanwhile, the group format also facilitated the achievement of group rehabilitation goals, which primarily focused on their social re-integration and retraining in independent living. The norm of following the verbal and non-verbal cues was built in the program as well. As they acted in accordance with the instructions, the clients were also encouraged to try new things and relearn the skills that they lost as a result of their brain injury. Instructions were offered to maintain the clients' safety and

demonstrated a reflective risk assessment in one's environment and behaviors. Some clients' spatial awareness decreased after brain injury, so instructions were also offered to remind them of their spatial relationships with others and objects.

In addition to the general norms, some norms in DMT groups were established for the clients' goals of increasing their initiation and participation. The clients were expected to form a circle by the time of the DMT group started, which was modified from the classical Chacian groups (Chaiklin & Schmais, 1993). The expectation on the brain injury clients in the program was to encourage motivation by accomplishing a simple task independently, which builds a sense of accomplishment. It also allowed them to help each other with time and spatial orientation that self-confidence and altruism may be enhanced.

Recruitment Procedure

The appropriateness, ethics, and structure in implementing the research at the agency were first discussed with the program manager, who later became my primary co-researcher. Her sufficient experiences and optimal therapeutic expertise in maintaining therapeutic relationships with the clients, working to improve clients' overall integration and tailoring to special individual needs. In addition, she has organized and developed an annual public performance with the program participants for a number of years. In consulting with the program manager using information gathered from assessments made by the speech therapist, physical therapist,

dance/movement therapist, and art therapist on site, my study was deemed appropriate at the facility.

The primary co-researcher identified potential and appropriate co-researchers based on their treatment goals, ability to maintain basic responsibility for activities of daily living, level of motivation and initiation, family support, and personal interest. Due to the nature of the rehabilitation environment, the uniqueness of each co-researcher, and the ultimate presentation format of a dance performance, it was necessary to have a small number of co-researchers and equal ratio between client participants and staff participants. Furthermore, another reason for this design was to ensure the upmost rehabilitative benefit and safety maintenance. At first, six clients were verbally informed by the program manager. They were told about the idea and draft of the study procedure, and the time that I would be present to verbally introduce the study to them. These six clients were reminded verbally once again the day before I proceeded with the introduction.

The following considerations were taken into account when the invitation was made: clients' interests in a creative project, potential clinical benefits from participation, level of possible attendance, cooperation and adherence to study requirements, family cooperation and support, and transportation coordination. Clients identified as having violent tendencies as assessed by the program manager were excluded from the study for the safety of all participants

and the researchers. Clients who could not commit to the scheduled weekly hour and a half PAT group sessions/rehearsals were also excluded.

Clients were first approached by the program manager for an initial interest check before the official meeting with me. After I received the proposed list, I gathered information about them from my primary co-researcher and further consulted with her about their clinical impressions and treatment goals. I designed my informed consent forms for my client participants, their guardians, and my primary co-researcher based on the collected information. I also prepared a copy of the Spanish version informed consent forms for Spanish-speaking clients. The recruitment process took place on a Wednesday after the regular program hours, at 2:30pm when all programing and therapy groups ended for the day. This was to insure that other program clients would not feel excluded. I also explained to the chosen clients the reasoning for this scheduled recruitment time, and encouraged them to ask questions. With all invited potential client participants, I verbally introduced the overall study concept and procedure in order to make sure they were clear about what the process may look like, including the fact that there will be a public performance at the completion of this study.

During this time, I intently explained the primary roles and names that these client participants would embody in my study. In another words, I explained that I would call them "co-researchers" rather than "subjects" or simply "participants." This was done to address the

power differential issue in traditional empirical research methodologies while at the same time to materialize the collaborative nature of a creative and participatory action research process.

Consent. I distributed and read the informed consent forms (see Appendix D and E and I: Legal Guardian Informed Consent Form and Informed Consent Form and Informed Consent Form in Spanish) to the co-researchers and left time for them to read for themselves again, to be read to for translation and cognitive functioning purpose, and to process the information. I also verbally addressed the importance of the consistency of attendance. I explained that if co-researchers are noncompliant with study rules and safety precautions during any rehearsal process, become unable to maintain treatment goals, or are unable to benefit from the progression of the rehabilitation provided within the creative process of PAT, then their participation and roles will be removed.

During the consent process, client participants were reminded that their treatment in the program would not be affected by their decisions to participate in the study. They would also not receive any kind of payment or reward, such as monetary benefits or additional services from the agency. The client participants' informed consent forms were kept in my personal file and only have limited access by me, my thesis advisor, and my primary co-researcher. Finally, their questions and/or concerns about the research process were verbally encouraged and answered.

I verbally reminded clients to have the forms signed and to bring them back at the next session if they agreed. They were given a week to decide whether I had their participation. I also personally stated the requirement of the legal guardian informed consent forms to be brought home to be signed if they were not their own guardians. Client participants' family members and guardians were contacted and communicated directly by the program manager and primary physical therapist and art therapist on site. I received all six signed consent forms and made copies for them at the next session. From that point on, they were considered and called co-researchers.

Procedure

After the procedure was explained and informed consent forms were received, co-researchers, staff participants, primary co-researcher, and I all met at the facility on Wednesday afternoons after the regular program hours at 2:30pm for weekly hour and a half dance rehearsal sessions. Overall, 19 rehearsal sessions were conducted. There was also one tech and one dress rehearsal the day before the performance, and one final public performance on the evening of Thursday, July 24th, 2014. The first rehearsal session began on March, 12th 2014, and continued for five months in total.

With the PAR paradigm and artistic inquiry approach in mind, a variety of data collection methods were utilized: movement observations, process video recordings, and my journal

entries. Considering my co-researchers' specific physical, cognitive, and emotional concerns, several accommodations for methods (Kemmis & McTaggart, 2007; Mertens, 2005) were also identified and made accordingly: larger font size for informed consent forms, oral reading of the text (including consistent verbal check-in throughout the rehearsals), flexible time arrangement (e.g., inserted intermittent breaks and switching sequence/order of activities based on co-researchers' responses to decrease fatigue), and various assistive tools (e.g., chairs, walkers, staff participants, peers). Co-researchers were encouraged to ask questions, raise concerns, and make suggestions at any time throughout the study duration.

As the researcher of this study, I facilitated and participated in the rehearsal sessions with my primary co-researcher's guidance and other staff participants' assistance. My primary co-researcher oversaw and assisted with my facilitation, utilizing Goldman and Larsen's (2011) performance as therapy (PAT) approach. The PAT approach is specifically divided into four stages: request, claim, promise, and execute. The stages are not limited to a linear fashion, but rather a cyclical progression. There are always opportunities to revisit the previous stages. Two stages can also be proceeded simultaneously.

Creative process. Creative process is the principal component in the PAT intervention chosen for this study. Shown in the literature chapter of this thesis study, research on creativity and creative process has been done (Chyle, 1999; Collins & Amabaile, 1999; Guilford, 1950;

Guilford, 1987; Isaksen, 1987; MacKinnon, 1987; Maslow, 1959; May, 1975; Rhodes, 1987; Russ, 1993; Wallas, 1926). To better understand what creative process is, how it functions and relates to people's psychological undertakings as well as relationships in clinical use, it is important for me to state from the perspective of the creative process for the purpose of informing and guiding my study through the PAT framework.

McNiff (1998) declared that a study cannot be strictly designed or controlled in order to correspond with the spontaneity and complexity of movement art and the therapeutic process (Hervey, 2000). Hervey (2000) articulated that the creative aspects of the research process should be acknowledged despite the fact that its intrinsic value has been omitted by other scientific research methods. The whole research process can correlate to the conceptual theory of creativity (MacKinnon, 1987; Rhodes, 1987), where the process is like the methodology of research, product is the presentation of findings, press refers to the environment of the research and how it impacts the research effort, and person refers to those who design conduct, and engage in the study (Hervey, 2000). Based on Hervey's (2000) creative process, six phases move cyclically and recur with different dynamics and purposes for each researcher or artist. The six phases: inception, perception, inner dialogue, illumination, expression/formation, and outer dialogue were used as an internal guide as I conducted my research. I also was constantly mindful of the idea that the creative process appears and reappears at its own timing and on its

own course. My impatience and any intention to domination may interfere with the organic nature of the creative process with the brain injury population.

Interventions. The PAT framework I applied for this study was the model proposed by Goldman and Larsen (2011) for creative collaboration, which in my belief can provide a concrete and workable groundwork for my study with brain injury population. It also aligned with my use of the PAR paradigm for its collaborative nature. Four stages of creative process in the PAT framework was adopted and refined from previous models integrating Goldman and Larsen's personal experience. The four stages are: request, claim, promise, and execute. Request is the exploration and sustainment of self-exploring core, inner impulse and presence. Claim stage is to find meaning and purpose and bringing those into relationship. Promise stage is to find the thread of experience and committing to stay in the partnership that you found and built. Execute stage is to put those intentions into action.

All 19 rehearsals began with the fundamental patterns of total body connectivity (Cohen, 1993; Hackney, 2002), where I addressed the idea that change in one aspect will lead to another aspect of change and the whole shift ensues. For Hackney, each connectivity is relational and organizes a way of relating to not only self but also to the world. The conscious engagement in these stages of bodily development allows people to constantly create "our own embodied existence" (Hackney, 2002, p. 14), which is like an ongoing creative process.

Modifications for ethical concerns and specificity of co-researchers. Instead of giving directives and absolute structures, I focused on interventions primarily of observation, verbal and non-verbal reflection, gentle encouragement, clarifications, open-ended questions, mirroring, improvisation, and movement play. During each rehearsal, we basically moved through the movement exercises according to the list of the PAT framework. After fundamental patterns of total body connectivity and authentic movement was guided, there were periods of improvisational moving to allow co-researchers to explore any movement ideas that encourage a sense of internal connection to truth or to what wants to be spoken or told. Usually different formations and pairings from the group were encouraged or otherwise automatically formed at this phase. For example, circles, trios, lines, irregular shapes of collective moving. Verbal reflection and exchange of co-researchers' experiences, associations were embedded throughout the rehearsal. It was not limited to the verbal processing phase.

The rehearsal sessions were generally structured as follows:

1. Verbal check-in: Unofficial verbal check-in about co-researchers' day, including their emotional states, and quick reminder of last session's summary and today's agenda.
2. Warm-up: Fundamental patterns of total body connectivity. We moved all body parts, motor and gross movement, integrative functional movement with three-dimensional (3D) breathing. Fundamental patterns of total body connectivities consist of six

phases: breath, core-distal, head-tail, upper and lower, body half, and cross-lateral that are crucial and an integral part of the movement learnings during human infantile. Established based on the developmental progression, the co-researchers and I moved through these early life learnings to re-pattern the neural pathways in order to develop new muscular responses in regards to the activation (Ashley, 2012; Berrol & Katz, 1985; Chen, 2014; Doidge, 2015; Siegel, 1999). It is a movement intervention within the PAT framework; it is also frequently used in the program, which brought kinesthetic and somatic self-awareness.

3. Movement development and idea brainstorm: Basic Chacian circles were used. Throughout rehearsals, change of group formation, identification of movement interest(s), movement play, improvisation, authentic movement were encouraged and facilitated.
4. PAT stages: Followed the four stages of the PAT framework using improvised movement generation, questions in each specific stage, rhythmic group activities, repetition, memorization, mirroring, sharing/performance and observation of the movement theme(s) in either solos or in groups.
5. Verbal processing: Summary for the movement and the creative process occurred. Further reflections, questions, or suggestion were encouraged. A few times, simple

artwork reflection was used as I saw the needs arise and as the time permitted.

As we first entered the request stage of the process around rehearsal three, all participants came up with various personal requests that seemed disparate and unfocused. After two more rehearsals with honing the movement by once again asking: I love____, I want____, I am afraid of_____ individually and with a partner, two group requests were narrowed down and solidified.

At the seventh rehearsal, the group's entry into the claim stage began with me reconstructing the question format and fabricating them into six statements: I want____, I need____, I have____, I believe____, I can____, I am____. I asked the co-researchers to come up with one statement each time with an accompanying movement or movement phrase. However, another two rehearsal sessions passed, I realized it was too much for my co-researchers to constantly breed new thoughts and be able to codify and store them in their memory and body. After verification from and discussion with my primary co-researcher, I cut down the statements required and focused mainly on the three: I want____, I can____, I am____. These statements had a progression for co-researchers to reign in what seemed to be external (what they want from the outside world and what they are able to effect on their immediate environment) to internal (what and how I am to who I am), and to reestablish the sense of self

and purpose of their behaviors and being. I think these statements are more strength-based and reality-centered, and they also aligned with the model in the program.

Basically, the first three rehearsals were dedicated to free-association movement practices. Beginning from the fourth rehearsal, the exploration became a more theme-oriented process. Meanwhile, we also started to explore the request stage of PAT. We came up with individual requests, then narrowing them down before we moved into the claim stage around the seventh rehearsal. At the tenth rehearsal, promise stage was gradually progressed and it underlay the rest of the creative process throughout. Execute stage occurred almost concurrent with the promise stage and all remaining rehearsals as we continuously observed and moved and reflected in a creative process. The final public performance marked as a cornerstone of the creative process and the completion of the execute stage for this study.

At times, props and objects in the space were utilized in movement exploration, movement play, and improvisation to help with movement initiation, development, and interaction. Use of props were allowed and encouraged but not required. On one hand, props and objects can be used as an extension of the body; they create or represent a symbolic meaning in choreography. Used this way, props and objects carry an artistic or emotional value. On the other, props and objects can be used as a non-verbal cue or to help mediate movement and its

pathway. In this case, co-researchers can depend on the props and objects to interact with others at the appropriate timing and spatial relationship.

Data Collection and Analysis

Due to the subjective component of movement observations and the inherent nature of embodied experiences, data analysis occurred simultaneously during the data collection phase. For my data analysis method, I followed Moustakas's (1990) idea of creative synthesis in discovering, synthesizing, and/or expressing the meaning of the data (Hervey, 2000). Within the artistic inquiry, dance-making process and movement were used as the primary data. To examine more specifically how my co-researchers' movements were shown in relation to others' movements, I first took in data from a body level by paying attention to details that come in the form of gestures, postures, movement phrases, facial expressions, affect changes, and spatial relationships (Cancienne & Snowber, 2003; Hervey, 2012). I then also immersed in body sensations, emotions, and thoughts that came up as I observed, moved, and reflected with my co-researchers.

