

**A PSYCHOTHERAPEUTICALLY ORIENTED APPROACH TO
VIBROACOUSTIC THERAPY: THERAPY PROCESS WITH A CLIENT
DIAGNOSED WITH FUNCTIONAL NEUROLOGICAL DISORDER
EXPERIENCING DISSOCIATIVE SYMPTOMS**

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Tiivistelmä – Abstract Functional Neurological Disorder (FND) is a somatic symptom disorder that affects a significant number of people worldwide with a large variety of experienced symptoms and comorbid disorders. FND is diagnosed in patients who present physiological symptoms without a neurological or medical condition. This master’s thesis describes the therapy process of a patient diagnosed with FND, utilizing a psychotherapeutically-oriented approach to vibroacoustic therapy as the primary clinical protocol. The client in this case was diagnosed with FND by a neurologist and referred to the music therapist. In addition to the experience of occasional paralysis attacks, the client experienced regular dissociative symptoms. The client’s experience of depersonalization also contributed to her experience of functional weakness; a weakness down one side of the body. Though the client experienced sensations of both depersonalization and derealization on a regular basis throughout the therapeutic process during the vibroacoustic treatment, the safety and security existent within the therapeutic environment enabled the client to experience and explore these symptoms without the usual accompanying anxiety and panic. The therapeutic protocol outlined in this paper is interdisciplinary and diverse. It includes an interdisciplinary referral process, as well as the utilization of therapeutic approaches from music therapy, vibroacoustic therapy, psychotherapy, and trauma theory. During the therapeutic process, the client was able to address and further explore her FND symptoms in multiple mediums. The patient showed great improvement in integration of the different parts of her Self, confidence, and emotional expression, and has been able to implement strategies developed in her sessions to everyday situations outside of therapy. These tools have allowed the patient to identify emotions and/or triggers, reduce feelings of anxiety and panic initiated by her dissociative symptoms, and thus reduce the risk for further paralysis attacks.	
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*First thing we'd climb a tree
And maybe then we'd talk
Or sit silently
And listen to our thoughts
With illusions of someday
Cast in a golden light
No dress rehearsal
This is our life*

-Gord Downie

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1 INTRODUCTION

The relationship between mind and body has long been investigated. How the mind influences the body and vice versa is a multifaceted subject within the worlds of medicine, psychology, and health and well-being. The fields overlap in the study of Functional Neurological Disorder.

People who suffer from Functional Neurological Disorder (FND) may experience a range of somatic and/or psychological symptoms and these functional symptoms are often related to underlying psychological conflict, with no physiological origin. The symptoms are functional in nature, which can make diagnosis and treatment difficult. People who experience these symptoms often have frequent visits to emergency rooms, family doctors, medical specialists, and other health care professionals searching for explanations to their symptoms and recommended treatments. The impact on healthcare systems is significant, both in regard to hospital resources and finances. It also carries quite a burden for the patients, who spend time (often years) and money on their search for answers and relief.

Imagine: Losing consciousness, experiencing seizures, and facing weakness to the point of paralysis affecting your entire body. Now, imagine suffering these symptoms on a regular basis with no known trigger, no answers, and no diagnosis from doctors. Sadly, this happens to many on a regular basis. The example above outlined just some of the functional symptoms that were experienced by the client introduced in this case study.

This case study introduces a piloted approach for treatment of patients with FND and proposes a treatment model for future larger-scale case studies for this under-researched clinical population. FND is commonly referred to as a mind-body disorder because of the strong relationship between the conflict in one's psyche and the expression of or response to that conflict, physiologically. The treatment protocol in this study then, proposes a mind-body approach to treatment for FND. By implementing a psychotherapeutic approach to vibroacoustic therapy, the protocol allows for the therapist to simultaneously address physical

and psychological needs of the client, while maintaining flexibility for the client's possible range of symptoms and individualization of the interventions, aims, and objectives.

I was motivated to design and execute this case study because it combined techniques that I had never utilized in therapy and a client population that is under-researched with an approach to therapy that aligns with many of my beliefs as a clinician. A psychotherapeutically oriented approach to vibroacoustic therapy has the potential to bridge music therapy, psychotherapy, and music medicine and to provide the groundwork for future interdisciplinary work within healthcare, which I have always aspired to be a part of. Though vibroacoustic therapy was a fairly new technique and approach to me, I was motivated to use it to explore its diverse applications and benefits, as well as to integrate it with other therapeutic techniques and procedures I was already familiar and confident with. In addition to the new therapeutic technique of vibroacoustic therapy, I had also never worked with this client population. Prior to receiving the referral from the neurologist, I did not know which functional symptoms would be part of my client's diagnosis, nor how many symptoms she was experiencing. Because of the nature of the disorder and the broad range of possible symptoms there was no way that I could have many expectations regarding the therapy. Experiences regarding functional symptoms are diverse and dependent on many individualized factors. Epidemiology and risk factors associated with FND taught me that I would likely be referred a female client who also experiences anxiety and depression.

This report first presents a literature review outlining topics of FND, dissociative symptoms, trauma, vibroacoustic therapy, and psychotherapeutic approaches. The Current Study section outlines the study's purpose and aims and is followed by a presentation of the study's methods, including the setting and materials used. The case study outlines the clinical assessment, clinical stance, process, and evaluation of the case. The results of the study are then presented as a case conceptualization, following an inductive content analysis of clinical notes, reports, observations, and questionnaire responses. Therapeutic methodology that was used in this case was then triangulated with the results of the content analysis in order to provide an additional perspective to the case progression and outcomes. Following the results, the report discusses the findings in relation to existing literature and findings and makes recommendations for future studies utilizing a similar protocol.

2 REVIEW OF LITERATURE

2.1 Functional Neurological Disorder

Functional Neurological Disorder (FND), is commonly also referred to as a psychogenic disorder, and in the past has been classified as conversion disorder, psychosomatic disorder, or somatoform disorder. FND affects a significant percentage of the population worldwide, and yet for many, it may go misdiagnosed or without positive diagnosis for years (Ali et al., 2015; de Schipper, Vermeulen, Eeckhout, & Foncke, 2014; Dimsdale & Dantzer, 2007; Mayou, 2007). The impact on healthcare systems is also costly. With multiple referrals, frequent appointments, and numerous expensive tests, the annual healthcare cost is estimated to be at least \$20 billion in the United States alone (Rommelfanger et. al., 2017). Though the impact on patients and professionals is clear, there are still discrepancies in regard to clear terminology due to a lack of systematic understanding on multidisciplinary levels (Rommelfanger et.al., 2017).

The differing levels of understanding in multiple disciplines has led to a ‘crisis of ideology’, as Rommelfanger et. al., (2017) refer to in their work.

FND lacks ownership; an orphan to a disciplinary home in medicine, falling in the netherworld of the neurology-psychiatry abyss. The high prevalence, poor prognosis, lack of available treatments, and the fact that patients often have disbelief in their diagnosis has led to a crisis for neurology. (p. 1)

One can sense the divide in the terminology included in definitions. Ali et al. (2014) define functional neurological symptom disorder as “a psychiatric illness in which symptoms and signs affecting voluntary motor or sensory function cannot be explained by a neurological or general medical condition. Psychological factors, such as conflicts or stress, are judged to be associated with the deficits” (p. 27). Further simplified, underlying mental, emotional, and/or psychological distress causes stress in an individual, which then converts and expresses as a physiological symptom (Ali et al., 2015). Conversely, Rommelfanger et. al. (2017) do not directly refer to FND as a psychiatric disorder, however they do reference a psychiatric origin in their definition: “Functional neurological disorders (FND) are conceptualized as a manifestation of neurological symptoms that arise from a psychiatric origin. FND represents a confounding situation where an otherwise invisible illness becomes visible” (p. 2).

A significant change in terminology came with the DSM-5, when the term functional neurological symptoms disorder, came to replace “conversion disorder”, which was strongly rooted in psychological etiology hypotheses (Demartini et al., 2015). The term ‘conversion’ carried with it alternative terms such as psychogenic, psychosomatic, hysteria, to describe the diagnosis. With the psychological etiological basis, it also came with hypothesized causal factors (trauma, conflict), and a great deal of stigma attached to the diagnosis (Demartini et al., 2015; Schweitzer & Ahmad, 2015). The debate in regard to terminology when referring to, and describing the disorder creates a dichotomy between the traditional brain/mind relations (Mayou, 2007), and in the DSM-5 the new label of functional neurological symptom disorder was adopted to work around the brain/mind compartmentalization which had previously existed (Demartini et al., 2015).

Current FND terminology has been warmly embraced, as the majority of neurologists and psychiatrists did not accept the label of conversion disorder (Demartini et al., 2015). Adopting the term ‘functional’ now positively defines the symptoms that one experiences; of the possibility and ability of normal function. Overall, the new, relatively ‘neutral’ terminology acknowledges that the psychodynamic hypothesis is just one of the many etiological hypotheses at the moment, through reduced emphasis on the previous causal psychological and emotional events said to occur prior to the development of symptoms (Demartini et al., 2015; Schweitzer & Ahmad, 2015). It’s interesting to note that while these papers provide relatively new definitions and terminology, that papers such as those by Rommelfanger et al. (2017) and Demartini et al. (2015) use much different terminology surrounding their definition and description than relatively equally recent papers (i.e. post-DSM-5) by Ali et al. (2015) and Cottencin (2013). The latter often group FND together with previously used terms such as conversion, rather than highlighting the new and different connotations that FND carries with it.

Aside from removing the stigma associated with the diagnosis, the new terminology has provided some ease to aforementioned crisis of ideology (Hubschmid et al., 2015; Rommelfanger et al., 2017) as mentioned in the paper by Demartini et al. (2015), “neurologists have started considering these patients as their patients because of the “neurological” part of their name, namely the role of the neurological clinical examination, which becomes the main diagnostic instrument” (p.55). This, referring to the new assessment

and criteria required in the diagnostic process for FND, outlined in the DSM-5. Though neurologists are taking a more active role in the adoption of FND, psychiatrists are also collaborating more with neurologists because of the multi-faceted nature of the disorder and its treatment, supporting each other on a multidisciplinary level (Demartini et al., 2015; Hubschmid et al., 2015). Demartini et al. (2015) outlined the multi-level influence following the changes in the DSM-5:

Neurologists have started thinking these patients as genuine patients, exactly as patients with multiple sclerosis or Parkinson's disease. On the other hand, psychiatrists have started to collaborate with neurologists since they do not feel alone with these patients, which often are difficult to treat. Last but not least patients have started feeling themselves as genuine patients because the new "functional neurological symptom disorders" name and definition have started giving them that dignity they have never felt. (p.55)

In regard to etiology, the new terminology surrounding FND brings with it a sense of neutrality, as mentioned above, acknowledging that the psychodynamic etiology is just one of many hypotheses (Demartini et al., 2015). Mayou (2007) looked ahead to the DSM-5 and stated an encouraging factor held in this neutrality; that the etiology is widely accepted as an interaction between bodily perceptions and psychological interpretation. Though currently there is not one traditional 'side' to the etiology (i.e. biological versus psychological), it remains encouraging that across professions they are accepting this interactive model of etiology for functional symptoms.

De Schipper, Vermeulen, Eeckhout & Foncke (2014) presented the experience and opinions of neurologists and psychiatrists in the Netherlands, regarding treatment and diagnosis procedures of patients with Functional Neurological Symptoms (FNS). The results of questionnaires sent to neurologists and psychiatrists in the Netherlands showed a relative divide among neurologists and psychiatrists regarding the diagnosis and treatment procedure for patients with FNS. Results showed that psychiatrists had more preference for an interdisciplinary approach to both diagnosis and treatment procedures. De Schipper et al. (2014), as a result of their study, proposed an interdisciplinary-style treatment procedure with collaboration of neurologists and psychiatrists for the diagnostic process, and collaboration of psychotherapists and physiotherapists for the treatment process.

Physiologically, there is a broad range of physical symptoms that one with FND may experience. As Mayou (2007) mentioned in the description of the etiology, the bodily

perceptions that one experiences may be physiological or minor pathological perceptions. These functional symptoms include blindness, paralysis, swallowing difficulties, speech problems, non-epileptic seizures, and chronic pain (Ali et al., 2015; Berney et al., 2015; Cottencin, 2013; de Schipper et al., 2014). The biological etiology of FND and associated functional symptoms are results of communication impairment within the cerebral hemispheres as well as extra cortisol production which obstructs the patients' bodily awareness (Ali et al., 2015; Dimsdale & Dantzer, 2007). The etiology of FND also includes non-biological factors such as the above-mentioned symbolic relationship to unconscious conflict, and coping/defence mechanisms (Ali et al., 2015; Cottencin, 2013). Further, cognitive interpretations of bodily perceptions are influenced by the patient's sociocultural setting, personality, health beliefs, mental state, and reactions of others; such as health professionals (Mayou, 2007).

As a result of the broad biological and non-biological etiology of the disorder, there are multiple risk-factors and comorbidities associated with the diagnosis (Ali et al., 2015; Cottencin, 2013). These factors include mood disorders, generalized anxiety disorder, phobias, obsessive compulsive disorder, post-traumatic stress disorder, dissociative disorder, schizophrenia, and personality disorder (Ali et al., 2015; Cottencin, 2013; Yayla et al., 2014). It is also suggested that certain sociodemographic factors may correlate with the diagnosis (Mayou, 2007), including low socioeconomic status, low education level, and a history of abuse (Ali et al., 2015). Multiple studies have also found a relationship between psychological trauma and medically unexplained symptoms, especially chronic pain and somatization disorders (Karatzias et al., 2017). In addition to this, childhood psychological trauma has also been linked to the experience of psychogenic non-epileptic seizures (Karatzias et al., 2017). It is because of this wide scope of diagnostic material, that the initial diagnosis is extremely difficult for professionals to make and why the process requires multiple specialists and experts, and clinical examinations before a positive diagnosis is reached (Cottencin, 2013).

Reports of epidemiology differ to an extent, depending on the term and definitions used, and the population studied. Ali et al. (2015), report studies referring to conversion disorder. The studies that they looked at showed that 5% of patients in a general hospital setting meet the diagnostic criteria for conversion disorder (Ali et al., 2015). Other studies estimate incidences of conversion disorder diagnosis in the general population at 4-12 per 100,000 per year

(Schweitzer & Ahmad, 2015). Studies using both terms of conversion disorder or functional neurological disorders found that patients who were diagnosed with the disorder were more likely to be female (Ahmad & Ahmad, 2016; Ali et al., 2015; Schweitzer & Ahmad, 2015), with a younger average age (overall, depending on symptom presentation) and a high rate of psychiatric comorbidity, as mentioned above (Ahmad & Ahmad, 2016; Schweitzer & Ahmad, 2015; Yayla et al., 2014). The majority of those who experience psychogenic non-epileptic seizures are between the ages of 15 and 35 years, and 80% are female (Sahaya, Dholakia & Sahota, 2011). In 20-30% of FND cases, patients have a history of depression or anxiety (Schweitzer & Ahmad, 2015). Data from Australian neurology outpatient clinics show that functional symptoms were the third most common presentation of various neurology presentations seen at the clinics (Schweitzer & Ahmad, 2015).

The recommended treatment for FND is dependent on the assessment of experienced functional symptoms during the diagnostic procedure. De Schipper et al., noted that originally psychiatry and psychotherapy were the most common treatment strategies, but later in the 20th century physiotherapy was also introduced as another option for treatment, and is now internationally recognized as a therapy method for patients with FND (2014). Of the 34 controlled trials of recommended treatments for patients with FND (Heijmans, 2011; Kroenke, 2000), it appears that the effective typical forms of treatment are cognitive-behavioural psychotherapy, motivational interviews, and psychodynamic psychotherapy (Heijmans, 2011; Kroenke, 2000).

In addition to these options, other proposed treatment strategies include hypnosis, abreaction, other cognitive-behavioural approaches, transcranial magnetic stimulation, or antidepressants/SSRI (Chastan, 2009; Hubschmid et al., 2015). Hubschmid et al., refer to a randomized controlled trial that showed patients had a 51% seizure reduction with treatment using cognitive-behavioural therapy informed psychotherapy and a 59% seizure reduction with treatment using cognitive behavioural therapy in conjunction with antidepressants (2015). Both studies, call for the preferred therapeutic option which is a multidisciplinary approach to treatment protocol (de Schipper et al., 2014; Hubschmid et al., 2015). More specifically, Hubschmid et al., (2015) found that a joined neurologist and psychiatrist consultation, in combination with a brief (4-6 sessions) interdisciplinary psychotherapeutic

intervention resulted in a reduction of physical symptoms, health care use, and sick leave time.

2.2 Dissociative Symptoms

Dissociation, more specifically, dissociative symptoms, are a spectrum of symptoms referring to one's feeling of disconnectedness; most often a disconnection from one's body or environment (Diseth, 2005; Stone, 2006). The mental experience of dissociation can include temporary interference of memory or consciousness but can also disturb bodily functions in the form of sensations, weakness, or movement (Diseth, 2005). Maaranen (2008) cites that dissociative symptoms may be categorized either as psychoform or somatoform dissociative symptoms. In addition to this, it is also common to divide dissociation into two qualitatively unique phenomena of detachment and compartmentalization (Brown, Syed, Benbadis, LaFrance & Reuber, 2011; Hallett, Stone & Carson, 2016). Further, Hallett et al. (2016) state that there is "good reason to believe that detachment and compartmentalization are relevant for understanding both the mechanisms of FND and the management of patients with these conditions" (p.92). As oppose to dissociative disorder, derealization disorder, or depersonalization disorder, the patient experiencing dissociative symptoms does not experience these symptoms continuously, but in isolated circumstances (Stone, 2006). Dissociative symptoms are often coexistent with psychiatric disorders, depression, anxiety, schizophrenia, personality disorders, and some neurological disorders (Hunter, Charlton & David, 2017; Stone, 2006). Functional neurological symptoms, as experienced in those diagnosed with FND, were classified as dissociative symptoms in the International Classification of Diseases (ICD-10) (Stone, 2006), and are frequently experienced before pseudoseizures and/or before experiencing functional weakness (Hallett, Stone & Carson, 2016; Stone, 2006).

The argument that FNS involve dissociative mechanisms is partly based on the claim that somatoform and psychoform dissociation are commonly comorbid, typically informed by studies using scales like the DES in patients with FND, or measures of functional symptoms in patients with DSM-defined dissociative disorders. (Hallett, Stone & Carson, 2016, p.86)

2.2.1 Psychological Dissociative Symptoms

Prevalent psychological dissociative symptoms may include amnesia, depersonalization, derealization, and identity confusion (Maaranen, 2008). Amnesia differs from general memory loss, because it refers to the loss of memories from a specific time frame/significant period of events, and dissociative amnesia is often directly confined to a traumatic or stressful period of time, or group of events (Maaranen, 2008). Depersonalization is an example of a detachment symptom (Brown et al., 2011), and can be defined as “a feeling of detachment or estrangement from one’s self” (Maaranen, 2008, p. 28). Sensations can include feeling one’s actions as robotic, or feeling a loss of belonging to parts of one’s body (reflection, voice, hands, etc.) (Hunter et al., 2017). Derealization is also a detachment symptom and is the feeling that one has lost contact with reality or their external surroundings (Hunter et al., 2017; Maaranen, 2008), and may cause one to feel unfamiliar with seemingly familiar things such as their home, workplace, and even friends or family (Maaranen, 2008). There may also be the experience of emotional numbness, in regard to both positive and negative emotion (Hunter et al., 2017). Symptoms of depersonalization and derealization often co-occur, and people who experience these symptoms often find it difficult to describe them (Hunter et al., 2017). The periodic experiences of depersonalization and derealization symptoms are common for those who experience dissociative symptoms, especially during times of fatigue, anxiety, or danger (Hunter et al., 2017; Maaranen, 2008; Stone, 2006).

2.2.2 Somatoform Dissociative Symptoms

In addition to psychological sensations, dissociative symptoms can also present as a bodily function, sensation, or movement experiences affecting certain parts, or even all of one’s body (Hunter et al., 2017). Somatoform dissociative symptoms can include loss of perception or function (pain, sensation, motor), movements (tics), and pseudoseizures, also referred to as psychogenic nonepileptic seizures (PNES) (Hallett et al., 2016; Maaranen, 2008). PNES are “episodes of altered movement, sensation, or experience resembling epileptic seizures but not associated with ictal epileptiform discharges in the brain but which, instead, have a psychological origin” (Brown et al., 2011, p.85). PNES may be viewed as a dissociative symptom because of the involvement of a cognitive compartmentalization, similar to that which occurs with dissociative amnesia, which is what leads to the loss of control/mental function (Brown et al., 2011). Much like psychological dissociative symptoms, PNES (among

other psychoform dissociative symptoms) may also have relation to anxious feelings. Brown et. al. cites experts who understand PNES as a dissociative response to the physical reaction caused by a subjectively high level of experienced anxiety (2011). It is quite common that people experience a symptom of detachment (such as derealization or depersonalization) related to the onset of a PNES attack or of functional weakness (Hallett et al., 2016; Stone, 2006).

2.3 Trauma

Something is considered a traumatic event if it causes stress in an individual due to its ability to overwhelm the human's ability to adapt, thus occurring outside the range of usual human experiences (Punkanen, 2005; Van der Kolk, 2005; Van der Kolk, 2014). In his chapter on treating traumatic memories, Punkanen (2005) points out that every individual's level of adaptation to life is different, as seen in humanity's unique reactions to various stressors or events. A traumatic event may, for example, occur early in a person's life, as in childhood, thus interrupting the adaptive learning process of the childhood and consequently affecting their adaptive abilities and perception of stressful situations as they develop into adulthood.

