

A Resource-Oriented Music Therapy Support Group Intervention for Adults Living with
Fibromyalgia

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ABSTRACT

A Resource-Oriented Music Therapy Support Group Intervention for Adults Living with

Fibromyalgia

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Fibromyalgia syndrome is a generalized soft-tissue chronic pain syndrome characterized by tenderness upon palpation of 11 of 18 tender points and generalized pain on both sides of the body for at least 3 months. In Canada, 2-10% of the population has FMS, with diagnoses being higher in women than men. Music therapy research targeting FMS and chronic pain is minimal, while other health professions have seen music as a viable intervention tool (Oneiva-Zafra et al., 2010; Prasanna, 2009; Siedlecki, 2009; Chesky 1997). Therefore, the purpose of this research was to design the initial stages of a resource-oriented music therapy support group intervention for adults living with Fibromyalgia using Fraser and Galinsky's (2010) intervention research method. Relevant medical, psychology, and music therapy literature pertaining to FMS and chronic pain was analyzed through open, axial and selective coding. Robb, Burns and Carpenter's (2011) checklist of guidelines for reporting music-based interventions were used as a framework for describing the proposed interventions. The overarching aims of the intervention program are to foster awareness and develop self-management strategies for those living with FMS. Vocal and receptive music therapy techniques were incorporated into the intervention design to support said overarching aims by fostering the development and maintenance of participants' own resources and strengths. It is hoped that this research will form the basis for the further development of music therapy

resources and techniques specifically designed to benefit those living with FMS and/or chronic pain.

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Purple Butterflies

I was swarmed by purple butterflies
Felt love in their embrace
For they treated me to gentleness
That somehow, felt out of place
Before my bones were weary
Before my limbs were sore
Before my mind was fuzzy
I cannot say, this is no more,
But hidden in the softness
Of the butterflies' embraces
Was the support I needed
From a thousand different places
Because I was flying with them
We held each other up
And as we lifted each other
We learned to not give up
So, my fellow purple butterflies,
I thank you once again
You helped me find my voice
Find my footing, are my friends.
So, let us fly together till the end!
Gentle hugs, my Fibromyalgia friends!

Danna Da Costa
January 14, 2014

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Chapter 1. Introduction

Fibromyalgia syndrome (FMS) is defined as a generalized soft-tissue chronic pain syndrome characterized by tenderness upon palpation of 11 of 18 tender points, and generalized pain on both sides of the body for at least 3 months (Jain et al., 2003; Albrecht et al., 2013). FMS involves multiple systems (Jain et al., 2003; Gerwin, 2013) and “is considered to be the result of a dysfunctional central pain modulating system” and “thought to importantly involve the descending pain inhibitory system” (Gerwin, 2013, p. 777). This thesis encompasses the initial design of a resource-oriented music therapy support group intervention program for adults living with FMS.

Relevance to Music Therapy

Correspondence amongst those living with FMS often includes the phrase “soft hugs” or “gentle hugs” when expressing care for one another or simply signing off from an online conversation. This acknowledgement of the need for gentleness is intriguing, and it could be argued that the gentleness of music and music therapy may be a suitable partnership with FMS treatment strategies, which often advocate for the empowerment of individuals with FMS in multiple areas of biopsychosocial functioning (Jain et al., 2003).

Although there is a lack of music therapy research targeting FMS and/or chronic pain, other health professions have seen music as a viable intervention tool for FMS (Oneiva-Zafra, Castro-Sanchez, Mataran-Penarrocha, & Moreno-Lorenzo, 2010; Prasanna, 2009; Siedlecki, 2009; Chesky 1997). Therefore, the need for a more comprehensive understanding of how music and music therapy can be used within an intervention program is indicated.

Most recently, Koenig et al. (2013) reviewed a decade's worth of their previous research into the development of active music therapy outpatient treatment manuals for individuals with recurrent or chronic pain. Said manuals were framed within a biopsychosocial paradigm. Their findings indicated that providing music therapy services which were tailored to each person's individual needs were "beneficial in reducing pain frequency and intensity in patients with recurrent or chronic pain" (Koenig et al., 2013, p. 150). It should be noted that the music therapy research on chronic pain, as well as music research in other health professions does not address the use of music therapy support groups for FMS or chronic pain.

Nevertheless, the literature shows that those living with FMS utilize both online (Chen, 2012; van Uden-Kraan et al, 2008) and offline (Kurtze, Gundersen, & Svebak, 2001) *support groups*, which are defined as groups that aim to "provide mutual support for individuals who share common experiences or situations" (Rykov, 2006, p. 8; Toseland & Rivas, 2005, 2012) and that are facilitated by members of the group or a professional. This self-management strategy of seeking out peer support falls in line with the major therapeutic aims set out in Jain et al.'s (2003) FMS consensus document outlining Canadian clinical working case definitions, and diagnostic and treatment protocols, which states that:

A major therapeutic goal is to empower patients to trust their own experiences and enhance their ability to recognize the consistency of some symptoms and the fluctuation and interaction of others, so they can achieve a lifeworld environment in which they can be as active as possible without aggravating their symptoms, and then gradually expand their activity boundaries (p. 22).