The concern in using dance as a kind of data is that its basic element, movement, is transient and ever-shifting. Plus, movement is usually developed and interpreted based on subjective experiences, associations, and memories; therefore, personal emotions may impact the validity and reliability of data analysis and reanalysis. To address this matter, I carefully chose

my data collection tools to allow for rigorous observation and reflection to occur among my co-researchers, all other participants, and me. Therefore, my co-researchers' movement responses to intervention questions, their creative and expressive ideas, and the ceaseless reflective processes were to be captured, recorded, and later investigated. A variety of data collection and analysis tools were used: movement observations with verbal processing, video recordings, and my personal reflection journal entries (Hervey, 2012).

Movement observations with verbal processing. My first-hand moving experience with my co-researchers and all other participants, responses to co-researchers, and finally creating, developing, and performing the dance altogether under witness of the public eyes involved: empathic reflection, kinesthetic attunement and empathy, as well as somatic countertransference. In this process, movement association and evoked images surfaced and clarified until a sequence of movement was discovered to most accurately and effectively communicate the intended meaning.

To remain true to my co-researchers' lived experiences in a collectively creative and personal process, I utilized verbal processing, art work reflection, and member checking. The verbal processing and art work reflection were for maintaining the validity of the study that both internal experiences and external presentation were considered, acknowledged, and organized. My co-researchers, other participants, and I verbally reflected throughout each session on the

movement we created, witnessed, and developed. We named the movement we saw, using guided questions like “what did you think of” (thoughts), “how did it make you feel” (feelings), “what image came up for you” (images), “is there any bodily or visceral feeling that came up when doing those movement or when watching” (sensations), and “did it bring up a memory or anything that you had experienced” (associations).Group dynamic was also noted and put into conversation if necessary. The movement analysis categories of Effort, shape flow, and Space were utilized to give a clearer language in describing co-researchers’ movement making and executing processes. Member checking was used intending to retain objectivity and credibility from participants of not only their assumed or expected experiences, but also the perceived and affirmed truths.

The fluid and disparate nature of body and body movement were taken into consideration throughout all rehearsal sessions; I had to be especially attentive to the subjective component in movement observation method that my embodied experiences of co-researchers were viewed and interpreted with attempted objective lenses. The emergence of the meaning and understanding of movement data collected lies in the dialogue between those observed data and my struggles, questions, and associations generated from participants’ interactions. My aim in observing were intended to grasp the most organic and immediate shift in co-researchers’ use of body, range of

motion, orientation to space and time, any change of movement effort, and their intra-interrelationship shift.

Video recordings. Video recording was one of the appropriate and most effective ways to preserve movement data to make them more objectively accessible after the first exposure in rehearsal. The video recordings were made during the last 45 minutes within each 1.5 hours of the weekly PAT rehearsal session, when the familiarity and theme was developed, movement and emotional content matured to be readily consistent and available. Beginning from warm-up to the verbal processing of the rehearsal time, each video recording presented co-researchers' individual movements and such movement relationship with that of the other participants, group's creative progressions, and group dynamics. The final 15 minutes of each rehearsal session were utilized for all to engage in a discussion of the moving process as an integral part of the rehearsal and a group norm, regardless of the context of the research. All participants, especially the co-researchers could take advantage of this time for therapeutic reflections and processing, more importantly to allow for a break from physical activities and engage in a reexamination of what just happened. The video recordings were intended to use for my review and verification of movement observations during the sessions (Hayes, 2010; Hervey, 2012).

The recordings were reviewed and transcribed after each rehearsal session. The generated data, useful and appropriate movement materials were retained for the use of the following

session. Occasionally I moved along when reviewing the videos intending to replay the rehearsal moment in my body; other times, I moved in response to the review to approach the data with a fresher perspective and bodily sphere. There were two sets of video recordings. One is the movement date collected throughout all rehearsal processes. Only would the primary co-researcher, my thesis advisor, and I have access to this data source, which would be stored for five years following this study, and destroyed after the fifth year. The other video recording is the final performance that would be stored permanently and have chance to be reviewed by the Columbia College Chicago community, the program community, and the public through Columbia College Chicago' library website. This recording would not be destroyed.

Reflection journal entries. Following each rehearsal session, I entered my reflections, questions, discoveries, embodied experiences, and review of the videos into my personal journal. My reflections on process and the movement data in the personal journal entries were used as a critically examined subjective criterion in the analysis of the primary data accessed through movement observations and process video recordings. Thus data, which referred directly to the PAT group rehearsal experience and movement elements, were perceived and analyzed with reference to my intense personal involvement.

In the form of narratives, free-association, self-dialogue, interpretation, sometimes graph drawing, art-making, humming with doodling as well, I intended to integrate observations,

embodied kinesthetic sensations, review and recreation of the temporal experiences, and discussions with my primary co-researcher into a synthesis. At times, I simply wrote down a couple most salient words based on my observations from the rehearsal sessions. It could be from a thought, a sensation, a question, an image, a memory, an association, a color, a texture, or even a sound that I generated through the movement and the moving process. Some other times, I saw art-making as making more sense to really express the intangible and abstract from the rehearsal sessions. I would draw the body movement I observed in abstract manner through the use of different colors, art materials, dynamics of strokes, dimensions, and layers. At the corner or back of the art work made, I would again, keep a written note about what this refers to and represents. I also documented quotes from co-researchers and other participants in the rehearsal sessions for later reference and validation use.

Validation strategies. During rehearsals, my co-researchers and I continually analyzed and layered movement data together, in order to ensure authenticity and accuracy through the creative process and in the final artistic product. I considered this a form of member checking. According to Mertens (2005), member checking helps to substantiate the credibility of qualitative research. It involves seeking verification from the participants about the developing structures and constructions resulted from collected and analyzed data (Mertens, 2005). Throughout the rehearsal processes, I paid special attention to the quality of the movement

generated and the extent of movement engaged from my co-researchers to document any seemingly minor but could be of significance changes. Frequently during rehearsals, I would inquire the co-researchers to describe their movement qualities and spatiality. And then I encouraged them to fully embody those movements by guiding them to clarify their own inner landscape (Chyle, 1999) in executing the movement. The inner landscape includes their intention, emotional states, associated imagery, and imagination. If those can be clarified and strengthened, their movement presented as more full, with richer characters that can more accurately and intimately portray the stories that co-researchers were hoping to tell.

Another validation strategy used was verification and affirmation from my primary co-researcher. Based on her experience and expertise in working with the population and utilizing PAT, she identified the palpable needs and wants from the co-researchers at the moment. She also remained a keen eye on clarifying questions, answers, narratives, and instructions to hone in what co-researchers were really describing and expressing.

Ethical Concerns

Based on the organic nature in the creative process for this research, some procedures at the initial design stage were adjusted either because of the evolving creative nature or because of the change in the setting or immediate environment. However, attempts to maintain an awareness of research ethics were achieved at all times, through consideration and respect for the

co-researchers' needs, flexible choices with the possible impact on their treatment goals, and the intended justice to co-researchers' embodied experiences, and potential social change.

Additional reflection session. During a follow up discussion with my primary co-researcher three months after the final performance, I verbalized to her my strong curiosity on how the study has impacted the co-researchers in any lasting ways. She then invited me to return during an unstructured time the following week to talk with the co-researchers. I went to the program and spoke individually with five of the six co-researchers. The sixth member was absent that day. I casually asked them three questions: How were the rehearsal and performance for you? What from that experience you remembered the most, and why? Did the experience impact you in any way after the performance? I wrote down their verbal and non-verbal responses and my own observations during communication. They seemed happy to see me, smiled when they saw me, and were open to talking with me.

Unfortunately, I did not remember that I had explicitly stated in my original informed consent forms that no further contact with the co-researchers were allowed beyond the point of the completion of the final performance. Therefore, I designed a follow up plan to revise this deviated action. First of all, I designed another informed consent form specifying the deviation that I made by referring to the original informed consent form. I explained the purpose and intention of the additional reflection session and explained the reason why that action was not

expected. I then contacted my primary co-researcher to explain and clarify the situation, requesting her to be the point of contact between me and my co-researchers. I emailed her the revised informed consent forms for her to distribute to the co-researchers. My primary co-researcher chose a day to proceed with the follow up plan by explaining verbally to the co-researchers the purpose, intention, and action disclosed in the revised informed consent forms, and also clarified the purpose, intention, and the need for this follow up action. In doing so, I was to ensure that the co-researchers understand that I would refrain from any further contact with them as a primary researcher and for any purpose related to the study as originally indicated in my informed consent forms.

Although I was invited by the primary co-researcher and program staff to proceed with the additional reflection session after the performance, and all co-researchers agreed to talk with me, I should have not done so. Despite that no any risk of physical or psychological harm or loss of confidentiality was caused to the co-researchers, I realized that this was outside of the plan that was intended in the original informed consent forms. A deviation report was submitted to the IRB that approved my study.

Chapter Four: Results and Discussion

This study was a culmination of my curiosity and passion for wanting to understand creative process through dance within the therapeutic use of the PAT approach. Specifically, I set out to examine how PAT might impact brain injury rehabilitation. Wittenstein said, “The human body is the best picture of the human soul” (as quoted in Anscombe, 1970). This presents the idea that the human body is not only a physical form that exhibits biophysiological functions, but also a container of our thoughts, feelings, and perceptions. The body is itself a manifestation of expression and movement is a channel of communication. This section is my attempt at finding the written language that do justice to my co-researchers’ lived experiences as I observed them, and articulate those moments that growth and change occurred.

My research questions were: How can PAT impact the rehabilitation process of the brain injury population? What is the role of the creative process in the PAT intervention for the brain injury population? In addition to the questions that I set out to answer, there were also unexpected learnings from potential questions and further considerations that may pave way for future research and clinical application. This chapter includes a narrative about the dance, its creative process and the end product-presentation of the dance. Significant discoveries from my first-person experiences collaborating with the co-researchers were displayed within both the

group and individual processes. I gained insight on how their artistic voices and aesthetic values govern those processes.

What one? Name it The PAR paradigm and artistic inquiry methodology informed my study process in reviewing the specific PAT interventions used and the manner how they were used. It helped with my intention to understand how particular techniques utilized can be useful for future research and clinical practices. Examples of interventions and co-researchers' responses and descriptions of my clinical impressions about them are included. The intrinsic creative process in the framework was manifested regarding the impact of the process on four primary domains: physical, cognitive, emotional, and relational within brain injury rehabilitation. Finally, some other discoveries I was not expected presented themselves that I found worth mentioning are included. More importantly, challenges in using performance as therapy for brain injury rehabilitation and the study design that may be of value for future researchers and clinical application will be examined. Overall, the artistic inquiry methodology, therapeutic environment, creative process, and clinical changes gradually occurred and interwoven through my attempt in connecting the theoretical framework to the practical use in this study.

The Dance - Ride On

The co-researchers, other participants and I engaged in a creative moving process for over five-month duration including 19 rehearsals. The creative process allowed the

co-researchers to engage in the roles of explorers, artists, and problem solvers in the process. The co-researchers embarked on a journey of creating, rehearsing, and performing a dance publicly regardless of the cognitive impairment and challenges in various other areas. There were times the rehearsal needed to be broken down into smaller sections to meet the needs of the co-researchers for easing the physical tension, such as using the bathroom, drinking water, and taking a cognitive recuperation break. Exhaustion and frustration arose within the co-researchers and other participants alike because everyone was at a different stage in their individual and creative development. Nevertheless, the co-researchers were a vital part of the development and creation for the artistic project and the study. Through this accomplishment, their own process and growth were cultivated in order to achieve rehabilitation goals.

The dance began with all the dancers pairing up and standing still in the dark. With the pair in the center being the cue, movement occurred as the spotlight went on one after another. The movements they did at this point were developed by their answers to *I want* statements. Each individual's movement had a symbolic meaning that bears personal value and importance. Cyla called out "French Toast!" as the bell rang in the music. Meanwhile, another male dancer rolled a physio ball across the stage while everyone else slowly stopped their movement. James stepped out from the wing onto the stage to do a short solo of *bachata* steps, which is a style of social dance from the Dominican Republic. Soon after that, all dancers followed him into a

single file line to move in a circular pathway around the stage. After a series of movements that symbolized putting on a safety belt and holding the steering wheel, a journey of car rides began by forming and transforming from one type of car to another using all dancers' physical bodies.

Physically connected to one another, the dancers moved freely and rhythmically with variations of pathways and made periodical stops along the way. Afterward, a single vertical line was formed, each dancer had a solo moment showing their *I can* statements by stepping out of the line. A circle formation ensued. The dancers came together to engage in a play of the physio ball by punching, throwing, kicking, and rolling it. Eventually, Von retrieved the ball and lifted it over his head while calling out "*Yo soy yo*", meaning "I am me" in Spanish. All others turned around and one at a time entered a close proximity circle to come in contact with the ball. They moved in coordination with the background *I am* statements and sound of breath recorded from each dancer. The physio ball was slowly lifted overhead by all. At the last note of the music, they dropped the ball and stepped away from the circle until the lights blacked.

The dance was performed at Dance Center of Columbia College Chicago, a professional standard dance theater. The rehabilitation community, Columbia community, and the general public were present to witness this dance. Two thirds of the 268 seats were filled on the performance night. The co-researchers danced to the country song Wagon Wheel (Rucker, 2013).

With the stage lighting and entrance and exit from the wings, the co-researchers accomplished the dance in an unfamiliar and organization demanding space.

The Creative Process and Presentation

Artistry and creativity are not the same concept (Chyle, 1996). The creative process involves all kinds of novelty, resourcing, and problem-solving skills. As mentioned in Chyle's (1996) work, some researchers claimed that the artistic process is a subcategory of the creative process that it specifically focuses on refinement and aesthetics. In this study, it was my intention to keep the distinction between artistic process and creative process when discussing the group and individual processes. This distinction manifested in the way the co-researchers partook and engaged in a process and ultimately a performance. During the process, they made small and sporadic aesthetic choices as part of their artistic responsibility, where I observed their unique use of personal novelty, volition, and problem-solving skills.

Within the performance as therapy approach, I considered the creative process on a macro and micro level. The macro level of the creative process involved the gestalt of generating and completing a dance. The micro level of the creative process encompassed the four stages of the performance as therapy framework: request, claim, promise, and execute (Goldman & Larsen, 2011). In looking at creative process from both levels, I discussed the results from examining both the group and individual creative processes to answer my second research

question: What is the role of the creative process in the performance as therapy intervention for the brain injury population?