Stephen Porges introduced the polyvagal theory in 1994, which offers a multifaceted, biopsychosocial explanation and understanding of safety and danger, moving beyond the effects of flight or fight responses (Porges, 2001; Van der Kolk, 2014). This theory understands trauma primarily through social relationships by looking at the interaction between expressions of our own bodies and the voices and facial expressions of people around us (Porges, 2001; Van der Kolk, 2014). It was developed by investigating the evolution of the autonomic nervous system of mammals and it focuses on emotional regulation and adaptive social behaviour from psychological, behavioural, and physiological processes (Porges, 2001; Porges, 2004). The autonomic nervous system follows a hierarchical response strategy beginning with newest evolved structures, and when necessary, resorting to response strategies from a primitive system (Porges, 2001). The most evolved system, according to this theory, is the ventral vagal complex (VVC) which is the social engagement level, is the signaling system for motion, emotion, and communication of mammals. This instinctively occurs when there is a threat and one calls out for help or support from people around them. Following the VVC on the hierarchy is the sympathetic nervous system (SNS),

which is the primitive and survivalist response better known as the mammal's fight or flight response. If the SNS instinct fails, the most primitive subsystem is the dorsal vagal complex (DVC) occurs and is an immobilization system set in place as a preservation, or collapse mechanism (Porges, 2001; Porges 2004). This occurs as the body essentially shuts down, using as little energy as possible, in order to preserve itself (Van der Kolk, 2014). This immobilization is what is at the root of most traumatic experiences. When the DVC takes over, dissociation and detachment occurs, along with physiological symptoms of slowed heart rate and shallow breathing (Diseth, 2005; Van der Kolk, 2014).

Stephen Porges' related theory of neuroception describes how the above systems establish whether certain situations and/or people are safe, dangerous, or life threatening on a neural level (Porges, 2004; Van der Kolk, 2014). Neuroception takes part in the primitive parts of the brain without the mammal's awareness (Porges, 2004), and its ability to effectively function may be altered after one has experienced a traumatic event. Faulty neuroception explains how one's experience of danger and safety in their environment is altered after a traumatic experience (Porges, 2004; Van der Kolk, 2014). Faulty neuroception may also have strong relation to psychiatric disorders including schizophrenia, anxiety disorders, depression, and reactive attachment disorder (Porges, 2004).

When one has repeated exposure to trauma as a child, it may be referred to as developmental trauma (Van der Kolk, 2005). Traumatized children tend to present with dissociative symptoms including amnesia, depersonalization and derealization, and also struggle with effectively describing their current state, much like adults who experience dissociative symptoms (Van der Kolk, 2005). A traumatic childhood history has a likelihood to lead to many psychiatric diagnoses and symptoms in adolescence and adulthood including dissociative, affective, and somatoform disorders (Van der Kolk, 2005). Following the period of exposure throughout childhood development, a pattern emerges of repeated dysregulated behavior in response to various triggers rooted in trauma, which alters one's experience of developmental competencies and regulatory behaviour, leading to a level of functional impairment on somatic, social, and/or psychological levels (Van der Kolk, 2005).

Dissociative defense mechanisms may become automated in perceived dangerous situations, or when one is triggered, in order to protect the individual. In addition to automation, the

dissociation also allows the individual to compartmentalize traumatic memories and detach from themselves in the face of extreme danger, thus allowing one to avoid the unavoidable trauma (Diseth, 2005). This learned defense mechanism of dissociation is then carried into adolescence and adulthood (Van der Kolk, 2005), and the individual has limited ability to process various feelings and inputs (Diseth, 2005).

The association between trauma and dissociation can be traced back to the late 19th century when Pierre Janet coined the term, dissociation, to describe the detachment and compartmentalization of imprinted memories which he noticed in his patients (Diseth, 2005; Van der Kolk, 2014). The coining and defining of the term dissociation accompanied great advances in the study of hysteria (now known as FND), which also highlights the association of the two phenomena (Van der Kolk, 2014).

2.4 Vibroacoustic Therapy

Olav Skille, who is considered the founder of vibroacoustic therapy, first defined the practice at the International Society for Music and Medicine Congress in 1982 as “the use of sinusoidal, low-frequency sound pressure waves between 30-120 Hz, blended with music for use with therapeutic purposes” (Grocke & Wigram, 2007). Skille and researchers around the world such as Wigram and Lehtikoinen contributed to the development of the field during the 1980s following their empirical clinical research and experimental research on the subject (Grocke & Wigram, 2007). Little has changed regarding the roots of the field provided by these researchers, but the definition has expanded as more research has been published. In a contemporary review of the field, it was concluded that vibroacoustic therapy is a multimodal approach to music therapy because it is an active (physical) and receptive type of intervention and is able to address a patient’s physiological and psychological needs simultaneously (Punkanen & Ala-Ruona, 2012). Rützel (2009) stated that the effects of combining music and low frequency sound vibration gives vibroacoustic therapy an advantage because of the “manifold influence of music on the senses as well as on the senses as well as on the body and on cognition as a whole” (p. 17). Naghdi, Ahonen, Macario, and Bartel (2015) provide a slightly different definition of low frequency sound stimulation (LFSS), “LFSS, variously known as vibroacoustic or physioacoustic therapy, stimulates the mechanoreceptors in the

body and cellular structures more deeply, thereby potentially serving to block pain transmission” (p.22).

The definition of vibroacoustic therapy can be seen as multifaceted, however there are different opinions regarding the type of therapeutic intervention it provides. Grocke and Wigram (2007) do not view vibroacoustic therapy as an active form of music therapy intervention, however they define vibroacoustic therapy as

a method of music therapy where the practitioner carrying out the intervention is a music therapist, and where the intervention involves the use of music as part of the music/sound stimuli as a treatment for specified clinical reasons to achieve therapeutic goal. ... the produced music together with pulsed sinusoidal low frequency sound is intended to be the therapeutic agent (p. 214).

They also note that because vibroacoustic therapy requires a therapeutic relationship and musical experiences, that vibroacoustic therapy abides by Bruscia’s definition of music therapy (Grocke & Wigram, 2007). Bruscia’s current working definition of music therapy is,

Music therapy is a reflexive process wherein the therapist helps the client to optimize the client’s health, using various facets of music experience and the relationships formed through them as the impetus for change. As defined here, music therapy is the professional practice component of the discipline, which informs and is informed by theory and research (p. 46).

The physiological role, however, of vibroacoustic therapy seems to be prevalent in research, beginning with the viewpoint of sound and vibrations representing moving/transferring energy from one place to another through different mediums. When this sound energy encounters the patient’s body, it can be said that the energy will be transferred to the body’s atoms, molecules, cells, organs, etc., and that the vibrations will cause physiological responses (Schneck, Berger, Rowland & Patrick, 2006). Schneck et al. (2006) state that there are significant implications of vibroacoustic therapy for use in medicine because vibroacoustic medicine interventions focus on “the use and influence of sonic vibration in addressing such concerns as pain management, muscular rehabilitation, anxiety and stress, and more” (p. 36). Punkanen and Ala-Ruona (2012) present three hypotheses in their review, of the effect mechanisms of vibroacoustic therapy. These assumptions have direct physiological implications and relate to why the therapy is effective as a multimodal approach. The relaxation response hypothesis is based on the premise that the low-frequency sound present in vibroacoustic therapy causes our body to resonate with these frequencies, and it is said to contribute to increased blood circulation and metabolism, and decreased

muscle tension (Punikanen & Ala-Ruona, 2012). Schneck et al. (2006) also appear to refer to this hypothesis in their book, referring to the resonance as physiological sympathetic vibrations. Naghdi et al. (2015) referred to this phenomenon as driving neural rhythmic oscillatory activity. This oscillation or resonance within the body area is “one form of entrainment that elicits profound adaptive responses in humans” (Schneck et al., 2006, p. 54).

The second hypothesis presented by Punikanen and Ala-Ruona (2012) is the Pacinian Corpuscle, which is the neuronal inhibition of pain. The low-frequency sound stimulates the pacinian corpuscle, which in turn sends nonpain messages to the brain thus suppressing the pain impulse (Punikanen & Ala-Ruona, 2012). In their study of low-frequency sound stimulation for patients with chronic pain, Naghdi et al. (2015) also refer to this hypothesis, stating that vibroacoustic therapy “stimulates the mechanoreceptors in the body and cellular structures more deeply, thereby potentially serving to block pain transmission” (p. 22). The cellular structures mentioned prior may refer to the third hypothesis that Punikanen and Ala-Ruona (2012) describe in their review as the cellular cleansing mechanisms of sound, or the Jindrak postulate. This theory hypothesizes that vibration in our body and brain may help in cleansing certain molecules considered as waste products (Punikanen & Ala-Ruona, 2012).

Vibroacoustic therapy is a relatively new form of therapy within health care, and so there is a small but growing body of evidence for its effects within treatment of patients with different diagnoses. It has been established that vibroacoustic therapy is an effective form of treatment for reduction of pain and stress related symptoms, high muscle tone and spasticity, motor impairments, and insomnia (Punikanen & Ala-Ruona, 2012; Dileo, Wigram & Grocke, 2006; Naghdi et al., 2015; Rützel, 2002).

In order to determine and isolate the effects of music alone and music with low frequency sound stimulation, there have been a number of comparative studies. The studies outlined in the article by Rützel (2002) studied groups of healthy people, and compared three conditions: music, vibroacoustic therapy (music and low frequency sound stimulation), and silence. All conditions resulted in decreases in physiological measurements, such as blood pressure, pulse rate, and muscle oscillation frequency, however, the results indicated that there were significant differences in the subjective feelings of health and comfort when vibroacoustics were compared to the music and silence conditions (Rützel, 2002).

While Rüütel's study focused on healthy people, the study outlined by Sandler, Fendel, Peters, Rose, Bösel and Klapp (2017), analyzed patients with psychosomatic disorder and recorded their subjective experiences while comparing the use of acoustic low frequency sound stimulation (through the use of a Body Monochord) and listening to relaxation music. Both conditions were found to increase subjective levels of relaxation and well-being with no significant difference between various psychosomatic diagnoses, but the subjective experience of relaxation was more significant among patients who experienced the low frequency sound stimulation (Sandler et al., 2017). Important to note in the study by Sandler et al. (2017), is that neither intervention, including the low frequency sound stimulation intervention, had therapeutic interaction as a component of the intervention, as is part of the definitions of vibroacoustic therapy (Punkanen & Ala-Ruona, 2012; Grocke & Wigram, 2007). In their review of results, Sandler et al. (2017) also noted that another major difference between the two groups was that patients who experienced the vibroacoustic stimulation also experienced imagery, possibly due to reduced defence mechanisms of the subjects, thus allowing unconscious or preconscious material to appear as imagery. It was noted that this imagery was often considered as an unpleasant experience for the subjects and resulted in some subjects dropping out of the study before its completion (Sandler et al., 2017).

Naghdi et al. (2015), did not complete a comparative study as the research outlined above, but their results had implications for the use of low frequency sound stimulation within healthcare settings. The study assessed the effects of low frequency sound stimulation with patients with chronic pain (fibromyalgia) and concluded that vibroacoustic therapy with this patient population contributed to a significant change in quality of life, as well as an overall reduction in medication (Naghdi et al., 2015), thus providing mind-body results with a mind-body treatment.

Vibroacoustic therapy holds a multifaceted definition and flexible, diverse clinical applications which have grown tremendously since the initial research findings of researchers such as Skille, Wigram and Lehtikoinen. Though still a young approach to music therapy, reviews of the field reveal that there are multiple promising areas for further research and clinical applications for vibroacoustic therapy. Its broad and diverse characteristics suggest that the field may be well applied in combination with other health-related fields such as medicine, physical therapies, or psychotherapies.

2.5 Psychotherapeutic Approach to Treatment

Psychotherapy involves the application of techniques and interventions formed by psychological principles with the intentions of helping a person to modify personal characteristics in order to make necessary or desirable psychological changes (Bruscia, 1998a; Gurman & Messer, 2011). Wampold (2001) highlights the need for interpersonal interaction and uses the following definition throughout his publication:

Psychotherapy is a primarily interpersonal treatment that is based on psychological principles and involves a trained therapist and a client who has a mental disorder, problem, or complaint; it is intended by the therapist to be remedial for the client's disorder, problem, or complaint; and it is adapted or individualized for the particular client and his or her disorder, problem, or complaint. (p.3)

In her chapter, Leite (2014) also highlights the importance of the interpersonal aspect by defining psychotherapy as “a process of personal change that relies on the establishment of an asymmetric interpersonal relationship between the therapist and the patient, whereby therapist and patient have different roles and different types of investment in the process” (p.224). The maladaptive or undesirable personal characteristics that a psychotherapist may look to modify include certain feelings, values, attitudes, and behaviours (Gurman & Messer, 2011), and the therapist's modifications often cover goal areas such as self-awareness, inner conflict resolution, emotional release, self-expression, interpersonal skills, interpersonal conflict resolution, emotional trauma healing, deeper insight, reality orientation, cognitively restructuring, life fulfillment, or spiritual development (Bruscia, 1998a, Bruscia 1998b). Some use the term, reconstructive, when describing their psychotherapeutic work, referring to the reconstruction or reorganization of the patient's personality structure and interpersonal dynamics (Leite, 2014). The aim of this is “the transformation of the patient's patterns of behaving and relating, via a theoretical framework providing the therapist with explanations for the patient's problematic ways of functioning, and offering guidelines for promoting change in the patient” (Leite, 2014, p. 225). The goals which a psychotherapist forms for their client depends on their own theoretical orientation (theories related to therapy) and both their concept of theories of personality and their client's personality (Gurman & Messer, 2011). This is not to say that psychotherapeutic theoretical orientations are influenced by concepts and theories of personality, but that the personalities at play in a therapeutic situation (the therapist and the client) contribute significantly to the therapeutic relationship (Gurman & Messer, 2011), which is the foundation of psychotherapeutic work across all theoretical

orientations (Bruscia, 1998a, Bruscia, 1998b). This is perhaps the importance of the interpersonal element that Wampold (2001) stressed in his definition of psychotherapy.

2.5.1 Psychotherapeutic Theoretical Orientations

Theoretical orientations of psychotherapists include psychodynamic, existential-humanistic, gestalt, cognitive, and behavioural (Bruscia, 1998B; Gurman & Messer, 2011). The psychodynamic orientation of psychotherapy places an emphasis on the role that early experiences have in one's personality development and has branched into further specific theoretical approaches including self psychology, ego psychology, and object relations theory (Wolitzky, 2011). The psychodynamic orientation looks at constructs such as defenses, which are formed and shaped unconsciously during your personality development, resulting in routine responses to situations, and can include projection, withdrawal, denial, avoidance, repression, and resistance (Wolitzky, 2011; Hadley, 2003). It looks at the interaction between opposing forces and internal conflicts in order to better understand human motivation (Corey, 2013). In addition to defences, the constructs of transferences are included within the psychodynamic orientation, and can be seen clearly through the object-relations theory (Wolitzky, 2011; Hadley, 2003). This theory believes that humans are relationship seeking, and that these relationship experiences that one has as a child are internalized and then repeated in new relationships (Corey, 2013; Wolitzky, 2011; Hadley, 2003). It believes that "early experiences of self shift in relation to an expanding awareness of others" (Corey, 2013, p. 48) and that this process ends in a state of integration (Corey, 2013). The construct of transference demonstrates the influence of object-relations theory, as transference occurs when one relives an important past relationship in the present, and the object of transference may be, for example, the therapist (Hadley, 2003; Bruscia 1998A; Pedersen, 2007).

Existential-Humanistic psychotherapists focus on the therapeutic relationship, and more importantly, the process of forming this relationship and the associated presence that exists within the existential-humanistic therapeutic encounter, which results in the therapy's goal (Corey, 2013; Schneider, 2011). Schneider (2011) also notes that "listening and guiding are pivotal to the deepening, expanding, and consolidating of substantive client transformation" (p. 270) in existential-humanistic practical situations. In existential therapy, a focus is given to

the client's experience in the moment, especially what goes on in the therapist-client interaction, therefore placing great importance on the therapeutic relationship (Corey, 2013).

Gestalt psychotherapy is a humanistic-experiential approach to psychotherapy and is strongly rooted in the philosophy of person-centred therapy, much like the existential-humanistic orientation (Bohart & Watson, 2011; Corey, 2013). While existential-humanistic psychotherapists focus on the therapeutic relationship, gestalt therapists place emphasis on awareness and contact with one's environment, implying that one who is in contact with their environment is better able to make productive decisions (Bohart & Watson, 2011; Corey, 2013). There is also an emphasis on growth, in gestalt therapy, rather than symptom relief or removal. This growth concept could result in therapeutic goals related to developing a client's resources to maintain a certain level of awareness and contact with the environment following the therapeutic process, in order to respond effectively to the environment in regard to choices or decisions they make (Bohart & Watson, 2011).

Cognitive therapy can be perceived as the bridge between psychodynamic psychotherapy and behavioural therapy, however the combination of cognitive therapy with behavioural therapy has become common practice in cognitive-behavioural therapy (CBT) (Dienes, Torres-Harding, Reinecke, Freeman & Sauer, 2011). Cognitive therapy focuses "on an individual's beliefs about the self, the world, and the future" (Dienes et al., 2011, p. 143), while behavioural therapy "focuses on learned behaviour that arises from responses to an individual's environment" (Dienes et al., 2011, p. 143). By linking the two therapies together in practice, CBT is able to target both abnormal thoughts and troublesome behaviours simultaneously (Dienes et al., 2011). There is still maintained a client-centred approach to therapy as with the other psychotherapeutic orientations. CBT places an emphasis on the causes and meanings of the individual's symptoms, as well as on understanding the environmental factors which may influence one's behaviours and symptoms (Dienes et al., 2011).

In the case of psychotherapeutic orientations and approaches for the treatment of patients with FND, one may see the case for an eclectic, or diverse application of these approaches, as well as the implementation of approaches suited to the individual needs of the client being treated. Seeing as the functional symptoms that one experiences may be thought of as learned defense

or coping mechanisms, it makes sense that the psychodynamic construct may be considered in treatment. The importance in the therapeutic relationship outlined within the Object Relations Theory of the psychodynamic orientation is further emphasized in the humanistic-existential orientation of psychotherapy. FND symptoms are functional in nature, meaning that the clients do not necessarily require a cure or complete relief of the symptom because they are still able to function. However, providing resources and tools to cope with the symptom becomes especially important in the case of FND clients, thus highlighting the possible implications for Gestalt-oriented approaches to psychotherapy. CBT is already a recommended treatment for FND patients, and one can see why. If the psychological conflict is what causes the experience of functional symptoms, the CBT would emphasize the understanding of what the sources of these underlying conflicts may be.

To add another dimension to the diverse range of psychotherapeutic orientations applicable for the treatment of patients with FND, applications of music and music therapy within a psychotherapeutic context will be discussed in the following subsection.

2.5.2 Music Therapy & Psychotherapy

The term, “music psychotherapy” will be used in this subsection, as it is referred to in the majority of the literature reviewed for this research. It is important to note, however, that the term “music psychotherapy” is seen as problematic in Finland due to the regulation and protection of the term “psychotherapy”. Though “music psychotherapy” is used as a term throughout the literature review, please note that the approach used in this particular case study will be referred to as a psychotherapeutically oriented approach to music therapy.

When we compare psychotherapy as a verbal experience (as outlined briefly above), with music psychotherapy, there are many commonalities and influences evident, however Bruscia (1998B), states the core foundation of this overlap as being the therapeutic relationship: that it is “within and through this relationship that the therapy process unfolds, and the client makes the necessary changes” (p. 214). Though the therapeutic interventions themselves may utilize different resources and media, verbal psychotherapy and music psychotherapy are unique in that the therapeutic relationship is what paves the way for changes to be made in the clients’ lives. It has been argued, though, that the therapeutic relationship built in music

psychotherapy is a more mutual relationship than that which exists in traditional verbal psychotherapy (Sheiby, 2005).

A main difference between traditional (verbal) psychotherapy and music psychotherapy, of course, is the music experience, which exists alongside the verbal interaction in music psychotherapy (Bruscia 1998B). The use of music is adaptable to the therapeutic situation, goals, and specific client needs, and ranges from work completed entirely with and through music, to work being done primarily through verbal exchange with music as a facilitator (Bruscia, 1998A; Bruscia, 1998B). This spectrum of the use of music and verbal discourse within music psychotherapy results in four main approaches, moving from transformative to insight orientations (Bruscia, 1998A; Bruscia, 1998B). The first two approaches on the spectrum are music as psychotherapy and music-centered psychotherapy, and can be described as transformative, or experiential, in nature because it is the music experience itself that generates change or progress towards the therapeutic goals (Bruscia, 1998A; Bruscia, 1998B). The last two approaches, music in psychotherapy and verbal psychotherapy with music, can be said to be the insight orientation end of the spectrum because the music experience is what leads to the awareness gained during the verbal mediation (Bruscia, 1998A; Bruscia, 1998B). These therapies are used when a client uses words as a medium to gain insight, and the music's role is to enhance or inspire the verbal work completed in therapy (Bruscia, 1998A). Leite (2014) refers to a proposed methodology by Mary Priestly which focuses on symbolic music making, "as a way to establish a nourishing, supportive relationship between therapist and patient. Within this relationship the patient comes into contact with unconscious emotional needs that may be satisfied by the therapist, thus promoting growth and creativity" (p.225). It is this creation of symbolic music material that represents the reconstructive process of the patient's self during a psychotherapeutic process (Leite, 2014).