Thus, it could be argued that the acknowledgement of the need for empowerment and the fostering of awareness in those living FMS pairs well with a resource-oriented approach to music therapy. *Resource-oriented music therapy* has four main characteristics: (1) resource-oriented music therapy involves the nurturing of strengths, resources, and potentials; (2) resource-oriented music therapy involves collaboration rather than intervention; (3) resource-oriented music therapy views the individual within their context; and (4) in resource-oriented music therapy music is seen as a resource (Rolvjord, 2010). As those living with FMS already seek out peer support groups, and since medical professionals advocate for empowering individuals and fostering awareness, I believe a resource-oriented approach combined with support group format could address multiple areas of biopsychosocial functioning in adults living with FMS.

Statement of Purpose

Given the lack of existing music therapy interventions and research related to FMS and the identified reasons as to why music may be a gentle and effective intervention/resource for persons with FMS, the purpose of this study was to create a resource-oriented music therapy support group intervention program for adults living with FMS.

Research Questions

The primary research question was: “What is an appropriate music therapy support group design for adults living with Fibromyalgia Syndrome that uses a resource-oriented music therapy approach?” The subsidiary questions were: (1) “How might a resource-oriented music therapy support group help foster awareness?”; and (2) “How

might a resource-oriented music therapy support group help with developing self-management strategies?”

Delimitations

Two delimitations were imposed upon this study. First, the intervention was designed for adults living with FMS who are 18 years and older. Second, due to time constraints associated with the completion of this master’s thesis, only the first step and part of the second stop of Fraser and Galinsky’s (2010) intervention research model were utilized.

Situating the Researcher-Assumptions and Bias

My lived experiences inform this intervention research in two ways, as an adult living with FMS and as a music therapist. Since I am a person who has FMS, I examined my own assumptions and biases as they related to my own lived experiences as a means of ensuring transparency throughout the research process. This also helped me to maintain an openness with regard to the various directions that the intervention research could go. I used journaling as a way of identifying and bracketing my assumptions and bias. I also conducted a self-interview to examine my lived experiences of FMS and the role music has played for me within these experiences. From a personal healthcare standpoint, I believe that the most effective way to manage my symptoms involves seeking multiple domains of treatment simultaneously so that my biological, social and psychological needs are being holistically addressed.

As a music therapist, I subscribe to an eclectic philosophy of music therapy practice that is resource-based in nature, and is influenced by positive psychology, as well as humanistic, feminist, psychodynamic, community music therapy, and client-

centered orientations. I believe that the therapist should treat the client according to the client's contextual existence, and that the therapeutic relationship should be egalitarian in nature. I subscribe to a resource-oriented approach to music therapy in which goals and methods are determined on a person by person basis.

Chapters Summary

Following this introductory chapter, Chapter Two contains a critical analysis of the relevant literature associated with the creation of a resource-oriented music therapy support group. Chapter Three describes how the intervention research methodology was specifically utilized in this thesis. Chapter Four outlines the results the coded literature, and step-by step explanation of the intervention program itself. Lastly, Chapter Five interprets the study as a whole and explores future implications of the research.

Chapter 2: Literature Review

As the purpose of this thesis is to create a resource-oriented music therapy support group for adults living with FMS, this literature review is broken down into eight categories. It will begin with a general overview of FMS, followed by an examination of treatment methods and intervention programs for FMS. This will be followed by a brief overview of how the creative arts therapies have been utilized with those living with FMS and/or chronic pain. Next, the use of music with FMS and chronic pain by other health professionals will be examined, followed by a review of how FMS and chronic pain has been addressed in music therapy. The chapter will end with an exploration of how research pertaining to music therapy and singing support groups, and music, health, and wellbeing, as well as Rolvsjord's (2010) Resource-Oriented Music Therapy approach can all be used to create an intervention program for adults living with FMS.

Fibromyalgia Syndrome (FMS)

Prevalence and epidemiology. FMS is a generalized soft-tissue chronic pain syndrome characterized by tenderness upon palpation of 11 of 18 tender points and generalized pain on both sides of the body for at least 3 months (Jain et al., 2003; Albrecht et al., 2013). FMS involves multiple systems (Jain et al., 2003; Gerwin, 2013) and “is considered to be the result of a dysfunctional central pain modulating system” and “thought to importantly involve the descending pain inhibitory system” (Gerwin, 2013, p. 777).