The group process. In considering the nature of the performance as therapy framework and the co-researchers' rehabilitative needs and level of functioning, my primary co-researcher and I set out to frame the rehearsal sessions as primarily movement-oriented. To reinforce the kinesthetic connection and to reduce the likelihood of over-intellectualization and inhibition of feelings/emotions, we began each rehearsal session with the fundamental patterns of total body connectivity (Hackney, 2004). Because of the organic nature of movement, the temporal quality and spatial orientation constantly fluctuate. In other words, change in one body part changes the whole system, and therefore needs to be understood as an interrelated body-mind system (Bartenieff & Lewis, 1980). The fundamental patterns of total body connectivity also paved the way for easier receptivity of bodily feelings, emotions, and potential expressive actions (Hackney, 2004). This is because it helped direct self-awareness and generate a feeling of liveliness from moving through each of the necessary developmental stage. In short, fundamental patterns of total body connectivity were utilized for the purpose of "lively interplay of the inner connectivity and outer expressivity" (Hackney, 2004, p. 34). This point was similarly supported by Sheets-Johnston (2010), who suggested that by engaging in movement with self-awareness could bring about the affirming feeling and possible change. As the time passed in rehearsal, we

shortened the length spent on the developmental stages and added on different movement elements or verbal directives during warm-up for the purpose of expanding movement repertoires and more active bodily imagination. The bodily imagination was executed by my verbally cuing the co-researchers with imagery for them to use their body parts in a novel way. This approach prepared us for dance ideas and movement generation in the creative process.

As a group, the co-researchers coherently stated that they felt more relaxed when we collectively engaged in three dimensional breathing before movement explorations. Their display of affect also shifted from blunt to more animated with smiles. Three dimensional breathing was one of the movement warm-up exercises that remained consistent throughout all 19 rehearsals. The breath we did together was used both as a transition from the co-researchers' day program routines and a way to build the sense of togetherness with all participants. I believed it helped channel the co-researchers' heightened energy to become a more calming and grounded one. It also served the purpose of reconnecting them with their core by bringing awareness to how their body expands and shrinks along with the motion of the traveling air as evidenced by a couple of them stating "I feel calmer" and "I feel like a balloon inflates and deflates". After a few sessions of prompting the co-researchers to pay attention to their breathing as they were moving, I observed them becoming more conscious of such ingrained physiological human functions as evidenced by their attention in incorporating breath in the warm-up exercises. After a few weeks,

the co-researchers automatically incorporated breathing into their movement. Furthermore, they engaged in rhythmic movement assisted by more discernible breath patterns. This awareness enhanced their attentiveness in later sessions.

Rhythm is another fundamental property of breathing (Croom, 2012; Cross, 2001; Gilbertson & Aldridge, 2008; Levy, 2005; Phillips-Silver, 2009) that was crucial to this creative process. The rhythm brought about intention and clarity in co-researchers' movement and their spatial orientation. It also allowed them to be more aware of the temporal structure of time through the rhythmic activities, which built a sense of the present moment. In addition, the rhythm of breath established for them a connection with the external world, of which they were a part. The co-researchers demonstrated an increased community building potential when they made eye contact and modulated the lengths of their own breath to meet that of the others. The sense of organization and togetherness was thus derived, as the sound of the breath filling the room was powerful. The breathing preparation later became part of the audio recording used in the background music for the performance. The repetitive and clear structure of rhythmic breathing was easy to follow and reference when we moved into the more fluid creative process.

It was not until the fourth rehearsal that my primary co-researcher and I encouraged and more actively facilitated the brainstorming process with the co-researchers. The exploration began to transition from free-association movement practices into a more concrete theme

oriented process. The reason for this progression of facilitation was to make certain that familiarity with the ways of working in the PAT framework was established through fruitful movement play at an early stage in creative process. The co-researchers were then felt comfortable to have fuller immersion in rehearsals as evidenced by moving with increased free flow, being more willing to explore movement directives, and more actively expressing their inner emotions.

The conversations regarding what we would to do for the dance and how the process and presentation would look were embedded in the moving process. Although those ideas were not explicitly discussed, the rise of co-researchers' questions and suggestions at a later stage supported how creative process cultivated idea generation and problem-solving features in a gradual manner. Rather than always having a discussion mainly dedicated to conceptualization, the co-researchers, staff participants, and primary co-researcher were allowed and encouraged to freely contribute whenever the spark of creativity came to them. With the staff participants' assistance, we as a group conceived concepts, words, images, and rhythms for all to play with through movement explorations during the first three rehearsals.

The creative process is a cyclical process in nature. It moves in circular fashion, more often than not overlapping or repeating itself, as shown in image of my imaginative and expected study process (see Appendix B) with the co-researchers from my first reflection journal entry.

Due to their impaired cognitive functioning, the co-researchers regularly required structure and linearity to keep track of their information gathering and processing. From my perspective, concrete linear thinking stands in contrast to abstract thinking. Therefore, this cyclical concept was used to address the co-researchers' inhibited abstract thinking and thus guide them with a less linear approach.

Uncertainty was an inherent part of the dance-making for all. The creative process taught the co-researchers and I to expect the unexpected, the unknown in the working of art. I demonstrated to the co-researchers how I embraced the uncertainty of dance-making, by taking time to generate movement, repeating choreographic movement phrases, and tossing away an idea that did not feel right to me. Through the process, I witnessed the co-researchers starting to do the same as evidenced by showing more willingness and initiation to take risks in making their own aesthetic choices even though the uncertainty was scary. As rehearsal progressed later into the promise stage in PAT, this became more evident.

Sometimes, co-researchers generated movement through both mirroring and observation of me and other participants. Other times, they were led in an improvisational moving process in response to the intervention questions inquired by the primary researcher and through guided imagination based on the movement that was already happening. During this time, interplay between images and movement was explored. Co-researchers did short movement phrases and

put descriptive words to them, or in reverse, sometimes imagery words came first that then inspired or associated with the movement they generated. The co-researchers regained ability to self-initiate in the structured and rhythmically organized manner through improvisation as evidenced by becoming more active in their involvement in rehearsal participation. The implication was that performance as therapy can offer people with brain injuries an opportunity to embody different behaviors in DMT sessions compared to other settings and situations.

Request and claim stages. In the fifth rehearsal session, we proceeded into movement generating process in order to identify our request(s) and claim(s). At first, it took the co-researchers longer to answer my intervention questions. This may be due to their delayed responses, disconnection between cognitive and emotional processing, or physical and cognitive discrepancy from injury. It turned out that further clarified questions were required. For example, the question of "what kind of responses you had to the movement you just did?" could be too broad for interpretation and prone to abstraction that was difficult for the co-researchers. My primary co-researcher reminded me of the ambiguity of the tone and wording of the questions, to which I refined to provide more concreteness and conciseness. Therefore the question was modified to "is there any image that came to you when you did that movement?" "how did you feel when you moved?" or "did you think of anything when you moved that way?" Through these clarifications, co-researchers gradually began moving more and responding sooner. They

addressed my intervention questions with changes in movement (following to creating), verbal response (receiving to input), and affect change (controlled to cheerful), indicating increased self-initiation, motivation, and self-expression.

Promise stage. As we moved further into the promise stage (generally started from week 12), repetition became a huge element which informed the rehearsal process and performance aspect. Unless with an improvisational intention, repetition is an inherent part of the creative moving process that co-researchers practiced and applied in order to present the effortful movement exertion as effortless performance onstage. Repetition is commonly known and used in DMT groups with brain injury memory rehabilitation (Berrol & Katz, 1985; Chen, 2014; Cook, 2008; Fluty, 2010; Prospero, 2007). Based on the concept of neuroplasticity (Doidge, 2015), repetition helped the specific neuronal pathways to be activated repeatedly, increasing the probability of them being activated again in the future. This is crucial for brain's learning and in further producing and applying memory. Therefore, using repetition can increase the co-researchers' memory functioning, especially the working memory and short-term memory, as supported by the results of Chen's (2014) study. In the rehearsals, not only the working memory and short-term memory were largely activated, but the long-term memory was also required in storing and retrieving movement language. Long-term memory was also necessary for executing movement directives for the performance that was yet to come.

Repetition was thus used with and among the co-researchers to refine movement qualities and enhance the collective efforts in dance structure, all the while consolidating memory about the dance and enhance their use outside of rehearsals. Occasionally, repetition was not actively encouraged or guided when improvisation was utilized for the day's movement theme development and movement play. With co-researchers' great reliance on verbal cues during rehearsals, I informed them of the fact that no verbal cues would be intently and openly given in the dance performance. Such tacit rule in the dance world is commonly acknowledged, but for the co-researchers it was something to be learned and practiced. Without my verbal cues, the co-researchers placed themselves in a position to take ownership of their movement and the flow of the moving process. Furthermore, memorizing the created movement and orienting themselves in space on top of music shifts were a task they had to accomplish on their own.

In addition to developing dance structure and generating movement based on co-researchers' images and answers to the intervention questions, they were responsible for many other aspects in the production. They proposed ideas about adjustment in movement quality and spatial relationship to one another through moving and witnessing, and remembered to follow up on those suggestions. The co-researchers expressed preferences of what they wanted and needed that demonstrated their resolve and insight in a process that demanded collaboration and organization. They were part of the collaborative whole, an entity composed of autonomy,

support, and acceptance provided by me and my primary co-researcher in a therapeutic environment.

The group concluded each rehearsal session with another verbal reflection, where the co-researchers mentioned what felt salient to them during the group. The co-researchers often reflected on what movement they witnessed from other participants, or that they had fun doing the movement themselves. For example, Qui stated “seeing you guys move together is like you were speaking to each other with no words” after watching another group execute their duet movement. He also mentioned “I felt connected watching them. I could feel that when I moved with my partner too” as he swiftly moved his right hand fingers. Sean claimed “It was stress relief. It felt calming.” Rose also shared “I liked the punch at the end!” after Cyla showed her claim movement with a lounge and strong punch. Again, the co-researchers came with a varied spectrum of abilities, so verbal processing did not always come easy to everyone. Yet, this element organically surfaced as part of the creative process so almost every co-researcher made the attempt to have their voice heard.

Of great importance, I noted that staff participants and primary co-researcher also actively shared as they saw fit. Allowing everyone in the group to reflect upon their immediate experiences demonstrated a sense of respect that the co-researchers were hardly able to receive in their daily encounters. It helped decrease the dynamic of power differential for participants

between their usual roles in the program as staff members and clients. It fits with the PAR paradigm and was effective with the brain injury rehabilitation. They established a strong sense of group cohesion through the collective verbal and non-verbal engagement.

Not all of the co-researchers and staff participants remained moving throughout each rehearsal. Stepping out and observing was also an important component of the creative process and a different way to reflect on individual processes. In Chace's work, she found that the act of witnessing the performance of peers increased empathic ability because movement contained not only a personal meaning for non-performers, thus making performance both an interpersonal experience and a mode of therapy (Johnson, 1993).

The self-reflective process during the creative moving process also indicated the co-researchers' ability to actively participate. As an observer of an action, the co-researchers were by no means passive spectators but active players as well. Neuroplasticity was influenced through active observational learning, where new skills and new tools were developed (Jeannerod, 2006). Whether it was an aimless copying of movement or true imitation with clearer intention, the co-researchers were engaged in making neurological connections by forming a mental representation of an action completed by others, and figuring out a way of personal/physical execution of the action observed. This observation was also proposed and supported by Chen's (2014) study in how effective mirroring and repetition could be for brain injury rehabilitation.

Execute stage. As we approached the actual performance, the preparation in rehearsal sessions had also started to incorporate more than just memorizing and rehearsing for perfecting the performance. The education about performing was delivered: what a performance is really like, what we need to prepare for getting to the theater, rehearsing on stage with lighting and curtains, maneuvering movement in a larger space, and what it means/feels like to have an unfamiliar audience watching. I verbally delivered the information during the last three rehearsals and opened up the space for discussion and questions. The questions of transportation and costume surfaced. As a group, we talked about the possibilities of carpool and arranging schedule to get to the theater for dress rehearsal and performance. We also explored costume ideas by trying on different color shirts. When paired up, several co-researchers commented on how they liked the colorful costumes and voluntarily suggested options when we had difficulty finding the right match for some people. Through this process, co-researchers learned to participate in not only creating, but also what a creative process entailed were other responsibilities such as decision-making, evaluating, and coordinating.

The individual process. The kinesthetic approach to movement of DMT in the rehearsals drove the change in neuronal activities to promote a sense of changed perception of self, harmony and connection with others, similar to findings from the existing literature (i.e. Berrol, 1992; Boris, 2001; Chaiklin, & Schmais, 1993; Fluty, 2010; Hackney, 2002; Levy, 2005;

Prospero, 2007). The induction of the rhythmic pattern from music, breath, and vocal sound also aided the co-researchers in dropping in to a meditative state, where we moved with spontaneity and relaxed the thinking mind into a deeper awareness of feelings within selves.

Among the six co-researchers, James showed much vitality and personality. This vigor both impacted his participation in the creative process positively and negatively to some degree. In comparison with other co-researchers, James initially seemed to be having the most difficult time in committing and engaging with a consistent manner. Although he complied with the instructions and participated in group activities, he oftentimes would falter away from his own movement and thus inhibit authentic expression by laughing and taking on others' movements. This may be in part due to his short attention span, lack of self-initiation, and his overall maturity. It was at first a slow process to cultivate purpose in him and forge resolve to continue his participation, and further in his active engagement in the process. He eventually remained his engagement throughout the whole process till the completion of the dance, which implied an overall improvement in his attendance to treatment and increased sense of responsibility to the commitment he made.

Nonetheless, James displayed noticeable playfulness in the first few rehearsals that further came forth as being a contagious characteristic. At one point in the third rehearsal, another co-researcher commented on his movement after showing individual movement: "That's

James! That looks like his movement." I asked further, "What about the movement that looks like him?" "Um…I don't know. That is just like his personality, I guess." Playful movement in this process was a signature of this young co-researcher.

Cyla also came across as having a personality that was vividly recognizable. Being the only one who sustained aphasia due to her injury, her close bonds with other co-researchers automatically manifested on a kinesthetic level for most part. Through the process, she gained expressivity both verbally and non-verbally. For instance, she expressed her heightened emotions such as frustration or agitation by using the words "French toast" instead of another word that would have been considered inappropriate to others in the setting. Not only did it suggest her creativity but also her awareness of appropriate social behaviors. This "French toast" saying was joyfully shared by the group, which was later used as an important verbal cue during the dance performance. With her paralyzed right arm, Cyla got easily frustrated and exhausted during the first several rehearsals. At those times, she would become more passive and withdraw herself from group without clear communication.