The importance of the relationship within therapeutic work in music psychotherapy can be related back to the psychodynamic construct to psychotherapy, and object relations theory. As summarized in Hadley's (2003) book, music psychotherapy pioneer John Bowlby focused much of his work around attachment theory, emphasizing the importance of mother-child relations. Bowlby did not view human behaviour as individualistic, once again weighting the importance of the therapeutic relationship, in his views of human behaviour as cooperative

(Hadley, 2003). In regard to object relations theory, Bowlby compared the importance of maternal care in infancy and childhood and thought of it as just as important as the consumption of vitamins for one's physical health (Hadley, 2003). Hadley (2003), quoted Winnicott of the object relations school, stating:

We experience life in the area of transitional phenomena, in the exciting interweave of subjectivity and objective observation, and in an area that is intermediate between the inner reality of the individual and the shared reality of the world that is external to individuality (p.26).

From here, it's quite clear the position that the object relations theoretical orientation has within music psychotherapy. It is this intermediate area of experience, which Winnicott spoke of, is where humans are imaginative, and it is also the area crucial to the mother-infant bond (Hadley, 2003). This area of experience directly relates to the occurring interaction within music therapy because the psychotherapeutic interaction exists simultaneously in play and within the joint creation between client and therapist (Hadley, 2003). Hadley (2003), states that "if a client cannot play then it is up to the therapist to help create a safe environment in which the client can be brought to a state of being able to play, before psychotherapy can be done" (p.26). In order for cooperative behaviour to occur within the therapeutic relationship, and in order for the therapeutic relationship to reach the intermediate area of experience to simultaneously address free-play, imagination, and the therapeutic bond, it makes sense that the therapist must have a strong understanding both of the theoretical background of object relations, but also a deep understanding of their individual clients in order to establish the safe environment.

Perhaps the intermediate area between the inner and outer shared reality which Winnicott spoke of, is the same space Scheiby wrote about in her intersubjective approach to music therapy. Scheiby (2005), wrote of "a place where separation and connectedness exist simultaneously. It is a place where the client can listen to and connect with the unconscious as the music therapist is doing the same thing" (p. 9). The true cooperative nature and behaviour of the client and therapist is demonstrated in the above quote by Scheiby, allowing the therapist and client to experience an unconscious level of awareness and connection together, simultaneously, exhibiting the psychotherapeutic construct of countertransference. This element of the shared unconscious is what differs this approach to music psychotherapy from Priestly's symbolic music making as mentioned by Leite (2014). Scheiby further describes this space and state of *being*, "creating space and room for clients to *be* and to discover

themselves can sometimes best happen when the music therapist allows himself/herself to *be*”
(p. 9).

3 THE CURRENT STUDY

The current process is a single pilot case study. The study is based on the therapeutic process of one client diagnosed with FND who experienced dissociative symptoms, but also had much broader aims focused on developing a treatment protocol for therapists and other medical specialists who treat and diagnose people with FND. This pilot case study aims to integrate a recommended treatment intervention of psychotherapy for people with FND with interventions which have the potential to simultaneously address the patient's experience of physiological symptoms due to their diagnosis and/or the potential to pursue a deeper, more vivid level of work in psychotherapeutic interventions. The case study will explore how the implementation of a psychotherapeutically oriented approach to vibroacoustic therapy affects patients with functional neurological disorder and their individual experiences of physiological symptoms.

3.1 Purpose of the Inquiry

The inquiry for this study came from a rather simplistic place. That is, how would a mind-body treatment (vibroacoustic therapy) work as a treatment method for a client with a mind-body disorder (psychogenic/psychosomatic disorders)? Vibroacoustic therapy is a relatively young approach to music therapy, and the list of client populations which it has been deemed a beneficial treatment method continues to grow as more case studies and clinical trials are completed. Clients may experience physiological, psychological, and/or neurological effects following vibroacoustic treatment, and this speaks to the broad range of client populations which may benefit from the use of forms of low frequency sound stimulation in their treatment.

FND is a client population that has yet to be researched in the vibroacoustic therapy literature, to the best of the writer's knowledge, nor is it an area of focus within music therapy literature. Following a brief literature search, it was clear that the FND diagnosis and treatment procedures and processes were relatively unclear within healthcare, resulting in a strain on healthcare workers and patients through their frequent unresolved visits, and a significant economic impact on health care systems. Because of the broad range of functional symptoms

one may experience, the diagnosis of FND can be difficult. In addition, the disorder itself states that there is no medical pathology present which could explain or cause the functional symptom, which contributes to the possibility of a long and complicated process of diagnosis. Many people receive misdiagnoses or go years with no diagnosis and no answers to their symptoms. But if one is fortunate enough to eventually receive an accurate diagnosis, the struggle remains - who is responsible for treating that patient with FND? There seems to be a constant tag game between neurologists and psychiatrists of treating the physiological symptoms or treating the psychological conflict underlying the presentation of the functional symptoms. Perhaps the physiological symptoms and psychological conflict go hand in hand with each other, rather than one causing the other. Consequentially, the ideological crisis that occurs across the diagnosis and treatment processes of those with FND, translates into a treatment crisis of sorts, directly impacting the patients.

The purpose of the music therapy sessions was to provide the client with therapeutic interventions involving psychotherapeutically oriented approaches to vibroacoustic therapy and active music therapy, in order to address the clients' individualized needs in regard to their FND diagnosis.

3.2 Aims of the Study

Short term aims for the inquiry include the development of a treatment protocol, while maintaining the individualistic approach to therapy. This case study strives to design and follow a flexible model, while maintaining its clinical basis and relevance (Hunt & Legge, 2015). The protocol must also be flexible in order to sustain the individualized approach to therapy which the practice of music therapy is rooted in (Hunt & Legge, 2015). The researcher aims to test and trial suitable approaches and methods suitable to the client in this particular case in order to determine what kinds of approaches may be applicable and suitable for clients in future studies experiencing similar diagnoses and/or symptoms. The long-term aims of this study are to inspire larger-scale case studies, and perhaps clinical trials, to contribute a possible solution to the dilemma occurring in healthcare settings.

Another aim of this study is to highlight the importance of interdisciplinary collaboration and communication among healthcare specialists and professionals. Ideally, an increase in

collaboration and communication between professionals would result in a more confident and faster diagnostic process and treatment plan creation, thus providing answers for patients and avoiding the numerous referrals that currently exist, reducing the emotional strain on patients, and the resource strain on healthcare systems. Currently, a recommended diagnostic process involves interdisciplinary collaboration between neurologists and psychiatrists, and the treatment protocol takes this into account, maintaining the interdisciplinary nature from diagnosis to treatment, involving the music therapist or vibroacoustic practitioner.

Seeing as functional symptoms that one may experience range from physiological experiences to mental experiences, it is important that while the treatment protocol itself be consistent, that the therapist is flexible in the execution of individualized interventions. This may include the selected treatment program for the vibroacoustic treatment on the physioacoustic chair, and verbal and/or musical interventions to suit the individual, their needs, and the individual aims for the therapeutic process. Vibroacoustic therapy was chosen for the treatment protocol because of its proven effectiveness with aims related to both physiological and psychological needs (Punkanen & Ala-Ruona, 2012), thus providing a consistent and supposedly effective treatment to include in the protocol, but with enough flexibility within the treatment and its effects to suit the array of functional symptoms one may experience with FND. Utilizing a psychotherapeutic approach within the vibroacoustic therapy model was selected both to maintain a current recommended treatment option for FND (De Schipper et al., 2014), as well as to address the underlying or accompanying psychological conflicts that co-occur with FND (Ali et al., 2015; Cottencin, 2013).

4 METHOD

4.1 Overview of the Study

This thesis presents a pilot single case study and a proposed treatment protocol for treating clients with Functional Neurologic Disorder. Client referral was obtained from a neurologist at the local central hospital who had diagnosed the client with FND. Prior to beginning the therapeutic process, the client was able to ask questions and clarifications from the researcher (music therapist) and the supervisor. Questionnaires of HADS (Hospital Anxiety Depression Scale), MADRS (Montgomery-Åsberg Depression Rating Scale), RAND-36 (Quality of Life Inventory), and DES (Dissociative Experiences Scale) were completed at three testing points; prior to the first session of phase one, prior to the first session of phase two, and prior to the final session of phase two. VIBRAC Visual Analog Scale was completed pre- and post-vibroacoustic treatment at four points; beginning and end of phase one, and beginning and end of phase two.

A total of 20 one-hour long sessions were held at the Music Therapy Clinic for Research and Training, University of Jyväskylä. Phase one of the research comprised of roughly half of the sessions; sessions 1-7. There was a one-month washout period, followed by phase two; sessions 8-20. The general internal structure of sessions included a verbal check-in, vibroacoustic treatment with pre-recorded client-preferred music, verbal reflection and processing, active music making/improvisation for further processing, and closing.

Video data review, therapist's notes, clinical assessment, and clinical report, combined with questionnaire and visual analog scale feedback provided multiple perspectives of the client and the case as a whole, and also allowed evaluation of the individualized therapeutic techniques used in this case. In order to better conceptualize this case, an inductive content analysis was completed using the data from the therapist's session notes, clinical observations, as well as a review of the video and audio recordings. The case conceptualization was then triangulated with the therapeutic methodology to form a multifaceted view of the therapeutic process and its outcomes.

4.2 Setting and Context

The study took place at the Music Therapy Clinic for Research and Training at the University of Jyväskylä, Finland. The clinic is equipped with recording equipment that was used to record audio and visual (video) data for this case, which was stored securely at the Music Therapy Clinic for Research and Training in a locked facility. Four cameras are mounted on the ceiling of the clinic for recording video data, and eight mountable microphones are placed around the clinic for recording audio data. Cameras were controlled by Blackmagic Design software, and all video and audio data were recorded using Media Express Software.

The clinic is also set up as a typical music therapy setting, with a variety of instruments including piano, keyboard, drum set, guitars, xylophones, djembes, hand drums, and small percussive instruments. More electronic midi instruments include the malletkats and handsonic percussion pad. The clinic is also equipped with vibroacoustic therapy equipment including the Next Wave Physioacoustic Chair, which was used in this case. The backrest and footrest of the physioacoustic chair can be adjusted to the comfort of the client. Inside the chair are speakers at four points: lower legs, upper legs, lower back, and upper back. It is through these speakers that the low frequency sound is projected, producing the vibrations that the client feels.

4.2.1 Permission for the Study

Permission for the study was obtained prior to receiving the client referral from the Central Hospital in Jyväskylä by the Keski-Suomen Sairaanhoidopiiri (Central Finland Hospital District). The referred client provided consent for the study and video/audio recording of the data by reading and signing the informed consent document, which was written based on the recommendations and requirements of such documents by the University of Jyväskylä.

4.2.2 Clinical Referral

The referral for the client studied in this case was received from a clinical neurologist of the neurological rehabilitation and acute ward of the Central Hospital in Jyväskylä, Finland. Prior to applying for permission for the study, a meeting was arranged with the researcher, supervisor and clinical neurologist to discuss the hospital's current diagnosing procedure for

FND patients, general concerns of the neurologist in regard to this patient population, as well as the researcher's initial study design.

4.3 Participant

To maintain strict confidentiality, the pseudonym of Mariana will be used to describe the client for this case. Mariana is a 26-year-old female who lives in central Finland. Mariana was enrolled in a course during the time of the first phase of the case and was employed part time during the time of the second phase. Mariana was diagnosed with FND following consultation with a neurologist at the Jyväskylä Central Hospital after being taken to the emergency room via ambulance presenting with loss of consciousness, paralysis, and seizure-like activity. Prior to this medical occurrence, Mariana had visited the hospital on two other occasions within the past two years. Most recently presenting with severe weakness/partial paralysis on the left side of her body, and once before that, again with seizure-like activity. The first attack occurred three years ago.

Following her most recent visit to the hospital, she was assessed by the head of the neurorehabilitation and acute ward along with a hospital psychiatrist, resulting in the diagnosis of FND. Prior to beginning vibroacoustic therapy, Mariana had been receiving cognitive psychotherapy sessions for approximately two years.

4.4 Materials

4.4.1 Clinical Assessment

Assessment was completed throughout the first five music therapy sessions. The music therapist used the Music Psychotherapy Assessment (Loewy, 2000), which is an assessment model that assesses 13 different areas of inquiry. These points of inquiry have means of assessment in the psychotherapeutic realm and are also applicable in assessing aspects of the self through musical assessment. A complete list of the areas of inquiry and means of the assessment can be seen in Table 1.

TABLE 1: Music Psychotherapy Assessment Areas of Inquiry (Loewy, 2000, p. 49)

13 Areas of Inquiry

Areas of Inquiry	Qualitative Means
Awareness of self, others & of the moment	Musical, verbal, nonverbal reflection
Thematic Expression	Instrument, song choice, quality & style of singing and playing
Listening	Receptivity, ability to hear others
Performing	Speaking, playing, singing alone
Collaboration/Relationship	Willingness to interact in activity together, quality of expressing with others
Concentration	Ability to focus in and out of the music
Range of Affect	Qualities of expression, variety of moods & themes, dynamic variance
Investment/Motivation	Willingness to build musical experience or conversation, sustaining involvement in the musical-verbal dialogue
Use of Structure	Reaction to space-boundaries, adherence/resistance to formatted themes vs. free improvisation
Integration	How forms (music, words, feelings, songs, thoughts) are put together
Self-Esteem	Evaluation of the created themes-taping
Risk Taking	Experimenting, trying something new, playing alone & together w/others
Independence	Ability to separate self/others – musically & verbally

Loewy (2000) mentions that a crucial aspect of the music psychotherapy assessment is assessing elements with and without structure. “How a person responds to a structured piece of music or a spontaneous, non-structured improvisation may reveal a great deal about the dynamics of his/her relationship with the self as well as with others.” (Loewy, 2000, p. 49). These structured and unstructured musical experiences are opportunities and openings provided by the therapist, to explore sounds and music both independently and collaboratively, and are used in the initial assessment phase to better understand the client’s physical, psychological, and spiritual functioning (Loewy, 2000).

The 13 areas of inquiry can be further divided into four subgroups, outlined in the figure below. Under subgroup A, are items pertaining to relationship and relational aspects, and assess the client’s sense of aloneness and togetherness (Loewy, 2000). Integrating these areas of inquiry into one’s everyday life functionality is an integral part of therapy – helping a person adapt to reality (Loewy, 2000). Subgroup B, dynamics, are items which focus on “the way one chooses to express or resist expression to achieve or fulfill unmet wants or needs” (Loewy, 2000, p. 51). Expression may be assessed through verbal, nonverbal, and musical expression on behalf of the client. Loewy (2000) also highlights the difference between music performance and music therapy in her assessment, and what the therapist can read within the music during a therapeutic interaction: “through music the therapist observes and attends to how a patient utilizes energy. Forces of constructive or deconstructive energy can emerge through music making and are critical in helping the therapist (and patient, when appropriate)

perceive conflicts” (p. 51), pointing out the important relational information a therapist can gather in a nonverbal interaction in music.

Subgroup C, achievement, assesses the client’s ability to acknowledge their inner strength or potential, and the capacity at which they hold that function (Loewy, 2000). To assess these inquiries, Loewy (2000) calls on Carl Roger’s concept of human potential and the ideal self, and proposes that in music, “the way the therapist musically seeks to ‘frame’ a client’s music gives credence to the notion that creating music has healing possibilities” (p. 52). The technique of framing is crucial to assessing the client, because it requires minimal intervention by the therapist, and allows the client to be completely active in the improvisation, thus allowing the therapist to assess the client’s intention, potential, and trust (Loewy, 2000). Subgroup D assesses the client’s cognitive function. This includes aspects of conception and expression, focus and concentration, as well as how the client integrates or connects these aspects of their cognitive abilities in different situations (Loewy, 2000). During assessment, a therapist can note the client’s level of focus in verbal and nonverbal situations, as well as how well the client is able to integrate or connect feelings or thoughts by using music (Loewy, 2000). The therapist may assess which developmental stage of cognition applies to the client, and better individualize future musical interventions to the client. Piaget’s final stage of cognition, formal operational thinking, relates to the metaphorical use of music by a therapist. “Songs, improvisations and compositional experiences help solidify emotional experience through symbolic representation” (Loewy, 2000, p. 53). This allows the therapist to work on a symbolic level, knowing that the client is cognitively able to make connections, and integrate the concepts.

4.4.2 Pre-Recorded Music

During the vibroacoustic treatment, music was played to accompany the treatment. This music was pre-recorded and was selected by the music therapist based on the client’s preferred music. During the music therapy assessment, the music therapist asked the client her preferred music to listen to when relaxing, and the client’s response was classical music, piano music, and music by Chopin. Aside from one session when the client requested to listen to reggae music during her vibroacoustic treatment, all other treatments were accompanied by instrumental classical music, or instrumental music from the Romantic era.

4.4.3 Live Music

Clinical improvisation was used to process thoughts, images, emotions and/or memories that arose during the vibroacoustic treatment. Defined by Wigram (2004), clinical improvisation is, “the use of musical improvisation in an environment of trust and support established to meet the needs of clients” (p. 37). Clinical improvisations may be referential (in reference to something or someone), or non-referential. Instruments used by the music therapist and the client throughout the therapeutic process included djembe, bass hand drum, electronic keyboard, ocean drum, xylophone, malletkat, and hand sonic. During phase two of the therapeutic process, clinical improvisations were recorded using the therapist’s iPhone 6S using the voice memos application. Recordings were edited for clarity using Garageband and compiled in a playlist in iTunes to share with the client upon the therapy’s closure.

4.4.4 Questionnaires & Scales

A total of four types of questionnaires and one type of visual analog scale were used in this study. Questionnaires were selected based on common comorbidities to FND including anxiety and depression, as well as the knowledge of the client’s functional dissociative symptoms, received in the clinical referral. Questionnaires used were the Hospital Anxiety and Depression Scale (HADS) (Zigmond & Snaith, 1983), Montgomery-Åsberg Depression Rating Scale (MADRS) (Montgomery & Åsberg, 1979), RAND-36 Quality of Life Inventory (Aalto, Aro & Teperi, 1999), and Dissociative Experiences Scale (DES) (Putnam, Carlson, Chu & Dill, 1992).

The HADS has 14 items total, with 7 items assessing anxiety and 7 items assessing depression (Zsigmond & Snaith, 1983). Each item requests the patient to select one of the four responses that is most applicable to their situation. Each response corresponds with a numbered score, and the final scores are determined by adding the results for all depression items and anxiety items separately, resulting in a total depression score as well as a total anxiety score (Zsigmond & Snaith, 1983). The MADRS is a 10-item scale completed by the therapist following a semi-structured interview with the patient. The ratings completed by the therapist each correspond to numbered scores which are then added to result in the final MADRS score (Montgomery & Åsberg, 1979). RAND-36 is a health-related quality of life measure that provides 8 index scores under 2 dimensions of physical and mental health

(Aalto, Aro & Taperi, 1999; Hays & Morales, 2001). To score the RAND-36, the 36 items are transformed to a 0-100 possible range and then each item within common scales are averaged together, resulting in the 8 index scores (Hays & Morales, 2001). The DES is a 28-item self-report questionnaire completed by the patient. Within the DES are three subscales that measure different aspects of dissociative experiences; absorption/imaginative involvement, amnesic, and depersonalization/derealization (Maaranen, 2008). Each item asks the patient to evaluate how often certain experiences happen to them between 0% of the time and 100% of the time, by 10 % increments. The scores are then averaged to determine the final DES score. It is important to note that this is not a diagnostic resource, however it provides a clear picture of the patient's pathological and/or nonpathological experiences of dissociative symptoms (Maaranen, 2008).

All questionnaires and the interview for the MADRS were completed in the client's native language of Finnish by the supervisor of this study. These questionnaires were completed at three points over the therapeutic process – prior to the first session, following the one-month washout period (beginning phase two), and at the end of the therapeutic process, immediately before the final session. The visual analog scale used in this study was the data collection visual analog scale by VIBRAC Skille-Lehikoinen Centre for Vibroacoustic Therapy and Research. The visual analog scale was completed pre and post vibroacoustic treatment at the beginnings and ends of phases one and two. Scores for the individual items of the visual analog scales are compiled by measuring the marking on the 100 mm line, and subtracting the difference between the pre- and post-treatment scores.

4.5 Design of the Study

In order to explore the implications of the use of a psychotherapeutic approach to vibroacoustic therapy with patients with functional neurological symptom disorder, a single case study was implemented. This pilot case study consisted of hour-long sessions, twice a week, for 10 weeks, for a total of 20 sessions beginning in November 2017. Phase one of treatment, comprised of 7 sessions, and took place from November 16 – December 14, 2017. Following phase one was a one-month washout period, with phase two of treatment beginning on January 18, and continuing to March 8, 2018. The washout period was included to accommodate holiday schedules as well as to monitor any prolonged effects of phase one of

the therapeutic process. Questionnaires were administered prior to the first session of phase one, prior to the first session of phase two, and prior to the last session of phase two. Visual analog scales were administered before and after the vibroacoustic treatment on the second session and last session of phase one, and before and after the vibroacoustic treatment of the first and last sessions of phase two. A diagram with a clearer depiction of the study design, along with external therapeutic procedures can be seen below, in Figure 1.