According to a FMS consensus document, the prevalence rate of FMS in Canada is between 2-10% of the population and is 2-5 times more common than Rheumatoid Arthritis (RA) (Jain et al., 2003). In the United States, prevalence rates are estimated to

be 2-5% of the population (Albrecht, et al., 2013). FMS is more prevalent in females than males, and most often occurs “between the ages of 35-50 years, but can affect all age groups” (Jain et al., 2003, p. 5). When FMS is diagnosed in children it is called Juvenile Primary Fibromyalgia Syndrome (JPFS). JPFS often has a more favourable prognosis than that for adults diagnosed with FMS, and prevalence rates are between 1.22- 6.20% of the juvenile diagnoses of children seen by Rheumatologists (Kashikar-Zuck, Vaught, Goldschneider, Graham & Miller, 2002; Kashikar-Zuck et al., 2008; Conte, 1999; Libby, & Glenwick, 2010; Degotardi et al., 2006; Bell, Carruthers, & TEACH-ME Task Force, 2005).

Diagnostics and symptomology. The diagnostic criteria and working case definition used to diagnose FMS in Canada can be found in Appendix A and is consistent with diagnostic criteria outlined by the American College of Rheumatology in 1990 (Jain et al., 2003). Adults are diagnosed with FMS if they have a history of chronic widespread soft-tissue pain on both sides of the body, above and below the waist, as well as axial skeletal pain for at least three months (Jain et al., 2003). Pain on palpation must be felt on at least 11 of 18 tender points, and additional symptoms such as neurological, neurocognitive, and neuroendocrine manifestations, persistent fatigue, sleep dysfunction and generalized stiffness are also present (Jain et al., 2003).

Neurological symptoms typically involve muscle dysfunction, and can include but are not limited to muscle twitching, weakness, perceptual disturbances, spatial instability, and sensory overload phenomena (Jain et al., 2003; Albrecht, et al., 2013).

Neurocognitive symptoms typically manifest as difficulty concentrating, multi-tasking, impaired speed required to perform a given task, becoming easily distracted, and

cognitive overload (Jain et al., 2003; Albrecht, et al., 2013). Neuroendocrine and autonomic symptoms include but are not limited to vertigo, temperature instability, respiratory disturbances, emotional flattening, and reactive depression (Jain et al., 2003; Gerwin, 2013). Sleep dysfunction refers to a person living with FMS's inability to experience a restful sleep (Jain et al., 2003; Bennett, Jones, Russell, & Matallana, 2007). Lastly, FMS can be comorbid with irritable bowel syndrome (IBS), migraines, temporomandibular joint dysfunction (TMJ), anxiety, depression, and chronic fatigue syndrome (Jain et al., 2003; Gerwin, 2013; Conte, 1999; Oneiva-Zafra, et al., 2010; Prasanna, 2009; Tanamura, & Nagata, 2006).

Etiology. There is no known central initiating cause for FMS, although genetics, viral infections, trauma, childbirth, surgery, repetitive strain, and chronic stress have been cited as possible contributing factors (Jain et al., 2003; Bennett et al., 2007). Recently, Albrecht et al. (2013) discovered that hand pain associated with FMS may be caused by arteriole-venule shunt (AVS) dysfunction which can lead to “changes in blood flow and increased thermal sensitivity” that may contribute to hand pain (Gerwin, 2013, p. 77; Albrecht et al. 2013). It should be noted that depression and anxiety in individuals living with FMS are seen as a result of dealing with the plethora of chronic symptoms associated with FMS (Jain et al., 2003).

Fibromyalgia Treatment Methods and Intervention Programs

With the knowledge that treating a chronic pain syndrome such as FMS is inherently complex due to the biopsychosocial nature of pain, it is not surprising that the medical world acknowledges the need to empower these patients through the creation of multi-modal care plans and the promotion of self-management. As mentioned in the

previous chapter, Jain et al.'s (2003) FMS consensus document indicates that empowerment of those living with FMS so that they can become aware of their own experiences and how their symptoms present, fluctuate and interact, helps with the overarching aim of self-management while also ensuring the best quality of life possible is achieved. The document also advocates that all programs should be conducive to healing, reflect the total illness burden, empower the patient, be appropriately individualized, "engage the patient in establishing realistic goals, . . . optimize the patient's ability to function within her/his lifeworld", gradually enable the person with FMS to expand their abilities to do more activities, be clear, simple and concise, and "establish a healing environment by using the Principle of the Four 'S'es", that is simple, serene, slow and supportive (Jain et al., 2003, p. 23). They also expressed that an effective treatment program utilizes (1) patient education, (2) self-development, (3) maximizes sleep, (4) fosters a balanced diet, and (5) encourages exercise that appropriately addresses body movement and fitness (Jain et al., 2003, p. 24-26).