As the creative process advanced, Cyla managed to engage in movement for longer and exhibited obvious endurance by challenging herself to try difficult or unfamiliar movements. Furthermore, she became more physically energized and verbally active as we entered promise stage. She was seen regularly attempting to search for the right words that could articulate her

thoughts and feelings. Meanwhile, she used her relatively intact memory functioning to help smooth the rehearsal process by providing verbal reminders for others, suggesting an experience of altruism. In short, her overall mobility and expressivity were improved toward the completion of the dance.

Similar to Cyla, Von required his personal assistant to translate English to Spanish for him. Due to the language barrier, his answers in earlier rehearsals seemed less relevant or articulated. It was thus also more difficult for solid interpersonal relationships to form. The language and physical limitations (he used a walker) manifested in his movement being mostly upper-lower and core-distal at the early stages. Gradually, his answers and statements appeared to have a pattern that conveyed a sense of existentialism. Although his movement expressivity was still limited through the progression of the rehearsals, I noticed slow improvement of expressivity in his thinking and ways to approach movement. That said, he still showed improvement in physical mobility when he moved along in the dance, and especially the moment when he lifted the physio ball without using the walker toward the end of the dance. He utilized consistent 3D breathing to facilitate both mobility and stability with less assistance, and made small expansion of movement in his head-tail connection by extending his upper back and neck to look upward frequently.

Sean had a spacy demeanor and low concentration level that often times he would just look around at others and idled for a while even after the instructions had been repeatedly given. His movement in the early sessions presented with more upper-lower and body half, and mostly with decelerating time and little display of weight. To address this, constant encouragement in more horizontal movement and accelerating time was provided to cultivate his expanded sense of kinesphere and shifts in time. After the 10th rehearsal, Sean began to be able to access the accelerating time in his walking and became more readily responsive to instructions. In being able to balance on one leg for longer periods of time, walk faster, and reverse his movement, more integrated cross-lateral connectivity was indicated. It also suggested an increased use of flow and peripheral vision in his overall motion. With the movement change, Sean further showed improvement in ability to follow rules by restraining his often uncontrollable laugh, and other inappropriate affect and social behaviors.

Rose was generally active and motivated throughout the whole process. However, her frequent subtle bodily and affect shift after a movement suggested her lack of self-confidence and poor self-image. Even when she voluntarily showed movement or offered verbal reflections, it seemed that she would unconsciously slouch and enclose her body afterward. After several weeks, it was evident that she started to embody more upright posture and stable stance. She demonstrated improvement in being more decisive in her own opinions and movement through

time, which was shown by her more integrated movement. Rose also showed the act of fear conquering by using the back space, the space behind herself or the space outside of her visual fields or peripheral sight, as evidenced by her play with the physio ball by laying over the ball in an arched position and allowing others to support her back when coming to close proximity or physical contact. Several times, Rose smiled with satisfaction while sweating to comment after rehearsal that "it was fun" and "I felt good that I could it!"

Consistently, Qui took initiative in his own treatment by actively engaging in movement, asking questions, and reflecting on his processes. Because of his steady participation, he made notable improvement in memory functioning. Fewer verbal cues were required for remembering his movement or position. In the 8th rehearsal, Qui made his *I can* statement about caring for his daughter and sending her out to the world by doing movement that interacted with the physio ball. Usually, he forgot the movement soon after the first execution and would then do a different movement. However, in the 12th session when we were reviewing the movement statement, he was able to retain this movement through repetitious practices and encouraging and immediate verbal/non-verbal reminders. This use of repetition, clear and precise instructions, and kinesthetic empathy was likewise suggested in Chen's (2014) study. Qui successfully executed the movement during performance even without a real ball and my verbal cues. Around rehearsal 14th when we were rehearsing the part in the dance where everyone raised the ball together, Qui

automatically used preparation cue (Chen, 2014) to count down for us to drop the ball in unison. In addition, he demonstrated spontaneity in his creative process through the quickened response time and expanded movement repertoire.

The artistic voice and aesthetics. Immersed in a rather demanding creative process, co-researchers made themselves the owners of their creation and allowed their artistic voices to be heard during the process. It is necessary to reiterate the important distinction between the creative process and the artistic process here once again, in order to engage in fuller and deeper discussion of how my co-researchers turned themselves into artists who played with aesthetic components under the lenses of meaning-making creation.

The co-researchers expressed their artistic voices accompanying personal emotions and experiences through a collective creative process. Often times in the rehearsals, I was swept away by the artistic vision my co-researchers presented as they made their aesthetic choices. Initial movement may be made and executed with a relatively general attitude and idea. As we rehearsed the same movement later, out of the original context, co-researchers and other participants had to make a more defined intention. It became a re-creation that metaphorically addressed the research question on the role of the creative process as an intervention in some ways (Hervey, 2000). The re-creation of the co-researchers was then assessed by themselves, staff participants, and I based on the value and effectiveness of its expression, intensity, and

aptitude. They had to make a decision as to keep the generated movement materials or leave it and recreate another one.

Each step in this study called for self-reflection, for a pause to step back, for a response to newly discovered possibilities. Uncertainty through the search and emergence was the salient character of the creative process that was responsive to aspects and all participants in the process. Co-researchers had to sit with this uncertainty and learned to be patient with their and others' processes as well as the subconscious fear often resided in the very act of creating. Co-researchers' needs and curiosity in exploring their aesthetics and having both that process and presentation to be witnessed encompassed their artistic voices. They also made choices in part to how those voices were to be delivered and heard.

Treatment Goals and Clinical Impressions

In accordance with both the group and individual rehabilitation goals for the co-researchers, I categorized the goals under four primary domains: physical, cognitive, emotional, and relational. Originally, I used the term social for this last domain in terms of its common use and familiar connotation in psychotherapy. Despite the fact that social has been used in most existing literature on the discussion of difficulties and/or the focused rehabilitative objectives with brain injury and varied definitions have been provided (Engberg & Teasdale, 2004; Hynes et al., 2011; Levy, 2005; Temkin et al., 2009), I decided to change the term to

relational from my assessment of its appropriateness and significance for this study. The term relational was used to more delicately capture both of the interpersonal and the intrapersonal aspects that are crucial in manifesting the intrinsic inner-outer connection in movement (Hackney, 2004). The interpersonal aspect included the co-researchers with their family, friends, community, and the larger society. The intrapersonal aspect included dialogues with themselves to probe into their true intentions and aspirations. Both of these relationships required a certain level of awareness and willingness to be vulnerable.

Through my clinical work during internship, I noticed frustration and inconvenience co-researchers experienced in accurately communicating their feelings and thoughts. According to the report from the primary co-researcher and staff participants, however, the co-researchers still reflected upon the opportunity to rehearse and perform on stage more than three months after the conclusion of this research project. A couple of them discussed the piece through fuller details, more expressive affect, and continued to express pride and appreciation in their accomplishment as well as collaboration with the other participants. The level of self-confidence had apparently increased as evidenced by not only the way they talked about the experience but also the word choices that they made. In addition, their self-perceptions shifted to be more positive. They did not shy away from the emotional materials that came with the bodily experience at present.

Integration is an important treatment goal in the relational domain. The shift from being an individual sustaining brain injury to a performer who took risks and immersed in a creative act was itself an act of health-generating and seeking. The final performance was a place where many parts of the co-researchers integrated into a whole as each of them contributed their voices both verbally and non-verbally. Those voices included their breaths and statements as part of the soundtrack and were also stated onstage; the movement claims were the culmination of their *I want*, *I can*, and *I am* statements. I observed them following the rules that consist of a performance as evidenced by being genuine and engaged both on and offstage, including getting to the preparation spot on time, keeping volume down when waiting on the side of stage, and showing their eagerness to do well. Through the performance experience, these many parts of the co-researchers were recognized and embodied in the creative process.

PAT interventions with treatment goals. To answer the next two research questions: How can PAT impact the rehabilitation process of the brain injury population? And what is the role of the creative process in the PAT intervention for the brain injury population? I delved into the macro and micro creative process within PAT. I will discuss the group and individual treatment goals for the co-researchers within the four domains: physical, cognitive, emotional, relational. Table 1 illustrates the co-researchers' individual and group goals.

Table 1

Group and Individual Treatment goals

Names (pseudonyms)	**Individual Goals**	**Group Goals**
Rose	• Increase self-confidence • Improve body-image	• Physical o Improve motor/gross movement o Improve coordination o Balance o Improve overall mobility • Cognitive o Focus concentration o Increase attention span o Memory enhancement o Increase self-initiation o Strengthen motivation • Emotional o More comfortable with their altered states o Body image and usage o Realization of potential growth and improvement o Hope • Relational o Awareness of their deficits and acceptance of such change o Resolve of their disability o Expression of Aphasia o Community building o Reintegration to social responsibility
Qui	• Improve memory • Re-establish relational ability	
Sean	• Enhance the ability to follow rules • Reinforce appropriate social behavior	
Cyla	• Strengthen the speech capacity • Increase expressivity • Improve the inherent ability to move→ Mobility	
Von	• Enhance interpersonal relationships • Embellish the expressivity • Improve physical mobility	
James	• Cultivate self-initiative attitude • Increase physical well-being • Magnify degree of compliance and attendance to the day program • Attain a sense of responsibility • Achieve overall maturity	

There are some common treatment goals within brain injury rehabilitation (BIAA, 2012). These common goals were relevant for this particular group of co-researchers. This list of four domains where their treatment goals (physical, cognitive, emotional, relational) fall into may not be an exhaustive one. However, they are categories for understanding the most necessary and demanding function needs for this group. All group goals were identified in the literature and by my primary co-researcher.

While the co-researchers' individual treatment goals also fell into the four domains, each of them had different emphases on goals in their rehabilitation and creative process that were identified by my primary co-researcher. This was also the reason why they were initially invited to participate in this study. Rose was working on increasing her self-confidence and body images. Qui needed to improve his memory and his ability in relating to others with more spontaneity. Sean needed to enhance his ability in following rules that may reinforce appropriate social behaviors. Due to Cyla's aphasia, her treatment goals were mainly to strengthen the speech capacity, increase expressivity, and improve inherent ability to move. For Von's language barrier and physical challenge, he needed to enhance interpersonal relationships, embellish the expressivity, and improve overall physical mobility. James needed to cultivate self-initiate attitude, increase physical well-being, magnify degree of compliance and attendance to the day program, and attain a sense of responsibility, and achieve overall maturity. The following

discussion of the four stages of PAT corresponding to treatment goals answered my first research question: How can PAT impact the rehabilitation process of the brain injury population?

PAT Stages and The Micro Creative Process

Request stage. From the very first rehearsal session, physical comfort and safety were two primary concerns for me as a facilitator. I made explicit rules that guided our moving and reflection process to insure the clarity of creative development and stage progression for the co-researchers and other staff participants. I regularly reiterated to the co-researchers that their physical well-being was considered by saying, "pay attention to yourself, your own movement, the space your physical body occupies, and also your orientation into space when we start moving." This reminder was to address the location and relationship in this contained space for the co-researchers; they then verbalized how they could move freely and felt safe to do so. The surroundings that were of immediate relationship to the co-researchers' movement came to the forefront where spatial orientation and awareness were called upon, as similarly suggested in literature (Fluty, 2010; Gates, 2006; Malling, 2012; Pavelka, 2007). It not only inquired the activation of motor movement but also the use of visual attention where the co-researchers' concentration level were increased. I observed them becoming more focused with their improved hand-eye coordination and becoming better at tracing intangible pathways in space with wider visual fields.

The change in safe behavior and risk evaluation led to an increase in the co-researcher's independent movement, which allowed gradually reduced constant therapeutic supervision throughout rehearsals. They seemed to be more careful and attentive in noting the direction they were heading and welcoming others to come into their kinesphere without my prompting as the sessions progressed. The overall mobility was evidently improved through the progression of the dance making.

In order for the co-researchers to engage in a creative process and accomplish a creative project in months to come, I first had to find their motivation(s) to create in order to inspire them to find motivation that will lead to change (Chyle, 1999). Motivation is one of the group treatment goals for cognitive functioning. Throughout the research process, co-researchers were constantly encouraged to have fun. Due to the underlying freedom and respect of this encouragement, it was evident that they showed progress in their ability to engage in appropriate social behaviors. Some co-researchers reminded the others about paying attention to directives; others suggested possible appropriate actions for their peers by referencing social cues they observed from staff participants, such as affect change or tone variation. In addition, the co-researchers enjoyed the conversations with staff participants and the primary co-researcher whom they had to refer to and relate to differently in the day program. This shift of relationship helped magnify co-researchers' motivation while fortifying group cohesion and further enhancing their relational ties in general.

Request was the most apparent stage that co-researchers were creating from within. Their psychological material that might otherwise have been held were expressed through making verbal and movement connections. Initially, two group requests *independence* and *relief* surfaced that I started to explore with the co-researchers what those mean and why they were important in their creation and rehabilitation. To translate thoughts, feeling, and emotions into movement language was not a simple and singular task even for myself as an artist with no obvious physical, emotional, or psychological impairment. The creative act generated through a creative process encouraged and further reinforced the mind-body information exchange where cognitive functions were activated and developed during both motor message transmission and external stimuli reception as well as processing.

Through the 19 rehearsals, it was obvious that the co-researchers often times took on an active role in partaking in moving and sequencing movement. However, the implicit process from them making constant effort to focus in a creative process was a more significant finding in my study. In several rehearsals, the co-researchers requested less breaks and were able to show extended attention which represented their volitional effort.

Claim stage. The claim stage began with reestablishing group thinking while further defining individual identities. I used the word self to address the co-researchers in various ways such as “pay attention to how your body feels and how your move in relation to others in the

space". The concept of self was also used in the intervention questions to form a series of "I" statements that informed movement phrases used in the final dance. By making the statements, co-researchers had an opportunity to give words to their needs and wants that were easily overlooked in their post-injury condition. Their sense of self was especially fostered in this stage.

