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**THE EXPERIENCES OF AN INDIVIDUAL WITH PARKINSON'S ENGAGING IN A
RELATIONSHIP-BASED, IMPROVISATIONAL MUSIC THERAPY GROUP**

A Thesis Submitted to Molloy College
Music Department, Rockville Centre, NY

In Partial Fulfillment
of the Requirements for the Degree of

Master of Science
in
Music Therapy

by

Daniel DeLucia MT-BC

MAY 2022

Molloy College

A thesis committee of the researcher has examined the thesis titled

THE EXPERIENCES OF AN INDIVIDUAL WITH PARKINSON'S ENGAGING IN A
RELATIONSHIP-BASED, IMPROVISATIONAL MUSIC THERAPY GROUP:

Presented by Daniel DeLucia

A candidate for the degree of Master of Science in Music Therapy

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ABSTRACT

This study explored the experiences of an individual with Parkinson's engaging in a relationship-based, improvisational music therapy group. The researcher utilized the methodology of naturalistic inquiry. An archived video recording of a group music therapy session held through a videoconferencing platform was observed. Music experiences and verbal dialogue were transcribed and put into notation software, and subsequently analyzed through inductive analysis. Two main themes were found: (a) Musical Interrelatedness and (b) Relationship Between Music and Words, with two subthemes under the former; Diane's Musical Relationship with the Therapist and Diane's Musical Relationship with the Group; and three under the latter; Words Enhancing Diane's Musical Experience, Music Supporting Diane's Verbal Responses, and Significance Of The Voice. Results illustrated the participant's experience of a relationship-based improvisational music therapy group as something supportive, creative, and potentially beneficial for their overall well-being.

Keywords: music, music therapy, Parkinson's, improvisation, group therapy, relationship, experiences

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Introduction

This study sought to explore the experiences of an individual with Parkinson's engaging in an improvisational music therapy group session. I viewed an archived video recording of one 60-minute music therapy session of a group of individuals diagnosed with Parkinson's, with the focus of the study being on one participant. Data collection included observational note-taking while I viewed the recorded session; in this regard, data analysis and collection occurred simultaneously. Data collection also involved the transcription of musical and verbal experiences during the session. I conducted an inductive thematic analysis of the session transcript and observation notes.

We are all improvisers. We improvise through each moment of each day by how and why we make choices, how and why we choose to interact with others. Every day is a new experience that we are thrown into which provides us with an opportunity to create fulfillment and meaning based on what we feel is essential to our nature as humans. Nachmanovitch (1991) characterizes improvisation in this way: "Whether we are creating high art or a meal, we improvise when we move with the flow of time and with our own evolving consciousness, rather than with a pre-ordained script or recipe" (p. 17). Improvisation within music therapy follows this principle. From the very beginning of the first session in which a relationship is formed between client and therapist, both individuals engage in shared spontaneous, musical experiences that continuously unfold within the here-and-now.

Improvisation in Music Therapy

According to Bruscia (1987), the term "improvisation" encompasses several definitions. He broadly defines improvisation as a "creative activity which commonly occurs in everyday life, in the performing arts (music, dance, and drama), and in the respective art therapies" (p. 5).

In everyday language, to “improvise” means to make something up as one goes along; to invent something offhand; to fabricate something from whatever resources are available. Within music, thus, “improvising” is the art of spontaneously creating music while playing rather than playing a composition that is already written (Bruscia, 1987).

Within music therapy, improvisation encompasses elements of all these above definitions: it is resourceful, extemporaneous, and inventive, and involves creating and playing spontaneously (Bruscia, 1987). There are several approaches within music therapy that use or heavily emphasize improvisation as a method of working with clients. The present study will consider two of the many such approaches enumerated by Bruscia (1987): Creative Music Therapy and Analytical Music Therapy. Creative Music Therapy (also referred to as Nordoff-Robbins Music Therapy, or NRMT) is an approach developed by Paul Nordoff and Clive Robbins in which the music therapist “creates” and improvises music to promote and maintain musical engagement with the client, with the client’s musical responses being the core of the experience in therapy (Bruscia, 1987; Nordoff & Robbins, 2007). In Analytical Music Therapy (AMT), an approach developed by Mary Priestley, the therapist improvises with the client for the purpose of exploring the client’s inner life to foster growth and greater self-awareness (Priestley, 1994).

Both approaches recognize the vital contribution of interpersonal relationships to the health and wellness of clients. In NRMT, musical engagement offers the potential for the shaping and development of self (Hadley, 1999). Similarly, in AMT, clients’ interaction and communication with others is viewed as central to wellness (Hadley, 1999). For Priestley, the relationship between therapist and client provides an opportunity for growth and greater self-awareness and is a vital factor within therapy (Priestley, 1994). The focus on interpersonal

relationships in both of these approaches is also found in the Developmental, Individual Differences, and Relationship-based (DIRFloortime) approach to therapy. DIRFloortime, developed by Stanley Greenspan and Serena Wieder, is a relationship-based approach in which the therapist interacts with and follows the lead of the client while addressing their therapeutic goals and challenging them based on their individual strengths and needs (Greenspan & Wieder, n.d.). These procedures are utilized in order to build healthy foundations for social, emotional, and intellectual capacities (Greenspan & Wieder, n.d.). Carpente (2013) adapted this model for use within music therapy with his development of the Individual Music-Centered Assessment Profile for Neurodevelopmental Disorders (IMCAP-ND). The IMCAP-ND is a means of assessing and working with the client through improvisation, both by itself and within pre-composed music experiences. Within this approach, there is a focus on “how a client perceives, interprets, and creates music with the therapist as the first step towards formulating goals and strategies for clinically working with the client” (Carpente, 2013, p. 5). The IMCAP-ND uses three rating scales to facilitate assessment: Musical Emotional Assessment Rating Scale (MEARS), Musical Cognitive/Perception Scale (MCPS), and Musical Responsiveness Scale (MRS). All three scales are interconnected and primarily focus on the client’s capacity to musically interact and communicate with the therapist within the context of improvised musical play (Carpente, 2013, p. 7).

Within the DIRFloortime approach, the music therapist employs the following procedural phases delineated by Carpente (2013):

1. Following the client’s lead: Therapist follows the client’s emotional interests while simultaneously challenging them socially, emotionally, intellectually, and musically.

2. Two-way purposeful music-making: Therapist creates opportunities for two-way purposeful music-making by facilitating give-and-take interactions in which client and therapist are responding reciprocally to one another through music.
3. Affect synchrony: Client initiates and responds to musical ideas and cues through movement, voice, or instrument play and engages with the therapist in long chains of reciprocal affective interactions.

Throughout these phases, the music therapist utilizes many of Bruscia's (1987) clinical improvisational techniques to facilitate the session, including:

1. Techniques of empathy: imitating, synchronizing, incorporating, pacing, reflecting, exaggerating
2. Techniques of elicitation: repeating, modeling, making spaces, interjecting, extending, completing
3. Techniques of structuring: rhythmic grounding, tonal centering
4. Techniques of redirection: introducing change, differentiating, modulating, intensifying, calming, intervening, reacting
5. Procedural techniques: enabling, shifting, pausing, receding, experimenting, conducting

These approaches imply that improvisation (and music in a broader sense) can function not just as a means of creating and playing spontaneous music for oneself, but also as a means of connecting with another person. Within music therapy, there exist interpersonal relationships between client and therapist, and among clients in a group, which are embodied in the music. Since music embodies relationality, in that music itself offers the possibility for individuals to relate to others in creative and unique ways (Abrams, 2018), musical interactions can occur not

only between two people (client and therapist), but also among multiple people in a group (client, therapist, and other members). Shared music-making among multiple people can be experienced when one is engaging in a music therapy group.

Groups in Music Therapy

The term “group” is defined as a number of individuals assembled together or having some unifying relationship (Merriam-Webster, n.d.). Human beings have always lived in groups that consisted of persistent interpersonal relationships (Yalom, 1994). Yalom (1994) mentions several factors that are consistent among therapy groups, and which influence therapeutic change. These include but are not limited to interpersonal learning, universality, group cohesiveness, imitative behavior, and development of socializing techniques. In music therapy groups, the music itself influences these factors and is the primary stimulus for therapeutic change. Borczon (1997) highlights some of the ways in which group work within music therapy incorporates these factors through sample vignettes. He depicts groups using music in tandem with imagery, music accompanying story reenactment, music used for receptive listening, musical improvisation, and other types of music experiences.

From my own personal experience, I have gained a greater understanding of these factors whenever I have used musical improvisation as well as Bruscia’s clinical techniques (Bruscia, 1987) within groups. Working with groups has not only developed within me a greater awareness of Yalom’s factors, but also has shifted how I think about music and music therapy, and what I consider to be clinically valuable.

Orientation of the Researcher

While working as an intern at the Rebecca Center for Music Therapy at Molloy College, I experienced first-hand how clinical improvisation encompasses the elements previously

mentioned and saw that these elements provided meaningful, creative, and fulfilling therapeutic opportunities for clients of all ages, of varying diagnoses and personalities, within group and individual work. I did not always view clinical improvisation this way, nor did I believe it could provide these opportunities for therapeutic engagement.

Prior to my internship at the Rebecca Center, I worked as a music therapy intern within a hospital that primarily specialized in rehabilitation. There, I used theory and techniques borrowed from Neurologic Music Therapy (NMT), a model of music therapy that uses procedures informed by scientific research about music's effects on the brain to address cognitive, affective, sensory, language, and motor dysfunctions brought about by injury to the brain and nervous system (Thaut et al., 2014). I viewed music and music therapy as a tool to fix dysfunctions related to health, using specific techniques to address particular needs in therapy based upon evidence from research. This has been regarded as working in an "objective" model (Abrams, 2010). At the Rebecca Center, my perspective changed, and I became oriented towards working in a more "subjective" model (Abrams, 2010). I no longer used music as a tool but rather worked within music experiences with the client. I began to notice and value the uniqueness, individual identity, expressivity, and meaning within the music of each client, as well as the relationship that was formed between myself and the clients. I saw music as a flexible, living, creative, aesthetic way of being, one that invites people into relationships and embodies relationality, autonomy, and empowerment (Abrams, 2018).

Definition of Parkinson's Disease

The present study explored the experiences of an individual with Parkinson's, also called Parkinson's Disease (PD). Parkinson's is a neurodegenerative disease involving the loss of dopamine, a chemical secreted by the brain to promote smooth, purposeful movement (National

Institute of Neurological Disorders and Stroke [NINDS], 2020). Symptoms include tremors, muscle stiffness, slowing of spontaneous movement, and impaired balance (NINDS, 2020). In addition, individuals with Parkinson's may also experience such symptoms as dementia; fatigue; difficulty in speaking, chewing, or swallowing; sleep disturbances (NINDS, 2020); and a comorbidity of severe depression and anhedonia (a lowered ability to experience pleasure; Loas et al., 2012).

Need for the Study

My experiences of working within both the DIRFloortime and NMT frameworks have inspired the topic of this thesis. I was curious about the clinical use of relationship-based improvisation from the perspective of an individual with Parkinson's. My interest in this specific population was born out of my experiences of working at two different internship sites which both provided music therapy to individuals with Parkinson's, using different techniques and theoretical approaches.

Much of the literature about music and music therapy pertaining to individuals diagnosed with Parkinson's is primarily within a quantitative paradigm that seeks objective findings (Abrams, 2010), with a focus on physical rehabilitation (Pakdeesatitwara & Tamplin, 2018; Raglio, 2015; Sihvonen et al., 2017). There are few studies examining the subjective experiences of individuals with Parkinson's in music therapy or the use of improvisation to achieve outcomes other than those that are primarily behavioral and quantitative, with a focus on motor rehabilitation (Raglio, 2015). Therefore, this study is significant for several reasons:

- First, it addressed the scarcity of qualitative research in music therapy for individuals with Parkinson's.

- Second, this study offered a different perspective from previous studies for understanding the nonmotor, social and emotional functioning of individuals with Parkinson's. My own epistemology stems from a phenomenological conceptual paradigm and a music-centered clinical approach. The chosen research design was one that values an individual's unique constructs of what is being studied - i.e., their understanding of the phenomena based upon their subjective experiences.
- Third, the design of the study, a naturalistic inquiry, has seldom been used to study music therapy with individuals with Parkinson's and supports a more music-centered approach (Aigen, 2005b) to examining the lives and perspectives of individuals with Parkinson's.

Methodology and Research Questions

The purpose of this study was to explore the experiences of an individual with Parkinson's engaging in a relationship-based, improvisational music therapy group session. Improvisational music therapy within a relationship-based approach can highlight the emotional components and themes of this population's experiences, which have not been the focus of most prior studies.

The research question guiding the study was "What is the experience of an individual with Parkinson's participating in a relationship-based, improvisational music therapy group?" Additional research questions included the following: What are the experiences of an individual with Parkinson's participating in a relationship-based, improvisational music therapy group? How are these experiences reflected in the music?

The study explored the experiences of an individual with Parkinson's participating in an improvisational music therapy group through observation and analysis of one group music therapy session. Collection and analysis of findings occurred simultaneously as I created field

notes during observation. Both the musical and verbal content of the session were transcribed, and the field notes and session transcript were thematically analyzed.