As the consensus document for physicians and rheumatologists regarding treatment and intervention procedures are quite thorough, there has been little need to further develop specific treatment programming for adults living with FMS. However, with said consensus document for adults living with FMS in mind, the National Myalgic Encephalomyelitis/Fibromyalgia Action Network created a sourcebook to help teachers accommodate students living with JPFS symptoms (Bell, Carruthers, & TEACH-ME Task Force, 2005). Degotardi et al. (2006) also created an eight week intervention for JPFS designed to address pain management, sleep dysfunction, and reduce stress and anxiety through the use of cognitive behavioral therapy techniques (CBT). The

intervention stages in order are: (a) psychoeducation, (b) sleep improvement, (c) pain management, and (d) activities of daily living. The stages themselves were designed to be malleable based on the developmental stage of the child or adolescent living with JPFS (Degotardi et al., 2006). Intriguingly, it was determined that pain management programming worked best when sleep management strategies were enacted early within treatment as addressing sleep dysfunction provided a foundation for improving other areas of biopsychosocial functioning (Degotardi et al., 2006). Finally, Bennett et al. (2007) conducted an internet survey of 2596 people living with FMS to explore the demographics, information sources, medications used, functioning, and symptoms, perceived triggering events for FMS, perceived aggravating factors, management strategies, and how participants utilized health care. Participants indicated that the most effective management strategies were “rest, heat modalities, prescription pain medications, prescription medications, prescription antidepressants, prescription sleep medications, prayer, massage, and pool therapy” (Bennett et al., 2007, p. 5). The connecting thread amongst all these publications is that people living with FMS should be treated holistically, and in ways that empower them to facilitate and self-manage their FMS.

Fibromyalgia support groups. Some individuals utilize FMS support groups as part of their self-management programs. The literature indicates that some of those living with FMS seek peer support online rather than in person (Chen, 2012; van Uden-Kraan et al, 2008). Chen (2012) did a cluster analysis of online support groups for breast cancer, type 1 diabetes, and FMS. Her findings indicated that the FMS support group had 6,100 posts, more than breast cancer (2,852 posts), and type 1 diabetes (2,806 posts) combined.

Furthermore, analysis of posts discussing the lived experience of those living with FMS revealed clusters related to non-specific issues such as websites and volunteering, as well as clusters pertaining to methods of support, treatment, medications/supplements, and self-management tips pertaining to diet, exercise and sleep (Chen, 2012). Lastly, Chen (2012) noted that “what differentiates [FMS] from other conditions is the need for legitimacy that patients experience due to others thinking that their symptoms are ‘imaginary’. Online support groups...provide a sense of ‘authenticity’ to their condition” (p. 251).

Similarly, van Uden-Kraan et al. (2008) used content analysis to examine the extent to which disadvantages occurred among three breast cancer groups, three FMS groups, and two arthritis groups, over a 3-month period. They also examined the potential disadvantages related to online asynchronous communication, quality of medical information, use and evaluation of health care services, and negative postings in which comments perpetuated negative feelings such as fear, anger, and sadness (van Uden Kraan et al., 2008). Results indicated that disadvantages occurred very minimally, and that FMS postings overall appeared to serve a “normalizing experience” (van Uden Kraan et al., 2008, p.320). The researchers also noted that “participants not only receive help but have the opportunity to provide help to others” (van Uden Kraan et al., 2008, p. 310).

Lastly, Kurtze et al. (2001) surveyed 322 female members with a mean age of 45.6 years ($SD = 9.8$) from two regional support groups of the Fibromyalgia Association in Norway to examine how pain, emotional symptoms, physical barriers, and lifestyle choices impacted the employment status of those living with FMS. They found that “subjective work ability significantly predicts employment status” (Kurtze et al., 2001,

p.48), but not affective symptoms, lifestyle, pain and physical limitations. Furthermore, employment had a distraction quality for those living with FMS.

Creative Arts Therapies with FMS and Chronic Pain

Little research has been conducted in creative arts therapies with people who are living with FMS or chronic pain. Within this section contributions from art, drama and dance therapies will be examined, with music therapy being examined in a separate section. Four of the five studies examined involved the various groups of researchers led by Bojner Horwitz, and utilized dance/movement therapy techniques (Bojner Horwitz, Theorell, & Anderberg, 2003, 2004; Bojner Horwitz, Kowalski, Theorell, & Anderberg, 2006) and compared dance/movement therapy techniques to drama therapy techniques (Bojner Horwitz, Kowalski, & Anderberg, 2010). All four studies examined the efficacy of dance/movement therapy and/or drama therapy in the treatment of FMS, while also seeking to examine the efficacy of video interpretation as an assessment tool versus other means of assessment. For video interpretation participants indicated their perceptions of their mobility, life energy, and movement pain. Throughout each study the themes of body awareness, self-awareness, movement, self-control, emotional exploration, and self-perception were prominent (Bojner Horwitz et al., 2003, 2004; Bojner Horwitz et al. 2006; Bojner Horwitz et al., 2010). Lastly, Bojner Horwitz et al. (2010) found that FMS participants exhibited more emotional expression when acting with professional actors, as it was supportive and many of the FMS patients “lacked someone in their lives who was willing to listen and support them in the later years of their illness” (p.18).