From these *I* statements, I discovered associations between their answers and the following terrains: claim with treatment goals, claim with strengths, claim with support system, and claim with roadblocks to treatment. For example, four co-researchers made claims stating that they "want to be able to drive again" based on one of the two group requests *independence*, which coincided with one of the group treatment goals. Nevertheless, the ability to drive that involved capacity for motor movement, visual-motor coordination, self-control, sense of responsibility, memory functioning, etc. was at the same time a roadblock for integration in their rehabilitation. Another co-researcher's statement was "I want to draw my own cartoon characters" that addressed his strength as great painter. Yet another co-researcher said that she "want to write a book about my family" that indicated both her strength as someone who enjoys writing and her family being her support system.

Initially in claim stage, the co-researchers still presumed a student role and attitude that they followed closely my guidance and facilitation. The external stimuli (both from the environment, the given situation, and people they were building relationship within this process)

were received without filter or much independent thinking. This phenomenon was progressively decreased as they claimed all their *I want, I can,* and *I am* statements.

Promise stage. As we moved along into the promise stage, the generated movement, established partnership, and clarified intentions became our guide in setting choreography for the final dance performance. Choreography is a manifestation of the art of dance, for it requires risk-taking, clarity, organization, organic processing, and emotional engagement. Interventions such as free-association based on imagery and guided improvisation utilized in previous stages were now gradually moving in a direction of developing more solid and workable structure, for the purpose of giving a frame to creativity. It was evident that there was a required need for balance between structure and flowing creativity in the promise stage. Co-researchers needed to rein in their creative movement exploration and organized it to something concrete, sequenced, and repeatable.

Acknowledging the co-researchers' persistence and adjustment in creating and connecting with their bodily experiences, I began to encourage them to use more integrated movement and interactive act of moving with others. They frequently made great attempts to embody the movement as closely to how the quality was originally presented in spite of their physical difficulties. The overall mobility and coordination was evidently improved through the progression of the dance making with these endeavors. Continuously, co-researchers made more

conscious choices in how they came in contact with others, noticing their body attitude and cultivating their individual presence. There were more strong weight and directness in their movement that spoke to the increased acceptance and determination in tending their treatment goals.

Execute stage. For most dancers, repetition being a significant component in completing dance rehearsals for movement refinement purpose and choreographic attempt in a choreographed dance is out of the question. During the final execute stage in the last five rehearsals and dress rehearsal to the actual performance, repetitious reviewing and rehearsing of the dance increased both excitement and frustration. I observed their excitement as a progress perceived by and felt in their bodily experiences through the collaboration. The frustration could be, in part, due to the memory impairment and awareness of their deficits. Especially during the tech and dress rehearsals, co-researchers frequently turned to me to seek instructions for the next step. The uncertain nature of the creative process and the new space made the co-researchers frustrated. It may also have to do with their lack of self-esteem and low motivation. To address this frustration from falling back to their habitual way of reacting to the situation and relationship, I again constantly reminded and encouraged them to review how much progress they had made, including making a collective dance that was about to be performed and all the other decisions and responsibilities that they took on in achieving the creative act. The

co-researchers seemed nervous initially as evidenced by constant verbal self-doubt and difficulty concentrating during their wait. Rose mentioned several times “I hope I will remember it.” “I hope we will make it.” James was observed during tech rehearsal resorting to his laughing with fixated thinking. Even after the whole group persistently affirmed him that he could enter, he insisted delaying his entry onto stage because he did not hear the sound cue from Cyla while only that her sound was blocked by the music. The co-researchers gradually were able to re-stabilize themselves on the day of the performance by staying focused for longer periods of time and less wondering about. Their successful community building in the earlier stages helped them to reintegrate to this social responsibility (performance) more quickly than they would have before the rehearsals. Furthermore, they also were perceived with less complaint about the adjustment they had to make and became more comfortable with less musclular tensions.

A combination with individual movements that derived from *I* statements and the group movements that derived from collective creation and development, the final dance *Ride On* was a display of the co-researchers’ creative process and marked small accomplishments along the way. When they simultaneously looked up the physio ball that was held high above their heads toward the end of the dance, hope, joy, and pride were manifested in their lengthened head-tail connection, stable upper-lower posture, and engaged deep breath.

Culturally Affirmative Participatory Research Practice

In accordance with the participatory action research practices (Dick, 1999; Mertens, 2010; Schneider, et al., 2004) and culturally affirmative theoretical frameworks such as interdependence paradigm (Condeluci, 1991) used by the program, I tried to be mindful of affirming the co-researchers' varied cultural backgrounds and ingrained responses throughout the creative process and the performance. The objectives of the client-centered therapy also underlie this process as I constantly examined my own attitude and bias in working with the co-researchers. As Rogers (1961) promoted, I interacted with them with respect and genuineness as an inroad to promote their overall well-being and hope in recovery; encouraging them with enough challenges in acknowledgement that they had resolves to face their own impairment and would deliberately work toward growth and change.

Multiple roles. During the planning and implementation stages of the study, my intention was not to concentrate on the possible complications and impact of multiple roles that study participants and I would have to embody. The theme of multiple roles within the group, however, began early on in the creative process. There were several implications that resulted from observing the multiple roles in this creative process: the ethical concerns, the therapeutic relationship building, and the willingness and risk of vulnerability. It was proven more difficult and yet a valuable lesson nonetheless.

The multiple roles that each participant took on in this artistic project affected the depth and attitude of their engagement in the process, and the flow of group dynamics. It was not until the data collection and analysis phases were initiated that I realized how important the shift in roles was to my study and to the application of the PAT framework. Rose verbally addressed this process at the second rehearsal, "work alongside with the staffs" and "see how they are more than being in staff role…because I get to see them differently, their different sides." Her statements were evidence of her shifting from a client to a participant, from a participant to a co-researcher. Thus the multiple roles were evidently seen, felt, and impacted the establishment of the therapeutic environment and the therapeutic relationship from the start.

Due to my understanding of the literature (Cook, 2008; D'Annunzio, 2013; Hayes, 2010; Larsen, personal communications, 2014; Malling, 2012), I had the pre-existing expectations about the overview of the creative process as a researcher. I also envisioned the potential images and feelings evoked (??) by the dance being an artist myself. Several times I found myself ready and eager to move forward onto the next creative stage or exercise when the co-researchers needed more time or guidance in processing and solidifying the themes already surfaced. Additionally, my feelings about being an artist were reflected upon my image of the co-researchers. When I was able to be more open and willing to listen to my intuition and be authentic, I noticed that the co-researchers could do the same. On the contrary, the anxiety I felt during the process could

also be an embodiment of the co-researchers' affective state from kinesthetic empathy. As the process unfolded, I was taught and inspired to let go of my own preconception of what the dance would look like and how this study would proceed. I was also placed in a position to take a step back to review my own internal fear about creating and presenting an art work. By utilizing co-researchers' involvement and contributions, I further became an evaluator and organizer.

The rehearsal time was essentially a group therapy process.. Difficulty in blending emotions and experiences as past behavioral responses took over and the participants were thrown into the need for conflict resolution as well as the challenges of self-reflection and ownership. At one point during rehearsal, I realized that I was not the only one who could be taking control over the creative process and directing the choreography, but rather the co-researchers also had the right and responsibility in their own participation and engagement as fellow artists, witness, and movers. This awareness organically shaped the piece as it should be and could be. I learned to be more accepting to my own process and theirs, and shared my vulnerable moments as I saw fit. For example, my frustration grew with the fact that I had to do so much multiple-tasking which accompanied my multiple roles. Several times, I had to handle the camera while taking notes and trying to participate as well.

Group dynamics. When a group of people work together, group dynamics become one of the determining factors on the success rate and style of this teamwork. As a byproduct of the

multiple roles every individual played in this study, I noticed in all rehearsals and the actual presentation of the dance that the group dynamics' effect on each participant's performance. With co-researchers at different ages, i.e., different stages of their development, their innate characteristics, and how they related with each other and the staff participants as well as to me as the facilitator turned out quite influentially in our collective creative process.

Although I was titled the facilitator, I had to be attentive in respecting and adhering the group's needs and desires in creating the structure for rehearsals and the dance. This was a parallel to the PAR paradigm that I used where the co-researchers more actively involved in the change process. The structure the co-researchers created helped them connect on an interpersonal level, with each other, the staff participants, and with primary co-researcher as well, thus helping them to develop interpersonal skills and strengthen interpersonal bonds. This interpersonal relationship building aligned with one of the major needs and goals for brain injury rehabilitation, that is, to reintegrate to community and resume their social responsibilities. The observable group dynamics were frequently joyful, connected, and coherent. However, sometimes those spontaneous and ready interpersonal exchanges could become distractions for the co-researchers to access their internal feeling states and to focus on the directives. Finding a balance was therefore a challenge in my work of facilitating the creative process using group dynamics.

Therapeutic environment with cultural implication. As a facilitator and researcher who kept the therapeutic practice in mind, I had to create and maintain a safe space both physically and psychologically throughout the study process. In framing a therapeutic environment, three different spaces that formed the culture of this study involved: the physical space, the lived space, and the empathic space.

Physical space. At the onset of the study, I was informed by the program manager that the program would be undergoing a move to a new and larger space right next door. Although it was geographically close to the original space, the shift nonetheless generated some insecurity and confusion within the co-researchers where physical, psychological, and emotional affirmation from me was crucial. The primary co-researcher and I assured the co-researchers of this change with openness and empathic listening, if they were to have any concern or question that we could address them immediately. I also had to deliberately make adjustments to my scheduled timeline and my interventions while remaining conscientious about the safety and comfort level of the co-researchers. Such act and process played significant role to maintain my ethical practice for this study. I had to make certain that the new space was thoroughly swept before each rehearsal session. Additionally, the containment of the space, the convenience and easy-to-navigated space setup, the temperature and the sound in the environment all became important factors.

It was, however, more difficult to guarantee the complete containment of space to 100% in this new situation. Basic ground rules had to be set up to maintain a safe environment that can also assure the best confidentiality possible. For example, we utilized the room used for art therapy that has its own independent entry. If situation required such as clients or staffs from other programs on the same floor had to pass by, we closed the door to keep the rehearsal undisturbed.

Lived space. The somatic embodying and collaborating experience with the co-researchers in the participatory action research process allowed me to understand their stories from their lenses. Although I had to maintain a most objective manner and view possible as a researcher and facilitator, the analysis and integration process of using movement observation strived to value as much the subjective sensation and lived experiences from the co-researchers. It was inherently important for me to draw the line from interchanging roles during the process, and always be mindful of verbal check-in with the co-researchers to assure the clear boundary was maintained and accuracy of assessment was achieved. In addition, my self-reflective capacity of both the implicit and explicit occurrences in each rehearsal session played a big role in the honesty and reliability of a process full of variables. I documented thoughts, feelings, words, somatic responses, movement phrases from the co-researchers that resonated with me. I also journal about events that generated questions and doubts during the choreography.

Empathic space. In an ideal situation, the creative process from the therapist who utilizes PAT should support the clients' creative process and thus building an interactive mechanism and environment (D'Annunzio, 2013; Gates, 2006; Goldman & Larsen, 2011; Malling, 2012) (CITE). The interaction is not only easier but also even more significant in DMT practices, because the kinesthetic empathy and the therapeutic process occurred in the present moment. To connect to all areas of the clients' creative process, dance/movement therapists themselves would need to have a broader repertoire in executing movement qualities, cultivating culturally affirmative practices, and addressing multiple roles that each participant plays.

Other Discoveries

Music and sound. As mentioned in pre-existing literature, music is universal across cultures in terms of its common expressivity and shared qualities (Butterton, 2008; Croom, 2012; Cross, 2001; Nettl, 2000). Yet, music is also influenced by the sociocultural environment where different musical behaviors are centered around cultural groupings (Butterton, 2008). In other words, our musical behavior is largely determined by culture and rooted in our infancy. It is a symbiotic relationship between our neurobiological design for musical behavior and our social-cultural environment (Butterton, 2008). The sociocultural and individual bearings in the music would impact co-researchers' affective state and further their movement. With that said, I tried to be attentive in my choice of music when aiming to use it as a tool in rehearsals.

However, my preconceived notion in music proved unsuccessful in the fourth rehearsal. The co-researchers disagreed with my thought that instrumental music, with melodies that support movement, might be soothing. . One co-researcher explicitly asked “If there's good music I get happy. The one it was playing was too slow.” I asked other co-researchers for further confirmation on that comment, and they either nodded their heads or said “it’s okay.” This incidence showed that co-researchers had a clear idea of what kind of music they wanted, indicating their autonomy in making individual choices. Afterward, I reconsidered my choice of music depended on that comment and their cultural backgrounds. I began giving co-researchers options in the music played in rehearsals, or asking them whether they had any requests. Their individuality began to show and gradually increased in the process of making the music selection.

Even though music was not always played in rehearsals, there were other vocal and percussive sounds being produced. The sounds came from the breathing, sighing, giggling, clapping, cheering, stumping, ball bouncing and many others. These sounds may have seemed to be a natural occurrence of human behavior in activities, rather, I noticed that they had different functions and served purposes in this study. In making those sounds from either their own body or through an object, the co-researchers were engaging in motion with sounds and other participants. The vocal sounds were in part co-researchers’ inner resources in the creative

process in that they could intuitively make something and contribute to the group work. In particular, it was significant for one of the female co-researchers with aphasia to express herself through sounds. For example, the laughing out loud was contagious that when one co-researcher started laughing, all others soon followed. The playfulness and elevated mood were evident in this act of laughing and the sound of it was one reason that brought all participants closer.

The sound that played a crucial role in *Ride On* was the participants' verbal narratives of the *I am* statements developed from the claim stage. Within a short sentence, every participant, especially the co-researchers shared who they are using their own words. Having their own voices heard and movement seen onstage in the final performance, the co-researchers' sense of self was strengthened and self-image improved. As the co-researchers stated, "that is really cool! To hear my own voice while me dancing." The parallel movement and verbal narrations reinforced their acceptance and resolve of facing their disability, and it also marked the co-researchers' renewed ideas about their potential to grow and their display of openness to be witnessed both verbal and non-verbally.

The process from brainstorming music selection to narrowing down the style to deciding on one song for the dance proved to be an important learning in this study. I first collected co-researchers' thoughts and preferences of music through both informal check-in and more structured music discussion. Based on their feedback, I researched on what style of music would

be preferred by and appropriate for the co-researchers in expressing the collective process and the dance. Based on the driving theme of the dance, my first reaction was something of a journey. I also knew from rehearsal process that the majority of co-researchers had a preference in country music. Therefore, I picked out a couple options based on the genre and the image of the song. Ultimately, a country song with driving on the road was chosen to communicate and express the overall theme of the dance. This music framed the dance *Ride On* a rhythmic and upbeat feeling that represented the group's dynamics, unique creative process, and desired social identity. Not only that, the music chosen was to the co-researchers' liking and that usually was listened to at their own leisure or with a companion as the past time. When they listened to it during rehearsal and performance with the group, it was in present time and therefore they could share the experience with others.