Literature Review

Existing studies on the treatment of Parkinson's have primarily focused on investigating measurable effects of interventions on sensorimotor, cognitive, physiological, and communicative functioning. There are few studies of clients with Parkinson's that are qualitative in terms of their design and analysis, or that focus on subjective psychological or social/emotional effects of various forms of therapy. This literature review will include the following topic areas: 1) Parkinson's: Current Treatment and Research Trends, 2) Music Therapy in the Treatment of Parkinson's: Previous Research Trends, and 3) Music Therapy in the Treatment of Parkinson's: Current Research Trends.

Parkinson's: Current Treatment and Research Trends

Much of the existing research on the treatment of individuals diagnosed with Parkinson's has aimed to analyze quantitative outcomes. Current research trends focus on rehabilitation outcomes related to gait and cognitive abilities. Abbruzzese et al. (2015) found physical therapy and physical exercises to be the most prominent and effective treatment for symptoms of Parkinson's, alongside pharmacotherapy. Many of the treatments they reviewed showed physical therapy interventions to be effective at improving aspects of gait (step strength, cadence, and speed). Uhrbrand et al. (2015) found similar outcomes from physical exercises such as resistance training, endurance training, strength training, and training that incorporates walking and maintaining balance. These exercises support muscle strength and cardio-respiratory fitness in individuals with Parkinson's as well as possibly improving their gait, balance, and quality of life, although the findings are inconsistent (Uhrbrand et al., 2015).

Contemporary treatments such as Deep Brain Stimulation (DBS) and Virtual Reality (VR) have been utilized for the treatment of motor and cognitive symptoms associated with Parkinson's. DBS is a procedure which involves stimulation of the brain by sending continuous electrical pulses through a surgical device on the patient's head, interrupting the irregular signals that cause tremors and other symptoms related to movement disorders (Johns Hopkins Medicine, n.d.). Huang et al. (2018) reviewed studies related to effects of DBS on freezing of gait (FOG) in Parkinson's, a condition in which there is a periodic absence or reduction in forward movement in the feet despite the intention to walk (Ishii & Okuyama, 2017). Their results indicated that DBS may be effective for treatment of FOG along with cognitive dysfunction, as the procedure targets areas of the brain associated with learning and memory capacities as well as motor function (Huang et al., 2018).

BTS Nirvana (BTS-N) is a VR system used in rehabilitation that projects virtual scenarios and environments onto walls or floors and allows the patient to interact with objects on the screen. Maggio et al. (2018) evaluated the effects of this VR training system on cognitive and behavioral recovery in individuals with Parkinson's. Participants performed various cognitive tasks when engaged with the VR system. The findings indicated that virtual reality training could be effective at improving cognitive functioning, specifically visuospatial and executive functioning.

Similarly, Imbimbo et al. (2021) assessed the effectiveness of BTS-N in the rehabilitation of Parkinson's patients who had different levels of cognitive reserve (CR), examining the influence of CR levels on outcomes related to walking and balance. CR is defined as the extent to which the brain can sustain damage without affecting intellectual capacity (Stern, 2009). Participants engaged in exercises focused on sensorimotor skills such as coordination, balance,

and stretching, which intertwined with cognitive skills such as searching for, covering, and finding objects that were projected onto a wall through BTS-N. Although neither patients with high nor low levels of CR demonstrated statistically significant outcomes related to gait or balance, there was some improvement in motor outcomes among those individuals who had a higher level of CR compared to those with a lower level. Therefore, the authors determined that VR might not be effective for every patient and could be a more appropriate treatment for individuals with higher levels of cognitive reserve.

In addition to the abovementioned contemporary interventions, dance (Hackney & Earhart, 2010) and dance/movement therapy (Lihala et al., 2021) have been used to address issues of gait and balance in Parkinson's. Hackney and Earhart (2010) analyzed the effects of partnered and non-partnered dance and found improvements in gait, balance, and functional mobility. Lihala et al. (2021) reported similar findings, employing a mixed-methods approach to study outcomes of dance/movement therapy in rehabilitation for individuals with Parkinson's. Six participants engaged in weekly 1½-hour sessions twice a week for 2 months. Each session focused on different movements of the body performed while seated or standing. Exercises were designed to address issues of balance, freezing, rigidity, gait, mobility, and bradykinesia (slowness of body movement). Contact improvisation, guided imagery, mirroring, rhythm work, body coordination, movement improvisation, and memory games were used both individually and with partners. During warm-ups, music was occasionally used to help provide sensorimotor cues. Findings based on the mixed-methods approach of the study indicated that the interventions improved quality of life, coordination, cognitive skills, and flexibility; decreased anxiety; and led to easier execution of daily activities.

Other movement interventions such as tai chi have shown similar effectiveness in improving symptoms related to the physical and sensorimotor deficits of Parkinson's. Li et al. (2012) conducted a randomized controlled trial using a large sample size of participants diagnosed with Parkinson's. Participants engaged in 1-hour sessions two times a week for 24 weeks. Sessions involved learning tai chi movements to address issues of balance and gait and to improve postural stability. The group that engaged in these sessions was compared with a control group that engaged in sessions involving stretching and resistance training. Results determined that tai chi can be an effective intervention for improving postural stability and significantly reducing the incidence of falls for individuals with Parkinson's.

Music Therapy in the Treatment of Parkinson's: Previous Research Trends

Like dance/movement therapy, music therapy has been used in physical rehabilitation for patients with Parkinson's. In their systematic review of rehabilitation treatments, Weller and Baker (2011) found music therapy to be an effective intervention for improving gait, balance, and fine and gross motor skills. They determined that music was beneficial as a treatment modality in that it was functional, goal-oriented, interesting, progressive in complexity, and repetitive.

Some of the earliest studies related to music therapy in gait rehabilitation demonstrated its efficacy for individuals with Parkinson's. Some interventions used active music-making in tandem with movement to music for gait training (Pacchetti et al., 2000). A common music-based intervention that has been implemented for gait training is Rhythmic Auditory Stimulation (RAS), a Neurological Music Therapy (NMT) technique that facilitates entrainment of movement to auditory cues from a metronome or music to improve control of functional, stable, and adaptive gait movements (Thaut & Rice, 2014).

RAS has been studied in the treatment of Parkinson's since the 1990s and has been found to improve components of gait such as velocity, cadence, and stride length (McIntosh et al., 1997; Thaut et al., 1996). Since then, RAS has been used frequently in gait rehabilitation, demonstrating continued success in improving gait, particularly in enhancing stride speed and length (Benoit et al., 2014; Freedland et al., 2002; Ghai et al., 2018; Hausdorff et al., 2007; Nieuwboer et al., 2006); increasing walking speed while performing a dual task (Rochester et al., 2005); and improving (decreasing) variability in stride times (de Bruin, N. et al., 2010; Howe et al., 2003), including variability in stride while performing a dual task (Baker et al., 2008). Recently, Thaut et al. (2019) evaluated the effectiveness of RAS in reducing the frequency of falls. Findings from his study indicated that RAS not only reduced the frequency of falls, but simultaneously modified the kinesthetics of gait control in patients with Parkinson's.

In addition to RAS, other NMT techniques have been successful at improving aspects of gait among individuals with Parkinson's. Therapeutical Instrumental Music Performance (TIMP) is a NMT technique that targets improvement of limb coordination, range of motion, finger dexterity and grasp, rotation, and other motor skills through the use of musical instruments placed in different spatial configurations (Mertel, 2014). Patterned Sensory Enhancement (PSE) is a technique that uses music to facilitate movements associated with activities of daily living (Thaut, 2014). Bukowska et al. (2016) combined RAS with TIMP and PSE to evaluate the efficacy of music and rhythm for mobility and posture in a group of patients with Parkinson's. Fifty-five participants were divided into experimental and control groups, and NMT protocols (RAS, TIMP, PSE) were used with the experimental group. The protocols incorporated varying degrees of gait training, stretching, weight shifting, body rotations, and upper and lower body exercises to the pulse of a metronome and/or recorded music. Findings were similar to those in

previous studies (de Bruin, N. et al., 2010; Freedland et al. 2002; Hausdorff et al., 2007; Howe et al., 2003; Nieuwboer et al., 2006), demonstrating significant changes in cadence, step length, velocity, and stride length in the experimental group as compared to the control group.

Music Therapy in the Treatment of Parkinson's: Current Research Trends

In recent years, studies examining the effects of music therapy in the treatment of Parkinson's have expanded to other domains beyond motor impairment. There has been an emergence of studies utilizing a variety of music-based interventions with Parkinson's patients, as well as different clinical approaches and research methods. Vocal interventions have demonstrated some success at improving symptoms related to communication impairments of Parkinson's, through enhanced respiratory control (Stegemöller et al., 2017b), intensity of speech (Haneishi, 2001), and vocal range and pitch accuracy (Elefant et al., 2012a); maintenance of the voice over time (Yinger & Lapointe, 2012); and reduced vocal impairments associated with dysarthria, a condition in which the muscles used to produce speech are weak (Azekawa & LaGasse, 2018). In addition, singing has been shown to facilitate improvement in the facial expression of individuals with Parkinson's both during and after engaging in singing interventions (Elefant et al., 2012b).

Therapeutic drumming has been shown to be successful in addressing some of the non-motor domains of Parkinson's. Carolan (2016) examined a pilot therapeutic drumming program in a medical setting with a group of 13 participants. The drumming protocol, known as Health Rhythms™, was advertised as reducing stress and promoting self-expression, exercise, spirituality, and music-making. Findings from interviews and a survey conducted by the author indicated that the pilot treatment program resulted in improvements in motor domains, including enhanced coordination, hand and finger dexterity, and management of tremors, and reduced

difficulty and stiffness of upper body movements. Improvements were also found in social/emotional domains. Some participants mentioned that participation in the group helped with mood difficulties. Interviews conveyed themes of enhanced socialization, sense of meaning, and overall mood. Similarly, Pantelyat et al. (2015) found improved quality of life along with decreased rigidity and enhanced mobility as self-reported by participants in a 12-week drumming program. The findings of both of these studies appear to be similar to the findings of Pacchetti et al. (2001), who observed not only noticeable improvements in motor function through active music-making, but also improvements in overall emotional well-being. These findings are significant, as they indicate that music-making can have beneficial effects upon the emotional lives of individuals with Parkinson's, many of whom experience comorbidities of stress, fatigue, and depression (Hemmerle et al., 2012; Pfeiffer, 2015) which can influence motor symptoms such as tremors (Buhmann et al., 2018).

A recent trend among contemporary studies is the use of mixed-methods approaches. Like Carolan (2016) and Pantelyat et al. (2015), Pohl et al. (2020) employed a mixed-methods approach which sought to evaluate the effectiveness of a group-based music intervention known as the Ronnie Gardiner Method (Pohl, 2018) on cognitive and motor skills as well as to explore the subjective experiences of patients and therapists. The experimental group underwent the music-based intervention, which incorporated multitasking activities (entrainment to the pulse of a piece of music while performing cognitive and movement tasks), while the control group did not participate in the music-based intervention. Quantitative findings indicated no significant difference between the groups in the development of motor and cognitive function, and it was determined that the intervention yielded no immediate or lasting improvements in those areas. Nonetheless, qualitative results from interviews conducted by the authors revealed that patients

self-reported improved overall mood and a greater ability to transfer skills learned in therapy to everyday life, although many patients felt that the intervention was difficult and not adapted to individual needs.

Recent studies have substantiated the findings mentioned above, as well as those of Carolan (2016), through an examination of the subjective experiences of Parkinson's patients in group music therapy. Qualitative findings of Stegemöller et al. (2017a) and Fogg-Rogers et al. (2016) yielded similar themes characterizing participation in group music therapy as enjoyable, improving mood, building togetherness and support among group members, and increasing stamina and energy. Through surveys and questionnaires, Morris et al. (2019) found that individuals with Parkinson's may feel a lack of motivation to move, dance, or sing when encouraged to actively listen to familiar music, compared with individuals without Parkinson's. The authors inferred, based on their results, that individuals with Parkinson's feel less motivated to move or to be fully engaged in music due to the reduction or depletion of dopamine in the brain. They therefore concluded that individuals with Parkinson's may benefit from therapeutic facilitation of active participation and engagement in music-making in order to stimulate motivation and help improve their mood and quality of life.

Music-based improvisation has only recently been studied in the treatment of individuals with Parkinson's. To the best of the researcher's knowledge, the use of improvisation as a music therapy intervention for Parkinson's has rarely been investigated. Recently, however, Kogutec et al. (2021) examined the impact of learning to perform complex rhythms on gait parameters (velocity, speed, variability) through the use of Improvised Active Music Therapy (IAMT), an intervention in which the music therapist improvises with the client to create a musical dialogue, thus stimulating the active participation of the client. Findings did not clearly indicate whether

learning to perform increasingly complex rhythms influences these gait parameters, although there was evidence to support the use of IAMT to enhance gait performance overall.

Despite the limited number of studies using improvisation in therapy for individuals with Parkinson's, improvisation has been used in interdisciplinary rehabilitation with other related populations, such as stroke patients (Raghavan et al., 2016). Improvisation has been found to improve some of the motor impairments resulting from stroke which are similar to those resulting from Parkinson's, in addition to simultaneously addressing emotional needs (Raghavan et al., 2016). Improvisation used within rehabilitation may simultaneously address many areas of need for individuals with neuromotor disorders such as stroke and Parkinson's, as improvisation can draw upon a broad spectrum of musical elements and styles in a flexible, dynamic way in order to help activate and integrate various human capacities, and thereby improve overall well-being (Guerrero et al., 2014).