Angheluta and Lee (2011) evaluated the quality of literature that pertained to art therapy and non-malignant chronic pain. Prominent themes contained within this

literature included dependency/loss of autonomy, pain focused thinking, feelings of separateness from the body, and feelings of chaos. They also found that art therapy appeared to be most useful in addressing psychosocial functioning and awareness, verbal and non-verbal communication, self-management skill development, and understanding the lived experience of pain through art (Angheluta, & Lee, 2011).

The Use of Music by Other Health Professionals to Treat FMS and/or Chronic Pain

A number of non-music therapist researchers have examined how music may be used to treat FMS and/or chronic pain. Pain management nursing researchers examined the efficacy of a self-administered music listening program on the reduction of chronic pain and depressive symptoms with FMS and chronic pain sufferers (Oneiva-Zafra et al., 2010; Siedlecki, 2009). In both studies, music groups showed a significant decrease in pain as compared to control groups (Oneiva-Zafra et al., 2010; Siedlecki, 2009). Oneiva-Zafra et al. (2010) also found that “listening to music at least once a day for ≥ 30 minutes can help to assist in the control of pain in people diagnosed with FM,” (p. 5). The authors stated that this research showed “the importance of music therapy as a nursing intervention” in relation to self-management of pain and depression (Oneiva-Zafra et al., p.1). However, no music therapist was involved in these studies nor were the researchers utilizing music therapy techniques (i.e., the music was selected by the researchers rather than by the participants). Although both programs had promising results, it would be important to examine whether the use of self-selected music would provide different results. A chapter by music/health psychology researchers Mitchell and Macdonald (2012) examining evidence from experimental perspectives on the influence of music on pain indicated that the use of preferred music listening led to “longer tolerance and

greater perceived control” over pain as compared to a silence control group and a visual art groups, although pain intensity ratings were inconsistent (p. 234). Although findings were made through controlled experiments in which the influence of music on pain was examined through experimental conditions such as cold pressor trials rather than with those living with chronic pain conditions such as FMS, they may be transferable with working with those who experience chronic pain. However, more research is needed.

Prasanna (2009), an occupational therapist, explored the influence of music on movement speed in those living with FMS. She sought to use music as motivation rather than pain relief, hypothesizing that “music may impact mood and promote better movement” in relation to movement slowing associated FMS’ progression (Prasanna, 2009, p. 34). She found fast music improved gait speed, with maximum speed correlating with 126 to 142 beats per minute, while slow music resulted in lower gait speeds than baseline measurements (Prasanna, 2009). She noted that “rhythmic synchronization” occurred and that participants reported that the music was helpful (Prasanna, 2009 p. 55).

Music and medicine researcher, Chesky (1992), examined the efficacy of music and vibration through a music vibration table (MVT™) in the treatment of those living with rheumatoid arthritis (RA). The results indicated that the combination of music and MVT provided greater pain relief than the use of music or the placebo alone due to the stimulation of pain receptors over the whole body. Chesky, Russell, Lopez, and Kondraske (1997) studied how music and musically fluctuating vibrations via the MVT could affect tender point pain in people living with FMS. They determined that when used in conjunction with regular treatment regimens, MVT works best when utilized “on

a regular basis, or in situations of FMS ‘storm’ when there has been a severe exacerbation of symptoms, or as intermittent maintenance therapy” (Chesky et al., 1997, p. 48).

Finally, a group of researchers consisting of Mitchell, Macdonald (music psychology), Knussen (anesthesiology), and Serpel (health psychology) (2007) surveyed 318 chronic pain sufferers between 24-90 years old about the role music played in their lives and in their pain management. They found a significant positive correlation between high frequency of music listening (2.5 hours+/day) and quality of life scores, and the chronic pain sufferers identified that they benefited from using music for relaxation and distraction from their pain. Also, the more important music was to a person, the more likely they were to use music to aid in pain relief (Mitchell et al., 2007).

It should be noted that all six studies reviewed above used recorded music as the intervention, each time with positive effects. With the exception of Chesky et al. (1997) however, the studies made no reference to music therapy methods of pain management in their literature reviews or discussions (Chesky, 1992; Mitchell et al., 2007; Oneiva-Zafra et al., 2010; Prasanna, 2009; Siedlecki, 2009). Therefore, it would be beneficial for music therapy researchers and other researchers to work together in order to obtain a more comprehensive understanding on how music may be used to address issues related to FMS and/or chronic pain.

Music Therapy with Fibromyalgia and Chronic Pain

Current music therapy research with FMS and chronic pain. To date, little music therapy research exists on the use of music therapy with FMS or non-malignant chronic pain. The American Music Therapy Association (AMTA) (2010) has indicated that music therapy can make a difference in the management of pain and discomfort, and

help to reduce anxiety and stress, as well as positively change moods and feelings, associated with pain. Although FMS and chronic pain were not specifically mentioned, they suggested treatment goals may be considered transferable to chronic pain interventions stating that it could be used to: direct attention away from pain or anxiety; provide a musical stimulus for rhythmic breathing; offer a rhythmic structure for systematic release of body tension; cue positive visual imagery; condition a deep relaxation response; change mood; and to focus on positive thoughts and feelings and to celebrate life (AMTA, 2010, p. 4).