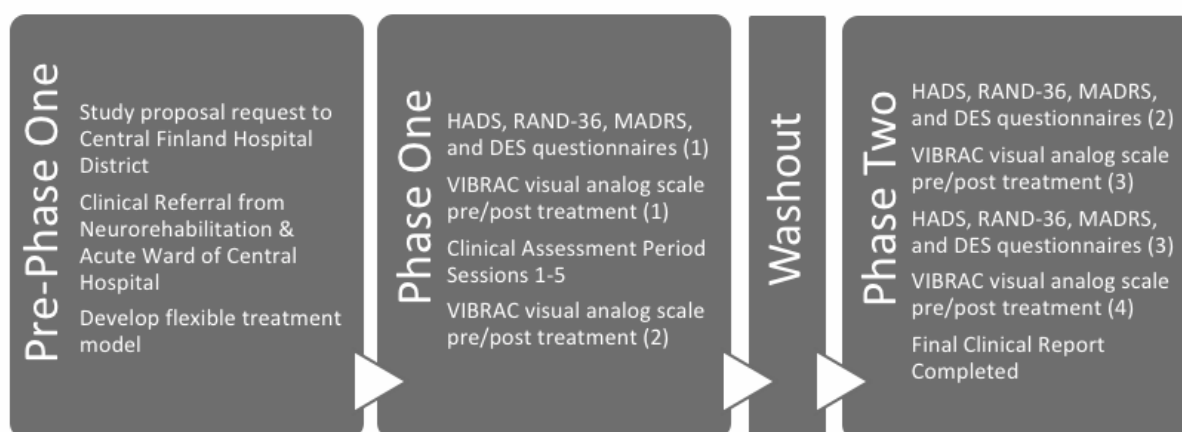


FIGURE 1. Study design.

4.5.1 External Therapeutic Procedure

The overarching structure of the therapeutic process was divided into three main sections: assessment period, working period, and closure period. The Music Psychotherapy Assessment (Loewy, 2000) was completed during the assessment period, using the music therapist's clinical observations and active assessment interventions from the first five music therapy sessions. At the conclusion of the assessment period, the therapeutic aims and objectives for the client were established based on the completed assessment. The music therapist and client worked toward these clinical aims throughout the working period, which is the largest portion of the therapeutic process. To offer sufficient closure for the client (and the music therapist), the final four sessions were dedicated to providing closure to the therapeutic relationship, as well as the various themes that developed throughout the process. The overall structure of the external therapeutic procedure is outlined below in Figure 2.

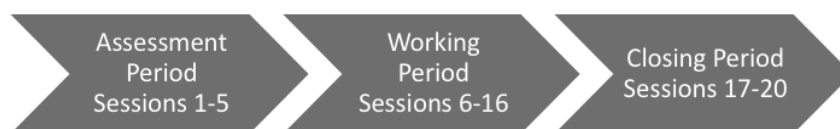


FIGURE 2. Structure of the therapeutic process, outlining the 20 sessions.

4.5.2 Internal Therapeutic Procedure

The structure of each individual session was kept consistent throughout the therapeutic process. The consistency from session to session is important to offer the client a sense of familiarity and comfort even though aspects or dynamics within the therapy may change from session to session such as the therapeutic relationship development, progress towards aims, etc. Each session began with a brief verbal check-in with the client. It was during this time that the client would be free to inform the therapist of any significant happenings since the previous session, any processing that the client had done between sessions, experience of physiological symptoms between sessions (if any), and/or anything that the client felt the need to discuss with the therapist at the beginning of the session. The therapist would take this time to briefly assess the client's current state (physically and psychologically) and take this assessment into account for the remainder of the session, making appropriate changes to the program selected for the vibroacoustic treatment, the music selected to accompany the vibroacoustic treatment, and how to appropriately transition and guide the client into the vibroacoustic treatment.

The vibroacoustic treatment took place on the Next Wave Physioacoustic Chair, with accompanying computer software to select and monitor the treatment programs. Treatment programs chosen for this therapeutic process were all soft/non-activating – relaxation and insomnia. These programs were each 20 minutes in length, and had varying intensities, with programs centering around 40 Hz. Client preferred music was played in the background for the duration of the vibroacoustic treatment using the clinic's sound system and mounted speakers. The music was selected not only to be suited to the client's preferences, but also to lend to the relaxing program itself. Thus, the therapist selected music from the classical and romantic eras with relatively slow tempos, no drastic or rapid changes in tempo or dynamic, instruments with a soft timbre, and music that was relatively safe and predictable in nature.

Following the vibroacoustic treatment, the client would reflect to the music therapist about her experience. Following the client's free reflection, the therapist would provide any intervention to ensure the client's feeling of safety and comfort, and to guide the client to the present state (if needed). The therapist ensured that all areas of experiences on the cognitive, symbolic, emotional, and sensorimotor levels were processed, by discussing the client's experience of thoughts, images, memories, bodily sensations, and/or emotions during the treatment (Punkanen & Ala-Ruona, 2012). After this second level reflection discussion with the therapist, the therapist would once again provide any intervention to ensure the client's feeling of safety, comfort and orientation to the present (if needed).

The processing of the thoughts, images, memories, bodily sensations, and/or emotions was done using various verbal and musical interventions. These interventions were psychotherapeutic in nature and addressed the present experiences and state of the client, while simultaneously contributing to the overarching therapeutic aims and objectives. For this case, the active music intervention used throughout the therapeutic process was clinical improvisation. Following the processing portion of the music therapy session, the session would conclude with a brief period of closure, to wrap up the day's themes, recap the process, and leave the session looking to the future. This is important to the session's structure to ensure the client is leaving in a comfortable and safe state, looking ahead to the next session. The outline of the internal structure of sessions was defined prior to the beginning of this case. Though the originally established outline remained unchanged for this particular case and individual client, the internal flexibility remained, in order to suit the client's individual needs as the therapy progressed. An outline of the session procedure can be seen in Figure 3.

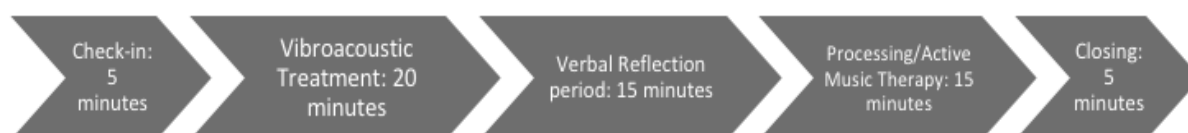


FIGURE 3. Outline of music therapy session procedure.

5 CASE STUDY

The following section presents the written case study of the therapeutic process between Mariana and the music therapist. The therapeutic process consisted of 20 one-hour long sessions, with sessions occurring twice per week, at the Music Therapy Clinic for Research and Training, at the University of Jyväskylä.

Throughout the therapeutic process, there were three overarching themes that developed in all three chapters. First, Mariana's experiences of depersonalization and derealization during the vibroacoustic treatment which played a significant role in her development of feelings of safety and comfort within music therapy sessions, as well as its influence in her experience of these functional symptoms outside of therapy – and being able to integrate the same feelings of safety in everyday situations. The second developing theme is Mariana's interpersonal and intrapersonal relationship development. Mariana was self-aware in the fact that she could identify relationships in her life – past and present – that were unhealthy. By identifying qualities and characteristics she found desirable in other people and in her relationships, this opened the door to discovering and exploring her relationships with different aspects of her Self, aiming to integrate these aspects as much as possible. Lastly, the important theme of using music on a symbolic level was a gradual journey for Mariana, tightly related to her levels of self-confidence. As Mariana's self-confidence increased with the therapeutic relationship development, so too did her comfort with active music making, and she was able to develop her own strategy of symbolic music making to tell stories of her past, present, and future Selves.

5.1 Music Psychotherapy Assessment

The music psychotherapy assessment (Loewy, 2000) for Mariana was completed by the music therapist following the first five sessions, between November 16 and December 5, 2017. (See appendix A). Assessment of the relationship subgroup (items 1, 3, 5, 13) showed that Mariana had strong skills in verbal communication and reflection. The therapist noted that while she demonstrated independent behavior through her verbal reflection skills, she lacked confidence

in otherwise independent tasks in therapy. This lack of confidence often overshadowed her willingness and enthusiasm to try new interactive activities with the therapist, and this also affected her ability to effectively and accurately express an emotion or image on a symbolic level using music during an improvisation. At the point of initial assessment, Mariana had yet to express satisfaction with what she had produced musically during a clinical improvisation, though she had begun to verbally describe the qualities of sounds and characteristics of music she would like to produce.

During the assessment period, Mariana was not receptive to the therapist's musical (and sometimes verbal) suggestions to transition musically to a different musical character and did not respond to the therapist's musical cues in attempt to expand the melodic and dynamic range of her playing. Though her melody or dynamics would remain in a narrow range, she did demonstrate her awareness of the therapist's presence through mimicking some of the therapist's playing techniques such as rubbing the drum or tapping the drum with fingers. Mariana was easily able to recall her level of awareness following the vibroacoustic treatment, and commented on quite a reflective level, her thoughts, images, memories, bodily sensations and emotions she experienced. During the assessment period, there were three occasions that her awareness of reality shifted, and she described her experience of some depersonalization and derealization symptoms during the vibroacoustic treatment.

Assessment of Subgroup B, dynamics (items 2, 7, 4, 9), showed a strong dynamic within the therapeutic relationship as shown through her maintenance of appropriate boundaries within sessions. However, this dynamic differed within the active musical setting during therapy. The therapist noted Mariana's initial reaction to active music making as a freeze response to the djembe instrument. Mariana was extremely hesitant when the music therapist invited her to explore sounds on the djembe drum, and her anxiety markedly increased to the point of freezing. Mariana admitted that there was something blocking her from playing the djembe, and she reflected that it was probably due to the instrument itself and/or her perfectionist personality. Mariana's perfectionism may also have lent to the hesitation and critical attitude seen in other clinical improvisatory settings and may also be related to her low self-confidence. The assessment noted that Mariana had not presented a variety of moods, and that themes presented in verbal conversation and reflection had been quite consistent, as was her thematic material, musically. The themes presented in verbal conversation were centered

around relationships, values and qualities within relationships, and personal values/qualities within people.

Assessment of subgroup C, achievement (items 8, 11, 12), showed that Mariana had a low level of self-esteem and this was reflected through her hesitant and self-critical nature during clinical improvisations. As mentioned in subgroup A, Mariana demonstrated a strong sense of willingness to build on conversation and participated in verbal interactions with the therapist quite openly and enthusiastically. Her willingness to try musical interventions existed but she did not show willingness to build further on a musical experience, as shown through her difficulty in sustaining musical dialogue for an extended period of time, with most improvisations lasting less than two minutes.

Cognition was assessed in subgroup D (items 6, 10). The music therapist noted in the assessment that Mariana's direction of focus was on the sounds being produced, rather than the referential material itself due to her self-criticisms causing her concern to produce proper/perfect sounds on the instrument. In forming music, it was observed that Mariana often played repetitive, short phrases within a small melodic and dynamic range of the instrument she was playing, and she did not develop these forms into new and/or contrasting ideas. Outside of music, she maintained excellent focus, and did not become distracted during conversation or verbal interaction. During the vibroacoustic treatment, she was able to focus her mind on certain images or feelings as she pleased and was able to apply these in her reflections with the therapist. When reflecting on her experience during the vibroacoustic treatment, Mariana often spoke of the events chronologically, and was able to reflect on the events on a deeper level following verbal intervention by the therapist.

Following the completion of clinical assessment using the Music Psychotherapy Assessment (Loewy, 2000), the therapeutic aims and objectives for the client were established. The therapeutic aims and objectives for Mariana were as follows:

1. To reduce client's subjective levels of anxiety.
 - a. By selecting relaxing programs for the vibroacoustic treatment.
 - b. By providing verbal support as needed during reflection of the client's experience during the vibroacoustic treatment.
 - c. By providing a calm, safe, and stable space in therapy sessions.

2. To develop effective coping tools and strategies for situations in which anxiety levels are high and/or the client begins to lose her sense of control.
 - a. By identifying everyday situations that may trigger a loss of control or high anxiety.
 - b. By verbally taking apart a situation or occurrence to identify thoughts, images, memories, bodily sensations, and/or emotions associated with the occurrence.
 - c. By working with the broken-down components of a situation, either verbally or musically through active music making, and if necessary, change the perspective or view point.
3. To increase client's level of comfort in existing and new relationships.
 - a. By identifying factors that create a relationship, and which factors are admirable/not admirable.
 - b. By looking at past relationships, either of her own or her observed relationships, and identifying the qualities/factors present in healthy and unhealthy relationships.
 - c. By offering multiple perspectives to view people – past and present.
 - d. By further defining admirable qualities through active music making and improvisation.
 - e. By further exploring past and present relationships through active music making and improvisation.
4. To increase client's level of musical independence and confidence in self-expression, while relating these factors to the client's everyday life.
 - a. By providing a safe and supportive space.
 - b. By providing verbal and musical support and encouragement for the client.
 - c. By providing structural elements in an improvisation, including references or themes (such as everyday life situations or emotions).

5.2 Clinical Stance

The music therapist in this case has a theoretical orientation that is eclectic in nature, drawing from multiple approaches and methods as needed by the client. Primarily, the music therapist's approach is a client centered approach to music centered psychotherapy. The music therapist is influenced by her undergraduate education in Canada which was strongly influenced by philosophies of music centered psychotherapy and creative music therapy. The music therapist's stance was further influenced by her graduate education, which focuses primarily on psychiatric and neurological perspectives of music psychotherapy. Education and practice in a second country has provided the music therapist with a broader picture of psychotherapy and music therapy in multiple settings working with various cultures, and these diverse experiences in education and practice have strongly influenced her clinical stance and identity as a music therapist.

5.3 Process

The following case study will be presented in three chapters. The first chapter occurs entirely in research phase one (pre-washout) as outlined in the above therapeutic procedure, and the final two chapters are divided between research phase two (post-washout).

5.3.1 Chapter 1 (Sessions 1 – 7)

The initial sessions introduced Mariana to vibroacoustic treatment, as well as the idea of active music therapy through clinical improvisation. Mariana also introduced themes that would be the basis of much of the work done throughout the therapeutic process, as well as shed some light on her experiences with dissociative symptoms. Mariana's levels of discomfort and anxiety were clear during the first four sessions, as observed in her body language. Aside from providing the non-activating programs during the vibroacoustic treatment, the music therapist made sure to create a calm and supportive environment for Mariana by providing information and answering any of her questions or concerns she expressed regarding the process. The therapist sensed early in the process that Mariana would work best with an open and reciprocal relationship with repeated reassurance and accolade from the therapist to increase and maintain the client's confidence in the therapeutic process, within the therapeutic relationship, as well as within herself.

It was during the second session that Mariana first experienced some depersonalization and derealization functional symptoms during therapy. She explained that these symptoms occurred close to the end of the vibroacoustic treatment and described feeling as though everything in the room was close to her, but simultaneously far away, and she heard the music as if it was playing in another room. She felt herself as an observer outside of her body but did not see herself in the room. When asked if she had experienced this sensation before, she stated that it occasionally happens when she closes her eyes or when she is in a dark room, and that sometimes it causes her anxiety and panic, to the point that she has to turn on the light in the room. She also recalled experiencing the feelings of depersonalization and derealization prior to her most recent attack of paralysis. Mariana's usual reaction to these dissociative symptoms are to ignore and avoid the feelings because of the anxiety and panic it can cause, as well as because of the negative association with her most recent experience of

paralysis connected with the symptom now. The therapist observed no discomfort or panic on the part of the client during the vibroacoustic treatment. It is interesting to note that upon reflection with the therapist, the client stated that her experience of the dissociation during the vibroacoustic treatment was not negative, as it had been before. She expressed that she didn't feel the need to avoid the sensation and was able to explore it further because of the safety she felt with the music therapist.

Mariana experienced these dissociative symptoms of depersonalization and derealization twice more during the music therapy assessment period – during sessions four and five. These feelings became fairly regular throughout the therapeutic process. The symptoms usually occurred close to the end of the 20-minute vibroacoustic treatment, but after the experience of the symptoms during the fifth session, Mariana noticed that the sensation wasn't as clear or severe anymore. She described the ability and desire to actively explore the different aspects of the sensation when it occurred, and by doing that she was able to detach the feelings of anxiety and panic from their connection with the depersonalization and derealization. Late in the first chapter, Mariana shared that she had been able to apply this new positive association with the symptoms outside of the therapeutic setting, and she no longer felt the severe anxiety and panic when experiencing these dissociative symptoms in everyday life situations.

It was also during the second session that Mariana shared with the therapist her experience of dissociative amnesia. The first piece of music played to accompany the vibroacoustic treatment during the second session was *Danse Sacrée* by Debussy, and the therapist noted that a slight smile showed on Mariana's face when the harp entered the piece of music. During reflection, Mariana stated that the harp prompted her imagery and memories of a family friend who played harp. She had the memory of travelling as a child with her family to see a small concert featuring their friend. It was clear during her reflection that she was incredibly touched to have experienced this memory, and she stated that it was a very positive experience for her; to experience this memory that she didn't know she had. She shared with the therapist that the memory of attending the harp concert with her family is probably her first memory because she was around ten years old at the time, and she doesn't have any memory of her childhood before the age of ten.

With the childhood memory came a focus on the importance of her relationship with her stepfather (who she refers to as her father), who had passed away six years ago, as well as the importance of his relationship with Mariana's mother. When asked to describe the fundamental qualities of her mother and stepfather's relationship, Mariana stated loyalty, respect, honesty and humour. Mariana looks for these qualities in people she has/had relationships with and has been able to find some of these characteristics in two of her close friends. During the fifth session, Mariana expressed her view of family, and the qualities that exist in her sense of family – sincerity and respect. She was not able to explicitly own those qualities as her own but did state that the values must be reciprocal in her relationships. The music therapist realized the importance of emphasizing the qualities and strengths that Mariana held, with the aim that Mariana's intrapersonal relationship would improve to the point of the ability of identifying qualities of her own Self. This would be done by introducing Mariana to various techniques to view events, relationships, thoughts, etc. from different perspectives and encouraging intrapersonal reflection.

During the third session, Mariana opened up about a negative relationship in her life. Though she had experienced positive imagery during the vibroacoustic treatment, she had persistent thoughts of her ex-boyfriend's unfaithful tendencies in their relationship. She expressed that his verbal abusive tendencies had reduced her own perception of her womanhood values to almost nothing, and that she was finding it difficult to continue with strength. There was a lot of anger expressed during her reflection of this relationship, but Mariana was placing a lot of the anger on herself, primarily as disappointment. Later in this chapter of the therapeutic process, Mariana stated that a goal for herself was to identify these specific traits, and to listen to these "warning alarms" in new and existing relationships. Rather than only caution to potentially negative characteristics (hearing "false" alarms), the music therapist worked with Mariana to transform this goal into being better able to identify idealistic, toxic, positive and negative traits and characteristics within others and also within herself and her current relationships.

The therapist learned that the positive imagery that Mariana had experienced while simultaneously having these negative thoughts was the image of her safe space, which she had previously established with her psychotherapist. The safe space image is of a beach in her home town, and during this session, she experienced the image both in the summertime and

during the winter. When describing the beach in both seasons, she was able to describe on a multisensory level how she experienced the image. With Mariana's description of both the positive imagery experience with negative thoughts, it's difficult to say whether the image of the safe space occurred as a reaction to the negative thoughts, or if the two events were unrelated.

As mentioned, the therapist did not note any signs of discomfort, striking body movements/reactions, facial expressions, or other physiological changes during the vibroacoustic treatments. During the first four sessions, Mariana expressed after the treatment that she felt some painful sensation at the back of her head, by the top of her neck. She described the pain she felt as pressure-like. She also experienced the feeling of a lump in her throat. The therapist ensured with the client that this was not the feeling of nausea, and upon reflection, this may have been caused due to an emotional link, or physiologically, it could be due to the change in blood pressure, which is possible during vibroacoustic treatment. During session five, the therapist provided a neck pillow to serve as a barrier between the client's neck/head and the speaker located at the top of the chair. The pillow offered a solution for the client's pain, and she continued to use it for the remainder of sessions. Throughout the first chapter, Mariana also occasionally experienced functional weakness – once on the left side of her abdomen, and the other times on her hands, arms, or legs. She described the feeling of losing strength and/or losing feeling of these parts. This sensation did not have a prolonged effect outside the vibroacoustic treatment during sessions.

Musically, interventions were implemented to process some of the themes and images brought up by Mariana, as well as to ease some of her tension and hesitation in order to improve her relationship and comfort with making music with the therapist. During the first session, it was evident that Mariana was not comfortable in active music therapy situations. Mariana eventually made a few short attempts to copy the therapist's invitations to play, with techniques such as rubbing the drum and tapping with fingers. The client and therapist found common ground in rubbing their drums in synchrony, but as the therapist introduced a slow and simple 4/4 beat, Mariana's block appeared again, and despite the therapist's verbal and musical invitations and prompts, she was only able to tap or brush the top of the drum for one or two measures.

Because of this reaction and resistance to djembes, the music therapist did not introduce any similar percussive instruments for the rest of chapter one. Other instruments introduced were the keyboard, xylophone, and ocean drum. In order to allow Mariana to have a more positive association with music making, active music therapy interventions were focused on exploring positive aspects or perspectives that Mariana reflected following the vibroacoustic treatment. Though she still exhibited hesitation and some discomfort during improvisations, Mariana's comfort with making music collaboratively with the therapist increased throughout chapter one. When improvising about the positive feelings associated with her childhood memory of her family at the harp concert, she was able to further explore the memory while actively playing the xylophone with the therapist and commented after, that she liked the sound of the improvisation because it sounded peaceful. Elaborating, "when I had my stepfather in my life, it was very peaceful and safe". The improvisation was in the pentatonic mode, and the therapist's playing provided a steady pedal tone in the bass of the xylophone, while primarily playing in rhythmic unison with Mariana in order to harmonize her notes.