As presented in this review of the literature, a majority of previous studies on music therapy and Parkinson's have had a primary focus on measurable outcomes related to gait or other aspects of motor function and have demonstrated consistent positive results. Several recent studies have assessed the effects of music therapy in other areas such as mood and overall quality of life, relying solely upon quantitative measurements. Few studies have examined the subjective experience of clients with Parkinson's engaging in music therapy through qualitative designs such as interviews. The present study sought to add to the relatively small body of qualitative literature on music therapy and Parkinson's by examining the experiences of an individual with Parkinson's engaging in an improvisational music therapy group.

Method

This study sought to explore the experiences of an individual with Parkinson's engaging in a relationship-based, improvisational music therapy group, using qualitative methods which reflected my own epistemology. A naturalistic inquiry was implemented to address the proposed research questions: What are the experiences of an individual with Parkinson's participating in a music therapy group session? How are these experiences reflected in the music?

Research Design

The chosen research design for this study was naturalistic inquiry, which is a method for studying individuals in everyday circumstances: observing how they go about their daily lives and how they interact; listening to what they have to say; considering what they accomplish and produce; and understanding what their stories, interactions, and accomplishments might mean to them (Beuving & de Vries, 2014). Since the main research question posed by this study concerned the experience of an individual with Parkinson's participating in a music therapy session, naturalistic inquiry was a suitable approach, as it aims to discover what occurs naturally in the context of what is being studied (Aigen, 1993; Beuving & de Vries, 2014; van Bruggen-Rufi et al., 2018). Furthermore, this choice of design was reflective of my epistemology, as it values and seeks to understand the participant's subjective experiences.

Participants

The potential participants in the study included six members of a music therapy group for clients with Parkinson's, as well as the music therapist who led the group, for a total of seven participants. The group met exclusively via the Zoom videoconference platform as a result of the COVID-19 pandemic. They were receiving services through a music therapy clinic located within the New York metropolitan area. According to the music therapist who led the session,

the group was formed by the clinic to address the social isolation that participants were experiencing as a result of the pandemic. Receiving music therapy services through a virtual platform provided them with the opportunity to come together as a community. I observed an archived recorded session of the group, focusing upon the experiences of one of the members, who was assigned the pseudonym Diane. Other group members were assigned pseudonyms as well. Diane and the rest of the group began music therapy in the fall of 2020.

Inclusion criteria for group members were as follows: (a) ongoing participation in relationship-based, improvisational group music therapy; (b) a diagnosis of Parkinson's; (c) ability to speak, sing, and move either independently or with support; and (d) ability to speak and understand English. The participants were recruited using the method of purposive sampling (Creswell & Creswell, 2017). Inclusion criteria for the music therapist were as follows: (a) holds music therapy board certification (MT-BC), (b) has practiced as an MT-BC for at least 1 year, (c) has completed at least a Level 1 training in Nordoff-Robbins Music Therapy, (d) has experience working within the model of DIRFloortime and is proficient in Bruscia's (1987) improvisational techniques, and (e) holds at least a master's degree in music therapy. The criterion of the therapist's experience and training in DIRFloortime was necessary for this study, since the focus of the research was to analyze the experiences of a participant in a music therapy group led according to techniques specific to the DIRFloortime approach.

Recruitment

Following approval of the study by the Internal Review Board (IRB) at Molloy College, I contacted the director of the music therapy clinic responsible for conducting the group, to obtain permission for participant recruitment and use of an archived recording of a group music therapy session. I then recruited the participants through referral from the music therapy clinic and

sought their informed consent. Out of the seven participants in the recorded session, four provided their consent and three were unable to be contacted or did not respond, thus reducing the number of participants. The participants who did consent to participate included the music therapist who led the session; Diane, the group member selected as the focus of the analysis; and two others, who were assigned the pseudonyms Harold and Mary. Harold was an individual with Parkinson's; Mary, his wife, was his caregiver who actively engaged in music-making and was present throughout the session to provide support for Harold.

To facilitate the delivery of consent forms, the participants were offered the option to sign the consent form electronically via DocuSign. The consent form provided information regarding the purpose and methods of the study, potential benefits and risks, and the measures taken to protect participants' rights. They were informed that participation in the study was optional and were invited to contact me with any questions or concerns. If they decided that they wished to take part in the study, they were asked to sign the informed consent form and return it to me via email or standard mail.

Data Selection

I randomly selected a recording of an archived group music therapy session which was 60 minutes in length, and which included the participant who had been selected as the focus of observation. I transcribed music experiences during the session that involved singing, as well as verbal dialogue which occurred between the experiences. The session was led by a music therapist who utilized Bruscia's (1987) improvisational techniques, along with techniques borrowed from DIRFloortime (Carpente, 2013). The session was conducted through the Zoom videoconference application. I selected a session at approximately the midpoint of the therapeutic process (4 to 5 months into therapy), by which time the participant had already

familiarized herself with the group and the therapeutic process. This was to avoid unusual influences on the data, such as the participant's possible feelings of nervousness due to unfamiliarity with the group at the beginning of therapy, or feelings about closure towards the end of therapy.

Data Collection

Data were collected from an archived video recording of a group music therapy session which was accessed on the HIPAA-compliant video server utilized by the music therapy center. I reviewed the recording with a focus on the selected participant engaging in relationship-based music experiences. I took observation notes relevant to musical and verbal events that unfolded over the course of the session. The music experiences and verbal dialogue were transcribed using the method of indexing (Nordoff & Robbins, 2007), and the music was imported into the music notation software Sibelius®. Indexing is a process of documenting significant moments during a music therapy session by transcribing musical and verbal exchanges that occurred during the session, as well as documenting specific musical facts about a client's instrumental and vocal responses, against the counter number on recorded audio/video sessions (Nordoff & Robbins, 2007). No data were used which pertained to individuals who did not provide informed consent.

Data Protection

The archived session video recording was viewed by me under conditions of strict privacy. To maintain participant anonymity, I used pseudonyms for all participants throughout the observational note-taking, indexing of the session, transcription of musical and verbal exchanges, analysis of data, and preparation of findings. The observational notes, session index, transcription of musical and verbal exchanges, and all materials generated during data analysis were securely stored on my password-protected personal computer and will be maintained in

secure storage for a minimum of 3 years following the completion of the study. Access to the data was limited to myself, my thesis committee, and the IRB at Molloy College.

Materials

My password-protected personal Apple® Macbook Pro laptop computer was used for indexing purposes as well as for viewing the recorded session. For analysis of musical data and the creation of musical transcriptions, Sibelius® music notation software was used. Other materials included Google Docs™ for taking observation notes, and Google Docs™ for creating and editing transcriptions of verbal events that occurred within the session.

Procedures

This study employed the method of naturalistic inquiry (Aigen, 1993; Beuving & de Vries, 2014; van Bruggen-Rufi et al., 2018), in which the researcher places himself into the experience of the music therapy group through observation of naturally unfolding events during the session. I took observation notes while viewing the recorded music therapy session for the first time, which contributed to data analysis. I also used the method of indexing (Nordoff & Robbins, 2007) to identify specific musical and verbal interactions and events involving the participant, and to record the exact time that they occurred within the session.

Data Analysis

In accordance with the process of naturalistic inquiry, I took observation notes during my initial viewing of the music therapy session. I then indexed the musical as well as verbal experiences within the session. Within each significant event indexed in the session, shared music-making involving the participant, other group members, and the therapist were transcribed using the notation software Sibelius®. The observation notes, index, and musical transcriptions were analyzed for possible emergent themes using an inductive thematic analysis. An inductive

analysis is a “bottom up” process of analyzing and coding data without trying to fit the data into a specific framework based on the researcher’s theoretical orientation. Themes found using inductive analysis are strongly linked to the data themselves (Braun & Clarke, 2006). Both inductive thematic analysis and naturalistic inquiry served to maintain my openness to findings which emerged from the data, rather than seeking to shape the data through an externally imposed conceptual framework, such as a specific theory. Several questions guided the data analysis: What are the possible social/emotional experiences of an individual with Parkinson’s participating in a music therapy group? How are these experiences reflected in the music? What prominent themes may manifest within the music?

Braun and Clarke’s (2006) six procedural phases were used to extract themes from the data. These include:

1. Familiarizing oneself with the data: In this case, I viewed and reviewed the recorded session while indexing musical and verbal events, noting down initial ideas or observations, and transcribing data (including musical notation).
2. Generating initial codes: This phase involved creating initial codes for what I considered interesting or salient features of the data which emerged during observation, indexing, and organization of the data prior to discerning themes.
3. Searching for themes: During this phase, I combined and analyzed codes and extracted potential themes, gathering all data relevant to each potential theme.
4. Reviewing themes: This phase involved refining the potential themes and consisted of two levels. Level 1 involved reading all of the collected coded data for each potential theme and determining whether there appeared to be a coherent pattern. Level 2 involved seeing if those potential themes related and made sense within the entire set of data. If

there were not enough data to support a potential theme, it was combined with another theme.

5. Defining and naming themes: This phase involved generating a name or title that reflected the overall point or essence of the theme.
6. Producing the report: I generated a narrative report aiming to tell the story of the data collected in a coherent and concise way. The report provided a detailed presentation of themes and examples (Braun & Clarke, 2006), including both verbal and musical transcriptions of the session.

Trustworthiness

To ensure trustworthiness of the data, I utilized several strategies (Creswell & Creswell, 2017) including peer debriefing, thick description, member checking, and clarifying bias. Peer debriefing is the process of locating a person outside of the study to review the data and ask questions about the study, inviting the critical perspective of an individual who has not been involved in collecting and analyzing the data. For this study, the peers included a fellow student researcher and my research advisor who were not involved in the study. Thick description was implemented through the inclusion of musically notated excerpts and transcribed verbal exchanges in the session. Thick description through musical notation helps to provide a rich, detailed account of the individual's experience during music-making (Arnason, 2016). Member checking involved sharing the session transcriptions and findings with the participants to check for accuracy and completeness and provide them with the opportunity to comment on the findings in an open-ended manner. Lastly, to clarify bias, I kept a research journal, in which I commented and reflected on my personal stance as it influenced my interpretation of the data and

presentation of findings. This was meant to provide a basis to understand in depth my particular perspective and background that inform the study.

Results

Through observation of the recorded session and inductive analysis of the music, several themes were developed. Main themes were *Musical Interrelatedness* and *Relationship Between Music and Words*. The analysis focused on Diane's musical and verbal experiences with the music therapist and other group members during the session, with particular attention to moments of potential social/emotional significance. Theme 1 included the sub-themes *Diane's Musical Relationship with the Therapist* and *Diane's Musical Relationship with the Group*. Theme 2 included the sub-themes *Words Enhancing Diane's Musical Experience*, *Music Supporting Diane's Verbal Responses*, and *Therapeutic Significance of the Voice*. Themes were determined by the relevance of their content to the research questions and how consistently they manifested in the inductive coding of the musical and verbal experiences. Three musical experiences were transcribed and analyzed, including two recreative experiences ("Join Together" and "Oh, What A Beautiful Morning") and one vocal improvisation ("Let's Sing Our Music Today"). Throughout the music analyses, I point out the music therapist's use of improvisational techniques delineated by Bruscia (1987), as evidenced within the musical transcriptions. These improvisational techniques are characteristic of the music therapist's training and theoretical approach, as earlier indicated.

Although three music experiences were analyzed here, they were not the only music experiences in the session. The group also engaged in one movement experience in which the music therapist provided opportunities for the group members to initiate movements while engaging in the song "Blue Suede Shoes" written by Carl Perkins, as well as one warm-up prior

to the improvisation which included stretching and warming up the voice. I did not include the movement experience or the warm-up in the final analysis, as I felt that they were of lesser relevance to the research question.

Analysis of music experiences related to both of the main themes included some analysis of lyrics. It should be noted that lyrics themselves are a part of all the music analyzed below. Thus, I included them in the analysis of music as well as the analysis of words, since lyrics have a dual nature as being part of a melody and the overall design of the music, while containing sentences, phrases, and obviously words, which are also elements of everyday speech.

Theme #1: Musical Interrelatedness

Theme 1 reflects findings related to the concept of musical interrelatedness as described in the IMCAP-ND (Carpente, 2013). Specific evidence from the session transcriptions will be presented in connection with each of the two subthemes below. Musical interrelatedness is “the client’s ability to be creative, expressive, and communicative while engaged in related music-making” (Carpente, 2013, p. 48). Musical interrelatedness involves the client initiating and changing musical ideas while simultaneously differentiating their music and the music played by the music therapist. This theme describes Diane’s musical relationships throughout the session, including her musical relationships with the music therapist and with the group.

During the music experiences, specifically in the vocal improvisation, Diane initiated her own musical ideas, assimilating and embellishing on the music therapist’s music using her voice. The spontaneity and creativity of these musical ideas demonstrated musical interrelatedness since they were related to the music played by the therapist and the group. Diane also clearly differentiated her music from that of other participants in the group through initiation of her musical ideas. At times, Diane and the therapist engaged in what appeared to be purposeful and

meaningful moments of call-and-response. A call-and-response is a musical idea between two or more people where a player or players initiate a musical phrase and the other player(s) respond with a musical phrase that is related somehow to the original phrase (See Figure 3.1).