The use of touch. Dance in all its forms, creates an ambience and a sense of safety that incites people's inherent nature to move in close proximity with each other, if not also physically touch in some way. Because body reflects what is happening in our mind and vice versa, the objects that body touches can be seen as an extension and/or (re)presentation of how the body feels. Dance provides people with great varieties of tactile stimulation. In my study, the moving process provided the co-researchers with the possibilities and autonomy to come in physical contact with another human being even when they were not directly prompted. Staff participants

and primary co-researcher did likewise. Rather than being seen only as another body from the self or a physical representation, the dance allowed co-researchers to embrace their own desire and needs to touch as well as to receive reciprocal tactile stimulation through a decreased distance from each other. At first, there was the ambivalent message of group work as well as the need to remain distant. This may be the needed sense of safety due to vulnerability, as proposed by Gates (2006). Progressively, touch among the co-researchers and other participants became more natural and subconsciously sought for.

Sufficient studies have dedicated to exploring and discovering the importance of touch for human babies, being that it is the first sense to develop and a vital organ in learning about the world (Field, 2001; Field & Howell, 1992; Henley, 1973; Montague, 1986; Older, 1982). Nevertheless, the older people get, the stronger and deeper the need to be touched grew. Ironically, the opportunity for older people to touch and to be touched get markedly reduced because various reasons (Field, 2001). It is under the social construct and restraint from social norms that we lost the way to express those needs so as not to be viewed as over-attached or came across as sexually inappropriate. Since body is the vessel for our feelings, thoughts, images, and memories, body moves to reflect what is happening in the brain as the brain transmits signals to organize and make sense of what the body does. Whether the touch was circumstantial or

intentional, it lubricated concerns and tensions between co-researchers and other participants. Touch seemed critical for the co-researchers to bond on a sensory level.

With touch as a new mode of relating in this particular creative process, it was my duty to intently create a holding environment as indicated in previous literature (Payne, 2006; Prospero, 2007; Winnicott, 1958), a space which is like the therapeutic environment for the co-researchers to move in. Touch also brought deeper feelings that were inwardly held, like fear and doubt, to the surface. This could be interpreted in two ways. On one hand, the emergence of those feelings called upon opportunities for nurturance and support from the therapist and facilitator in maintaining physical and emotional congruence. On the other, it was a great opportunity for co-researchers to face their repressed or inhibited emotions and learned new ways in relating with them.

I insured that any kind and level of touch was meant to be used in positive ways in my study. I did so by repeatedly stating at the beginning of each rehearsal that "physical contact may occur during the moving process and you have all the right to express whether you feel comfortable being touched or not. Likewise, you also need to be respectful of others' wishes if they tell you they want distance and do not want physical contact." This reassurance allowed the co-researchers to feel more relaxed in their contact with one another. I demonstrated safe touch by changing the levels of pressure at contact point, and verbally encouraging co-researchers to

expand their use of body parts (shoulders, knees, fingers, toes, back, side hip, etc.) for touch exploration. As co-researchers branched out to utilize various parts of the body in contact, their sense of control was increasingly noticeable. I observed the co-researchers regaining self-esteem and hope in having ownership of their body, which later may help them to face their own life challenges.

In addition to the touch between one another, dance also allowed touch to occur with co-researchers' environment, which included air, objects, and the general space. At the onset of the rehearsal, I observed my co-researchers immediately searched for an object in the open to be a safe haven. It began with physio ball to which they had easy access and familiarity. A foam roller was also used as one of the props as we explored ideas and feelings in movement play. Through the contact with different object materials that have varied textures, temperatures, shapes, volumes, and functions, co-researchers began to play with the object in novel ways to express themselves or use it as a means to communicate. Just as the objects were extensions of co-researchers' body and movement, the expression and communication through the objects were also an extension of co-researchers feelings of playfulness; thoughts of exploration and problem-solving; needs of safety, comfort, and support (Gates, 2006).

Overall, touch was used in this creative process within PAT that addressed the four objectives. First, co-researchers got in touch with their bodily reality and therefore allowed

opportunity for emotional and cognitive materials to be expressed through the body at the present moment. Second, co-researchers learned a new way of relating and connecting with others with safe use. Third, co-researchers were able to be in charge of the touch given and received. In other words, they were in control. Lastly, co-researchers felt the trust and support (Gates, 2006) from their group and hence could more possibly extend that feeling to the larger community.

Challenges in the PAT Intervention with Brain Injury

This process was not an easy accomplishment for the co-researchers. I had wondered before the planning and implementation occurred that how the PAT interventions would actually look like in many months of rehearsals. I was primarily responsible for the integrity and ethics in being a movement demonstrator, a facilitator, a researcher, a therapist in training, and also an artist in this study. The dilemma lay in the fact that the rehabilitation of brain injury depended on clear instructions within structure to rebuild organization whereas the creative process forced them to go out of their comfort zone and take risks in a world that change is an immanent nature.

That being said, it was crucial for me to be mindful of word choice and questions particularly in the initial two stages of PAT: request and claim. It was during these two stages that issues and topics associated with the rehabilitation to be explored where safety, genuineness, and support played important roles. In her work with a similar population, Chen (2014) found that clarity, short sentences, and repetitious instructions were the key in amplifying the

effectiveness of the intervention. These concepts were also true for my study. Further, I emphasized the cyclical nature of the creative process that is needed to address the co-researchers' diminished abstract cognitive abilities. As the less linear cognitive functioning is what would facilitate the co-researchers' expansion and variation of verbal and non-verbal improvement, it was also difficult to allow the organic cycle to occur if I was too rigid in my researcher's mindset. Nonetheless, the timeline, study design, and the fragile nature of the brain injury population limited my access to the co-researchers to provide more consistency in the creative process.

Another challenge of this study is the small sample size of six co-researchers made the results not generalizable. It may also be limited by the methodological foundation. My ability as a facilitator and a researcher to maintain the true practice of PAR may impact the co-researchers' level of engagement, including their motivation and initiation. In the constant needs of shifting between roles, it was crucial for facilitator to be cognizant and observant simultaneously of his/her own bias, clients' needs, and clients' inherent human natures.

Implications for Future Studies and Clinical Application

The PAT framework developed by Goldman and Larsen (2011) provides clear and concrete techniques that can be used in clinical practices for adults with brain injury from this program. This study reinforced the idea that body is a dwelling place for soul. Movement in the

body is the manifestation of all our humanly functions, including consciousness, belief, emotions, and connections.

In an ideal situation, the creative process from the therapist who utilizes PAT should support the clients' creative process and thus building an interactive mechanism and environment. The interaction is not only easier but also even more significant in DMT practices, because the kinesthetic empathy and the therapeutic process occurred in the present moment. To connect to all areas of the clients' creative process, dance/movement therapists themselves would need to have a broader repertoire as well.

Due to the organic and authentic nature of the creative process in choreography and performance, physical contact seemed inevitable and actually may be adequate. But the ethical concern of touch in therapy was to be considered and paid attention to in order to maintain the appropriate boundary and therapeutic relationship, especially when touch involved gender differences and any earlier type of trauma (Smith, Clance, & Imes, 1998). When touch is assessed by dance/movement therapist as appropriate and meeting the clients' needs, it is important for consistent facilitation of meaningful and safe way of touch to avoid transference/countertransference, congruence, and vulnerability issues.

With the performance showcased and completed, I realized that the creative process for co-researchers was going to be and intrinsically an ongoing change process. Frequently and so

commonly that we regard creative act as consisting of various components, one of which is the end product. However, the co-researchers demonstrated to me in both the process and even performance that their growth and transformation required long term facilitation. It would inevitably be an ongoing journey of moving and processing throughout the rest of their lives. I could see that they were also hungry for more without explicitly verbalizing such needs or knowing it. Hence, rather than the performance being the primary means and output of PAT, I wonder if the creative process of a performance/art should be recognized for its significance and become the emphasis for healing?

Summary

All in all, this study resulted from my deep and passionate immersion in dance as a research process. The purpose of this study was to investigate the effect of PAT on the rehabilitation for adults with brain injury, more specifically focused on the creative process within PAT and its role as part of the intervention in the brain injury rehabilitation. Through making independent and collective choices that were aesthetically reinforced to make the dance *Ride On*, the co-researchers were able to engage in PAT interventions such as fundamental patterns of total body connectivities, improvisation, *I* statements, authentic movement, and mirroring and stayed committed to the creative process. In facilitating the rehearsal process and the performance through culturally affirmative practices, I engaged with the co-researchers in the

creative process with kinesthetic empathy, genuineness, curiosity, respect, trust, and support. These are all significant components in developing therapeutic relationships. In moving through the multiply entwined roles in this study, I also had to face my preconceived notion of what a creative process should look like, what the aim and means of choreography could be, as well as how the dance should be performed.

Although this study did not provide the direct evidence of neurological recovery that advanced equipment and experiment would provide, the co-researchers showed noticeable improvement in physical, cognitive, emotional, and relational domains. The improvement included self-confidence, teamwork, range of motion, expressivity, independence, frustration tolerance, problem-solving skills, and short-term memory functioning. In utilizing the PAT framework (Goldman & Larsen, 2011), I also realized that this framework offered people with brain injuries an opportunity and space to embody different behaviors that change can be cultivated. In addition, this study augments the existing body of literature. It is one of the few studies that involve DMT for adults with brain injury rehabilitation, and the first study using the PAT intervention with a focus on the creative process with this population. With the general public remain largely unaware of the magnitude of the epidemic of brain injury, I hope this study can provide some insight and shed light on using PAT as a clinical intervention with brain injury rehabilitation.

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Appendix A: Definition of Terms

Traumatic Brain Injury (TBI)

An alteration in brain function or other evidence of brain pathology, caused by an external physical force, such as a bump, blow or jolt to the head or a penetrating head injury (Anixter Center, 2013; Brain Injury Association of America, 2012; Braininjury.com, 2013; CDC, 2013).

Acquired Brain Injury (ABI)

"An injury to the brain that is not hereditary, congenital or degenerative that has occurred after birth, including anoxia, aneurysms, infections to the brain and stroke" (Anixter Center, 2004; Brain Injury Association of America, 2014; BrainInjury.com, 2014).

Aphasia

Loss or impairment of the power to use or comprehend words usually resulting from brain damage (Webster, 2014).

Treatment Goals

An appropriate instrument for raising the quality of care and sets therapeutic standards in addition to evidence-based guidelines.

Participatory Action Research

Research that involves participants in "meaningful participation in all stages of the research process" (Schneider, et al., 2004, p. 562). Also known as action or transformative

research, it belongs to a family of research methodologies that simultaneously pursue action/change and research/understanding (Dick, 2006) and directly address the politics in research by confronting social oppression (Mertens, 2005).

Artistic Inquiry

A focused, systematic inquiry with the following characteristics: artistic methods of collecting, analyzing, and/or presenting data; utilizes a creative research process; and is motivated and determined by the aesthetics of the researcher or researchers (Hervey, 2012).

Co-Researcher

The six current client participants in the rehabilitation day program for adults with brain injury where this study was conducted. Co-researchers were personally invited by the researcher and thereafter voluntarily gave consent to their participation in this study, which is a creative project, involving a series of rehearsals and a final public dance performance.

Primary Co-Researcher

The program manager for the rehabilitation day program for adults with brain injury where the study was conducted. She is also the primary dance/movement therapist on site. In this study, she assisted in the PAT facilitation.

Laban Movement Analysis (LMA)

Developed by Rudolf Laban, Laban Movement Analysis is a theoretical and experiential system for the observation, description, prescription, performance, and interpretation of human movement. It “provides a rich overview of the scope of movement possibilities”. “Those basic elements (body, effort, shape, space) provide an inroad to understanding movement and for developing movement efficiency and expressiveness” (Hackney, 2002).

Fundamental Patterns of Total Body Connectivity

This framework is also referred to as “body connectivities,” “developmental patterns of connectivity,” and “developmental movement patterns,” among others. Human movement develops along a progression of neuromuscular patterns that begins in utero and continues through locomotion. Laban’s movement studies required a healthy connection to and utilization of these patterns. Diverse branches of exploration in this specific area of the pursuit of efficient movement were yielded. Irmgard Bartenieff, a student of Laban, is known for advancing his theories of movement on a physical level, addressing ways to move efficiently and expressively through her framework of “Basic Six” fundamental exercises. The Basic Six address the main body action principles of lying, sitting, crawling, kneeling, standing, and locomotion, as well as the integration and progression through these activities.

Peggy Hackney, a student of Bartenieff, defined six “Patterns of Total Body Connectivity” (based on the developmental stages of neurological patterns) as “breath,” “core-distal,”

“head-tail,” “upper-lower,” “body-half,” and “cross-lateral.” Beginning with core-distal, respectively the six can be aligned with the terms “navel radiation,” “spinal movement,” “homologous movement,” “homo-lateral movement,” and “contra-lateral movement” in Bonnie Bainbridge Cohen’s system of Body-Mind Centering. These terms are derived from Western medicine and are also used in other rehabilitation modalities such as physical therapy and occupational therapy. Cohen also studied with Bartenieff. In dance/movement therapy, these concepts are used to guide clients to movement re-patterning, strengthening, and awareness. (Hackney, 2002; Cohen, 1993)

Breath

“Includes both cellular and lung respiration and is a key to fluidity and rhythm of movement, internal shaping, the experience of inner space as three-dimensional, and a basic sense of trust in Being”. (Hackney, 2002, p.218)

Creativity

Creativity is embracing paradox and allowing various ideas to occur to an individual simultaneously. For example, shift positions, change points of view, and see alternatives can be categorized as having creativity. Creativity is done through unexpected partnerships, unexpected connections, unexpected juxtapositions. It also differs from originality; it means making, adding, or even subtract meaning in framing something larger than the just personal realm. When one is

challenged and can turn discomfort to inquiry that one has the potential to arrive at creativity. Opposed to the structureless, freeflowing, and indulgent characteristics of what most consider creativity, creativity means hard work, discipline, rigor in constantly sifting, sorting, rejecting and being embarrassed for thinking such radical thoughts that finally precede the really good idea (Lerman, 2011).