An improvisation with Mariana playing the ocean drum and the therapist playing the keyboard, provided a musical backdrop to Mariana's safe space. This improvisation took place in session three, and even though it was a resonant percussion instrument, Mariana seemed the most comfortable during this improvisation. She maintained a downward gaze to watch the beads move on the inside of the ocean drum, but her playing was consistent and uninterrupted throughout the improvisation, and she allowed the improvisation to come to a natural close rather than ending it abruptly as she had done in other improvisations. The music therapist used the keyboard, using a rocking motion in the bass to ground the sounds of Mariana's playing on the ocean drum. The music therapist's improvisation rocked between E flat, A flat, and C minor chords, with $\wedge 4$ and $\wedge 6$ suspensions. Though using elements such as suspensions and deceptive cadences, the therapist made sure to provide sufficient elements of resolution in order to maintain the safe and secure association with the image that existed already. With Mariana's expression of gratitude and satisfaction with the soundtrack to her safe place, the therapist offered it to her as a resource that would be available to her throughout the therapeutic process whenever she needed it, at her request.

Other musical interventions were introduced to further explore the qualities and characteristics of people and within relationships which were brought up quite often during

the first chapter. Initially these were difficult themes for Mariana to express and explore using music. Even though she frequently stopped playing during improvisations and expressing her dissatisfaction with the sounds she was producing, she developed the ability to verbally describe the types of sounds that she would associate with qualities such as stability and trust.

5.3.2 Chapter Two: Sessions 8-10 (The turning point)

Chapter two began after the washout period, beginning phase two of the research schedule. Though chapter two comprises of just the first three sessions following the washout period, it represents a significant turning point in the therapeutic process. Discussion was surrounded around Mariana's reflections throughout the washout period. She described many changes she had implemented into her daily routine to move towards her personal goal of a healthier mind and outlook. These strategies included exercise, mindfulness training, and breathing exercises. She expressed that she was beginning to be able to sense within herself the positive changes as a result of the new routines and was gradually becoming aware of everyday situations when applying any of these strategies would help her resolve or improve feelings of anxiety, for example. This new-found level of self-awareness was the foundation to inspire the work for the remainder of the therapeutic process. The therapist noticed her improved ability to reflect and analyze her thoughts and experiences from multiple perspectives; both inside and outside of sessions.

During session ten, Mariana brought up a personal goal of emotional independence. This was significant to the therapeutic process because it was the first time she had brought up a personal goal that she had not yet brought up in her sessions with her psychotherapist. It was also important to note that by sharing this personal goal, and by discovering that she struggled with being alone, that Mariana had reached a much deeper level of self-reflection and a stronger intrapersonal relationship since beginning music therapy sessions. She expressed that by not having anything or anyone to distract her from her own emotions on a daily basis, she was forced to stay in a "hole" of negative emotions and learn new strategies to climb out and carry on. The therapist initiated a discussion following this reflection to prompt Mariana to identify her sources of strength that she could use to get herself out of the hole of negativity, and it was established by the end of the discussion that a sense of strength exists within

feeling vulnerable, as one does when acknowledging one's own negative emotions and feelings.

To musically intervene, the therapist discussed with Mariana the option to be placed in a musically vulnerable place once more – with the djembe, which had caused the block, or freeze response during the first session. With reassurance of her sense of safety with the therapist, as well as acknowledgement of her progress within the therapeutic setting, Mariana agreed to use the djembe for an improvisation with the music therapist, who also played djembe. The suggested reference for the improvisation was to play the feelings and emotions of vulnerability, but to find strength in that, and play what it sounded like climbing out of the hole she had spoken about. The improvisation had range dynamically and temporally for the first time during the therapeutic process. Though she admitted to being nervous at first, Mariana exhibited no hesitation in beginning the improvisation, and did not stop playing until the improvisation's natural end. Mariana stopped the improvisation verbally, when it was observed that the intensity and dynamics had reached a maximum tolerance level for her. Mariana expressed her pride, that she had, in a sense, conquered the block that had caused her to freeze during the first session. This conquering of the block provided Mariana with a great level of confidence both in her intrapersonal reflection skills, as well as her ability to use music effectively to express herself and conquer other possible blocks in her life.

5.3.3 Chapter Three: Sessions 11-20

The remainder of the therapeutic process was markedly different with the absence of the block, and work was done on a symbolic or metaphoric level to build on previous themes that had arisen in the first half of therapy. Mariana formed the image of a hallway during session eleven, and the image developed and transformed as sessions progressed. The hallway was initially described as a representation for the path she was on towards independence. To retain a sense of orientation to the current time and space, the therapist often asked Mariana to describe where in the hallway she was currently standing. Because of this level of symbolic thinking, Mariana was able to describe her current emotional and mental state. She described a state of fear in moving forward in the hallway as well as obstacles along the path; metaphors for the everyday surprises that life can throw at you. She also described a gradual rising level of anxiety in her attempts to move forward.

The music therapist then asked Mariana to think about the different aspects of the image she just described, and to choose sounds and/or instruments to represent each part. Mariana was able to choose instruments to represent obstacles and the mounting anxiety and was able to describe a melodic theme to play on the keyboard to represent the underlying fear. Over two sessions, two versions of “Afraid” emerged through improvisation with the therapist. Mariana described the first, as the first half of feeling afraid; being scared to move and avoiding obstacles along the way. The second part of feeling afraid allowed her to move forward with a little bit more confidence, this time moving through the obstacles rather than avoiding them. These were the first two sessions that the therapist felt Mariana’s self-confidence and comfort level high enough to record the improvisations. As Mariana described more angles and layers to her image, she was able to gain confidence in not only describing the sounds she desired in the improvisation, but also in directing the improvisation itself. In *Afraid Part 2*, the underlying *Afraid* theme was first improvised on the keyboards by the music therapist and client. To do this, Mariana started by describing what she wanted portrayed by this thematic material and experimented on the keyboard with the therapist until she found a melodic bassline that she liked. The therapist used the established bassline to ground the improvisation, while Mariana improvised on top of the theme, at times playing in synchrony with the therapist. To represent anxiety, Mariana chose the tambourine and the obstacles were represented by the bass hand drum. She also described sporadic flashes of light in the hallway, played by the cymbal. While the recording of the keyboard improvisation played in the background, a new recording of the light, anxiety and obstacles was made, and later mixed with the keyboard improvisation using Garageband, to create the final track.

Mariana was noticeably nervous when the music therapist suggested listening to the final track together. Although difficult to hear a recording of her playing, she came back the following week with an idea for a music project that would lead to the therapeutic process’ closure. Mariana expressed the idea to tell her story through music and to record the tracks to create a compilation of the recordings.

During the thirteenth session, Mariana experienced imagery and memories of her last attack of paralysis during the vibroacoustic treatment portion of the session. After the reflection period, she decided that this was where she wanted her story telling project to begin. In Mariana’s reflection following the vibroacoustic treatment she expressed a sense of struggle

in trying to remember parts of her experience during the last attack. She had no memories between falling to the floor and waking up in the hospital. Prior to the fall, she described a sense of emotional overload (hyperarousal), to the point of eventually feeling entirely emotionally numb (hypoarousal). And when waking up in the hospital, she felt an overwhelming sense of relief, as if all of the emotions had been lifted from her and released.

When asked to describe the music that she would like to represent this event, Mariana described that she would like the music to depict the feeling of mounting emotions, to a point of release – the fall. The obstacles, represented by the bass hand drum again, would be avoided rather than worked through, and this buildup of obstacles would fuel the mounting intensity. The mounting anxiety was sounded by a gradually accelerating beating heart, played on the djembe. The cymbal, which represented flashes of light in the previous session, now represented the signal of calm that came with the fall. The improvisation itself was very short – less than a minute – but it was clear that Mariana was attached to this improvisation in a different way than she had ever been before. The therapist provided her with the cymbal for the improvisation so that she had control over the end of the improvisation. Afterwards, Mariana commented how she was able to internalize the experience again, by playing the music, and what a unique feeling it was to remember it and, in a sense, relive it.

Following this experience, it was necessary on part of the therapist, to provide appreciation and praise to Mariana for sharing such a personal and impactful experience, while simultaneously bringing the focus back to the moment and leaving the session looking to the future. The reassurance of the overall project as well as the music therapy process itself, was crucial to keep Mariana grounded in the overall purpose, as well as the goals she had set for herself. Mariana reflected at the end of the session that she felt quite empowered that she was able to express herself and hear emotions and experiences in music.

Mariana decided that silence would represent the part of the paralysis episode of which she had no memory. The improvisation for this track was to move from silence to the feeling of relief and safety that she felt after waking up in the hospital. This improvisation seemed much more spontaneous in nature. Mariana selected the ocean drum as her instrument, because of its previous association with safety, as established in chapter one. Mariana determined how long the silence would last and was asked to start the Relief section of the improvisation with

the entrance of the ocean drum when she felt it appropriate. Seeing as this was a fairly spontaneous improvisation, after the ocean drum entered the improvisation, the therapist moved to the keyboard and began to play a similar theme that accompanied the image of Mariana's safe place, as established in chapter one.

During session fifteen, Mariana brought the image of the hallway back into her thoughts during the vibroacoustic treatment. During the reflection, the therapist encouraged her to focus on her current place within the hallway and explore what it felt like concurrently. After a few sessions of looking at past experiences, Mariana was able to analyze her current situation, and even to look to the future and how far she could see down the hallway. She stated that the obstacles that used to face her in the hallway were because of her dissociations most of the time because they caused a struggle between her past traumas and current situations, causing her to stumble along the way as she attempted to rush past obstacles in attempt to avoid past (traumatic) consequences. In comparison, she reflected, where she was currently standing in the hallway, she could view the obstacles as everyday occurrences which she could observe, watch transform, look at from multiple perspectives, and eventually take steps forward based on what she had learned from the obstacle. She was able to look forward in her image, and she reflected of how she saw a yellow and golden light in the distance, which was beginning to partially light her journey along the hallway. The light represented a personal goal for Mariana, which was the ability to be mindful; to be wholly present in the moment.

Musically, the sound representing obstacles changed from the bass hand drum, to notes on the xylophone. Mariana described an improvisation with sounds for steps (slow, with feet firmly in the ground), and background accompaniment on keyboard sounding a childlike sense of curiosity, which would complement the feeling of relief and safety heard in the previous track of the project. As directed by Mariana, the improvisation began with a slow, ascending motif to represent the gradual increase of light offered by the light at the end of the hallway. Mariana introduced a spontaneous single-line melody to depict a sense of childlike curiosity, and the therapist joined on the keyboard with an accompaniment to Mariana's melody line. The recording of obstacles (xylophone) and footsteps (tone bar) was completed following the recording of the keyboard theme, and later compiled using Garageband to form the final track.

Mariana played slow ascending lines on the xylophone to represent her observation of various obstacles and gestured to the therapist when to play the tone bar (take a step forward).

To maintain a sense of currency in regard to reality orientation, the therapy's closure process remained at Mariana's current position in the hallway, but rather than describe the surroundings, Mariana was encouraged to look deeper at the person standing in the hallway. This work brought back themes from chapter one, in naming personality qualities and characteristics, but by maintaining work at a symbolic level, it became slightly easier for Mariana to name positive qualities about herself, because her descriptions were of the person in the hallway. Mariana admitted that she had difficulty accepting compliments from other people, which resulted in a challenge of complimenting herself, in a sense. Mariana was able to elaborate on personal qualities on a deeper level, only after improvising with the therapist in reference to a specific quality, because she had confidence in describing sounds and their representation. Her final improvisations represented her intense personality, her growing sense of womanhood, and her good sense of humour.

5.4 Evaluation of Clinical Aims & Objectives

The following section discusses the music therapist's clinical report as an evaluation of the initial clinical aims and objectives, completed at the end of the therapeutic process with Mariana. Further findings from questionnaires and video analysis will be presented in the Results section of this paper.

The music therapy clinical report noted the reduction of Mariana's levels of anxiety, as observed in her body language and her verbal reflections. There was an overall decrease of anxiety throughout the therapeutic process, but also within the majority of sessions – with body language, verbal reports, and the VIBRAC visual analog scale showing that anxiety had decreased after the vibroacoustic treatment portion of the session.

Mariana was able to develop effective coping strategies in sessions and often commented how she was able to implement strategies outside of therapy. An example of this is through her experience of the depersonalization and derealization symptoms. While her experience of the symptoms originally caused her anxiety and panic, having been able to experience the

symptoms in a safe and therapeutic environment during the vibroacoustic therapy treatment decreased her feelings of anxiety and panic that had previously been associated with the experience of the symptoms. She was able to explore the experience itself, without the accompanying anxiety, which to a degree neutralized the negative effects and feelings associated with the experience. Mariana was able to develop a coping strategy for situations such as this, when she felt a loss of control, and was able to view these events, experiences, or symptoms in an analytic and patient manner rather than trigger her anxiety.

Different aspects regarding interpersonal and intrapersonal relationships were developed throughout the therapeutic process. The client was able to identify qualities and characteristics in people who are/have been in her life and draw connections as to why these qualities/characteristics are significant to her. These qualities that she identified were both positive and negative in character, and with the therapist's help, the client was able to look at the qualities from multiple perspectives and situations. A great amount of work was done for the client to be able to identify the personal qualities that she holds within herself, as well as those which she looks for/will look for in current/future relationships.

Mariana's level of independence and self-confidence increased drastically throughout the therapeutic process, and this change was seen in her musical and non-musical expressions. After acknowledging the block that stood in front of her in the beginning of therapy, she was able to find a sense of strength in being vulnerable during active music making with the therapist, as well as in the vulnerability involved in discussing thoughts and emotions on a deeper, but symbolic, level. Her leadership and self-confidence were evident through the creation and execution of the recording project – to record improvisations that depict the imagery representing her experiences related to her FND diagnosis and her experience of the related symptoms.

6 RESULTS

The results section is presented first with the aim to provide a conceptualization of the case for this study. The categories for the case conceptualization were selected following an inductive content analysis of the therapist's session notes, observations, and review of video and audio recordings. The categories presented include descriptions of significant events within the therapeutic process, and these turning points are supported by results from related items from the questionnaire results obtained at three different testing points. The results section will also evaluate the client's individualized therapeutic needs and individualized responses to the therapeutic methods utilized in this case. The results section concludes by triangulating the results to display the therapeutic changes of the client throughout the therapeutic process along with the methodological changes applied by the therapist.

6.1 Case Conceptualization

An inductive content analysis of the therapist's session notes, observations, and review of video and audio recordings was completed to determine the following themes/categories of this study: anxiety, dissociative experiences, and progression of processing. The themes are further explored in the subsections, below.

6.1.1 Anxiety

Anxiety played a significant role throughout the progress of the current study as well as in the client's everyday life outside of therapy. This is evident through session notes made by the music therapist, observations of the client's behavior, the client's own remarks, as well as results of the HADS and RAND-36 questionnaires. As in the beginning of most therapeutic processes anxiety is present to a certain degree due to the new situation, environment, and undeveloped and unestablished therapeutic relationship. In this case, the client's observable level of anxiety was extremely high at points during initial sessions.

During the first session, the client experienced a "block", as she referred to it, when attempting to participate in the active music therapy portion of the session. The music

therapist's notes, as well as review of the session video show this extreme display of anxiety. Though initially the client seemed willing to try something new and improvise on the djembes with the music therapist, she showed many verbal and nonverbal signs of anxiety in regard to the task at hand. The client's body language was closed off prior to beginning the improvisation; her arms were crossed across her chest with her hands grasping her shoulders, and her legs were crossed. The therapist noted a significant lack of self-confidence in the client. The client stated several times during the improvisation that the task was very difficult for her. The therapist noted that it appeared as though something was in the way of the client's ability to play the djembe, as her body language remained extremely closed off with shoulders forward, legs crossed, and poor posture – marking her feelings of nervousness and anxiety. The therapist noted that it may have been the instrument itself that caused the block. During the first session the client said, “the sound is... I don't know why but it's very... I don't know how to explain it”, as she gestured to her abdomen. The therapist then asked, “you can feel it in your body?”, and the client responded, “yeah... I don't want to”.

The initial session in which the client experienced the block also took place on the same day as testing point 1, with scales and questionnaires being completed prior to the music therapy session. HADS results show the client's anxiety score at 9, falling in the borderline abnormal range (Zigmond & Snaith, 1983). The client's responses to the HADS questionnaire showed that she felt tense or wound up/nervous most of the time, she was not often able to sit at ease and feel relaxed, she felt restless quite a lot as if she had to be on the move, and that she quite often got sudden feelings of panic. MADRS item three regarding inner tension was scored 3, which is a mid-range score for the item. Initial VIBRAC visual analog scales showed that the client was fairly restless and tense with measurements of 34 mm on the restless/calm scale and 48 mm on the tense/relaxed scale. Following the 20-minute vibroacoustic treatment program, scores improved, with the client marking post-treatment scores as calmer (75 mm) and more relaxed (82 mm).

The client's visible signs of anxiety remained throughout phase one of the sessions. The therapist notes show that the client's body language would often become slightly tenser and/or closed off when the active music therapy portion of the session would be introduced. It is important to note that while the client's physical and nonverbal expressions communicated that there was tension and/or anxiety associated with actively making music and using it as an

expressive medium, the therapist continued to use this type of intervention to process content because the client often expressed her willingness to try the new modality of expression. It was important to the client that “baby steps” were taken towards comfort in using musical expression to communicate, which is why, perhaps, the visible signs of anxiety and tension gradually reduced throughout the therapy process as a whole and especially in regard to participating in active music making.

As sessions progressed and the client became familiar with the vibroacoustic chair and the 20-minute relaxation treatment programs, the client mentioned multiple times in the sessions post music therapy assessment that the absence of tension in her body feels abnormal to her. At first, it was noted that the client enjoyed the relaxing feeling that the vibroacoustic treatment induced, however by the closing of the therapeutic process, the client reflected on the vibroacoustic treatment as something that she “would not miss”. During discussion with the therapist, the client expressed that this was because she is so used to her body being tense that having something outside that physically relaxed the inside of your body was uncomfortable to her.

Referring to the Relaxation score in the VIBRAC visual analog scales, the client marked 48mm on the scale of tense – relaxed on the pre-treatment of testing point one, and 82mm on the post-treatment of the same testing point. The final testing point shows less of a difference between pre- and post-treatment, perhaps suggesting that the client has an overall higher level of relaxation. The client marked 58 mm on the pre-treatment of testing point one, and 73 mm on the post-treatment.

6.1.2 Dissociative Experiences

The client in this case experienced various dissociative symptoms (psychological and somatoform) at multiple points throughout the therapeutic process. These symptoms included dissociative amnesia of the majority of the client’s childhood (to approximately age 10), the experiences of depersonalization and derealization, and various bodily sensations such as pain, pressure, or numbness. The experience of dissociative symptoms only occurred during the 20-minute vibroacoustic treatment program, and the client reported that the intensity of the depersonalization and derealization symptoms decreased as sessions progressed.

The Dissociative Experiences Scale (DES) was used at the three testing points as a way to examine the client's individual experience of dissociative symptoms, as well as estimate the likelihood that she would react in a dissociative way. Scores of the DES at testing point one (pre-treatment) show the three highest scores in the Absorption and Imaginative Involvement category items. Item 14 states, "Some people have the experience of sometimes remembering a past event so vividly that they feel as if they were reliving that event. Select a number to show what percentage of the time this happens to you" (Putnam, Carlson, Chu & Dill, 1992). At testing point 1, the client's response to this statement was 70%. By the second testing point (beginning phase 2), this result had decreased to 40%, and this result remained for the third testing point (post treatment). The client did not experience many vivid memories during the therapeutic process, though she did frequently think of people and places that were significant to her. As mentioned before, the client also experienced dissociative amnesia of memories prior to the age of 10 (approximately). The most vivid memory that the client experienced was noted during the second session, when she experienced a memory that she was not aware she had. The memory was of an event that took place around the age of ten, and the client cited this as likely her first memory. This memory, during session two, she was able to describe and reflect on the experience with the most detail, suggesting it as the most vivid of the therapeutic process. The client expressed some sadness and disappointment when the only piece of the memory she could not put together was the voice of her stepfather. The technique of putting together memories or images as if they were puzzles carried throughout many of the vibroacoustic treatment sessions.

Item 15 of the DES states, "Some people have the experience of not being sure whether things that they remember happening really did happen or whether they just dreamed them. Select a number to show what percentage of the time this happens to you" (Putnam et al., 1992). This response, of 50% at testing point 1, was also one of the highest percentages in the client's responses for the DES at the first testing point. The result for item 15 also reduced from 50% at testing point 1, to 30 % at testing point 2 (beginning phase 2), and 10% at the third testing point (post treatment). There was not significant noted evidence of this phenomenon occurring during the music therapy sessions, aside from one occasion. Session 8, the first session after the washout period, the client demonstrated some doubt in her relation to reality. During the vibroacoustic treatment, someone outside of the music therapy clinic knocked on the door. During the reflection period. The client asked if someone had come into the room

because she was unsure if what she had heard happened just in her head, or if it had indeed happened at the clinic door. Though aside from the mentioned session the client never expressed doubt in regard to her experience of imagery, she did refer to many of her imagery experiences as dreams, rather than memories. These dreams often included members of her family and other existent relationships in her life, but she never expressed any sense of confusion or doubt whether the dreams had happened in reality at some point.