Diane's musical ideas appeared to be incorporated into the music therapist's ideas, and vice versa, during these moments of improvisation. Assimilation is one aspect of musical interrelatedness (Carpente, 2013) involved in this process. In relation to a client's social/emotional experience within music therapy, assimilation involves the client's use of some of the therapist's musical ideas, and therefore shows that the client is engaging in a relationship as well as being creative.

Sub-theme: Diane's Musical Relationship with The Therapist

Diane appeared to engage in purposeful and meaningful musical interrelatedness with the music therapist, who in turn provided support and reflected her vocal responses through the music. Figure 1 shows the main melodic motif the therapist sang during the chorus of the improvisation "Let's Sing Our Music Today.", which followed the first experience, "Join Together". The vocal improvisation was in the tonality of A Mixolydian, in a 4/4 meter at approximately 65 bpm. At the beginning of the improvisation, the therapist employed the structuring techniques (Bruscia, 1987) of tonal centering and rhythmic grounding by repeating and sustaining the chords A major and G major, which served as a foundation for the improvisation. The motif (see Figure 1) contained the lyrics "Let's sing our music today," which invited group members to join in the music and thus appeared to encourage a sense of freedom and autonomy in their singing. The motif begins on E natural, descends down a fifth to A natural, after which it ascends stepwise diatonically to D natural on sixteenth notes, and then descends a minor third to B natural.

Figure 1

Vocal Improvisation Motif Sung by the Music Therapist (MT)

22

The musical score for Figure 1 consists of two staves. The top staff is labeled 'A. Gtr.' and the bottom staff is labeled 'MT'. Both staves are in the key of D major (one sharp) and 4/4 time. The guitar part (A. Gtr.) begins at measure 56 and features a rhythmic pattern of eighth notes with chords. The vocal part (MT) begins at measure 56 with the lyrics 'Lets sing, our mu sic to day.' The vocal line is written in a simple, melodic style with some rests and slurs.

As shown in Figure 2, below, Diane spontaneously initiated her own musical ideas related to but distinct from the recurring motif described above, using the syllable “la.” Her vocal phrase began on an A natural and leaped down a fourth to E natural, and afterward began ascending stepwise diatonically to G natural before leaping down again to a D natural, then leaping up a fifth to A natural. The music therapist, utilizing the elicitation technique of making spaces (Bruscia, 1987), encouraged her to “sing it out” while strumming guitar chords at the dynamic level of *piano*, allowing Diane’s voice to be heard. Figures 2.1-2.3 show Diane’s improvised vocal line unfolding, which is followed by the therapist assimilating Diane’s lyrics into her own vocal melody, leading to a crescendo into the chorus of the song. Here, Diane becomes integral to the improvisation as the musical ideas she initiated become a means of climaxing to the chorus of the music, in which the music therapist sings, “Let’s sing our music today.”

Figure 2

Diane initiates musical ideas as the MT provides support for her.

63 Therapist rolls chords with the thumb, softly 25

A. Gtr. *p*

MT

Diane

la la la la la la la la

That's Di ane. Sing it out. *p*

Detailed description: This musical score is for Figure 2. It consists of three staves: A. Gtr., MT, and Diane. The A. Gtr. staff shows four measures of chords, with a dynamic marking of *p* (piano) under the first measure. The MT staff is mostly silent, with a few notes in the second and fourth measures. The Diane staff shows a vocal line with lyrics 'la la la la la la la la' and 'la la'. There are also lyrics 'That's Di ane. Sing it out.' and a dynamic marking of *p* under the MT staff.

Figure 2.1

Continuation of Diane's Vocal Phrase

67

A. Gtr.

MT

Diane

Rubato

I like to sing da da that makes me feel bet ter so we can sing.

Detailed description: This musical score is for Figure 2.1. It consists of three staves: A. Gtr., MT, and Diane. The A. Gtr. staff shows three measures of chords. The MT staff is silent. The Diane staff shows a vocal line with lyrics 'I like to sing da da that makes me feel bet ter so we can sing.' and a dynamic marking of *Rubato*.

Figure 2.2

MT Begins Assimilating Diane's Idea

69 Therapist strums with pick 27

A. Gtr. *mf*

MT

Diane

So we can sing, So we can sing yes

la la la

Detailed description: This musical score is for Figure 2.2. It consists of three staves: A. Gtr., MT, and Diane. The A. Gtr. staff shows three measures of chords, with a dynamic marking of *mf* (mezzo-forte) under the second measure. The MT staff shows a vocal line with lyrics 'So we can sing, So we can sing yes'. The Diane staff shows a vocal line with lyrics 'la la la'. There is a note 'Therapist strums with pick 27' above the A. Gtr. staff.

Figure 2.3*MT Assimilates Diane's Phrase, Leading to the Chorus*

28

A. Gtr.

72

Chorus

f

MT

we can sing all to gether no w. Lets sing our mu sic to

Diane

Figure 3 shows the music therapist's continued musical and emotional support for Diane. Diane sings, "I don't know how good I sound," and the therapist responds, "You sound great," with her phrase beginning on a G natural and skipping up a major third to B natural. This use of the major third, in my perception, evoked a more pleasant or uplifting mood which reinforced the therapist's supportive lyrics. Figure 3.1 illustrates the call-and-response between Diane's singing and the MT's guitar, with Diane singing repeated sixteenth notes on an E natural that briefly ascended to a G natural in stepwise motion, followed by the MT's response of similar rhythmic phrases in descending motion. This could be heard as a musical conversation between the MT and Diane, since their phrases seemed to complement each other, with one ascending (Diane's phrase) and one descending (MT's phrase). As in Figures 2.2 and 2.3, the music therapist provides an opportunity for Diane to initiate her own phrase in Figures 4 and 4.1. After Diane initiates her own vocal phrase on the word "hey," the therapist provides an opportunity for her phrase to be repeated by the other group members. In this way, her musical interaction with the therapist allowed Diane to play a significant role within the music. The therapist facilitated her

becoming part of the group's musical experience, in a similar way to what is shown in Figures 2.2 and 2.3.

Figure 3

MT Supports Diane

Figure 3 shows a musical score with three staves. The top staff is for the Acoustic Guitar (A. Gtr.), with measures 143 and 55 marked. The middle staff is for the Music Therapist (MT), with the lyrics "You sound great." written below the staff. The bottom staff is for Diane, with lyrics "la", "Oh, I don't know how good I sound.", and "La..." written below the staff. The score includes triplets and rests.

Figure 3.1

Brief Call-and-Response Between Diane and MT with Sixteenth-Note Phrases

Figure 3.1 shows a musical score with three staves. The top staff is for the Acoustic Guitar (A. Gtr.), with measure 145 marked. The middle staff is for the Music Therapist (MT), which contains rests. The bottom staff is for Diane, with lyrics "la la la la la la la la la la la la la la la la" written below the staff. The score includes sixteenth-note runs and rests.

Sub-theme: Diane's Musical Relationship with the Group

Throughout the session, there were moments in which Diane's musical ideas were acknowledged by the group members. Diane's vocal phrase was imitated by the group members and the therapist during "Join Together," written by The Who. Diane sings the words "Hey, hey, hey, hey" on a B natural, steps down to an A natural on the last sixteenth note of beat 1 which is tied over to beat 2, leaps down to E natural, and then skips up a major 3rd. The therapist then cues the group by singing "and we say," which leads the group members and the therapist to imitate Diane's phrase (Figures 4 - 4.1). This is similar to the way in which Diane's musical

phrase became an integral part of the music in the improvisation described earlier, as the music therapist incorporated Diane's music into her own (Bruscia, 1987) and connected it to the chorus of the improvisation in which all the group members sang the motif (Figures 2.1 - 2.3).

These examples illustrate Diane's role within the group and the ways in which she related musically to the other group members as well as the therapist. With support from the therapist, Diane engaged in processes of initiating, assimilating, differentiating, and changing musical ideas (Carpente, 2013), and thereby became part of the broader music in which the entire group was engaging. This, in turn, offered her opportunities to engage and relate with the group on a social and emotional level. Throughout the aforementioned music experiences, the therapist employed a variety of improvisational techniques (Bruscia, 1987) to elicit musical interrelatedness and musical engagement among group members, including structuring techniques (rhythmic grounding, tonal centering, and shaping), empathy techniques (incorporating, pacing, and reflecting), and elicitation techniques (repeating, modeling, making spaces and completing).

Figure 4

MT Provides Opportunity for Diane to Initiate Phrase Through Singing

24

50

A. Gtr.

MT

and Diane sings,

Diane

hey hey hey hey

Figure 4.1*Group Imitates Diane's Vocal Phrase*

52 25

A. Gtr.

MT
and we all sing, hey hey hey hey and we all sing,

Diane
hey hey hey hey

Harold
hey hey hey hey

Mary
hey hey hey hey

Theme #2: Relationship Between Music and Words

Diane's musical and verbal responses appeared to complement each other in expressing her experience within the group music therapy session. Her words clarified how she felt during music-making and offered insight into her experience of group music therapy.

Sub-theme: Words Reflecting and Enhancing Diane's Musical Experiences

In the context of this music therapy group, the music appeared to be the principal agent of change within Diane's experience, while her verbalizations supported or reflected her experience with the music. In the group vocal improvisation, as shown in Figure 2.1, Diane sang, in a rubato manner, "I like to sing... da da... That makes me feel better. So, we can sing." These words were incorporated into the therapist's music and thus became an integral part of the group's music, becoming a briefly repeated motif that was accompanied by a crescendo which led into the chorus of the improvisation. These lyrics related to what Diane said in response to the verbal prompt by which the therapist initiated group discussion after the improvisation (Figures 5 - 5.1). Diane remarked that she had discovered a musical ability in herself that she did not know about

previously. She expressed that singing in particular was beneficial in coping with Parkinson's. The group's verbal dialogue offered Diane an opportunity to share with the group her unique experience with the music and how it benefited her emotionally, socially, and to an extent, physiologically.

Figure 5

MT Begins Verbal Dialogue with the Group Following Vocal Improvisation (taken from session index)

23:55 - MT opens up a dialogue to gather the thoughts from the group members.

24:06 - Diane verbalizes "it was cool!" When asked about her response, Diane replied "Just as you're gonna change [ya know, the] tempo of the song, it connected to a different song" The MT validated her response, noting how the improvisation "evolves".

24:54 - Mary said "blending like a soup!" alluding to another response from another group member who mentioned the blending of the voices.

25:23 - MT thanks the group for going on "this musical journey all together" and states "We are all in our own homes, right? in our own screens and sometimes, music...we can blend together, even when we have our own unique voices. When we have our own melodies when we're sharing with our group, all of a sudden, when we sing all together, it still fits. And that's what I hope we can do all together here, our music will fit, we can establish a community here."

25:59 - Diane "I was gonna say, I didn't know I had my own little... uh...way of... doing it. And I think I felt good singin' believe me." MT: " So, you said you didn't know you had your own voice?" Diane: "When you were talking, I could relate to that.... As a [inaudible]". The MT replied "Absolutely, sometimes we don't know if we have it until we try it and the possibilities are endless."

Figure 5.1

Additional Verbal Dialogue (taken from session index)

27:28 - MT after hearing a response from another group member: “I think that this space is for exploring our voice and especially when you think about this as a muscle, right? It’s a muscle that we’re working out and we’re exercising when we’re doing something that can be fun or can be explorative. We’re exploring our voice while also exercising these muscles as well which will help us in our day to day”.

29:04 - Diane (talking about using the voice and expressing oneself with music): “It helps us with our voice. God forbid down the road when we need it because, as a side effect of Parkinson's, I think it’s great that we do our ‘la, la, la’s’ or whatever else, as a precursor to singing. Or you know all the relevant songs or its ‘la la la’ but it’s gonna help us and I think we should do it all the time.”

MT replying to Diane: “That’s exactly right. These exercises and making music this way will help with the voice this way, especially with Parkinson's. That can sometimes be a challenge as we move forward. So working on those muscles now and continuously will help us strengthen those areas.”

Sub-theme: Music Supporting Diane’s Verbal Responses

During the song “Oh, What a Beautiful Morning,” (written by Rodgers & Hammerstein) the relationship between Diane’s music and words was reversed, in that the music supported her verbal response to the therapist’s prompt, “What is one positive thing you want in your day?” (See Figures 6 - 6.5.) Diane responded, “I ditto everyone else with the nice sunny day. I would like not to be tired today.” After singing the chorus of the song with the group, Diane shared verbally that she “loved it” (see Figure 6.1). Following the music therapist’s suggestion to repeat the chorus a final time after the group discussion, Diane sang with the group, “I’ve got a wonderful feeling everything’s going my way.”

Diane’s verbal response as well as the music therapist’s prompt (Figure 6) were reflected and supported by the music as the group repeated the chorus. The character of the lyrics to the chorus of “Oh, What A Beautiful Morning” was reinforced by the contour of the melody, the song’s 3/4 meter, and the major-key tonality of the song (E major). The therapist’s

accompaniment on the acoustic guitar highlighted the vibrant, lively qualities of the music (Figure 6.2); she accented the first chord of each bar, emphasizing the feel of the triple meter and thus creating a “swinging” quality. These musical qualities appeared to support Diane’s as well as other group members' verbal responses articulating their desire for something positive within their day. Furthermore, the group’s singing following their discussion appeared to strengthen their sense of community or feeling of “universality” (Yalom, 1994), in that all the group members' responses indicated a shared need for hope and desire for a healthier life.