Tanamura and Nagata (2006) utilized receptive music therapy techniques to facilitate catharsis in women living with FMS. They as music therapists took on the role of performer and did what they called a therapeutic concert. They took a salutogenic approach, believing that activating participants' attentive emotions would promote well-being and serve as a resource (Tanamura, & Nagata, 2006). They found that participants' "sympathetic and parasympathetic nervous systems were excited during the catharsis stage" of the music therapy session, and that those who placed greater importance on music's role in their lives felt a higher degree of catharsis (Tanamura, & Nagata, 2006, p. 106).

Jacobi addressed the bio-psychosocial needs of RA sufferers between 26-78 years old through the use of Bonny Method of Guided Imagery and Music [BMGIM] (Jacobi, 1994). Her findings indicated "significant differences in level of psychological distress" and pain perception, but no biological changes in disease (Jacobi, 1994, p.41). She also found life satisfaction was influenced by "employment, social, family, and recreational

functioning” and pain and psychological symptoms reduction helped to improve overall functioning and quality of life (Jacobi, 1994, p.41).

Bradt (2006) used feminist values to frame an analysis of her clinical music therapy work with a group of female college students living with chronic pain. Bradt (2006) noted that despite their inner strength, “the truth is that people with chronic pain repeatedly find themselves being judged and devalued” (p.291). She addressed socially-constructed stereotypes facing chronic pain sufferers daily, including the physiological and visible legitimization of their pain, and the subsequent assumption of psychological reasoning for their pain in absence of etiology (Bradt, 2006). Other stereotypes explored through vocal psychotherapy included the “genderization of pain” by the medical community through the prescription of sedatives over pain medication, implying the treatment of emotion over physicality (Bradt, 2006, p. 295), and society’s view of “pain as an enemy that needs to be driven out,” (Bradt, 2006, p. 297). Society stigmatizes the acceptance of chronic pain when in actuality acceptance aids in pain management (Bradt, 2006). Lastly, Bradt (2006) identified the goals of “empowering the muted self”, “strengthening the muted voice”, “reconnecting to the divorced body”, “reviving muted emotions”, and “creating a new self” as important in music therapy treatment of those living with chronic pain (p.297-304).

Most recently, Koenig et al. (2013) reviewed a decade worth of their collective research to develop active music therapy outpatient treatment manuals framed within a biopsychosocial paradigm for individuals with recurrent or chronic pain. Their findings indicated that providing music therapy tailored to each person’s individual needs was “beneficial in reducing pain frequency and intensity in patients with recurrent or chronic

pain” (Koenig et al., 2013, p. 150). The manual outlines three phases, each one having one to two therapeutic aims which are linked to a music therapy-specific factor, and the corresponding music therapy technique. Phase one, *improvement of subjective wellbeing* has the therapeutic aim of “reminiscence of wellbeing”, and the music therapy-specific factor employed is “musical-supported activation of resources”, for which receptive music therapy techniques are utilized. Phase two, *reduction in symptomatic distress* aims to address emotional flexibility with the specific factor of musical flexibility being approached through the technique of free improvisation. Phase two also aims to emotionally activate individuals through by musically supporting imagination, activation, and development of emotional states through vocal and/or instrumental improvisations on the themes of symptoms and daydreams. Lastly, phase three addresses two aims. The first is “proving and implementing more flexible ways of behavior and experience” by “proving adequate nonverbal forms of interaction”, which is addressed through reality-based and ritualized improvisations. The second aim is generalization, within which achieved progress is stabilized and termination of therapy is addressed through a musical self-portrait and treatment evaluations (Koenig et al., 2013, p. 153). Although this treatment program does not address FMS specifically it is, to my knowledge, the most detailed report on a music therapy intervention program that exists, and can positively influence subsequent programming created for FMS, including that being proposed by the current study.

Music therapy support groups. As noted above, there is little written to date regarding the use of support groups, traditional group therapy, and group therapy in creative arts therapies contexts for adults living with FMS. Furthermore, with the

exception of Bradt's (2006) chronic pain group, music and music therapy interventions contained in the literature have been designed for individual sessions. However, Chen (2012) noted that online support groups provide those living with FMS with a sense of authenticity in relation to their condition, while van Uden Kraan et al. (2008) stated that online support groups allowed for a sense of normalcy and provided a place to both receive and offer help in relation to their FMS. Therefore, it could be argued that it would be beneficial to examine the potential of using offline music therapy support groups for adults living with FMS.