Item 22 of the DES states, “Some people find that in one situation they may act so differently compared with another situation that they feel almost as if they were different people. Select a number to show the percentage of the time this happens to you” (Putnam et al., 1992). The client responded 50% during testing point one, and this result decreased to 30% at testing point 2, and 10% at testing point 3. When comparing the result of this item to notes and observations of the therapeutic process, it is possible that this response stems from the type of emotional abuse the client suffered within the relationship with her ex-boyfriend. She described on multiple occasions the feeling of losing herself, her sense of womanhood, and other qualities that she had possessed. When the relationship ended, within phase one of this process, she began to re-possess the aspects of her personality and self that she had lost. For example, her appearance was different when she was in the abusive relationship and changed gradually shortly after the relationship ended. To avoid jealous behaviour of her boyfriend, she would change her appearance so as to not attract attention of other people. While this was one of the examples the client provided during therapy, this, combined with the response to item 22 can paint a picture of other possible aspects of her life/personality that would be altered within her romantic relationship, and possibly other relationships in order to please/appease the other individual.

When the client first experienced symptoms of depersonalization and derealization during the vibroacoustic treatment of session two, she described the sensation of objects in the room, including the therapist, as being far away but simultaneously very close to her. She heard the prerecorded music playing in the background as if it were playing in the room next door. She described the feeling of observing everything from outside of her body and that she did not see herself in the chair at that moment. The client commented that these same sensations occurred the day of her most recent paralysis attack, but in a more negative way than experiencing the symptoms during the vibroacoustic treatment with the established feeling of

safety with the music therapist. Session notes taken from reviewing the video recording of the session also note that the client commented that anxiety usually co-occurs with the experience of these dissociative symptoms because she can't understand the feeling. By session 4 the client commented that although she continued to feel these symptoms of depersonalization and derealization during the vibroacoustic treatment, that the feelings were not as intense or severe as she once experienced them.

Somatoform dissociative symptoms were also experienced by the client on a regular basis during the vibroacoustic treatment. During the assessment period, the client often experienced a feeling of pressure, or slight pain, at the back of her head, close to the back of her neck. During session 5, this feeling was alleviated with the use of a neck pillow to provide a barrier between the client's head and the chair. At times, the client also felt a sensation in her throat during the vibroacoustic treatment. This sensation was not nausea, but rather it was noted that it felt more like a lump in the throat and that it may be tied to emotional content of images or thoughts experienced during the treatment. The client also experienced feelings of limb/localized weakness in different parts of her body at various points, including the right side of her body, arms/hands, left side of her abdomen. During some sessions these sensations were described as weakness, and other sessions she described sensations of numbness, or a tingling sensation.

6.1.3 Progression of Processing

The following section will describe material that was processed during music therapy sessions, how they were processed over time, and how they contributed to the overall progression of the therapeutic process. Analysis showed that while some elements progressed gradually and naturally led to another from session to session, that some elements were initiated in one phase, and brought up again in another, suggesting some progression made in the background of sessions, or perhaps outside of therapy.

The Safe Place

The client had established the image of a safe place with her psychotherapist prior to beginning music therapy sessions. The client explained that they established this image as a

resource for her to use in situations when she felt that her anxiety was too high, or if she felt as if she did not have control. She experienced imagery of her safe place during the third session, while in the vibroacoustic chair. The experience of this specific, pre-established image, could be due to the fact that during the third session she also experienced memories of her past abusive relationship, which had just ended in the week prior. The client explained that she could not get rid of the thoughts of his unfaithful behaviour, as well as his verbal and psychological abuse. Perhaps the learned skill of using the image of her safe place occurred automatically or actively, because after reflecting on her feelings of anger and disappointment regarding her past relationship, she was immediately able to describe the other image that she experienced during the vibroacoustic treatment; her safe place.

The client's established safe place was the image of what she associated with the feeling of home. She could describe in detail the sounds, smells, and sensations of a beach during different seasons. With such a well-established safe place, the therapist decided to provide the opportunity to create a soundtrack to accompany the image. The soundtrack for the safe place was created through improvisation, with the client using the ocean drum and the therapist on the piano. The first time that this soundtrack was improvised was during session three, and it was the first time that the client showed little to no signs of anxiety or lack of confidence. The referential improvisation for the safe place was the longest improvisation that the client had participated in, and she appeared to be more focused and intentional than she had been, with her gaze towards the beads in the drum lasting the entire improvisation. Following the establishment of the soundtrack for the safe place, the therapist made it known to the client that just as her safe place is hers to visit when she needs, so is the soundtrack during music therapy sessions. The musical progression used by the therapist for this safe place theme was used during other points of therapy as well.

During phase 2 of the therapeutic process, the client experienced imagery of her most recent paralysis attack and proceeded to conduct and produce recordings of referential improvisations referring to various aspects of that part of her life. After a period of moving from hyperarousal to hypoarousal, she lost consciousness and fell to the floor, seemingly paralyzed. The client did not have any memories during the period of time that she was unconscious, and this was represented by silence. She described the period after the silence, waking up in the hospital, as feeling overwhelmingly light; as if the overload of emotions had

lifted from her shoulders and she was free from it all. For the recording process for this track, the client instructed that it begin with a period of silence, which she would determine. She would then begin playing to represent the feeling of freedom she had described. Without explanation or direction, the client picked up the ocean drum after the moment of silence, and the therapist immediately went to the piano to play the same theme established earlier for her safe place. The therapist's intuition to play the same theme that they had established for the safe space was based on the fact that the client chose the ocean drum, which was very referential for her, as well as the client's description of the feeling after the silence, which had consistencies with the client's previous description of her safe place.

Qualities and Values

The theme of personal qualities and identifying these values in other people was approached gradually throughout the therapy sessions. During initial sessions, it was fairly easy for the client to identify both positive and negative qualities in other people in her life, but the client found difficulty in identifying personal qualities which she possessed. With the ending of her relationship with her boyfriend, the client was able to identify qualities which she felt she had lost over the course of her relationships as a result of his abusive tendencies. The client seemed to value greatly her personal sense of womanhood. She idolized this quality in her current roommate, and frequently spoke about their discussions about feminism and self-identity. It was noted that although the client referred to this aspect of her Self as her sense of womanhood, it included aspects such as clothing and outward appearance, which the client related to self-expression. During session three, the client expressed that she felt as though her womanhood-values that she possessed were at a level zero. When focusing on this topic of identifying personal qualities, the client expressed that it was easy for her to get into a cycle of anger, disappointment, and negative thoughts surrounding qualities that she does not have/qualities that she lost.

The theme of the client's sense of womanhood was brought up again during the closing phase of therapy. The client reflected during this phase, that her personal sense of womanhood had improved in the time since the end of her abusive relationship. During closing, when the therapist was encouraging the client to identify intrapersonal qualities that she possessed, the client would describe her relationship with various qualities (including a sense of

womanhood) and proceed to assign sounds or musical progression to these qualities in order to gain a further connection with them. The referential improvisation for womanhood took place during session 19 using the Handsonic digital hand percussion instruments. For this improvisation, it took three attempts before the client was satisfied with the end result and thought that it appropriately represented her sense of womanhood. The improvisation itself was very playful in nature, utilizing more exotic sound effects on the Handsonic in various exchanges with the therapist. The client's physical body language and facial expressions during this improvisation were also playful, joyful, and experimental in nature, demonstrating the difference in her confidence in active music making situations.

Other qualities that the client was able to identify by the closing of the therapeutic process included sensitivity, intensity, a sense of humour, and a sense of satisfaction within herself. She described the intensity as, "intense is joy, it's adrenaline, it's effort, it's the impulse to work, to do something that you're passionate about". During the final session when the client was reflecting on the increasing ability to identify positive values within herself rather than solely those she was missing or had lost, she reflected that those parts of her such as trust and sincerity were always present to some extent, but that the qualities felt as though they belonged to a different person. At the end of the therapeutic process, she reflected that she can now feel the qualities as her own values and that the satisfaction within herself was rooted in integrating the personal concepts to her Self once more.

On a relationship level, when the client reflected on relationships within her life, she was able to identify positive and negative qualities within the relationships. It was made clear early in the therapeutic process that she admired many qualities in the relationship between her mother and her stepfather. By identifying these specific qualities, the client was able to compare these ideal qualities and values that she found in her family, and compare it to other past, current, and future relationships in her life. Session notes reveal that although the client could identify qualities in external relationships, such as her mother and stepfather's, as well as qualities in other people in her life with whom she had relationships with, that the client needed significant reassurance and encouragement in identifying some of those same qualities and values within herself. Discussions surrounding the qualities that she brings to a relationship were very difficult for the client to actively participate in.

External work on relationships and personal qualities within the client's relationships may have affected questionnaire results taken at the three testing points throughout the therapeutic process. The Social Functioning Index score on the RAND-36 Quality of Life questionnaire shows an overall increase. The items on the Social Functioning index mainly concern if/how the client's physical and/or emotional health interfere with their participation in regular social activities with friends/family/neighbours/etc. (Aalto, Aro, & Teperi, 1999). The initial score for the Social Functioning index was 25, and this indicates that the client's physical and/or emotional health interfered with her ability to function in a social setting most of the time. By the final testing point 3, at the end of the therapeutic process, this index score was reported as 62.5, indicating that the client's physical and/or emotional health only moderately interfered with her social life a little of the time.

Symbolic Level

Work was done on a symbolic level throughout the therapeutic process. Musically, through the use of referential improvisations during the active music therapy portion of sessions, as well as non-musically, through the use of imagery. At the beginning portion of phase 2, when the client expressed her personal goal of emotional independence. It was discovered that to become emotionally independent (and emotionally confident), that the client would first aim to find a source of strength in the sense of vulnerability that comes with exploring one's own emotions. Through these reflection periods, the client imagined her journey towards this end goal of emotional independence by working within the image of a hallway. The hallway image remained as part of work within sessions for the majority of phase 2. By working at a symbolic level within an image, the client was able to reference her past (by looking behind her in the hallway), acknowledge her current state, as well as look to the future as she works toward her own goal. The work within the hallway was especially useful when used as a tool for reality orientation for the client. As mentioned prior, the client could easily enter into a negative spiral, influenced by past experiences. By working within the image of a hallway, the therapists notes reveal that sessions would never leave the client looking backward to the past but rather would bring the client to the current moment by using prompts such as, "what do you see right now, around you in the hallway?" or, "What does the person in the hallway feel like in this moment, at this point along the hallway?".

Within the image of the hallway, the client was able to describe her coping mechanisms, her impulsive tendencies, the way in which past experiences influence her current situation, as well as a description of her most recent paralysis attack, utilizing the imagery and metaphors made available to her within the imagery work. The image was often further refined and explored during vibroacoustic treatment portions of music therapy sessions, and then further processed using active music making through clinical improvisation. This chapter of work was recorded as per the client's request, as a way of expressing her individual journey up to her current state and looking to the future. This project, and symbolic work within the image of a hallway, ended with the track entitled, "Childlike Curiosity", which is how she described her current state. This method of observing and analyzing was much like a young child discovering something new for the first time and looking at it with a fresh sense of curiosity before deciding what to do with it and represented a new approach for the client's way of coping with everyday obstacles and difficulties. The therapist noted, "she views these obstacles as everyday occurrences. She described the obstacle growing in height gradually, but she takes the time to look at it, watch it transform, look at it from multiple perspectives, and then take slow steps forward based on what she's learned from that obstacle".

The session notes regarding the music for Childlike Curiosity demonstrate the client's attention to detail and sense of confidence when conducting a new referential improvisation:

Musically, the sound of the obstacle has now changed from the bass hand drum, to notes on the xylophone. The sound of steps needed to be slow, calm, and have feet firmly in the ground. She chose a low tone bar (tone A), to represent these footsteps. For the background accompaniment, she described a sense of childlike curiosity as a feeling following the feeling of silence/relief felt in the previous track. Music therapist and client played the keyboards for this background music, which started with a slow, climbing motif to depict the increase of light entering the hallway. The client then introduced a single-line melody for the childlike curiosity, and to accompany, the music therapist used a descending oompah style influenced by the client's mentioning of "Hit the Road, Jack". The obstacles/footsteps were recorded after the piano theme. The client played mostly ascending short, slow melodies on the xylophone, representing the gradual growing obstacles, and nodded to the music therapist when it was time to take a step (play the tone bar).

The addition of another layer of processing these aspects not only within an image, but also through referential improvisation provided multiple mediums and perspectives for the client to process certain content throughout the therapeutic process. Notes and observations from the therapeutic process show that it is likely that the introduction of work done at a symbolic level is what aided in the client becoming more confident in expressing herself musically. This, based on the therapist's conclusions that the turning point in therapy occurred with the

introduction of the image of the hallway and the subsequent referential improvisations that followed, referring to different places in the hallway. Within this symbolic work, the therapist was able to orient the client to her current position in the hallway, but still glancing forward toward the client's end goal of emotional independence. With the close of therapy and the close of working within the image, the client reflected on her journey through the hallway, "I have changed a lot of things". From this point, the client was able to reflect on personal qualities and attributes with greater ease.

6.2 Triangulation

A timeline was created to triangulate the case concepts, clinical observations/questionnaire results, and therapeutic methods and/or turning points. This visual representation shows the therapeutic process and how certain themes developed, as well as the direct therapeutic methodological response or contribution to the case concepts. The timeline will be presented below in sections in Figures 4 and 5, but can be found as a complete figure in Appendix B.

Section one of the timeline shows Chapter 1 of the therapeutic process, also referred to as Phase 1 of the research. As mentioned above, this chapter had the client's first experience of dissociative symptoms, as well as the experience of a new childhood memory during the vibroacoustic treatments. These two new experiences occurred within the same vibroacoustic treatment, and in addition to ensuring a safe and calm environment with verbal interventions during the client's reflection, the therapist used improvisational techniques such as synchrony, holding, and grounding within the clinical improvisation during that session. Playing rhythmically in synchrony provided harmonic support for the client's expression on the xylophone, and with the improvisation in the pentatonic scale, the sounds were naturally consonant and pleasant sounding. The decision to play the xylophones in the pentatonic scale was the therapist's decision and was a response to the client's imagery of pleasant childhood memories. In a later session, the instrument choice of ocean drum by the therapist was also a response to the client's experienced imagery of her previously established safe place. By introducing the sounds of the ocean as she had described in her safe place, and the therapist accompanying these sounds using meeting, matching, and referential techniques on the keyboard, a sound track was created for the client's image and experience of her safe place.

The dissociative symptoms continued throughout the first chapter, but by the end of the chapter the client reflected that the sensations of depersonalization and derealization weren't as clear anymore, and she no longer had associations of anxiety and panic with the sensation. The experience of functional limb weakness during the vibroacoustic treatments was fairly common during the first chapter of the therapeutic process. The experience of the symptoms did not last after the vibroacoustic treatment, but addressing the symptoms was still important during the reflection period so as to create a safe and assuring environment in which the client was free to reflect on any experience or sensation. To contribute to the establishment of this safe environment, improvisational techniques were used such as grounding, holding, meeting, matching, and other techniques of empathy. A summary of Chapter 1/Phase 1 of the therapeutic process can be seen in part 1 of the timeline, in Figure 4.

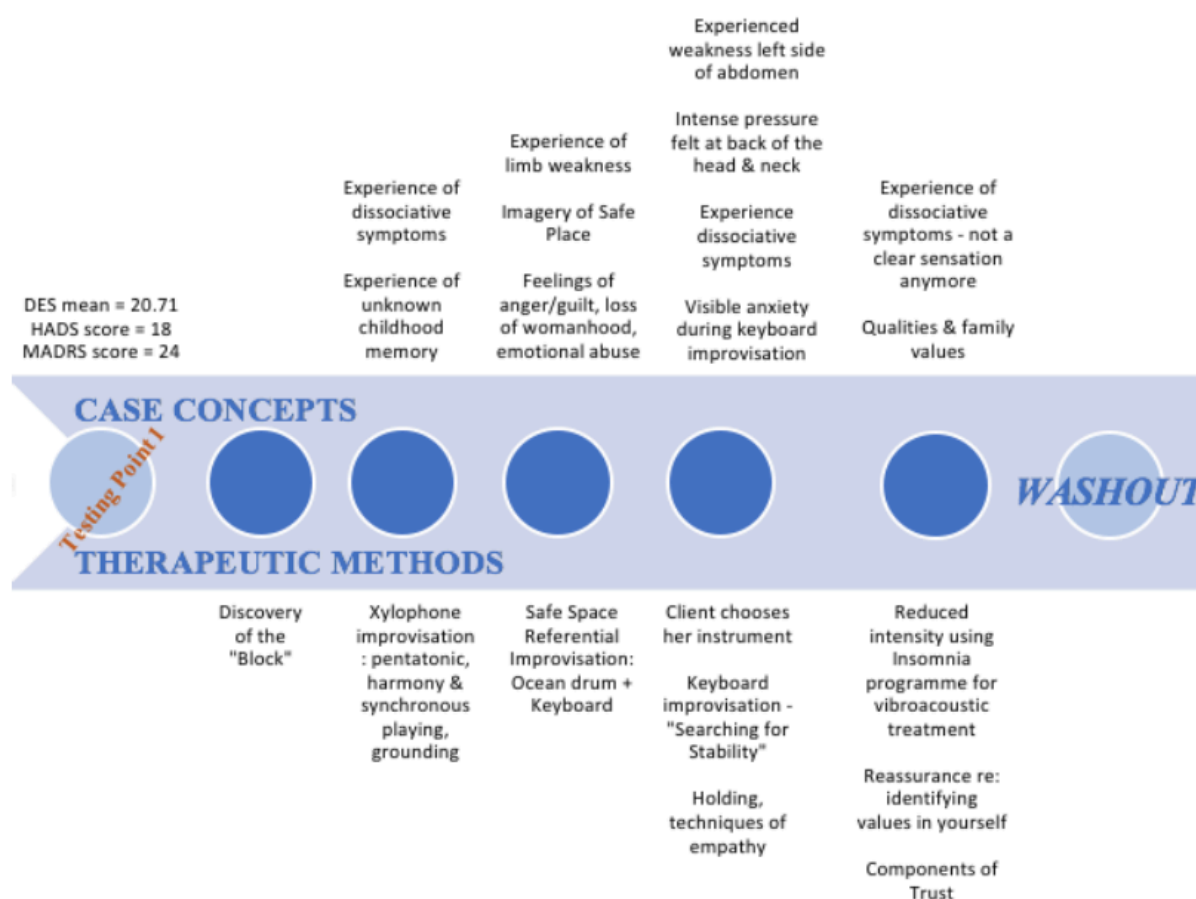


FIGURE 4. Timeline displaying chapter 1/phase 1 triangulating case concepts and therapeutic methods with clinical observations.

Section two of the timeline outlines phase two of the research; chapters two and three of the therapeutic process. Chapter two is represented by the ‘Turning Point’ label and represents the first three sessions following the washout period. The turning point description is applicable conceptually and therapeutically, and both points assisted and contributed to the other. Following the discussion and reflection about being comfortable with feeling vulnerable at times when dealing with negative emotions, verbal intervention was used to offer the client a new perspective of the topic; how to find strength within a vulnerable feeling. To process the discussion musically, the therapist used the concept of vulnerability on a symbolic level and provided the client with an instrument she had demonstrated vulnerability with. The work done in this chapter was what established a symbolic and metaphoric level of working with emotions, which suited the client well and made the topics more approachable.

Chapter three maintained this level of symbolic distance, through work within the image of the hallway. The client’s increase in self-confidence can be seen through the expression of her personal goals related to emotional independence, as well as through her development and conducting of the recording project. The act of recording and playing back improvisations also aided in the client’s self-confidence increase, and she became increasingly comfortable with providing reflections and feedback of the improvisations that were not self-critical. To contribute to the client’s experienced level of independence, certain techniques were utilized in clinical improvisations. The client chose instruments for herself and for the therapist throughout this final chapter, as well as chose instruments to specifically represent aspects of the image or feeling she was aiming to express. In addition, the therapist utilized the technique of incorporating the client’s theme or melody in order to acknowledge her depiction of her image, and ensure the recording was a collaborative process. It was also important for the therapist to effectively meet and match the client during active improvisation in order to accurately depict the image that the client had described.

It was important to maintain the safe environment that was established in chapter one, especially with the execution of a deeply personal and revealing project. The imagery of the client’s most recent attack of paralysis was a deeply revealing and vulnerable session for the client, but simultaneously she felt accomplished and proud of herself for sharing that part of her story. Creating this imagery through music and conducting all aspects of the music provided the client with power over the situation, which she did not have before. Completing

7 DISCUSSION

FND has been subject to diagnostic, descriptive and symptomatic changes and modifications within psychiatric and neurologic professions for hundreds of years. From hysteria to conversion disorder, to its current FND title, the ownership, etiology, and diagnostic and treatment procedures appear to remain under debate. FND has a huge impact on healthcare systems worldwide. Specialist referrals, frequent appointments, visits to the emergency department, and numerous expensive tests make up just some of the financial impact on healthcare systems. The annual healthcare cost of FND is estimated to be at least \$20 billion in the United States alone (Rommelfanger et. al., 2017). This is not to discredit the impact on patients with FND, who often go years without a confirmed diagnosis, and must continue experiencing alarming symptoms with no answers as to their cause.