Sub-theme: Significance of the Voice

The voice was the primary means of musical communication in the session for Diane as well as the other group members. She expressed that the voice was beneficial not only in her experience with the group but in coping with her Parkinson’s symptoms (see Figures 5 and 5.1). Her verbal responses were a reflection of how she participated musically, using the opportunity within improvisation to explore her voice (Figure 2 and Figure 2.1). She accomplished this by assimilating the motif and expanding upon it with the use of different intervals and rhythms, as well as adding her own lyrics which reflected how she felt while singing. The relationship between her musical and verbal responses suggests that singing itself was a unique, creative and fulfilling way for her to communicate within the context of a group session. Her verbal responses showcased her view that using the voice through singing is beneficial for those living with Parkinson’s (Figures 5 and 5.1). This view was supported by the therapist’s response that singing is a form of exercise that can help strengthen the muscles used for communicating which could be hindered by Parkinson’s.

Figure 6

Diane's Response to the MT's Verbal Prompt Following "Oh, What A Beautiful Morning"

50:28 - Diane "[inaudible]... I loved it"

50:35 - MT leads dialogue, offering group members to respond to the prompt of sharing one positive thing they want in their day. Mary responds "For Harold to be well when I return from my trip". Diane replies "I ditto everyone with the nice sunny day. I would like not to be tired today".

51:50 - MT: "So with all of these things in mind, I want you, in your mind, to repeat this: 'I want a nice walk... I want sunshine... so that you could put a nice intention for your day as we end music... so that you have almost a mantra of your day'. MT then encourages the group members to join in with her and sing the chorus of "Oh What A Beautiful Morning" a final time, bearing their intentions in mind.

52:48 - MT leads the group in singing the chorus for the final time.

Figure 6.1

Ending of "Oh What A Beautiful Morning"

The musical score for the ending of "Oh What A Beautiful Morning" is presented for two participants: MT and Diane. Both parts are written in treble clef with a key signature of three sharps (F#, C#, G#). The MT part begins with a *dim.* (diminuendo) marking and a fermata over the first note, followed by a *f* (forte) marking. The lyrics for MT are "beau-ti - ful". The Diane part begins with a fermata over the first note and the lyrics "beau-ti - ful day!".

Annotations in boxes provide context for the dialogue:

- A box between the staves states: "After providing an opportunity for the group members to share one positive thing they want in their day, the MT encourages the group members to repeat a mantra." This annotation is positioned over the MT's first measure.
- A box on the right side of the score states: "MT says 'I want you, in your mind, to repeat this: 'I want a nice walk...' 'I want sunshine' so that you could put a nice intention for your day as we end music... so that you almost have a mantra for your day'. MT then encourages the group members to join in with her and sing the chorus". This annotation spans across the MT's second and third measures.
- A box below the Diane staff states: "Diane says: 'I loved it'". This annotation is positioned under the first measure of the Diane part.

Figure 6.2

“Oh, What A Beautiful Morning” (continued)

zz

120 A tempo Chorus

A. Gtr. *mf*

MT

Diane

Harold

Mary

Oh, what a beau-ti - ful mor ning. Oh, what a

Oh, what a beau-ti - ful mor ning. Oh, what a

Figure 6.3

“Oh, What A Beautiful Morning” (continued)

126 23

A. Gtr.

MT

Diane

Harold

Mary

beau-ti - ful day . I've got a won der ful

I've got a won der ful

beau-ti - ful day . I've got a won der ful

beau-ti - ful day . I've got a won der ful

Figure 6.4

"Oh, What A Beautiful Morning" (continued)

24

131

A. Gtr.

MT
feel - - ing eve - ry - thing's go - ing my

Diane
feel - - ing eve - ry - thing's go - ing my

Harold
feel - - ing eve - ry - thing's go - ing my

Mary
feel - - ing eve - ry - thing's go - ing my

Figure 6.5

"Oh, What A Beautiful Morning" (continued)

135

25

A. Gtr.

MT
way. dim. f

Diane
way. Oh, what a beau-ti - ful

Harold
way. Oh, what a beau-ti - ful

Mary
way. Oh, what a beau-ti - ful day!

Discussion

The purpose of this study was to analyze the experiences of an individual with Parkinson's engaging in a relationship-based, improvisational group music therapy session. The research questions were: What are the experiences of an individual with Parkinson's participating in a relationship-based, improvisational music therapy group? How are these experiences reflected in the music? Through analysis of the music experiences and verbal dialogue from the recorded session, two main themes were found: *Musical Interrelatedness* and *Relationship Between Music and Words*.

As reflected in Theme 1, *Musical Interrelatedness*, the analysis found several instances during the group music-making in which the therapist and the group appeared to relate to Diane's musical ideas in a purposeful way, and vice versa, demonstrating musical interrelatedness as conceptualized in the IMCAP-ND (Carpente, 2013). Diane's musical interrelationship with others in the group constituted evidence of her engagement in a social experience. Musical interrelationship offered an opportunity for interpersonal learning (Yalom, 1994) characterized by spontaneity and creativity. As Carpente points out, a client's ability to interact freely within a musical relationship requires spontaneity and creativity, and demonstrates range of response, a sensitivity to sound, an understanding of form, and an ability to communicate with intent and purpose, which can create a meaningful social/emotional experience for the client and therapist (Carpente, 2013). Interpersonal learning is essential to a person's well-being, as it provides an experience of reciprocity and fulfills a need to be noticed by others, to feel recognized and validated (Yalom, 1994). By demonstrating a client's effective social and emotional engagement through group music therapy, the findings presented within Theme 1 are aligned with the findings of previous studies indicating the effectiveness of group

music therapy in addressing non-motor symptoms of Parkinson's (Fogg-Rogers et al., 2016; Stegemöller et al., 2017), including but not limited to stress and depression (Hemmerle et al., 2012; Pfeiffer, 2015).

Diane's experience in the group was influenced by her relationship with the music therapist. An emphasis on the therapeutic and musical relationship is central to Nordoff-Robbins theory and practice, but also to other models of music therapy (Aigen, 2005a; Ansdell & Pavlicevic, 2004; Bodry & Schwantes, 2021; Bruscia, 1987; Nordoff & Robbins, 2007; Priestley, 1994). During the verbal dialogue, Diane expressed her newfound insight that she had her own unique, creative way of singing spontaneously. Her spontaneity and creativity in improvising were reflected in her experimenting with the use of different rhythms and intervals, as well as adding her own lyrics about how she felt while singing. These verbal and musical responses are illustrative of the Nordoff-Robbins concept of the *music child* (Nordoff & Robbins, 2007). The music child is the innate capacity within any person to respond meaningfully to music and musical experience. It is the human potential, present from birth, to find music and musical experience meaningful and engaging, and to resonate with the various elements of music. A discovery of this music child within each individual offers the unique possibility for an experience of self-actualization and inner fulfillment through making music. Through cognitive, social, emotional, physical, expressive, and communicative engagement in shared music-making, one is able to realize or discover their own innate personality, potential, and sense of significance (Nordoff & Robbins, 2007). In the present study, it was through developing the therapeutic and musical relationship in shared music-making, utilizing improvisation techniques (Bruscia, 1987), that the therapist was able to engage Diane's music child and musically interrelate with Diane and other group members.

Within the framework of DIRFloortime, the therapist's musical interaction with Diane, especially during vocal improvisation, illustrated the principle of following the client's lead (Carpente, 2013). Following the client's lead is a phase of musical improvisation in which the therapist follows the client's natural emotional and musical interests in order to gain a better understanding of what the client finds pleasurable, while simultaneously challenging them emotionally and intellectually. In this study, the therapist was continually following Diane's lead by matching her dynamic level with her guitar accompaniment. Furthermore, the therapist was continually listening and incorporating any new music that Diane initiated, thus creating opportunities for her to become a part of the overall musical experience with the group.

Through the act of following Diane's lead, the music therapist facilitated Diane's experience of making music with the group, providing her with a specific role as a soloist and someone who had the opportunity to be heard by others. Following a client's lead is significant with respect to the "Relationship-based" and "Individual Differences" tenets of the DIRFloortime model (Greenspan & Wieder, n.d.). The "Relationship-based" tenet of the model describes the client's relationships with their caregivers, peers, therapists, etc., who tailor their affect towards that client's individual differences and developmental needs in order for the client to learn and build solid social, emotional, and individual foundational skills. The "Individual Differences" tenet describes unique ways that the client takes in, regulates, and responds to information in their environment; and plans and sequences actions and ideas. Within this context of a group music therapy session, the music therapist was engaging in a relationship-based, individualized way with Diane as well as other group members by incorporating and supporting their musical ideas through the use of the guitar and voice. This appeared to make a significant

contribution to Diane's experience, as indicated by her remarks that making music was beneficial in addressing her psychological and social needs as an individual with Parkinson's.

Throughout the session, Diane's experience was conveyed through music and words. Both music and words are modalities of communication; as Schwartz (2019) pointed out, language and communication do not necessarily rely on speech, but rather on a shared structure of meaning. Both verbal and musical forms of communication are important when analyzing a client's experience in music therapy. Diane's verbal responses reflected her relationship with the music and her experience when actively making music. In turn, the music contributed to shaping her verbal responses through inviting spontaneous expression and connecting her to the interpersonal context of the group.

Diane expressed that she found active music-making through improvisation pleasurable and beneficial in maintaining her overall well-being. Similar findings have been reported in previous studies that employed active group music-making (Carolan, 2016; Fogg-Rogers et al., 2016; Pantelyat et al., 2015; Pohl et al., 2020; Stegemöller et al., 2017a). Furthermore, the dialogue between Diane and the therapist about singing and using the voice, in particular, is aligned with previous findings by Stegemöller et al. (2017b) and Yinger and Lapointe (2012) that singing is an effective treatment for breath support and maintenance of the voice over time.

While NMT has been a popular approach for addressing motor challenges in Parkinson's (de Bruin, N. et al., 2010; Bukowska et al., 2016; Howe et al., 2003; McIntosh et al., 1997; Pacchetti et al., 2000; Thaut et al., 2019; Thaut et al., 1996), findings of the present study of improvisational music therapy suggest that singing in itself may help to maintain the fine motor skills used for breathing and communication. Previous studies have indicated that a relationship-based approach may simultaneously meet both motor needs and a range of non-motor needs,

such as fatigue, apathy, and/or feelings of isolation (Hatano et al., 2009; Hemmerle et al., 2012; Pfeiffer, 2015). Active group music-making, in different therapy approaches, has been shown to address such non-motor needs (Carolan, 2016; Fogg-Rogers et al., 2016; Pohl et al., 2020; Stegemöller et al., 2017a). In the present study, the responses from Diane and the other group members indicated that they experienced improved quality of life and overall mood through participation in improvisational, relationship-based group music therapy.

Conclusion

This study explored the experience of an individual with Parkinson's engaging in a relationship-based, improvisational group music therapy session. The research questions inquired into the social/emotional experiences of the participant during the session and how those experiences manifest through the music. Four participants including the music therapist consented to the study, with one participant being selected as the focus of analysis. Data used for analysis consisted of the transcribed music and verbal dialogue that occurred during the session. Two major themes were found through inductive analysis of the data: *Musical Interrelatedness* and *Relationship Between Music and Words*. Diane's experience of improvisational group music therapy appeared to have an impact on her socially and emotionally, as the music provided a means for creativity, self-expression, interrelatedness as well as an ability to better manage her life with Parkinson's.

Implications for Clinical Practice

The one participant in this study engaged in active music-making and improvisation within a relationship-based group. Her music experiences appeared to address her social and emotional needs that are also common among individuals living with Parkinson's. The findings from this study, which used a qualitative method, offer a different perspective regarding the

benefits of active music making and improvisation which have been studied previously using quantitative methods. Previous quantitative studies have demonstrated success using active music making to improve gross motor abilities through the use of NMT interventions, including RAS (McIntosh et al., 1997; Thaut et al., 1996; Thaut et al., 2019), TIMP, and PSE (Bukowska et al., 2016). Similarly, previously reported findings have indicated that active music-making can produce non-motor benefits such as decreasing stress and improving overall well-being (Carolan, 2016). Regarding the use of the voice in particular, the participant alluded to improvised singing as something that helped maintain the functional movement of the muscles used for singing (See Figure 5.1) This finding alluded to similar findings from past studies that focused on the benefits of singing, which included improved breath support and maintenance of the voice (Stegemöller et al., 2017b; Yinger & Lapointe, 2012). The present study utilized a different methodology from the studies cited above, focusing on analysis of the music and verbal dialogue in a session through naturalistic inquiry. Thus, this study contributes to diversifying and expanding the literature on music therapy and Parkinson's, and enhances understanding of the subjective experience of an individual with Parkinson's engaging in group music therapy.

The study offers a different perspective regarding the potential therapeutic benefits of improvisation. Improvisation has an innate emphasis on spontaneity, and can offer possibilities for individuals with Parkinson's to feel supported and be challenged in unique ways through creative, interactive instrument playing, singing, and movement. As the music therapy session took place on a virtual platform, the study indicates that improvisational group music therapy for individuals with Parkinson's can be successfully implemented through telehealth.