Support groups are defined as groups that aim to “provide mutual support for individuals who share common experiences or situations” (Rykov, 2006, p. 8; Toseland & Rivas, 2005, 2012) and are facilitated by members of the group or a professional. They do not have psychoeducational teachings, disease education, or psychological coping strategy components (Rykov, 2006; Toseland & Rivas, 2005, 2012). *Music therapy support groups* provide support for group members through “participation in creative musical experiences” (Rykov, 2006). They provide unique opportunities not present in traditional verbal support group formats, as group members can express themselves through music simultaneously, while verbal therapy maintains sequential dialogue (Rykov, 2006). As well, they can provide a nonverbal means of processing and expression for those uncomfortable with traditional verbal support groups (Young, 2009; Iliya 2011).

Music therapy support group goals are dependent on the populations they seek to help, however, an examination of the literature yielded research on music therapy support groups for people living with cancer (Young, 2009; Rykov, 2006; Dvorak, 2011),

coronary heart disease (Leist, 2011), Parkinson's disease (Elefant, Baker, Lotan, Lagesen & Skie, 2012), and homeless men living with mental illness (Iliya, 2011). Collectively, these publications contain goals and guidelines that could be relevant to FMS music therapy support group interventions. These include: support groups that address health from a biopsychosocial perspective (Rykov, 2006; Dvorak, 2011; Young 2009) and the promotion of health and wellbeing or wellness, body and self-awareness, and creative exploration through the use of instrumental or vocal techniques (Young, 2009; Dvorak, 2011; Leist, 2011; Iliya, 2011; Rykov, 2006). These goals and guidelines are consistent with Jain et al's (2003) consensus document written for medical doctors helping people living with FMS which states that treatment programs should address physical, psychological, and social symptoms, thus supporting the use of a biopsychosocial framework within music therapy support group formats.

Additional benefits of music therapy support groups include, but are not limited to empowerment and finding internal support (Rykov, 2006; Young, 2009); finding "meaning and purpose in the face of illness" (Leist, 2011, p. 26); positive social interactions, shifting mood and providing an outlet for emotional and creative self-expression (Iliya, 2011; Young 2009). Most of the studies highlighted benefits of group singing, be it in music therapy support groups, group music therapy, or singing and wellness groups. Rykov (2006) utilized songs "to provide support and evoke issues" that were relevant to the experience of living with cancer (p. 62). Young (2009) also addressed the benefits of using pre-composed songs, explaining that they were "an accessible medium of self-expression as both individuals and groups as a whole can identify with or express themselves through lyrical themes or musical moods" (p. 19),

and that it could facilitate reconnection with one's sense of identity through the support and acceptance felt when personally meaningful repertoire is added to the group's repertoire. These benefits were echoed by Iliya (2011) who agreed with song's capacity for expression and pointed out that song form can structure emotional exploration.

Both Iliya (2011) and Young (2009) discussed how singing can help one connect with one's body and help one "find or re-find their voice" (Young, 2009, p. 23), a sentiment that echoes the themes addressed by Bradt (2006) in her chronic pain group. Singing's physical benefits also include relaxation, energy and tension release (Iliya, 2011), and strengthening of abdominal muscles (Elefant et al., 2012), all relevant areas that can be addressed for those living with FMS.

Lastly, group singing is a social experience. It fosters feelings of belonging, communication, interaction, purpose, accomplishment, connection, improved quality of life and joy in moments of mutual vulnerability (Iliya, 2011; Young 2009). Most of all, singing programs are accessible as "individuals at all cognitive levels can use their voices, and all individuals can release a feeling without feeling the need to know how to play an instrument" (Iliya, 2011, p. 20), which means music therapy support groups may be beneficial to those living with FMS.

Defining health and quality of life in relation to music therapy. To define health is inherently complicated when it comes to human beings, as our personal perceptions of our own health are dependent on how we view the combination of our physical, psychological and social wellbeing. Ruud (1997) believed that health and disease should be separately defined since "someone may objectively be defined as ill, but if it does not interfere with their attainment of set goals then they have a degree of

health” (p. 89). As FMS affects multiple areas of biopsychosocial functioning to varying degrees for each individual living with it (Jain et al., 2003), it could be argued that a broader concept of health could lead to a more holistic management of symptoms that also addresses each person’s individual perceptions of their own health. Stige and Aarø (2012) describe three dimensions of health: (1) health as the absence of disease; (2) health as wellbeing, in relation to contentment and “satisfaction with aspects of one’s life, such as family, work, and leisure time”; and, (3) that health and wellness are also dependent on how challenges are coped with and mastered in daily life (p. 69). They argue that if music therapists are to address all of these dimensions of health, then they need to take relational and contextual factors into account when working with clients (Stige & Aarø, 2012).

Both Stige (2012), and Ruud (1997) discuss the concept of health as performance, both indicating that the perception of what one does to attain what they perceive as good health is a performance of their identity and search for meaning. Therefore the use of music, or health musicking, which is “defined as the appraisal and appropriation of the health affordances of the arena, agenda, agents, activities, and artefacts of a music practice” (Stige, 2002, p. 211), can be seen as a resource to support the performance of health itself (Stige, 2012).