Short term aims for this pilot study included the development of a flexible treatment protocol that maintains the individualistic approach to music therapy with individualized goals and methods. In addition, the study aimed to highlight the importance of interdisciplinary collaboration and communication among healthcare professionals in the establishment of treatment plans. To explore these aims, a single case study was used, and a psychotherapeutic approach to vibroacoustic therapy was implemented as the basis for the treatment protocol. Referral was received from a local central hospital from a neurologist of the neurorehabilitation and acute ward. One-hour sessions were held twice a week at the Music Therapy Clinic for Research and Training at the Centre for Interdisciplinary Music Research, University of Jyväskylä, Finland. Responses for the HADS (Hospital Anxiety and Depression Scale), MADRS (Montgomery- Åsberg Depression Rating Scale), RAND-36 Quality of Life Inventory, and the DES (Dissociative Experiences Scale) were collected at the beginning of phase one of research, after the one-month washout period, and at the end of the entire process. The VIBRAC visual analog scales were completed pre- and post- vibroacoustic treatment at the beginnings and ends of phases one and two.

Results of the case study were presented in the form of a case conceptualization triangulated with an evaluation of therapeutic methods used. The categories for case conceptualization were selected following an inductive content analysis of the therapist's session notes, clinical

observations, and review of video and audio recordings. This material was compared with results obtained from the questionnaires and scales, which allowed an additional perspective of the therapeutic interventions, techniques, and methods used throughout the therapeutic process. This resulted in multifaceted views and perspectives of this individualized case and of the proposed treatment protocol which still provides the flexibility necessary to treat others diagnosed with FND with the same individualized quality.

The crisis of ideology in regard to FND that Rommelfanger et. al., (2017) refer to in their paper is a result of different levels of understanding and differing perspectives from multiple disciplines. Though the new terminology offered in the DSM-5 description, assessment, and diagnostic requirements provided more clarity to professionals (Demartini et. al., 2015; Rommelfanger et. al., 2017), the relatively neutral-sounding etiology still holds multiple hypotheses (Demartini et. al., 2015) but is widely accepted as an interaction between bodily perceptions and psychological interpretation (Mayou, 2007). The results of the current study suggest that a step further towards the solution of this lack of ownership may lie in an interdisciplinary approach to the methods used in the treatment of FND. By utilizing methods from various approaches to therapies, multiple therapies targeting various symptoms or causes of FND could be experienced within one session, with one therapist.

One diagnosed with FND can experience a range of functional symptoms, including blindness, paralysis, swallowing difficulties, speech problems, non-epileptic seizures, dissociation, limb weakness, and chronic pain (Ali et al., 2015; Berney et. al., 2015; Cottencin, 2013; de Schipper et. al., 2014). These symptoms are related to unconscious psychological conflict and coping/defense mechanisms (Ali et al., 2015; Cottencin, 2013), but it is also notable that a patient's sociocultural setting, personality, health beliefs, mental state, and the reactions of others (such as health professionals) also influence one's own interpretation of their bodily perceptions (Mayou, 2007). In this case study, the client experienced functional symptoms of dissociation, limb weakness, non-epileptic seizures, and paralysis. The client's account of her experiences with the functional symptoms described a progression; from a dissociative coping/defense mechanism response, to a loss of consciousness and further physiological symptoms such as non-epileptic seizures and paralysis.

FND carries multiple risk factors and comorbidities including mood disorders, generalized anxiety disorder, phobias, obsessive compulsive disorder, post-traumatic stress disorder, dissociative disorder, schizophrenia, and personality disorders (Ali et al., 2015; Cottencin, 2013). The questionnaires and scales selected for this study (with exception of the VIBRAC visual analog scale) were selected based on information received in the referral from the client's neurologist. The referral included information regarding the client's experience of dissociative symptoms, anxiety and depression, and so the questionnaires and scales of DES, HADS, and MADRS were selected to monitor the client's states at points throughout the therapeutic process. RAND-36 was selected to monitor the client's subjective quality of life, and the VIBRAC visual analog scale was to monitor the client's response to the vibroacoustic treatments at points throughout the therapeutic process. For future studies, questionnaires should be based on information received in the referral and/or the intake interview and/or the clinical assessment to monitor the client's experience of certain risk factors or comorbidities to their FND diagnosis. The RAND-36 or similar quality of life inquiry should remain in the protocol to track the client's subjective ratings of their own emotional, social, and physical functioning ability. The VIBRAC visual analog scale should also be maintained in the protocol because of its representation of the client's subjective responses to the vibroacoustic treatments and because it offers a clear picture of pre- and posttreatment. The scale is also customizable to suit various symptoms that the therapist wishes to monitor before and after the vibroacoustic treatment.

Dissociative symptoms refer to a spectrum of symptoms referring to a sensation or feeling of disconnection – often a disconnection from one's body or environment (Diseth, 2005; Stone, 2006). These differ from dissociative disorders because they occur as isolated occurrences and not continuous experiences (Stone, 2006). It was stated that the dissociative phenomena of detachment and compartmentalization are relevant for understanding FND and patients diagnosed with FND (Brown et al., 2011; Hallett et al., 2016). In the current case, the compartmentalized Selves of the client played a significant role in therapy. In the client's concurrent psychotherapy sessions, she revealed, they had worked to identify and name different Selves, or aspects of the client's personality. Through work at a symbolic distance through music therapy, the client was further able to explore the influence of these perspectives on her complete Self, with the aim of integration. Through working in the client-

developed image of a hallway, the client was able to see, explain, and experience through music, the influence of her traumatized child-Self in her experience along the hallway.

The client in this case experienced both psychological and somatoform dissociative symptoms. Dissociative amnesia is a compartmentalization process which, in this case, was represented by the traumatized child-Self. The client stated early in the therapeutic process that she had no memories before the age of 10, and these two factors of the client profile are consistent with dissociative amnesia and its typical confinement to a traumatic or stressful period of time. The client also experienced dissociative symptoms of depersonalization and derealisation during sessions, but only during the vibroacoustic treatment. Depersonalization is an example of a detachment phenomenon (Brown et al., 2011) can include sensations such as feeling one's actions as robotic, feeling like parts of one's body do not belong to them, or an overall feeling of detachment or estrangement from one's self (Hunter et. al., 2017; Maaranen, 2008). Derealization differs in the way that it describes the sensation that one has lost contact with reality or their external surroundings (Hunter et. al., 2017; Maaranen, 2008).

It is interesting that in the current case, the isolated circumstances that the client experienced depersonalization and derealisation symptoms only occurred while undergoing the vibroacoustic treatment. Seeing as the periodic experience of depersonalization and derealisation symptoms are commonly experienced during times of fatigue, anxiety, or danger (Hunter et al., 2017; Maaranen, 2008), possible connections could be made based on the client's thoughts or emotional experiences during the vibroacoustic treatment, their physiological sensations and their reflections with the therapist following the treatment. In this case, it is important to note the client's unique response to experiencing the symptoms while in the safe therapeutic environment with an established therapeutic relationship. The setting of therapy allowed the client in this case to explore the symptom without accompanying anxiety and panic, and though the symptom occurred multiple times throughout the therapeutic process, the client reflected that the sensation gradually lost clarity, and the associated responses of anxiety and panic faded as well.

The desensitization of the experience of these symptoms of detachment may offer a long-term solution to the client in this case in regard to her other symptoms of non-epileptic seizures and paralysis. It is common that the experience of derealization, depersonalization, or another

symptom of detachment is related to the onset of a non-epileptic seizure attack or of functional weakness (Hallett et al., 2016; Stone, 2006). In the case outlined in this study, it would be interesting to inquire in the future if the client's severe physiological symptoms such as non-epileptic seizures or paralysis/functional weakness have lessened or disappeared due to the client's new response to detachment symptoms and/or due to the faded intensity of the sensation itself. When the client described her most recent attack of paralysis, she described the mounting of symptoms with accompanying increasing levels of anxiety. This hyperarousal, or "emotional overload" as the client referred to it, piled so high that she suddenly became hypoaroused, or "emotionally numb", and lost consciousness, which is when the non-epileptic seizure activity took place and functional weakness/paralysis. If interrupting or desensitizing the anxious reaction to an early symptom can prevent the progression of worse symptoms as the client in this case described it, this could offer a long-term solution to the client.

To the writer's knowledge, a psychotherapeutic approach to vibroacoustic therapy is an under researched and little practiced area in the treatment of FND and/or related psychosomatic symptoms. In addition, the use of other active or receptive music therapy methods been rarely studied and/or practiced in the treatment of FND or functional symptoms. The necessary component of an interpersonal relationship between the client and therapist that exists within psychotherapeutic practices (Leite, 2014; Wampold, 2001) was strengthened with the foundations found within active and receptive music therapy methods, perhaps into a "more mutual relationship", as Scheiby (2005) spoke of, when comparing the relationships built in music psychotherapy and traditional verbal psychotherapy. Vibroacoustic therapy is multimodal in its approach; it is an active and receptive type of intervention because it addresses a client's physiological and psychological needs simultaneously, and this is why it was noted as a promising and beneficial treatment method for psychosomatic symptoms. (Punkanen & Ala-Ruona, 2012). This is why vibroacoustic therapy was included in the proposed treatment protocol for this case, and for other cases concerning FND; due to its multimodality and its likely flexibility to suit a wide range of physiological and psychological symptoms that one may experience with FND.

The importance of utilizing psychotherapeutic approaches and techniques within this case, and within the protocol lies not only in the relational aspect, but also on the emphasis on

personality development (including learned defenses), transference, environmental orientation, and individual beliefs about the self (Gurman & Messer, 2011). Hadley (2003) wrote of the establishment of a safe environment where a client may enter the state of play, and that it is only after this unique sense of safety is created that psychotherapeutic work can be done. This was true for the current case, and highlights the co-occurrence of safety, freedom (a state of play), and psychotherapeutic work. Though the therapeutic relationship established itself fairly early in the therapeutic process, the environment itself; where active music making, and improvisation was a form of expression was gradual in earning the client's sense of safety. It was only after the client conquered her "block" by returning to her initial vulnerability by playing the djembe, that she felt safe with musical expression and entered her state of play through a sense of freedom in clinical referential and non-referential improvisations. It was only after this state was reached that the client initiated the improvisation recording project, and psychotherapeutic work at a symbolic level could be done through the image of a hallway and its development. The establishment of this safe environment in which the client entered her state of play was gradual and individualized to this case. However, it clearly connects the two approaches of music therapy and psychotherapy, and in this case, the gradual shift of therapeutic techniques followed the client's own establishment of her safety and state of play.

Limitations

This was a single case study rooted in the aims of exploring a new approach. However, for future studies following similar treatment protocol, it is important to mention some of the limitations, difficulties and adaptations experienced during this study.

The questionnaires HADS, MADRS, DES and RAND-36 were conducted in the client's native language; Finnish. These questionnaires were completed with the client by the project supervisor, a native Finnish speaker. Though the client was comfortable with the English language, the extent of the client's comfort was unknown prior to the initial round of questionnaires, and the decision was made to conduct the questionnaires in the client's native language. The researcher used the English-language versions of these questionnaires, as well as translations provided by the project supervisor to draw conclusions. It is important to note that the wording of certain questions may differ slightly due to cultural relevance.

Sessions were conducted in the English language. Though English was not the client's first language, the client was able to effectively verbally express herself during sessions and was able to understand and comprehend the therapist's verbal dialogue.

Ideally, an additional set of questionnaires would have been completed. Having included a washout period in this study, questionnaires should have been completed before the washout (end of phase 1) and at the end of washout (beginning of phase 2). However, this was not possible for this study due to illness. To monitor lasting effects of the therapeutic process, an additional set of questionnaires could also be conducted following a washout period after the therapeutic process had completed.

Due to renovations and new installations in the music therapy clinic, video data was affected in phase 2. The installations of new cameras in the music therapy clinic limited the number of camera angles available for recording use, thus limiting the therapist's ability to observe some body language cues in the analysis. In addition, some of the recorded sessions were accidentally deleted and/or overwritten, limiting the sessions available for video analysis.

8 CONCLUSION

The study looked at a single case of the music therapy process with a client diagnosed with Functional Neurological Disorder, who experienced dissociative symptoms. The music therapist implemented a treatment plan with a psychotherapeutic approach to vibroacoustic therapy, and which included components of interdisciplinary collaboration. This treatment plan is flexible enough to address the range of functional symptoms that one with FND may experience and maintains the individualized nature in assessment and practice that is necessary within music therapy. Through the use of clinical documentation, observation, video review, and the client's responses on the questionnaires and scales, a comprehensive conceptualization of the case was possible; offering multiple perspectives as contribution to this protocol that is quite diverse in its approaches.

The treatment protocol outlined in this study is flexible enough to modify and individualize to future cases with this client population. A long-term aim of this study is to inspire future large-scale studies using this protocol so that the literature can gain an improved perspective on the treatment process of FND, with the hope of providing a single treatment recommendation that can still address the broad symptom possibilities for patients diagnosed with FND. For future studies, it is important that the questionnaires used (with the exception of a quality of life questionnaire) are reflective of the clinical referral information, or assessment of the client's symptoms in order to appropriately monitor the symptoms as the therapy progresses. It would also be a point of inquiry in the future to address the long-term effects (if any) of the vibroacoustic therapy, or music therapy sessions as a whole, and how long the therapy affected the client's experience of their symptoms.

The literature outlines the importance of an interdisciplinary approach to the diagnosis and treatment of FND. This study was able to implement a treatment protocol which maintains the recommended interdisciplinary approach but offers the client one therapy model for their treatment plan. The therapy model is diverse in its approaches, individualized, and in this specific case; successful. This outcome is unique and new in the music therapy and medical literature in an area that is incredibly under-researched for the global impact FND has on healthcare systems and on individuals. With further research, the experience of clients who

have been diagnosed with FND may change to a more personalized, streamlined treatment that offers the potential to address multiple physiological and psychological needs, and the view of interdisciplinary work in healthcare may expand further as well.

References

- Aalto, A. M., Aro, A. R., & Taperi, J. (1999). RAND-36 terveyteen liittyvän elämänlaadun mittarina. mittarin luotettavuus ja suomalaiset väestöarvot. [RAND-36 as a measure of health-related quality of life. reliability, construct validity and reference values in the Finnish general population.] *Stakes*.
- Ahmad, O., & Ahmad, K. E. (2015). Functional neurological disorders in outpatient practice: An Australian cohort. *Journal of Clinical Neuroscience*, 28, 93-96. Retrieved from <https://www.clinicalkey.es/playcontent/1-s2.0-S0967586815006621>
- Aldridge, D. (2005). *Case study designs in music therapy* (1. publ. ed.). London: Kingsley.
- Ali, S., Jabeen, S., Pate, R.J., Shahid, M., Chinala, S., Nathani, M., & Shah, R. (2015). Conversion disorder – mind versus body: A review. *Innovations in Clinical Neuroscience*, 12(5-6), 27. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/26155375>
- Brand, B. L., Lanius, R., Vermetten, E., Loewenstein, R. J., & Spiegel, D. (2012). Where are we going? An update on assessment, treatment, and neurobiological research in dissociative disorders as we move toward the DSM-5. *Journal of Trauma & Dissociation*, 13(1). Retrieved from <http://www.tandfonline.com/doi/abs/10.1080/15299732.2011.620687>
- Brown, R. J., Syed, T. U., Benbadis, S., LaFrance, W. C., & Reuber, M. (2011). Psychogenic nonepileptic seizures. *Epilepsy and Behavior*, 22(1), 85-93. Retrieved from <https://www.clinicalkey.es/playcontent/1-s2.0-S1525505011000722>
- Bruscia, K. E. (1998a). *Defining music therapy* (2. ed.). Gilsum: Barcelona Publishers.
- Bruscia, K. E. (1998b). *The dynamics of music psychotherapy*. Gilsum: Barcelona Publishers.
- Bruscia, K. E. (2014). *Defining music therapy*. USA: Barcelona Publishers.
- Chastan, N., Parain, D., Vérin, E., Weber, J., Faure, M. A., & Marie, J. (2009). Psychogenic aphonia: Spectacular recovery after motor cortex transcranial magnetic stimulation. *Journal of Neurology, Neurosurgery, and Psychiatry*, 80(1). Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/19091717>
- Corey, G. (2012). *Student manual for theory and practice of counseling and psychotherapy* (9th ed.). Belmont, CA: Brooks/Cole Engage Learning.
- Cottencin, O. (2014). Conversion disorders: Psychiatric and psychotherapeutic aspects. *Clinical Neurophysiology*, 44(4). Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/25306080>
- Daniel J. Schneck, Dorita S. Berger, Geoffrey Rowland, & George D. Patrick. (2006). *The music effect*. GB: Jessica Kingsley Publishers.
- De Backer, J., & Sutton, J. (2014). Therapeutic interventions in psychodynamic music therapy: The music in music therapy. In J. De Backer, & J. Sutton (Eds.), *The music in music therapy* (pp. 338-348). London: Jessica Kingsley Publishers.

- de Schipper, L. J., Vermeulen, M., Eeckhout, A. M., & Foncke, E. M. J. (2014). Diagnosis and management of functional neurological symptoms: The Dutch experience. *Clinical Neurology and Neurosurgery*, 122, 106-112. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/24908227>
- Demartini, B., D'Agostino, A., & Gambini, O. (2015). From conversion disorder (DSM-IV-TR) to functional neurological symptom disorder (DSM-5): When a label changes the perspective for the neurologist, the psychiatrist and the patient. *Journal of the Neurological Sciences*, 360, 55-56. Retrieved from <https://www.clinicalkey.es/playcontent/1-s2.0-S0022510X15300344>
- Dimsdale, J. E., & Dantzer, R. (2007). A biological substrate for somatoform disorders: Importance of pathophysiology. *Psychosomatic Medicine*, 69(9), 850-854. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/18040093>
- Diseth, T. H. (2005). Dissociation in children and adolescents as reaction to trauma - an overview of conceptual issues and neurobiological factors. *Nordic Journal of Psychiatry*, 59(2), 79-91. Retrieved from <http://www.ingentaconnect.com/content/apl/spsc/2005/00000059/00000002/art00003?crawler=true>
- Goodman, M., Weiss, D. S., Mitropoulou, V., New, A., Koenigsberg, H., Silverman, J. M., & Siever, L. (2003). The relationship between pathological dissociation, self-injury and childhood trauma in patients with personality disorders using taxometric analyses. *Journal of Trauma & Dissociation*, 4(2), 65-88. Retrieved from http://www.tandfonline.com/doi/abs/10.1300/J229v04n02_05
- Grocke, D. E., & Wigram, T. (2007). *Receptive methods in music therapy* (1. publ. ed.). London: Kingsley.
- Gurman, A. S., & Messer, S. B. (2011). *Essential psychotherapies*. (3. ed.). New York, NY: The Guilford Press.
- Hadley, S. (2003). *Psychodynamic music therapy*. Gilsum, NH: Barcelona Publishers.
- Hadley, S., & Hadley, S. (2003). *Psychodynamic music therapy : Case studies*. Gilsum, NH: Barcelona Publishers.
- Hallett, M., Stone, J., & Carson, A. J. (2016). *Handbook of clinical neurology*. San Diego: Elsevier. Retrieved from <http://lib.myilibrary.com?ID=961650>
- Hays, R. D., & Morales, L. S. (2001). The RAND-36 measure of health-related quality of life. *Annals of Medicine*, 33(5), 350-357. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/11491194>
- Heiderscheid, A. (2016). Integrating music and imagery in music therapy clinical practice. *Music and Medicine (Online)*, 8(2), 9-17. Retrieved from <https://search.proquest.com/docview/1791548260>
- Heiderscheid, A., & Madson, A. (2015). Use of the iso principle as a central method in mood management: A music psychotherapy clinical case study. *Music Therapy Perspectives*, 33(1), 45-52. Retrieved from <https://search.proquest.com/docview/1750893904>

- Heijmans, M., Olde Hartman, T. C., Weel-Baumgarten, E. M. v., Dowrick, C., Lucassen, P L B J, & Weel, C. v. (2011). Experts' opinions on the management of medically unexplained symptoms in primary care. A qualitative analysis of narrative reviews and scientific editorials. *Family Practice*, 28(4), 444-455. Retrieved from <http://www.narcis.nl/publication/RecordID/oai:repository.ubn.ru.nl:2066%2F95888>
- Howard, L., Wessely, S., Leese, M., Page, L., McCrone, P., Husain, K., Dowson, A. (2005). Are investigations anxiolytic or anxiogenic? A randomised controlled trial of neuroimaging to provide reassurance in chronic daily headache. *Journal of Neurology, Neurosurgery, and Psychiatry*, 76(11), 1558-1564. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/16227551>
- Hubertus Sandler, Uta Fendel, Petra Buße, Matthias Rose, Rainer Bösel, & Burghard F Klapp. (2017). Relaxation – induced by vibroacoustic stimulation via a body monochord and via relaxation music – is associated with a decrease in tonic electrodermal activity and an increase of the salivary cortisol level in patients with psychosomatic disorders. *PLoS One*, 12(1). Retrieved from <https://search.proquest.com/docview/1861092322>
- Hubschmid, M., Aybek, S., M.D, Maccaferri, G. E., M.D, Chocron, O., Gholamrezaee, M. M., Ph.D, Rossetti, A. O., M.D, Berney, A., M.D. (2015). Efficacy of brief interdisciplinary psychotherapeutic intervention for motor conversion disorder and nonepileptic attacks. *General Hospital Psychiatry*, 37(5), 448-455. Retrieved from <https://www.clinicalkey.es/playcontent/1-s2.0-S0163834315001322>
- Hunt, A. M. (2017). Protocol for a neurophenomenological investigation of a guided imagery and music experience (part II). *Music and Medicine* (Online), 9(2), 116-127. Retrieved from <https://search.proquest.com/docview/1931354473>
- Hunt, A. M., & Legge, A. W. (2015). Neurological research on music therapy for mental health: A summary of imaging and research methods. *Music Therapy Perspectives*, 33(2), 142-161. Retrieved from <https://search.proquest.com/docview/1750884408>
- Hunter, E. C. M., Charlton, J., & David, A. S. (2017). Depersonalisation and derealisation: Assessment and management. *BMJ*, 356(745). Retrieved from <http://dx.doi.org/10.1136/bmj.j745>
- Karatzias, T., Howard, R., Power, K., Socherel, F., Heath, C., & Livingstone, A. (2016). Organic vs. functional neurological disorders: The role of childhood psychological trauma. *Child Abuse & Neglect*, 63, 1-6. Retrieved from <https://www.clinicalkey.es/playcontent/1-s2.0-S0145213416302733>
- Keitner, G. I., Kelley, J. E., Solomon, D.A., Blum, A.S., Ryan, C.E., Miller, I.W., Lafrance, W.C. (2009). Cognitive behavioural therapy for psychogenic non-epileptic seizures. *Epilepsy & Behavior*, 14(4), 591-596.
- Koelsch, S. (2009). A neuroscientific perspective on music therapy. *Annals of the New York Academy of Sciences*, 1169(1), 374-384. Retrieved from <http://www.ingentaconnect.com/content/bsc/nyas/2009/00001169/00000001/art00064>