In addition to being a beneficial tool for clinical practice, improvisation itself has important uses for music therapy education. For music therapy students, learning clinical

improvisational techniques has multiple uses towards a wide variety of populations and clinical settings, including but not limited to medical settings (Guerrero et al., 2014), psychiatric settings (Chen, 2019), as well as individuals with autism (Carpente & Gattino, 2018; Knapik-Szweda, 2015). Within multicultural contexts, learning and utilizing improvisation can help bring to the surface a higher level of cultural awareness for the student intern and client (Kim, 2020). Within music therapy supervision, improvisation can help explore the intersecting identities between supervisee and supervisor, allowing for a sharing and examining of similarities and differences among both parties (Whitehead-Pleaux, 2019). In this study, the music therapist who led the session was well versed in Bruscia's (1987) clinical techniques as well as those borrowed from DIRFloortime (Carpente, 2013; Greenspan & Wieder, n.d.). Through the use of these techniques, the music therapist was able to successfully support Diane throughout the music experiences. This in turn helped Diane to discover that improvised singing was a beneficial way towards the maintenance of the muscles used for breathing, a specific need for individuals with Parkinson's (NINDS, 2020). In addition, improvisation helped Diane discover a new, meaningful and unique way of engaging with others, as well as provide an opportunity for her to go beyond her own limitations. Thus, these findings indicate the importance of learning and studying improvisational models and techniques.

Although the IMCAP-ND (Carpente, 2013) is designed to assess and treat individuals with neurodevelopmental disorders (such as autistic individuals, individuals with Rhett syndrome, individuals with Cerebral Palsy, etc.) the findings indicate that the assessment tool and the techniques used within it may be applicable to a variety of other populations outside of who the tool is originally designed to serve. In this study, the music therapist worked with a group of individuals with Parkinson's (who are prominently served by NMT) and incorporated

techniques relevant to the target area of “Musical Interrelatedness” as mentioned in the IMCAP-ND such as imitating, reflecting, incorporating, tonal centering, and rhythmic grounding among others (Bruscia, 1987; Carpeno, 2013).

Limitations

This naturalistic inquiry was inherently limited by the constraints upon my perspective as the researcher. The study would have yielded different results if it had been conducted by a different researcher, as the findings presented here could not be separated from my own epistemological stance and interpretation. As Arnason (2016) has noted, there has been debate about whether naturalistic inquiry constitutes a research method at all. Arnason maintains, and I agree, that naturalistic inquiry is both a research model guided by conceptual foundations, and a research method with principles which are specific enough to guide interpretivist research studies (Arnason, 2016). The profound subjectivity of naturalistic inquiry, as an interpretivist method, is an ongoing challenge (Beuving & de Vries, 2014) which requires the researcher to employ a variety of methods to ensure that the findings are trustworthy.

Another limitation of this study included the limited number of participants. Due to the inability to contact some participants, I did not receive full consent from the group, which consisted of seven members: four individuals with Parkinson’s, two caregivers, and one music therapist. Only four participants (two with Parkinson’s, one caregiver, and the music therapist) could be contacted to obtain informed consent, creating a smaller sample size than anticipated. Data pertaining to group members who had not provided informed consent were excluded from the analysis.

Unique limitations upon data collection resulted from the fact that the music therapy session was held and recorded through the Zoom video conferencing platform. Zoom inherently

favored higher over lower audio quality. Thus, during moments of musical interaction or verbal dialogue, when the music therapist and other group members were playing or talking simultaneously, it was difficult to pick up the relatively low-quality audio from Diane's webcam. This made the transcription process more tedious and difficult. In addition, the group music therapy process itself was limited by the virtual format. During moments of simultaneous music-making, the innate latency issues of the virtual format caused responses to be slightly delayed. Also, since participants did not have access to the various musical instruments that would be available in an in-person session, their musical activity was limited to singing and movement. I felt that their experiences in the group music therapy session could have been more engaging and rewarding if they had been afforded choice among a variety of instruments, voice, movement, or combinations of the above.

Recommendations for Future Research

In future research, holding the music therapy session in person and including a larger sample size would likely yield a wider range of results. If future researchers could prospectively design the group music therapy intervention, it would be beneficial to provide group members with a larger selection of musical media (choice of instrument, voice, or movement; Carpenle, 2013) prior to active music-making. This would provide more autonomy for each member and indicate client preferences for music and instrumentation.

There is a need for continued production of qualitative studies which take into consideration the subjective experiences of persons living with Parkinson's. Currently, there are few music therapy studies addressing the subjective experiences or the non-motor needs and symptoms of individuals with Parkinson's (Raglio, 2015). Future research that is qualitative in design or that aims to study therapeutic benefits in the context of overall well-being will

contribute to a richer and broader understanding of the use of music and music therapy in the treatment of Parkinson's.

References

- Abrams, B. (2010). Evidence-based music therapy practice: An integral understanding. *Journal of Music Therapy*, 47(4), 351-379. DOI: 10.1093/jmt/47.4.351
- Abrams, B. (2018). Understanding humanistic dimensions of music therapy: Editorial introduction. *Music Therapy Perspectives*, 36(2), 139-143. DOI: 10.1093/mtp/miy019
- Abbruzzese, G., Marchese, R., Avanzino, L., & Pelosin, E. (2015). Rehabilitation for parkinson's disease: Current outlook and future challenges. *Parkinsonism and Related Disorders*, 22, 560-564. DOI: 10.1016/j.parkreldis.2015.09.005
- Aigen, K. (1993). *Here we are in music: One year with an adolescent creative music therapy group*. Barcelona Publishers.
- Aigen, K. (2005a). *Being in music: Foundations of Nordoff-Robbins music therapy* [EPUB edition]. Barcelona Publishers.
- Aigen, K. (2005b). *Music-centered music therapy*. Barcelona Publishers.
- Ansdell, G., & Pavlicevic, M. (2004). *Community music therapy*. Jessica Kingsley Publishers.
- Arnason, C. (2016). Naturalistic Inquiry. In B. L. Wheeler & K. M. Murphy (Eds.). *Music Therapy Research: Third Edition* [eBook edition] (pp. 846-861). Barcelona Publishers.
- Azekawa, M., & LaGasse, A. B. (2018). Singing exercises for speech and vocal abilities in individuals with hypokinetic dysarthria: A feasibility study. *Music Therapy Perspectives*, 36(1), 40-49. DOI: 10.1093/mtp/miw042
- Baker, K., Rochester, L., & Nieuwboer, A. (2008). The effect of cues on gait variability- Reducing the attentional cost of walking in people with parkinson's disease. *Parkinsonism and Related Disorders*, 14, 314-320. DOI: 10.1016/j.parkreldis.2007.09.008

- Benoit, C. E., Bella, S. D., Farrugia, N., Obrig, H., Mainka, S., & Kotz, S. A. (2014). Musically cued gait-training improves both perceptual and motor timing in Parkinson's disease. *Frontiers in Human Neuroscience*, 8, 1-11. <https://doi.org/10.3389/fnhum.2014.00494>
- Beuving, J., & de Vries, G. (2014). *Doing qualitative research: The craft of naturalistic inquiry*. Amsterdam University Press.
- Bodry, K., & Schwantes, M. (2021). Clinical applications of feminist music therapy: An overview of the literature. *Nordic Journal of Music Therapy*, 30(2), 106-130. DOI: 10.1080/08098131.2020.1753230
- Borczon, R. M. (1997). *Music therapy: Group vignettes*. Barcelona Publishers.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 2(2), 77-101. DOI: 10.1191/1478088706qp063oa
- van Bruggen-Rufi, M., Vink, A., Achterberg, W., & Roos, R. (2018). Improving quality of life in patients with huntington's disease through music therapy: A qualitative explorative study using focus group discussions. *Nordic Journal of Music Therapy*, 27(1), 44-66. DOI: 10.1080/08098131.2017.1284888
- de Bruin, N., Doan, J. B., Turnbull, G., Suchowersky, O., Bonfield, S., Hu, B., & Brown, L.A. (2010). Walking with music is a safe and viable tool for gait training in parkinson's disease: The effect of a 13-week feasibility study on single and dual task walking. *Parkinson's Disease*, 2010, 1-9. <https://doi.org/10.4061/2010/483530>
- Bruscia, K. E. (1987). *Improvisational models of music therapy*. Charles C Thomas.
- Buhmann, C., Jungnickel, D., & Lehmann, E. (2018). Stress management training (SMT) improves coping of tremor-boosting psychosocial stressors and depression in patients

- with parkinson's disease: A controlled prospective study. *Parkinson's Disease*, 2018, 1-12. DOI: 10.1155/2018/4240178
- Bukowska A A., Krężałek, P., Mirek, E., Bujas P., & Marchewka, A. (2016). Neurologic music therapy training for mobility and stability rehabilitation with parkinson's disease - A pilot study. *Frontiers in Human Neuroscience*, 9, 1-12. DOI: 10.3389/fnhum.2015.00710
- Carpente, J. A. (2013). *Individual music-centered assessment profile for neurodevelopmental disorders (IMCAP-ND): A clinical manual*. Regina Publishers.
- Carpente, J. A., & Gattino, G. S. (2018). Inter-rater reliability on the individual music-centered assessment profile for neurodevelopmental disorders (IMCAP-ND) for autism spectrum disorder. *Nordic Journal of Music Therapy*, 27(4), 297-311. DOI: 10.1080/08098131.2018.1456480
- Carolan, K. (2016). Find your beat: Therapeutic drumming for parkinson's disease. *Clinical Social Work Journal*, 44, 179-185. DOI: 10.1007/s10615-015-0552-3
- Chen, Y. Y. Single-session improvisational group music therapy in adult inpatient psychiatry: A pilot study of the therapist's experience. *Nordic Journal of Music Therapy*, 28(2), 151-168. DOI: 10.1080/08098131.2018.1528560
- Creswell J. W., & Creswell J. D. (2017). *Research design*. [VitalSource Bookshelf]. SAGE Publications. Retrieved from <https://bookshelf.vitalsource.com/#/books/9781506386690/>
- Elefant, C., Baker, F. A., Lotan, M., Lagesen, S. K., & Skeie, G. O. (2012a). The effect of group music therapy on mood, speech, and singing in individuals with parkinson's disease - A feasibility study. *Journal of Music Therapy*, 49(3), 278-302. DOI: 10.1093/jmt/49.3.278

- Elefant, C., Lotan, M., Baker, F. A., & Skeie, G. O. (2012b). Effects of music therapy on facial expression of individuals with parkinson's disease: A pilot study. *Musicae Scientiae*, *16*(3), 392-400. <https://doi.org/10.1177/1029864912458917>
- Freedland, R. L., Festa, C., Sealy, M., McBean, A., Elghazaly, P., Capan, A., Brozycki, L., Nelson, A. J., & Rothman, J. (2002). The effects of pulsed auditory stimulation on various gait measurements in persons with parkinson's disease. *Neurorehabilitation*, *17*, 81-87. DOI: 10.3233/NRE-2002-17110
- Fogg-Rogers, L., Beutow, S., Talmage, A., McCann, C. M., Leão, S. H. S., Tippett, L., Leung, J., McPherson, K. M., & Purdy, S. C. (2016). Choral singing therapy following stroke or parkinson's disease: An exploration of participants' experiences. *Disability and Rehabilitation*, *38*(10), 952-962. DOI: 10.3109/09638288.2015.1068875
- Ghai, S., Ghai, I., Schmitz, G., & Effenberg, A. O. (2018). Effect of rhythmic auditory cueing on parkinsonian gait: A systematic review and meta-analysis. *Scientific Reports*, *8*(1), 1-11. DOI:10.1038/s41598-017-16232-5
- Greenspan, S., Wieder, S. (n.d.). *DIR®/Floortime™ Model*.
<https://www.stanleygreenspan.com/swf/The%20DIR%20Floortime%20Model.pdf>
- Guerrero, N., Turry, A., Geller, D., & Raghavan, P. (2014). From historic to contemporary: Nordoff-Robbins music therapy in collaborative interdisciplinary rehabilitation. *Music Therapy Perspectives*, *32*(1), 38-46. DOI: 10.1093/mtp/miu014
- Hackney, M. E., Earhart, G. M. (2010). Effects of dance on gait and balance in parkinson's disease: A comparison of partnered and nonpartnered dance movement. *Neurorehabilitation and Neural Repair*, *24*(4), 384-392. DOI: 10.1177/1545968309353329

- Hadley, S. (1999). A comparative analysis of the philosophical underlying creative music therapy and analytical music therapy. *The Australian Journal of Music Therapy*, *10*, 3-19.
- Haneishi, E. (2001). Effects of a music therapy voice protocol on speech intelligibility, vocal acoustic measures, and mood of individuals with parkinson's disease. *Journal of Music Therapy*, *38*(4), 273-290. DOI: 10.1093/jmt/38.4.273
- Hatano, T., Kubo, S-I., Shimo, Y., Nishioka, K., & Hattori, N. (2009). Unmet needs of patients with parkinson's disease: Interview survey of patients and caregivers. *The Journal of International Medical Research*, *37*, 717-726. DOI: 10.1177/147323000903700315
- Hausdorff, J. M., Lowenthal, J., Herman, T., Gruendlinger, L., Peretz, C., & Giladi, N. (2007). Rhythmic auditory stimulation modulates gait variability in parkinson's disease. *European Journal of Neuroscience*, *26*, 2369-2375. DOI: 10.1111/j.1460-9568.2007.05810.x
- Hemmerle, A. M., Herman, J. P., & Seroogy, K. B. (2012). Stress, depression and parkinson's disease. *Experimental Neurology*, *233*, 79-86. DOI: 10.1016/j.expneurol.2011.09.035
- Howe, T. E., Lovgreen, B., Cody, F. W., Ashton, V. J., & Oldham, J. A. (2003). Auditory cues can modify the gait of persons with early-stage parkinson's disease: A method for enhancing parkinsonian walking performance? *Clinical Rehabilitation*, *17*(4), 363-367. DOI: 10.1191/0269215503cr621oa
- Huang, C., Chu, H., Zhang, Y., Wang, X. (2018). Deep brain stimulation to alleviate freezing of gait and cognitive dysfunction in parkinson's disease: Update on current research and future perspectives. *Frontiers in Neuroscience*, *12*, 1-13. DOI: 10.3389/fnins.2018.00029
- Imbimbo, I., Coraci, D., Santilli, C., Loreti, C., Piccinini, G., Ricciardi, D., Castelli, L., Fusco, A., Bentivoglio, A. R., & Padua, L. (2021). Parkinson's disease and virtual reality

rehabilitation: Cognitive reserve influences the walking and balance outcome.