Creative process

The creative process is when an individual or group partakes in an act that involves encountering or interrelating with the world by the capacity for, or state of bringing something into being, with certain degree of intensity. The creative process affirms the presence of spontaneity and authenticity to the group or individual while defying predictions. It is most likely improvised, and the content produced may be used to create a set work of art (May, 1975; Rothenberg & Hausman, 1976).

Artistry

Artistic quality of effect or workmanship, or artistic ability (Webster, 2014).

Artistic process

The process by which a person engages in creating a work of art with aesthetics and specific artistic value. It is a subcategory or one form of the creative process (Chyle, 1999).

Performance

A performance is a presentation of an individual or group's artist work. This work is premeditated, planned, rehearsed and executed a specific way (Schechner, 1988).

Performance as therapy (PAT) by Goldman and Larsen

Performance as therapy (Goldman & Larsen, 2011) is a framework within dance/movement therapy (DMT) intervention that utilizes both the process of creating choreography and the process of performing as a means to address outlined treatment goals and promote changes within clients in a therapeutic environment, where trust, support, validation, connection to self and others, and safety to engage in vulnerability are present (Cook, 2008; D'Annunzio, 2013; Gates, 2006; Goldman & Larsen, 2011). The framework includes four stages: request, claim, promise, execute. Request is the inquiry stage that questions being asked and curiosity drives the idea development and exploration. Claim is the stage that statement(s) are made based on the request(s) raised to represent thoughts, feelings, and images; it is a process that internal contents are externalized. Promise is the commitment stage that materials are consolidated and more deeply engaged. Execute is the stage that performance is carried out, where the inner and outer interplay is being witnessed.

Kinesthetic awareness

The individual's internal sense of his or her physical self. It is the individual's ability to make a "subjective connection" with how it felt to move in a certain way. The kinesthetic awareness derived from the recognition of our kinesthetic sensation, the sensation that "accompanies or informs us of our bodily movement" (Levy, 2005; Whitehouse, 1963).

Neuroplasticity

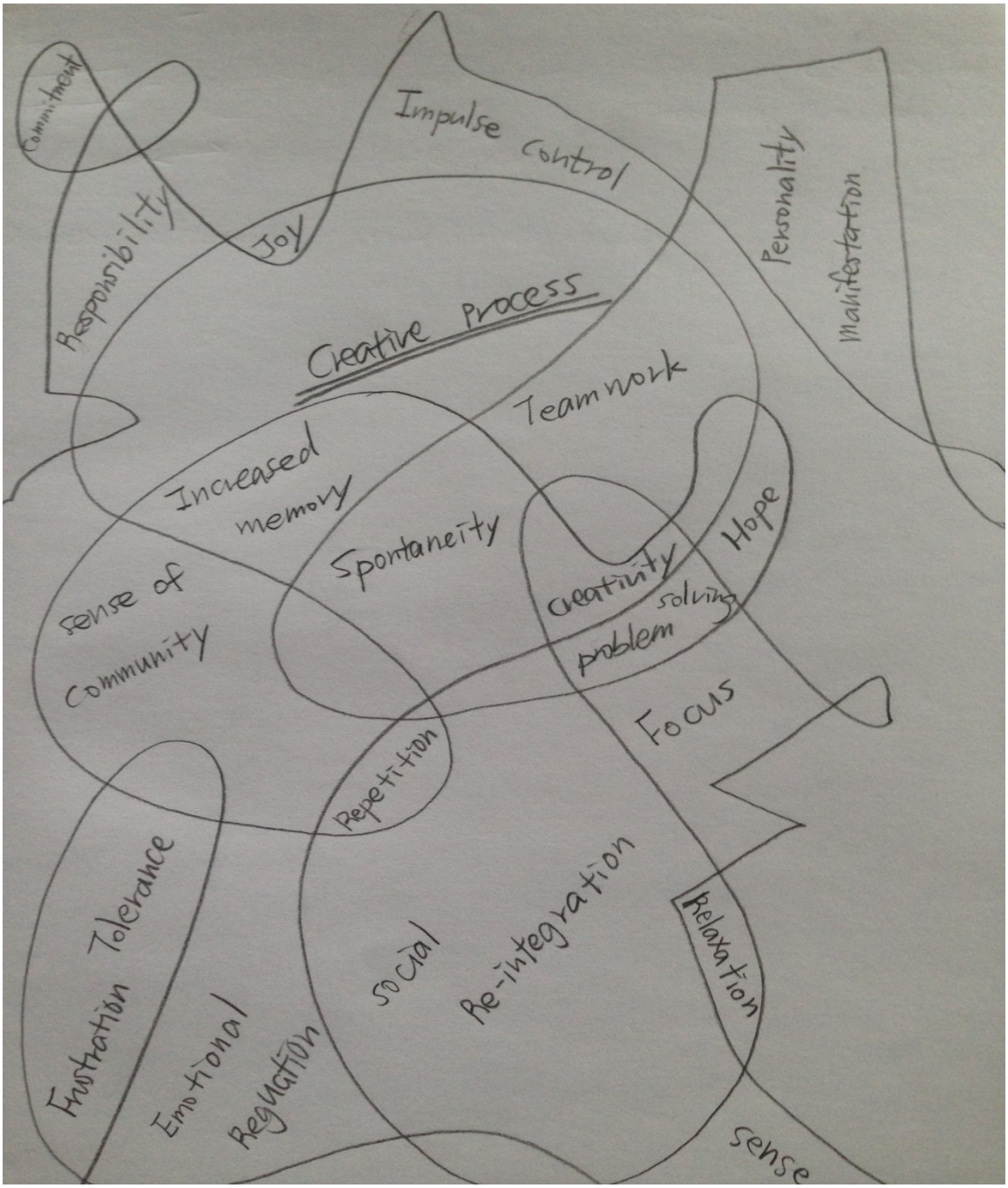
Brain's capability of reorganization after injury or damage, including relearning motor skills or regaining self-control. Functional reorganization is induced not only through effort of repeated movement but also by sensory-input increase. Human brains are now contended to be retaining some plasticity throughout life (Doidge, 2015; Schwartz & Begley, 2002).

The Feldenkrais Method

Often referred to simply as "Feldenkrais" is a somatic education system designed by Moshe Feldenkrais. The idea and technique of the method is that increasing a person's kinesthetic and proprioceptive self-awareness of functional movement could lead to increased function, reduced pain, and greater ease and pleasure of movement. By using the reversible relationship of our muscular and nervous system, better maturation of our nervous system can be brought about. It is an experiential method, providing tools for self-observation through movement inquiry (Beringer, 2010; Moshe, 2005; Moshe, 1991).

Appendix B: Initial Imaginative Creative Study Process

This is an initial imagination and expectation of mine about the creative study process and the creative process itself. Retrieved from my reflection journal after the first rehearsal session with my co-researchers.



Appendix C: The PAT Framework Within the Macro Creative Process Aligned with Treatment Goal Domains

Treatment Goal Domains	The Creative Process				
	PAT Framework Stages	Request Stage	Claim Stage	Promise Stage	Execute Stage
Physical					
Psychological					
Emotional					
Relational					

Appendix D: Legal Guardian Informed Consent Form

Columbia
COLLEGE CHICAGO
Institutional Review Board

Legal Guardian Informed Consent Form
Consent Form for Participation in a Research Study

Title of Research Project: The Creative Process of Choreography and Performance: The Brain Injury Rehabilitation Within Dance/Movement Therapy
Principal Investigator: Chih-Hsien Lin (chihhsien.lin@loop.colum.edu Tel: 312-608-2999)
Faculty Advisor and Chair of Thesis Committee: Laura Downey, MA, BC-DMT, LPC, GL-CMA. (Ldowney@colum.edu Tel: 312.369.8617)

INTRODUCTION

This consent form will provide you with important information about this research study which will help you decide whether you agree for the individual under your guardianship to participate in this research study. It will also describe what a participant will need to do in the study and any known risks, inconveniences, or discomforts that a participant may experience while participating. You are encouraged to take up to 7 days to consider this consent form. The principal investigator (PI) will explain this form and the study to the individual under your guardianship at the NAME OF PROGRAM. The PI will also contact you to inform you about this study and explain this study to you. You and the individual under your guardianship are also encouraged to ask questions now and at anytime. If you agree the individual under your guardianship to participate, you and the individual under your guardianship will be asked to sign this form, and it will be a record of the individual's agreement to participate who is under your guardianship. This process is called "informed consent." You will receive a copy of this form for records of the individual under your guardianship. The individual under your guardianship is being asked to participate because he/she is attending the NAME OF PROGRAM rehabilitation program at NAME OF PROGRAM.

After reading and discussing the information in this consent form, you should know:

- Why this research study is being done
- What will happen during the study
- The possible risks to the participant

- Any possible benefits to the participant
- How the PI will keep the participants' information private
- The participants' rights in this study
- Whether being in this study involve any financial cost to the participants

PURPOSE OF THE STUDY

The purpose of this research study is to make a dance created by the NAME OF PROGRAM members. The individual under your guardianship will collaborate with the PI/researcher to decide on the topic of the dance and perform it for a group of audience at Dance Center of Columbia College Chicago for its Student/Faculty concert and at a community setting. The individual under your guardianship will choose the message he/she wants to tell, the emotions he/she wants to express in the dance. The audience will be aware of this dance being an end product of this study.

PROCEDURES

If you agree the individual under your guardianship to participate in this study, he/she will be asked to do the following:

- You have 7 days to consider this consent form and return it with your/the individual under your guardianship's signature(s) to the PI at the NAME OF PROGRAM.
- The individual under your guardianship will participate in a scheduled weekly an hour and a half PAT group session/rehearsal after the regular hours at the NAME OF PROGRAM for five months. The manager of the NAME OF PROGRAM, will assist/guide in the PAT session in collaboration with the PI, who will be primarily directing the rehearsal process, creating, observing and taking notes about the session.
- The individual under your guardianship will be performing the dance at Dance Center of Columbia College Chicago at annual Student/Faculty Concert and at a community setting. The dance will be recorded on a DVD video that will be put on the Columbia College Chicago library website, and become a record file for the PI's written thesis and the NAME OF PROGRAM. After the performance, this individual under your guardianship is finished with the study and will not be contacted by the PI in the future.
- The individual under your guardianship will be creating a dance with the other NAME OF PROGRAM members and the PI.
- The individual under your guardianship will be practicing the dance until it is ready to be performed.
- In order to decrease external variables, the individual under your guardianship may have one short water/bathroom break during the procedures which may take around one hour and a half.

POSSIBLE RISKS OR DISCOMFORT

☐ The possible inconvenience may include the time it takes to participate in a PAT group Session/rehearsal for an hour and a half each week. And arranging for transportation with the NF program may take extra coordination and time.

POSSIBLE BENEFITS

☐ The individual under your guardianship may obtain benefits from participating in the PAT session/rehearsal. For example, having an end product, which is a tangible result of work to be witnessed, gaining a sense of accomplishment, having an unique experience, any skill typically compromised during rehabilitation may be used in a rehearsal process, having a creative way to attend to skills building, developing tolerance to change and repetition, establishing spatial awareness and spatial relationship, participating in teamwork, sense of togetherness, collaboration, helping with motivation, initiation, and depression, getting a sense of purpose.

CONFIDENTIALITY

- Confidentiality means that the PI will keep the name and other identifying information of the research participants private for research purpose only.
- All of the individual under your guardianship's personal information will be confidential and will not be shared at any time. The individual under your guardianship's name will not be in the study, or given to any other people.
- The NAME OF PROGRAM, and the dance/movement therapist's personal information will also be confidential.
- The PI and the PI's primary co-researcher, and the PI's thesis advisor will be the only people looking at the information which includes the digital video recordings, the PI's reflective journal, and the results of the discussions without any of the individual under your guardianship's identifying information.
- The PI will keep the digital video recordings, the consent forms, the paper information, and journal notes for three years for the use of the study. After 5 years from the date the study begins, the researcher will delete the digital video recordings and shared the consent forms, the paper information, and journal notes.
- The information that the PI will gather from the research will be written in a thesis, later for a publishable journal article. All the information written in the thesis will not show the individual under your guardianship's identifying information. Once this thesis is created, the public can then view the information about the results of this study, which will not show any of the individual under your guardianship's personal information.

The following procedures will be used to protect the confidentiality of your information:

- The PI will use a pseudonym to represent the individual under your guardianship while taking notes during the PAT group sessions/rehearsals and while watching the videotape.
- At the end of this study, the PI will publish the gathered information. The individual under your guardianship will not be identified in any publications or presentations.
- The PI will keep all the information locked in a file cabinet at the PI's home, which includes the digital video recordings, the consent forms, the paper information, and journal notes. Only the PI will have the key/code to this file cabinet.
- All gathered information for this study that can be opened on a computer will be password protected.
- Only the PI, the PI's primary co-researcher, and PI's thesis advisor, Laura Downey will have access to the original data.

THE PARTICIPANT'S RIGHTS

Being a research participant in this study is voluntary. The individual under your guardianship may choose to withdraw from the study at any time without penalty. The individual under your guardianship may also refuse to participate at any time without penalty.

We will be happy to answer any question(s) you/the individual under your guardianship have about this study. If you/the individual under your guardianship have further questions about this research, you/the individual under your guardianship may contact the PI (Chih-Hsien Lin at 312-608-2999) or the chair of thesis committee (Laura Downey at 312-369-8617). If you/the individual under your guardianship have any questions concerning the participant's rights as a research subject, you/the individual under your guardianship may contact the Columbia College Chicago Institutional Review Board (IRB) staff at 312-369-7384.

COST OR COMMITMENT

- The individual under your guardianship will not receive any kind of payment or rewards from the PI or the NAME OR PROGRAM for participating in this study.
- There will be no additional financial cost to the individual under your guardianship during his/her scheduled days at the NAME OF PROGRAM.
- If the individual under your guardianship can not attend the scheduled group session, you or the individual under your guardianship will contact the PI by 9am on the scheduled day.

PARTICIPANT STATEMENT

This study has been explained to me. I volunteer to take part in this research. I have had an

opportunity to ask questions. If I have questions later about the research or my rights as a research participant, I can ask one of the contacts listed above. I understand that I may withdraw from the study or refuse to participate at any time without penalty. I will receive a copy of this consent form.