- Kroenke, K. (2007). Efficacy of treatment for somatoform disorders: A review of randomized controlled trials. *Psychosomatic Medicine*, 69(9), 881-888. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/18040099>
- LaFrance, W. C., Miller, I. W., Ryan, C. E., Blum, A. S., Solomon, D. A., Kelley, J. E., & Keitner, G. I. (2009). Cognitive behavioral therapy for psychogenic nonepileptic seizures. *Epilepsy and Behavior*, 14(4), 591-596. Retrieved from <http://www.clinicalkey.es/playcontent/1-s2.0-S1525505009000729>
- LaRoche, S., Rapaport, M. H., Rommelfanger, K. S., Rosen, P., Factor, S. A., & Young, R. (2017). Disentangling stigma from functional neurological disorders: Conference report and roadmap for the future. *Frontiers in Neurology*, 8(106).
- Leite, T. (2014). "Lonely girl with a voice" rediscovering the self in individual music psychotherapy. *The music in music therapy - psychodynamic music therapy in Europe: Clinical, theoretical and research approaches*. London: Jessica Kingsley Publishers.
- Loewy, J. (2000). Music psychotherapy assessment. *Music Therapy Perspectives*, 18, 47-58.
- Maaranen, P. (2008). *Dissociation in the Finnish general population*.
- Mayou, R. (2007). Are treatments for common mental disorders also effective for functional symptoms and disorder? *Psychosomatic Medicine*, 69(9), 876-880. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/18040098>
- Montgomery, S. A., & Asberg, M. (1979). A new depression scale designed to be sensitive to change. *The British Journal of Psychiatry*, 134(4), 382-389. Retrieved from <http://bjp.rcpsych.org/cgi/content/abstract/134/4/382>
- Naghdi, L., Ahonen, H., Macario, P., & Bartel, L. (2015). The effect of low-frequency sound stimulation on patients with fibromyalgia: A clinical study. *Pain Research & Management*, 20(1), e21. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/25545161>
- Nygaard-Pedersen, I. (2007). *Counter transference in music therapy. A phenomenological study on counter-transference used as a clinical concept by music therapists working with musical improvisation in adult psychiatry*. Aalborg University.
- Ozcecin, A., Belli, H., Ertem, U., Bahcebasi, T., Ataoglu, A., & Canan, F. (2009). Childhood trauma and dissociation in women with pseudoseizure-type conversion disorder. *Nordic Journal of Psychiatry*, 63(6), 462-468. Retrieved from <http://www.ingentaconnect.com/content/apl/spsc/2009/00000063/00000006/art00004>
- Porges, S. W. (2001). The polyvagal theory: Phylogenetic substrates of a social nervous system. *International Journal of Psychophysiology*, 42(2), 123-146. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0167876001001623>
- Porges, S. W. (2004). Neuroception: A subconscious system for detecting threats and safety. *Zero to Three*, 19-24.
- Punikanen, M. (2005). On a journey to somatic memory; In J. Fachner (Ed.), *Music and altered states* (pp. 140-154), Jessica Kingsley Publishers.
- Punikanen, M., & Ala-Ruona, E. (2011). Making my body a safe place to stay: Psychotherapeutically oriented approach to vibroacoustic therapy in drug rehabilitation;

- In A. N. Meadows (Ed.), *Developments in music therapy practice: Case study perspectives* (pp. 350-367). Gilsum: Barcelona Publishers.
- Punkanen, M., & Ala-Ruona, E. (2012). Contemporary vibroacoustic therapy. *Music & Medicine*, 4(3), 128-135. Retrieved from <http://journals.sagepub.com/doi/full/10.1177/1943862112445324>
- Putnam, F. W., Carlson, E. B., Chu, J. A., & Dill, D. L. (1992). The dissociative experiences scale. *American Journal of Psychiatry*, (149), 143-144.
- Ramsey, D., & Paul, S. (2000). Music therapy in physical medicine and rehabilitation. *Australian Occupational Therapy Journal*, 47(3), 111-118. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=afh&AN=5218426&login.asp&site=ehost-live>
- Rüütel, E. (2002). The psychophysiological effects of music and vibroacoustic stimulation. *Nordic Journal of Music Therapy*, 11(1), 16-26. Retrieved from <http://www.tandfonline.com/doi/abs/10.1080/08098130209478039>
- Sahara, K., Dholakia, S. A., & Sahota, P. K. (2011). Psychogenic non-epileptic seizures: A challenging entity. *Journal of Clinical Neuroscience*, 18(12), 1602-1607. Retrieved from <https://www.clinicalkey.es/playcontent/1-s2.0-S0967586811003845>
- Sandler, H., Fendel, U., Peters, E., Rose, M., Bösel, R., & Klapp, B. F. (2017). Subjective experience of relaxation - induced by vibroacoustic stimulation by a body monochord or CD music - a randomised, controlled study in patients with psychosomatic disorders. *Nordic Journal of Music Therapy*, 26(1), 79-98. Retrieved from <http://www.tandfonline.com/doi/abs/10.1080/08098131.2015.1089312>
- Scheiby, B. B. (2005). An intersubjective approach to music therapy: Identification and processing of musical countertransference in a music psychotherapeutic context. *Music Therapy Perspectives*, 23(1), 8-17. Retrieved from http://gateway.proquest.com/openurl?url_ver=Z39.88-2004&res_dat=xri:iimp:&rft_dat=xri:iimp:article:citation:iimp00401641
- Schweitzer, D., & Ahmad, O. (2015). How to treat: Functional neurological disorders. *Australian Doctor Education*, 27-34.
- Skille, O., Wigram, T., & Weekes, L. (1989). Vibroacoustic therapy: The therapeutic effect of low frequency sound on specific physical disorders and disabilities. *British Journal of Music Therapy*, 3(2), 6-10. Retrieved from <http://journals.sagepub.com/doi/full/10.1177/135945758900300202>
- Spintge, R. (2016). Editorial - Aspects of research methodology: For today and tomorrow. *Music and Medicine* (Online), 8(4), 144-145. Retrieved from <https://search.proquest.com/docview/1862298931>
- Stone, J. (2006). Dissociation: What is it and why is it important? *Practical Neurology*, 6(5), 308-313. Retrieved from <https://search.proquest.com/docview/1781663951>
- Sumathipala, A. (2007). What is the evidence for the efficacy of treatments for somatoform disorders? A critical review of previous intervention studies. *Psychosomatic Medicine*, 69(9), 889-900. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/18040100>

- van der Hart, O., Steele, K., & Nijenhuis, E. (2017). The treatment of traumatic memories in patients with complex dissociative disorders. *European Journal of Trauma & Dissociation*, 1(1), 25-35. Retrieved from <https://www.clinicalkey.es/playcontent/1-s2.0-S246874991730011X>
- van der Kolk, Bessel A. (2000). Posttraumatic stress disorder and the nature of trauma. *Dialogues in Clinical Neuroscience*, 2(1), 7-22.
- van der Kolk, Bessel A. (2005). Developmental trauma disorder: Toward a rational diagnosis for children with complex trauma histories. *Psychiatric Annals*, 35(5). Retrieved from <https://search.proquest.com/docview/1928355776>
- van der Kolk, Bessel A. (2014). *The body keeps the score: Brain, mind & body in the healing of trauma*. New York: Viking.
- Wampold, B. E. (2001). *The great psychotherapy debate: Models, methods, and findings*. New Jersey: Lawrence Erlbaum Associates.
- Wessely, S., Nimnuan, C., & Sharpe, M. (1999). Functional somatic syndromes: One or many? *The Lancet*, 354(9182), 936-939. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0140673698083202>
- Whitehead, K., & Reuber, M. (2012). Illness perceptions of neurologists and psychiatrists in relation to epilepsy and nonepileptic attack disorder. *Seizure: European Journal of Epilepsy*, 21(2), 104-109. 10.1016/j.seizure.2011.09.012 Retrieved from <https://www.sciencedirect.com/science/article/pii/S1059131111002664>
- Wigram, T. (2004). *Improvisation* (1. publ. ed.). London: Jessica Kingsley.
- Yanartas, O., Ozmen, H., Citak, S., Zincir, S., Sunbul, E., & Kara, H. (2015). Childhood traumatic experiences and trauma related psychiatric comorbidities in dissociative disorders. *Bulletin of Clinical Psychopharmacology*, 25(4), 381. Retrieved from <https://search.proquest.com/docview/1761253776>
- Yayla, S., Bakim, B., Tankaya, O., Ozer, O. A., Karamustafalioglu, O., Ertekin, H., & Tekin, A. (2015). Psychiatric comorbidity in patients with conversion disorder and prevalence of dissociative symptoms. *Journal of Trauma & Dissociation*, 16(1), 29-38. Retrieved from <http://www.tandfonline.com/doi/abs/10.1080/15299732.2014.938214>
- Zsigmond, A. S., & Snaith, R. P. (1983). The hospital anxiety and depression scale. *Acta Psychiatrica Scandinavica*, (67), 361-370.

Appendix A – Music Psychotherapy Assessment

Music Psychotherapy Assessment (Loewy)

Client: ■■■.

Music Therapist: Mikaela Leandertz

Date: December 5, 2017

The following music psychotherapy assessment is based on data gathered during the initial 5 sessions with client, ■■■, from November 16 - December 5. ■■■ has attended hour-long sessions twice a week with one absence due to illness.

I. Awareness of self, others & of the moment

A. Musical

B. Verbal

C. Nonverbal reflection

■■■ demonstrates awareness of herself and the therapist, and seems to be presently aware during sessions. When making music, she has often hesitated before beginning to play, and frequently stops playing because she feels that she's not playing what she intends to express, and admits this is part of her perfectionist personality. Additionally, in active music making, ■■■ consistently comments on the therapists playing. She has never commented on the music as a whole, or as an experience in the moment, but as two separate musics. ■■■ is consistently able to verbally reflect her thoughts, images, memories, bodily sensations, and emotions following her 20 minute vibroacoustic treatment. She has frequently described her level of awareness during the treatment. Following three of the treatments, ■■■ reflected a sensation felt at points of the vibroacoustic treatment in which objects in the room and the music therapist felt distant, but simultaneously close to her. However, while she explained this sensation, she also stated that she was aware that those sensations were not true, and she was able to remind herself of that by bringing awareness to the moment and the safe environment of the therapy clinic. ■■■ has not succeeded in reflecting on material nonverbally through music. She has shown difficulty in reflecting a thought or emotion in active music improvisation and has admitted that there is some kind of block preventing her from playing music. During session 4, ■■■ was able to express and describe the types of sound she could associate with a feeling, and that she was not making those types of sounds, once again referring to some block in the way of connecting the music to her feeling. She seems very aware of herself and her expressions in music, in a very self-conscious and seemingly unconfident nature.

II. Thematic Expression

A. Instrument

B. Song Choice

C. Quality & Style of singing and playing

When asked, ■■■ stated that the music she listens to in order to relax is Instrumental, classical, and stated Chopin as a composer. The first four sessions were spent listening to classical instrumental music during the vibroacoustic treatment, and for the 5th session, she requested reggae music. After listening to the reggae music, she stated that she got the feeling that "Everything was going to be okay". Note that she experienced more vivid imagery and thought processes when treatment involved classical music. Classical music selection was selected from various GIM playlists by Bruscia, including Caring, Comforting/Anaclitic, Quiet Music, and Searching/Pastorale.

During the first session, MT invited ■■■ to play the djembe drum with her in an improvisatory exercise, to explore the sounds. ■■■ was extremely hesitant, and her anxiety markedly increased to the point of freezing. She mentioned that it may have to do with the instrument itself, combined with her

perfectionist attitude. ■ has been able to play the keyboards with less freezing behaviour than with the djembe, but still hesitation. When playing the keyboards, ■ often mentions that she is not able to accurately express what she wants to because she doesn't know how. ■ has been able to verbally describe the types of sounds she associates with feelings or thoughts that are being referred to in the improvisation. ■ has also played the xylophone, and was better able to express or relate to a reference during improvisation on this instrument. ■ demonstrated an emotional attachment to the ocean drum when she played it as the MT improvised on the keyboard next to her. Client mentioned that it sounded like her safe space as she established with her other psychotherapist - the beach in her home town ■■■■■. She seemed to find comfort and peace in playing the ocean drum, and played it with intense focus and intension to replicate the waves in her safe space. ■'s playing on melodic instruments consists mostly of extremely short melodic fragments that come out of hesitation; usually 3-5 notes in length. Often after another period of hesitation, she is able to repeat this fragment either rhythmically or melodically (sometimes in a different range or key). Occasionally ■ expands on the short themes, but often stops playing and states that she is dissatisfied with what she played. ■ and MT have discussed this block preventing her from playing, and it was mutually agreed that it would require baby steps for her to be able to use music as a way of expressing and reflecting, though it is a goal that she has for herself.

III. Listening

A. Receptivity

B. Ability to hear others

■ has demonstrated good listening skills in regards to verbal communication. She appears to understand what the therapist says, and asks for clarification if she does not understand. ■'s listening skills when music making show that she is able to hear her own playing and the music therapists', but she has not demonstrated many responses to the therapists' playing. At times, ■ has not been receptive to the therapist's musical (and sometimes verbal) suggestions to transition musically to a different character, and as a result, ■ often plays instruments very repetitively, seemingly within her comfort zone.

IV. Performing

A. Speaking

B. Playing

C. Singing Alone

■ seems comfortable speaking with the music therapist, and is able to speak freely about her everyday life. ■ speaks openly prior to the vibroacoustic treatment as a check-in with the therapist, and then she again speaks freely following the vibroacoustic treatment about her experience during the treatment. ■ has shown significant hesitation in regards to playing instruments during sessions. ■ is very critical of her own playing, and claims this is due to her perfectionist personality. The client seems to have difficulty expressing emotions or words during a referential improvisation, but she has demonstrated the ability to describe what sounds an emotion might have. She has not yet been satisfied with the outcome of her playing, and has been able to name sounds and other ways that it could have sounded different to better portray the reference of the improvisation. During the first session, ■ had a freeze response when asked to play the djembe drums with the music therapist, and she was only able to rub the drum and tap lightly with her fingers for very short periods of time, with verbal and musical support and encouragement from the therapist. She has not shown this freeze response since the first session, and has been able to play the keyboard, xylophone, and ocean drum. Her longest improvisation was when playing the ocean drum, and she was able to connect the instrument sound itself to an image of her safe place. When playing the keyboard and xylophone, she is quite hesitant to begin, and will have multiple 'starts', demonstrating her critical attitude of her own playing, ending improvisations quite quickly. ■ has not shown interest in singing, but based on her reaction thus far to playing instruments, the music therapist has not yet assessed this aspect of her musicality.

V. Collaboration/Relationship

A. Willingness to interact in an activity together

B. Quality of expressing with others

■ shows consistent willingness to interact and try activities together. Her willingness to try activities is occasionally overshadowed by her lack of confidence in her musical skills and ability to effectively and accurately express an emotion/image musically. However, she shows good enthusiasm when discussing the idea of trying a new instrument or activity, and seems to take comfort in participating together with the therapist. Quality of verbal expression is good. ■ is consistently able to describe her thoughts, images, memories, bodily sensations, and emotions before and after vibroacoustic treatment, and she is often able to connect these feelings and images to reality. Musically, she does not have a wide range of expression, and tends to contain her expressions to a smaller melodic range and very little (if any) dynamic range. She has yet to be satisfied with her musical expressive output, with exception to playing the ocean drum. However, ■ is able to verbally describe the types of sounds she would like to play/hear in reference to a certain emotion or image. When improvising music with the therapist, ■ does not seem to musically respond to the therapist's attempts to expand the melodic or dynamic range, however she has shown that she will copy the therapist's techniques such as rubbing the drum or tapping the drum with her fingers.

VI. Concentration

A. Ability to focus in and out of the music

■'s ability to concentrate in active music making is often interrupted by her "perfectionist" side being critical of her own playing. ■ is unable to focus solely on the expression of an image or emotion through music, and is rather distracted with how/if the improvisation sounds proper. Therefore, her direction of focus is on the sounds being produced, rather than the reference of the improvisation itself. Her focus outside of music is very good, and she does not appear to be distracted at any point during conversation or verbal intervention. During the vibroacoustic treatment, during which there is background music, she is able to focus her mind on certain images or feelings as she pleases, and brings these to discussion afterwards with the therapist.

VII. Range of Affect

A. Qualities of expression

B. Variety of moods & themes

C. dynamic variance

Qualities of expression, noted above in V.B.. ■ has not shown significant variety of moods, and the themes she presents in verbal conversation have been quite consistent, as with her musical themes. The themes she presents in verbal conversation, usually arise from her experience during the vibroacoustic treatment, and have centred around relationships, values and qualities within relationships, and personal values/qualities within people.

VIII. Investment/Motivation

A. Willingness to build musical experience or conversation

B. sustaining involvement in the musical-verbal dialogue

■ demonstrates good willingness to build on conversation, and actively participates in these interventions with the therapist. The client's willingness to try a musical experience is good, but a willingness to build on a musical experience further is not always present. ■ understands the relationship between the verbal dialogue and the musical dialogue, but expresses a difficulty in being able to express musically in a way that sounds "right". ■ has difficulty sustaining a musical dialogue for an extended period of time, with most improvisations lasting less than 4 minutes.

IX. Use of Structure

- A. Reaction to space boundaries**
- B. Adherence/resistance to formatted themes vs. free improvisation**

Client seems to maintain appropriate space boundaries within session. ■ attempts to adhere to themes when doing a referential improvisations, but is unable to produce the sounds that she desires. Client is able to describe these types of sounds to represent a theme or emotion. During free improvisations, client has some difficulty and seems to be even more critical of her playing than when participating in a referential improvisation. ■ occasionally demonstrates a freeze response when participating in active music making in the form of improvisation, which could be thought of as a form of resistance. Client has stated that she does not know why she has that type of reaction to resist playing an instrument.

X. Integration

- A. How forms (music, words, feelings, songs, thoughts) are put together**

When reflecting on her experience during the vibroacoustic treatment, ■ often speaks of the events chronologically, rather than sensations/thoughts/images that stood out to her. During reflection with the therapist, MT often further breaks down these events by asking further individually about thoughts, images, memories, bodily sensations, and emotions, and it is during this type of reflection that ■ is able to make connections between her body and mind experiences during the treatment. In active music making, ■ often plays repetitive, short phrases within a small melodic and dynamic range of the instrument. The form does not develop into new and/or contrasting ideas.

XI. Self Esteem

- A. Evaluation of the created themes-taping**

Client has demonstrated very low self-esteem in regards to active music making, especially. Therapist has not yet recorded any of their improvisations for client's evaluation.

XII. Risk Taking

- A. Experimenting, trying something new, playing alone & together w/others**

Client is open to trying new things, but often asks questions, or initiates discussion before, to gain more information. Being in a safe environment seems to be very important to her and crucial to this therapeutic process. Client was able to tell the therapist during the second session that active music making in the session through improvisation was difficult for her, and she would need to take baby steps. This represents the client well, in that she is open to trying new things, but she also knows (for the most part) what she needs to be able to "successfully" try, or experiment with something. Client has improved playing alone, but this only comprises of starting improvisations, that the therapist will join in. During the first session ■ was unable to begin the improvisation, and was very self-conscious of playing alone and/or initiating ideas. Client's playing during improvisations is fairly flat in range, and she does not experiment with drastic new characters or ideas, but she does take a few false starts when playing, to get the sound she wants.

XIII. Independence

- A. Ability to separate self/others - musically & verbally**

Client is able to differentiate her own playing from the therapist's playing. She occasionally stops playing to listen to the therapist's holding, before she joins in again, and she has consistently complimented the therapist's playing. Client is independent in her reflections of her experience during the vibroacoustic treatment, as noticed in her verbal reflection skills. It is observed that ■ demonstrates independent behaviour, but she is not necessarily confident in being independent.

Appendix B: Case Process Triangulation Timeline