Neurological Sciences, 1-6. <https://doi.org/10.1007/s10072-021-05123-3>

Ishii, M., Okuyama, K. (2017). Characteristics associated with freezing of gait in actual daily living in parkinson's disease. *Journal of Physical Therapy Science*, 29(12), 2151-2156.

DOI: 10.1589/jpts.29.2151

Johns Hopkins Medicine. (n.d.). *Deep brain stimulation*.

<https://www.hopkinsmedicine.org/health/treatment-tests-and-therapies/deep-brain-stimulation>

Kim, S. (2020). Music as an Acculturation Strategy in Culturally Informed Music Therapy. In M. Belgrave & S. Kim (Eds.), *Music therapy in a multicultural context: A handbook for music therapy students and professionals* (pp. 9-42). Jessica Kingsley Publishers.

Knapik-Szweda, S. (2015). The effectiveness and influence of vocal and instrumental improvisation in music therapy on children diagnosed with autism. Pilot study. *Journal of Education Culture and Society*, 6(1), 153-166. DOI: 10.15503/jecs20151.153.166

Kogutek, D., Holmes, J. D., Grahn, J. A., Ready, E., & Montero-Odasso, M. (2021). Improvised active music therapy for clients with parkinson's disease: A feasibility study. *British Journal of Music Therapy*, 35(2), 63-76. DOI: 10.1177/13594575211029101

Li, F., Harmer, P., Fitzgerald, K., Eckstrom, E., Stock, R., Galver, J., Maddalozzo, G., & Batya, S. S. (2012). Tai chi and postural stability in patients with parkinson's disease. *The New England Journal of Medicine*, 366(6), 511-519. DOI: 10.1056/NEJMoa1107911

Lihala, S., Mitra, S., Neogy, S., Datta, N., Choudhury, S., Chatterjee, G., Mondal, B., Halder, S., Roy, A., Sengupta, M., & Kumar, H. (2021) Dance movement therapy in rehabilitation of

- parkinson's disease - A feasibility study. *Journal of Bodywork & Movement Therapies*, 26, 12-17. DOI: 10.1016/j.jbmt.2020.06.032
- Loas, G., Krystkowiak, P., & Godefroy, O. (2012). Anhedonia in parkinson's disease: An overview. *Journal of Neuropsychiatry and Clinical Neurosciences*, 24(4), 444-451. <https://doi.org/10.1176/appi.neuropsych.11110332>
- Maggio, M. G., De Cola, M. C., Latella, D., Maresca, G., Finocchiaro, C., La Rosa, G., Cimino, V., Sobera, C., Bramanti, P., De Luca, R., & Calabrò, R. S. (2018). What about the role of virtual reality in parkinson disease's cognitive rehabilitation? Preliminary findings from a randomized clinical trial. *Journal of Geriatric Psychiatry and Neurology*, 31(6), 312-318. <https://doi-org.molloy.idm.oclc.org/10.1177/0891988718807973>
- McIntosh, G. C., Brown, S. H., Rice, R. R., & Thaut, M. H. (1997). Rhythmic auditory-motor facilitation of gait patterns in patients with parkinson's disease. *Journal of Neurology, Neurosurgery and Psychiatry*, 62, 22-26. DOI: 10.1136/jnnp.62.1.22
- Merriam-Webster. (n.d.). Group. In *Merriam-Webster.com dictionary*. Retrieved June 28, 2021, from <https://www.merriam-webster.com/dictionary/group>
- Mertel, K. (2014). Therapeutical instrumental music performance (TIMP). In M. H. Thaut & V. Hoemberg (Eds.), *Handbook of neurologic music therapy* (pp. 116-139). Oxford University Press.
- Morris, I. L., Vasudevan, E., Schedel, M., Weymouth, D., Loomis, J., Pinkhasov, T., & Muratori, L. M. (2019). Music to one's ears: Familiarity and music engagement in people with parkinson's disease. *Frontiers in Neuroscience*, 13, 1-10. DOI: 10.3389/fnins.2019.00661
- Nachmanovitch, S. (1991). *Free play: Improvisation in life and art*. Tarcher/Perigee.

- National Institute of Neurological Disorders and Stroke. (2020, April 29). *Parkinson's disease information page*. <https://www.ninds.nih.gov/Disorders/All-Disorders/Parkinsons-Disease-Information-Page#disorders-r1>
- Nieuwboer, A., Kwakkel, G., Rochester, L., Jones, D., Van Wegen, E., Williams, A. M., Chavret, F., Hetherington, V., Baker, K., & Lim, I. (2006). Cueing training in the home improves gait-related mobility in parkinson's disease: The RESCUE trial. *Journal of Neurology, Neurosurgery and Psychiatry*, 78(2), 134-140.
- Nordoff, P., & Robbins, C. (2007). *Creative music therapy: A guide to fostering clinical musicianship* [EPUB edition]. Barcelona Publishers.
- Pacchetti, C., Mancini, F., Aglieri, R., Fundaro, C., Martignoni, E., & Nappi, G. (2000). Active music therapy in parkinson's disease: An integrative method for motor and emotional rehabilitation. *Psychosomatic Medicine*, 62(3), 386-393.
- Pakdeesatitwara, N., Tamplin, J. (2018). Music therapy services in neurorehabilitation: An international survey. *Australian Journal of Music Therapy*, 29, 62-90.
- Pantelyat, A., Syres, C., Reichwein, S., & Willis, A. (2015). DRUM-PD: The use of a drum circle to improve the symptoms and signs of parkinson's disease (PD). *Movement Disorders*, 3(3), 243-249. DOI: 10.1002/mdc3.12269
- Pfeiffer, R. F. (2015). Non-motor symptoms in parkinson's disease. *Parkinsonism & Related Disorders*, 22, 5119-5122. DOI: 10.1016/j.parkreldis.2015.09.004
- Pohl, P. (2018). The ronnie gardiner method: An innovative music-based intervention in neurorehabilitation - Theoretical background and contemporary research with a focus on parkinson's disease. *Neurophysiology and Rehabilitation*, 1(1), 1-6.
<https://doi.org/10.33805/2641-8991.111>

- Pohl, P., Wressle, E., Lundin, F., Enthoven, P., & Dizdar, N. (2020). Group-based music intervention in parkinson's disease - findings from a mixed-methods study. *Clinical Rehabilitation*, 34(4), 533-544. <https://doi.org/10.1177/0269215520907669>
- Priestley, M. (1994). *Essays on analytical music therapy*. Barcelona Publishers.
- Schwartz, E. K. (2019). *Basic verbal skills for music therapists*. Barcelona Publishers.
- Sihvonen, A. J., Särkämö, T., Leo, V., Tervaniemi, M., Altenmüller, E., & Soinila, S. (2017). Music-based interventions in neurological rehabilitation. *Lancet Neurology*, 16, 648-660. DOI: 10.1016/S1474-4422(17)30168-0
- Stegemöller, E. L., Hurt, T. R., O'Connor, M. C., Camp, R. D., Green, C. W., Pattee, J. C., & Williams, E. K. (2017a). Experiences of persons with parkinson's disease engaged in group therapeutic singing. *Journal of Music Therapy*, 54(4), 405-431. DOI:10.1093/jmt/thx012
- Stegemöller, E. L., Radig, H., Hibbing, P., Wingate, J., & Sapienza, C. (2017b). Effects of singing on voice, respiratory control and quality of life in persons with parkinson's disease. *Disability and Rehabilitation*, 39(6), 594-600. DOI:10.3109/09638288.2016.1152610
- Raghavan P., Geller, D., Guerrero, N., Aluru, V., Eimicke, J. P., Teresi, J. A., Ogedegbe, G., Palumbo, A., & Turry, A. (2016). Music upper limb therapy-integrated: An enriched collaborative approach for stroke rehabilitation. *Frontiers in Human Neuroscience*, 10, 1-12. DOI: 10.3389/fnhum.2016.00498
- Raglio, A. (2015). Music therapy interventions in parkinson's disease: The state-of-the-art. *Frontiers in Neurology*, 6, 1-4. <https://doi.org/10.3389/fneur.2015.00185>

- Rochester, L., Hetherington, V., Jones, D., Nieuwboer, A., Williams, A. M., Kwakkel, G., & Van Wegen, E., (2005). The effect of external rhythmic cues (auditory and visual) on walking during a functional task in homes of people with parkinson's disease. *Archives of Physical and Medical Rehabilitation*, 86(5), 999-1006. DOI:10.1016/j.apmr.2004.10.040
- Stern, Y. (2009). Cognitive reserve. *Neuropsychologia*, 47, 2015-2028. DOI: 10.1016/j.neuropsychologia.2009.03.004.
- Thaut, C. P. (2014). Patterned sensory enhancement (PSE). In M. H. Thaut & V. Hoemberg (Eds.), *Handbook of neurologic music therapy* (pp. 106-115). Oxford University Press.
- Thaut, C. P., & Rice, R. (2014). Rhythmic auditory stimulation (RAS). In M. H. Thaut & V. Hoemberg (Eds.), *Handbook of neurologic music therapy* (pp. 94-105). Oxford University Press.
- Thaut, M. H., McIntosh, G. C., & Hoemberg, V. (2014). Neurologic music therapy: From social science to neuroscience. In M. H. Thaut & V. Hoemberg (Eds.), *Handbook of neurologic music therapy* (pp. 1-6). Oxford University Press.
- Thaut, M. H., McIntosh, G. C., Rice, R. R., Miller, R. A., Rathbun, J., & Brault, J. M. (1996). Rhythmic auditory stimulation in gait training for parkinson's disease patients. *Movement Disorders*, 11(2), 193-200. <https://doi.org/10.1002/mds.870110213>
- Thaut, M. H., Rice, R. R., Janzen, T. B., Hurt-Thaut, C. P., & McIntosh, G. C. (2019). Rhythmic auditory stimulation for reduction of falls in parkinson's disease: A randomized controlled study. *Clinical Rehabilitation*, 33(1), 34-43. DOI: 10.1177/0269215518788615
- Uhrbrand, A., Stenager, E., Pedersen, M. S., & Dalgas, U. (2015). Parkinson's disease and intensive exercise therapy - A systematic review and meta-analysis of randomized

controlled trials. *Journal of the Neurological Sciences*, 353, 9-19. DOI:

10.1016/j.jns.2015.04.004

Weller, C. M., Baker, F. A. (2011) The role of music therapy in physical rehabilitation: A systematic literature review. *Nordic Journal of Music Therapy*, 20(1), 43-61. DOI:

10.1080/08098131.2010.485785

Whitehead-Pleaux, A. (2019). Culturally Responsive Music Therapy Supervision. In M.

Forinash (Ed.), *Music therapy supervision* (2nd ed., pp. 45-58). Barcelona Publishers.

Yalom, I. D. (1994). *The theory and practice of group psychotherapy* (4th ed.). Basic Books.

Yinger, O. S., Lapointe, L. L. (2012) The effects of participation in a group music therapy voice protocol (G-MTVP) on the speech of individuals with parkinson's disease. *Music*

Therapy Perspectives, 30(1), 25-31. DOI: 10.1093/mtp/30.1.25

APPENDICES
Appendix A: IRB Approval Letter



1000 Hempstead Ave., PO Box 5002, Rockville Center, NY 11571-5002
www.molloy.edu

Kathleen Maurer Smith, Ph.D.
Dean, Graduate Academic Affairs
T: 516.323.3801
F: 516.323.3398
E: ksmith@molloy.edu

DATE: January 11, 2022

TO: Daniel DeLucia
FROM: Molloy College IRB

PROJECT TITLE: [1854358-1] The Experience of an Individual with Parkinson's engaging in a Relationship-based, Improvisational Music Therapy Group

REFERENCE #:

SUBMISSION TYPE: New Project

ACTION: DETERMINATION OF EXEMPT STATUS

DECISION DATE: January 11, 2022

REVIEW CATEGORY: Exemption category # 4

Thank you for your submission of New Project materials for this project. The Molloy College IRB has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations. However, exempt research activities are subject to the same human subject protections and ethical standards as outlined in the Belmont Report.