_____	_____	_____
Guardian Signature:	Print Name:	Date:

Relationship (only if not participant): _____

_____	_____	_____
Assent of Individual Signature:	Print Name:	Date:

_____	_____	_____
Principal Investigator's Signature:	Print Name:	Date:

Appendix E: Informed Consent Form

Columbia
COLLEGE CHICAGO
Institutional Review Board

Informed Consent Form

Consent Form for Participation in a Research Study

Title of Research Project: The Creative Process of Choreography and Performance: The Brain Injury Rehabilitation within Dance/Movement Therapy

Principal Investigator (PI): Chih-Hsien Lin (chihhsien.lin@loop.colum.edu Tel:312-608-2999)

Faculty Advisor and Chair of Thesis Committee: Laura Downey MA, BC-DMT, LPC, GL-CMA. (Ldowney@colum.edu Tel: 312.369.8617)

INTRODUCTION

You are invited to participate in a research study to choreograph and perform a dance based on your experience of a brain injury and rehabilitation process in the NAME OF PROGRAM. This consent form will give you the information you will need to understand why this study is being done and why you are being invited to participate. It will also explain what you need to do to participate and any known risks, inconveniences or discomforts that you may have while participating. Please take time to think this over. Please ask questions now and at any time. If you decide to participate, you will be asked to sign this form and it will be a record of your agreement to participate. This process is called 'informed consent.'

You will get a copy of this form to keep. You are being asked to participate because you are a member of the NAME OF PROGRAM and involved in a dance/movement therapy group.

PURPOSE OF THE STUDY

The purpose of this research study is to make a dance created by the NAME OF PROGRAM members. You will collaborate with the researcher to decide on the topic of the dance and perform it for a group of audience at Dance Center of Columbia College Chicago for its Student/Faculty concert and at a community setting. You will choose the message you want to tell the NAME OF PROGRAM community in your dance. The audience will be aware of this dance being an end product of this study.

PROCEDURES

- **Attend weekly one-hour PAT movement group sessions/rehearsals after the regular hours at 2:30pm at NAME OF PROGRAM starting from late February to July, 2014 for five months**
- **Create a dance with the other NAME OF PROGRAM members and me.**
- **Practice the dance until it is ready to be performed.**
- **Perform the dance at Dance Center of Columbia College Chicago at annual Student/Faculty Concert and at a community setting. The dance will be recorded on a DVD video that will be put on the Columbia College Chicago library website, and become both a record file for my publishable**

journal and the NAME OF PROGRAM. After the performance, you are finished with the study and will not be contacted by me in the future.

POSSIBLE RISKS OR DISCOMFORTS

It will take time to finish the study. You will be required to dance and move safely and comfortably. You may feel upset if you miss many rehearsals and cannot be in the performance. I will try my best to make sure that you can be in the dance. If you cannot perform onstage, you can help in another way like giving programs to the audience and setting up the stage.

POSSIBLE BENEFITS

The possible benefits of being in this study include creating a dance that you can be proud of and show to everyone at the Columbia College Chicago community. You will have an end product to be witnessed. You will have a unique experience. You will be provided a creative outlet to attend to skills building and emotional expressions. You can also develop tolerance to changes and repetition, developing a spatial relationship. The participation in teamwork will give you a sense of togetherness and collaboration. It will help you with motivation, initiation, and depression, and give you a sense of purpose. I hope that your participation in this study will give NAME OF PROGRAM staff and other mental health professionals the opportunity to learn about your experience suffered from brain injury.

CONFIDENTIALITY

The following procedures will be used to protect the confidentiality of your information:

1. I will keep all study records locked in safe place.

2. All computer files containing personal information will be password protected.

3. Your name will not be connected to the study to help protect your identity.

4. Only I, the program manager/my primary co-researcher, and my thesis advisor, Laura Downey will have access to the original movement session data generated during the rehearsal process.

5. At the end of this study, I may publish what we learn in this study. You will not be identified in any publications or presentations by name.

6. The person who makes the video will not give it to anyone but me.

7. The final recording will be submitted to Columbia College Chicago, put on the library website, and will be permanently stored to show to the public or in future presentations.

<u>RIGHTS</u>

Being a research participant in this study is your decision. You may choose to withdraw from the study at any time with no penalty. You may also refuse to participate at any time with no penalty.

Take time to think about it before you make a decision. I will be happy to answer any questions you have about this study. If you have more questions about this project or if you have a problem with the study, you

can contact the principal investigator Chih-Hsien Lin at 312-608-2999 (text and voice) or the faculty/thesis advisor Laura Downey at 312-369-8617 (voice only). If you have any questions concerning your rights as a research subject, you can contact the Columbia College Chicago Institutional Review Board staff (IRB) at 312-369-6994.

COST OR COMMITMENT

You will need to come to PAT group session/rehearsal for one hour and a half every week in order to create and practice the dance. These will take place from late February to July, 2014 for five months. In July, you will need to come to the final recording and presentation of the performance and the Student/Faculty dance concert at the Dance Center of Columbia College Chicago and another community setting. All practices will be at NAME OF PROGRAM

PARTICIPANT STATEMENT

This study has been explained to me. I volunteer to take part in this research. I have had opportunity to ask questions. If I have questions later about the research or my rights as a research participant, I can call or email the people on this paper. I understand that I may withdraw from the study or refuse to participate at any time with no penalty. I will get a copy of this consent form.

_____ _____ _____

Participant/Parent/ Print Name: Date:

Guardian Signature:

Relationship (only if not participant): _____

_____	_____	_____
Signature of Person Obtaining Consent:	**Print Name:**	**Date:**
_____	_____	_____
Principal Investigator's Signature:	**Print Name:**	**Date:**

Appendix F: Informed Consent Form in Spanish

Columbia
COLLEGE CHICAGO

Forma informada del consentimiento
Forma del consentimiento para la participación en un estudio de investigación

Título del proyecto de investigación: Los efectos del baile Chacian/la terapia del movimiento en la memoria de corto plazo de adultos con lesión cerebral
Investigadora principal (PI): Chih-Hsien Lin (chihhsien.lin@loop.colum.edu 312-608-2999)
Asesora de la facultad y presidenta del jurado de tesis:
Laura Downey, MA, BC-DMT, LPC, GL-CMA. (Ldowney@colum.edu 312-369-8617)

INTRODUCCIÓN

Podrá participar en un estudio de investigación para coreografiar y realizar un baile basado en su experiencia de un proceso de lesión y rehabilitación cerebral en el *NOMBRE DEL PROGRAMA*. Este formulario de consentimiento le dará la información que necesitará para entender por qué este estudio se está haciendo y por qué están siendo invitados a participar. También explicará lo que necesitas hacer para participar y riesgos conocidos, incomodidades o molestias que pueda tener durante su participación. Por favor tome tiempo para pensarlo. Por favor, preguntas ahora y en cualquier momento. Si usted decide participar, se le pedirá que firme este formulario y será un registro de su acuerdo para participar. Este proceso se denomina 'consentimiento informado'. Usted recibirá una copia de este formulario para mantener.

Se les ha pedido participar porque usted es un miembro *NOMBRE DEL PROGRAMA* y participar en un grupo de terapia de danza y el movimiento.

PROPÓSITO DEL STUDIO

El propósito de este estudio de investigación es hacer un baile creado por los miembros del nuevo enfoque. Usted colaborará con el investigador para

decidir sobre el tema de la danza y realizarlo para un grupo de audiencia en danza centro de Columbia College Chicago para su concierto del estudiante/Facultad y en un entorno comunitario. Podrá elegir el mensaje o expresión emocional que desee compartir con la audiencia en su danza. La audiencia será consciente de este baile, siendo un producto final de este estudio.

PROCEDIMIENTO

- Atender semanal una hora y media PAT sesión/ensayo después de las horas regulares NOMBRE DEL PROGRAMA a partir de finales de febrero a julio de 2014 durante cinco meses.
- Crear una danza con el otro NOMBRE DEL PROGRAMA los miembros y yo.
- Práctica la danza hasta que esté listo para llevar a cabo.
- Realizar la danza en danza centro de Columbia College Chicago en concierto anual del estudiante/Facultad y en un entorno comunitario. El baile se grabará en un DVD vídeo que se pondrá en el sitio web Biblioteca de Columbia College Chicago y convertido en un archivo de registro para mi tesis escrita y el NOMBRE DEL PROGRAMA. Después de la actuación, terminen con el estudio y no será contactado por mí en elfutura.

POSIBLES RIESGOS O MOLESTIAS

Que se tomen el tiempo necesario para terminar el estudio. Se le pedirá a bailar y moverse de forma segura y cómoda. Usted puede sentirse molesto si perder muchos ensayos y no puede estar en el rendimiento. Intentaré mi mejor para asegurarse de que puede estar en el baile. Si no puede realizar en el escenario, puedes ayudar de otra manera como dando programas al público y establecer la etapa.

POSIBLES BENEFICIOS

Los posibles beneficios de estar en este estudio incluyen la creación de una danza que puede estar orgulloso y mostrar a todos en la comunidad de Columbia College Chicago. Usted tendrá un producto final para ser testigo. Usted tendrá una experiencia única. Se le proporcionará una salida creativa para asistir al desarrollo de habilidades y expresiones emocionales. Usted también puede desarrollar tolerancia a los cambios y la repetición, desarrollando una relación espacial. La participación en equipo le dará un sentido de solidaridad y colaboración. Te ayudará con motivación, iniciación y depresión y darle un sentido de propósito. Espero que su participación en este estudio dará el

personal MOBRE DEL PROGRAMA y otros profesionales de la salud mental la oportunidad de aprender acerca de su experiencia que sufrió de una lesión cerebral.

CONFIDENCIALIDAD

Se utilizarán los siguientes procedimientos para proteger la confidencialidad de su información:

1. Cumpliré todos los registros de estudio cerrados en lugar seguro.
2. Todos los archivos de computadora que contienen información personal será protegida por contraseña.
3. Su nombre no se conectará al estudio para ayudar a proteger su identidad.
4. Sólo yo y gerente de programa tendrán acceso a los datos originales.
5. Al final de este estudio, puedo publicar lo que aprendemos en este estudio. Usted no será identificado en publicaciones o presentaciones por nombre.
6. La persona que hace el vídeo no se dé a mí.
7. La grabación final será presentado al Columbia College Chicago, poner en el sitio web de la biblioteca y puede ser mostrado en el futuro las presentaciones.

DERECHO

Ser un participante de la investigación en este estudio es su decision. Ser un participante de la investigación en este estudio es su decisión. Usted puede decidir retirarse del estudio en cualquier momento sin penalizaciones. Usted también puede negarse a participar en cualquier momento sin penalizaciones.

Tome tiempo para pensar antes de tomar una decision. Estaré encantada de responder cualquier pregunta que tenga sobre este estudio. Si tienes más preguntas sobre este proyecto o si tienes algún problema con el estudio, puede contactar con el investigador principal Chih-Hsien Lin at 312-608-2999 (texto y voz) o asesor de la facultad Laura Downey at 312-369-8617 (sólo voz). Si tiene alguna pregunta relativa a sus derechos como sujeto de investigación, usted puede ponerse en contacto con el Columbia College Chicago personal Junta de Revisión Institucional (IRB) al 312-369-6994.

COSTO O COMPROMISE

Que tendrá que venir a PAT sesión de grupo/ensayo durante una hora y media cada semana con el fin de crear y practicar la danza. Estos llevará a cabo desde desde finales de febrero a julio de 2014 durante cinco meses. En julio, tendrás que venir a la grabación final de la actuación y el estudiante/Facultad

danza concierto en el centro de danza de Columbia College Chicago y otra comunidad. Todas las prácticas serán en el nuevo enfoque en MOBRE DEL PROGRAMA.

DECLARACIÓN DE PARTICIPANTES

Este estudio ha sido explicado a mí. Me ofrezco a participar en esta investigación. He tenido oportunidad de hacer preguntas. Si tengo preguntas después de la investigación, o mis derechos como participante en la investigación, me puede llamar o enviar un correo electrónico al pueblo sobre este documento. Entiendo que puedo retirar del estudio o negarse a participar en cualquier momento sin penalizaciones. Tendré una copia de este formulario de consentimiento.

Participante/padre/guardián firma: _____

Nombre de impression:_____ Fecha: _____

Relación (Sólo si no participante):_____

Firma de la persona que recibe el consentimiento: _____

Nombre de impression:_____ Fecha: _____

Firma del investigador principal: _____

Nombre de impression: _____ Fecha: _____

Appendix G: PAT Facilitator and Primary Co-researcher Agreement for Thesis Research

Creative Arts Therapies
Columbia College Chicago

This contract agreement is entered into this_____ day of _____, by and between primary investigator (PI), Chih-Hsien Lin ("Lin") and program manager (primary co-research) to explore the effects of performance as therapy ("PAT") within dance/movement therapy ("DMT") modality on adults with brain injury.

A. Duration:

The agreement may be used between _____ and _____ or until duties are completed, whichever comes first, and will be subject to renewal only by mutual written agreement of the parties.

B. Duties of the parties:

1. Primary co-researcher will oversee and assist in the weekly one hour and a half PAT group sessions/rehearsals after the regular NAME OF PROGRAM hours at 2:30pm.
2. Primary co-researcher will be assisting during warm ups, theme-development, closure, and verbal processing.
3. In each session, primary co-researcher will incorporate the appropriate concepts and techniques of DMT in assisting Lin's research/rehearsal directing. Primary co-researcher will also utilize and guide with the four processes in the PAT model developed together by Goldman and Larsen (2011) – Request, Claim, Promise, Execute.
4. During each one hour session, primary co-researcher and Lin will be responsible for the participants' physical and mental safety.
5. Primary co-researcher will not at anytime divulge information related to the adult participants and will protect such information as confidential.
6. In the event Primary co-researcher is not able to oversee and assist in a session, primary co-researcher will inform Lin at least 24 hours in advance and will reschedule the make-up session at a mutually agreed upon day and time, prior to the termination date of this agreement.
7. Primary co-researcher will not receive payment for overseeing and assisting in the group sessions/rehearsals.
8. Lin will be directing the groups sessions/rehearsals, actively collaborating, creating, observing, processing, and journaling the sessions/rehearsals within an audible range.

9. Lin will consult with primary co-researcher at the end of each session regarding the PAT processes used and experienced.

C. Termination:

1. In the event primary co-researcher is unable to fulfill the terms of this agreement, primary co-researcher will notify Lin within three (3) business days and attempt to find a qualified replacement at Lin's discretion.
2. Termination of this agreement will not result in any penalties to either party.

Primary co-researcher, PAT sessions/rehearsals overseer & assisting facilitator_____
Dates _____

Chih-Hsien Lin, PI and PAT session facilitator_____
Dates _____