You may proceed with your project.

This acknowledgement expires within three years- unless there is a change to the protocol.

Though this protocol does not require annual IRB review, the IRB requires an annual report of your exempt protocol (Expedited and Exempt Research Protocol Annual Report Form) which is available on the IRB webpage.

If there is a proposed change to the protocol, it is the responsibility of the Principal Investigator to inform the Molloy College IRB of any requested changes before implementation. A change in the research may change the project from EXEMPT status and requires prior communication with the IRB.

We will retain a copy of this correspondence within our records.

If you have any questions, please contact Patricia Eckardt at 516-323-3711 or peckardt@molloy.edu. Please include your project title and reference number in all correspondence with this committee.

Sincerely,

Patricia Eckardt, Ph.D., RN, FAAN

Appendix B: Consent Form



**Music Therapy Graduate Program
1000 Hempstead Ave
Rockville Centre, NY 11570
516-323-3000**

Title of Study:

The Experience of an Individual with Parkinson's Engaging in a Relationship-based, Improvisational Music Therapy Group

This study is being conducted by:

Daniel DeLucia (Primary Investigator) 631-905-1093 ddelucia@lions.molloy.edu

[Maria C. Guerrero \(Faculty Advisor; Co-Investigator\) 646-262-7711 mguerrero@molloy.edu](mailto:mguerrero@molloy.edu)

Key Information about this study:

This consent form is designed to inform you about the study you are being asked to participate in. Here you will find a brief summary about the study; however, you can find more detailed information later on in the form.

- **Purpose of study:** This study aims to explore the experience of an individual with Parkinson's engaging in a music therapy group, through review and analysis of an archived video recording of a music therapy session. This thesis study is being conducted in partial fulfillment of the requirements for the degree of Master of Science in Music Therapy at Molloy College. It is hoped that the findings of this study will provide a better understanding of music therapy as a treatment for the social and emotional needs of individuals with Parkinson's.

- **Inclusion criteria:** Must be diagnosed with Parkinson's, have the ability to speak and understand English, and have participated in a relationship-based, improvisational music therapy group session.
- **Time commitment:** Data collection in this study will involve only the researcher's review and analysis of an archived session video recording, and thus will not require any active participation by subjects. After the researcher has reviewed, transcribed, and analyzed the recorded session, participants will have the opportunity to review the session transcript for accuracy and to comment on the findings.
- **Compensation:** There is no compensation for this study.
- **Privacy concerns:** The session video will be viewed by the researcher on a HIPAA-compliant server. Musical and verbal data from the session will be kept confidential. Session transcriptions, observation notes, and all material generated during data analysis will be stored on a password-protected laptop in the sole possession of the researcher. When viewing and analyzing the session, the researcher will be in a secluded room where no other individuals may enter. **All data (music and verbal transcriptions, observation notes) will be electronically shredded once the study is complete.** Participant anonymity will be maintained through the use of pseudonyms in all of the data collection, data analysis, and reporting of findings. No names or other identifying information will be used when discussing the data or findings.

Why am I being asked to take part in this study?

You are being invited to take part in this study because you are an individual diagnosed with Parkinson's who has participated in an improvisational, relationship-based music therapy group. It is hoped that from an exploration of the music experiences that occurred

in a group session in which you participated, there will be a better understanding about how music therapy may address the social and emotional needs of individuals with Parkinson's.

What will I be asked to do?

Since the researcher will gather data only through viewing and analyzing an archived session video recording, no direct subject participation will be involved. You will have an opportunity to check the session transcript for accuracy and to comment on the findings from data analysis. I will send you the transcript and a report of the findings through email.

Where is the study going to take place, and how long will it take?

There will be no direct subject participation in data collection. My review of the recorded session, and my analysis of the music experiences and verbal exchange during the session, will occur within a protected and confined space only known to myself. The study will be carried out and completed within the period from January through May 2022.

What are the risks and discomforts?

It is not possible to identify all potential risks in research. However, there are minimal anticipated risks associated with this study, since data collection will involve only the researcher's review and analysis of an archived, video recorded music therapy session in which you participated. There will be no direct interaction between you and the researcher during data collection.

What are the expected benefits of this research?

Individual Benefits: There are no direct personal benefits of participation in this study; however, findings of the study may offer music therapists, other clinicians, and individuals with Parkinson's and their families a better understanding about the social and emotional experiences of individuals with Parkinson's in music therapy, and the

possible benefits of music therapy in addressing the social and emotional needs of individuals with Parkinson's.

Do I have to take part in this study?

Your participation in this research is your choice. If you decide to participate in the study, you may change your mind and stop participating at any time without penalty or loss of benefits to which you are already entitled. Your decision whether or not to participate will not affect your music therapy services in any way.

What are the alternatives to being in this study?

Instead of being in this research, you may choose not to participate.

Who will have access to my information?

Your anonymity will be maintained through the use of a pseudonym in all observation notes, session transcription, data analysis, and discussion of findings. All data will be stored safely and securely on a password-protected laptop in the sole possession of the primary researcher. Access to the data will be limited to the researcher, his thesis committee, and the Molloy College IRB. The final results will be presented in the master's thesis authored by the primary researcher.

How will my information be used?

The musical and verbal activity and interaction that occurred in the recorded session will be used as data for this study. The data will be analyzed through thematic analysis. Significant themes that emerge from the music transcriptions will be identified and explored. Your data will be aggregated with data from the other group members to explore in-depth the experience of an individual with Parkinson's engaging in group music therapy. All identifiable information will be removed to ensure anonymity and confidentiality. The data will be kept in secure storage for a minimum of 3 years following completion of this study. The data will not be used in future studies.

To ensure that this research activity is being conducted properly, Molloy College's Institutional Review Board (IRB), whose members are responsible for the protection of human subjects' rights for all Molloy-approved research protocols, have the right to review study records, but confidentiality will be maintained as allowed by law.

Can my participation in the study end early?

You can withdraw from this study at any time without penalty.

Will I receive any compensation for participating in the study?

You will not receive any monetary or any other form of compensation for participating in this study.

What if I have questions?

Before you decide whether you'd like to participate in this study, please ask any questions that come to mind now. Later, if you have questions about the study, you can contact **Daniel**

DeLucia at (631) 905-1093 or ddelucia@lions.molloy.edu , or **Maria Guerrero** at (646) 262 - 7711 or mguerrero@molloy.edu .

What are my rights as a research participant?

You have rights as a research participant. All research with human participants is reviewed by a committee called the *Institutional Review Board (IRB)* which works to protect your rights and welfare. If you have questions about your rights, an unresolved question, a concern or complaint about this research, you may contact the Molloy IRB office at irb@molloy.edu or call 516 323 3000.

Documentation of Informed Consent:

You are freely making a decision whether to be in this research study. Signing this form means that

- 1. You have read and understood this consent form**
- 2. You have had your questions answered, and**
- 3. After sufficient time to make your choice, you have decided to be in the study.**

You will be given a copy of this consent form to keep.

Your signature

Date

Your printed name

Date

Daniel DeLucia

Signature of researcher explaining study

Date

Daniel DeLucia

Printed name of researcher explaining study

Appendix C: Research Journal

RESEARCH JOURNAL

- Names of the themes were chosen based on my interpretation of what occurred during the session in addition to what I determined would be relevant to the research question. In particular, the theme of musical interrelatedness emerged upon my initial reviewing of the recorded session. I felt the participant and other group members seemed to be flexible and creative within the music making (in particular the vocal improvisation) through the use of the voice. The music therapist seemed to reflected and adapt to the individual's music as well as the music of the other group members.
 - While familiarizing myself with the data and doing the coding, I began to reflect on how the data can be sorted into the following themes: Diane in relationship to the therapist; the rest of the group; the music itself. I felt that this might give some detail towards conveying the experience of the individual within a more specific way.
 - I noticed during the coding process, there was a relation to how the music was played by the group and how it related to their verbal responses. I felt the verbal responses Diane gave were a reflection of the music she played in the improvisation as well as during Join Together. 3|
 - Upon doing the observation and analysis, I felt that the words in the verbal responses reflected how Diane and the group played their music. According to my perspective, I viewed music within the overall session as being the true agent of change, with the words serving as a compliment to the music. As Diane mentioned in one of her verbal responses, she seemed to feel that actively singing was beneficial for Parkinson's, that it helps with breath work and pronunciation of syllabus which, if the progression of the disease continues without treatment, can hinder speech production by weakening the muscles used when breathing or speaking.
 - Upon analysis of musical phrases from Diane and the therapist, the intervals and rhythmic phrases seemed to be of importance. It seemed to me like the two people were talking to each other in a musical way or a more related way.
-

Appendix D: Observation Notes

OBSERVATION NOTES FOR THESIS PROJECT

- -The music therapist brings out the guitar and provides opportunity for one participant to count in prior to the hello song “Join Together” by The Who
- M & H gradually begin to sing along with the therapist. D is off screen.
- Around 2 minutes in, the MT initiates call and response on ‘I said Hey ~~hey~~ ~~hey~~’ leaving space for the participants to respond. Participants vocal responses are within the tempo of the music (approx. 95 bpm), participants responded immediately.
- The MT expanded the experience, providing opportunities for participants to give solos on “Hey ~~Hey~~ ~~Hey~~” and having their responses reflected by the other group members, ensuring spontaneity and initiating new musical phrases. (Possible theme: Musical Interrelatedness)
- Prior to H singing, M looks at him, possibly in preparation for support and encouragement. H sings “Hey ~~hey~~” (dotted eighth followed by a quarter note tied to a sixteenth) M says “good boy” following H’s singing, providing support. This was followed by the group members reflecting H’s vocal phrase.
- D sings a vocal line with a dotted rhythm. Reflected in the accompaniment in the guitar by the MT.
- D, “~~yeah~~ WOOWOO” on end of hello song
- Vocal warmups led by D. beginning on “Woo” glissando ascending and descending. “La ~~La~~ ~~La~~” step wise melodic line, ascending by half steps
- Improvisation. “Lets Sing Our Music Today”
- During improvisation, D initiated vocal line “Lets sing today” H appeared to be mouthing or lightly singing the words.
- H passes the vocal line to another participant.
- D “I don't know how good I sound” “You sound great” replied the MT
- Elvis Blue Suede Shoes (movement experience) led by the MT on guitar
- H swing arms in an alternating motion (back and forth)
- H ended and punctuated the musical phrase on “shoes” after the MT provided opportunity, sustaining the E7 chord
- D “Go!”
- “Oh What A Beautiful Morning” with lyrics on the screen
- M and H sing in unison following opportunity given by the MT

- The MT asked the group “Think of one positive thing you want in your day”
(Possible Theme: Retrospection; Reflection, Musical Reinforcement, etc)
- The MT reiterated the question to the group members.
- M said “For H to be well when I return from my trip”
- D said “I ditto everybody with the nice sunny day. I would like not be tired today”
- The MT suggested to keep in mind some of the group’s responses
- The MT led “Oh What A Beautiful Morning” chorus, keeping in mind the group’s responses. (Possible theme: Music used as Reinforcement, Reflection)
- Goodbye Song: Goodnight Sweetheart (The Spaniels)
- Participant chosen: D.
 - Rationale for choosing: She was chosen based on moments of active vocal participation, providing insightful verbal responses, as well as being an individual with Parkinson’s, thus fulfilling the inclusion criteria.

Appendix E: Permission Letter Regarding Copyright

7/5/22, 1:08 PM

Molloy College Student and Alumni Email Mail - Re: #1561713 - Dissertation (Thesis)



Daniel DeLucia <ddelucia@lions.molloy.edu>

Re: #1561713 - Dissertation (Thesis)

Julia Bustle (Hal Leonard Permissions) <support@permissions.zendesk.com>
 Reply-To: Hal Leonard Permissions <support+id1561713@permissions.zendesk.com>
 To: Daniel DeLucia <ddelucia@lions.molloy.edu>

Fri, Jul 1, 2022 at 2:28 PM

##- Please type your reply above this line -##



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This ticket (1561713) has been updated.

On this ticket:

, Daniel DeLucia,

**Julia Bustle (Hal Leonard Permissions)**

Jul 1, 2022, 1:28 PM CDT

Daniel DeLucia
 22 Old Orchard Way
 Miller Place, NY 11764
 United States

Title	Writer	Excerpts						
Oh, What A Beautiful Mornin'	Oscar Hammerstein II, Richard Rodgers	Figures 6.1 - 6.5 (pages 37 - 39)						

Dear Daniel:

Thank you for your request dated June 30, 2022.

We hereby grant you permission to include excerpts from "Oh, What A Beautiful Mornin'" in your dissertation entitled *The Experiences of an Individual with Parkinson's Engaging in a Relationship-based, Improvisational Music Therapy Group*. This permission is limited to use of the above-cited composition for purposes of your dissertation, and does not include any right to use the composition, or any part thereof, in any other publications, or for any commercial purposes.

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1/3

7/5/22, 1:08 PM

Molloy College Student and Alumni Email Mail - Re: #1561713 - Dissertation (Thesis)

Oh, What A Beautiful Mornin'

from OKLAHOMA!

Lyrics by Oscar Hammerstein II

Music by Richard Rodgers

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