In providing clients with and/or guiding clients in their personal attainment musical health resources, the question of how music therapy affects quality of life arises. Ruud (1997; 2012) addressed this, arguing that musicking benefits four dimensions of quality of life—*vitality*, *agency*, *belonging* and *meaning*. Vitality refers to one’s emotional life and awareness, whereas agency refers to the degree that one is empowered

to advocate for themselves (Ruud, 1997; Ruud, 2012). Belonging references one's social wellbeing, the ability to bond, and the degree of social support one receives, while meaning relates to the positive emotions and value one places on skills that they perceive as meaningful aspects of their identity (Ruud, 1997; Ruud, 2012). Musicking can benefit all these dimensions of quality of life by serving as a resource for emotional reconnection and awareness, fostering bonds and social interaction, and exploring and providing avenues for agency and finding meaning.

Consequently, in an effort to develop a preliminary model of the impact of singing on health, Clift (2012) identified the following six mechanisms: "positive affect, focused concentration, deep controlled breathing, social support, cognitive stimulation, and regular commitment" (p. 119). Concurrently, Ruud (2012) identifies the act of musicking as a *cultural immunogen* addressing that the act of listening and making music promotes qualities of health (p. 87). As participation in music is an active endeavor, it is that active engagement in music that becomes a resource in performing health itself (Ruud, 2012). This leaning towards active engagement lends to the notion that health "benefits will only continue if interventions developed can lead to regular use of resources after the close of the group" (Stige, 2012, p. 191). Ruud (2012) therefore posits four questions that music therapists should ask themselves when creating and facilitating community music activities aimed at promoting health: (a) can musical activities influence the health situation of individuals or groups?; (b) what is the nature of a successful musical intervention?; (c) what are the most salient experiences of the participants?; and (4) what are some of the links between cultural participation and our conception of health? (p. 89).

As we examine how we define health, quality of life, and the impact of music on FMS, we must also acknowledge how the therapeutic relationship itself can be used as a resource in the attainment of good health and quality of life for our clients. Therefore, the shift from music as treatment to music as empowerment through an egalitarian, resource-oriented music therapy relationship will now be explored.

Resource-oriented music therapy. As treatment programming for FMS advocates empowerment strategies for people living with FMS (Jain et al., 2003), the interventions and interventions strategies utilized within this intervention research will be influenced by the resource-oriented music therapy approach as described by Rolvsjord in her 2010 book and 2004 journal article on empowerment in music therapy. This section provides an overview of how the resource-oriented music therapy approach applies to the current research. Although Rolvsjord's 2010 book examines case studies in a one-on-one context with clients living with mental health issues, the general characteristics of the approach remain appropriate for use with an FMS music therapy support group as they revolve around resourcing, strengths recognition and development, collaboration, and empowerment. Rolvsjord (2010) suggested this transferability by noting, "the hope is that the ideas of a resource-oriented approach, even if exact definitions cannot be offered, will evoke a process of further generalization in the reader and thus be useful for music therapy researchers and music therapists in their practice" (p. 74).

According to Rolvsjord (2010), there are four main characteristics of resource-oriented music therapy: (a) *resource-oriented music therapy involves nurturing of strengths, resources, and potentials*; (b) *resource-oriented music therapy involves collaboration rather than intervention*; (c) *resource-oriented music therapy views the*

individual within their context; and (d) *in resource-oriented music therapy music is seen as a resource*. The first characteristic encompasses how a central precept within music therapy is to aid in the discovery, maintenance and development of our client's internal strengths and resources (Rolvsjord, 2010). In music therapy these can relate to the client's musical resources, competence and potentials—both in therapy and in their use of music in everyday life (Rolvsjord, 2010). Fostering one's strengths and resources allows the client to become more resilient to stress and illness through active engagement and enabling social participation (Rolvsjord, 2010). With FMS, reconnecting, or acknowledging said strengths and resources is of benefit as it engenders trust and awareness of their lived experiences so that, as Jain et al. (2003) stated, “they can achieve a lifeworld environment in which they can be as active as possible without aggravating their symptoms, and then gradually expand their activity boundaries” (p. 22).

The second characteristic of resource-oriented music therapy pertains to equal collaboration rather than intervention (Rolvsjord, 2010; Rolvsjord, 2004). Being an intervention research method, this may seem counter-intuitive to the creation of an intervention program. Nevertheless, the intention of this resource-oriented music therapy support group program is to arrive at goals collectively with the group members, and to provide them with the opportunity to develop resources that they can utilize outside the group to ensure that positive outcomes continue. Within this framework, responsibility is shared equally, and the therapeutic alliance becomes about the composition of collaboration of goals and tasks of therapy (Rolvsjord, 2010; Rolvsjord, 2004). Therefore, the creation of an egalitarian therapeutic relationship is key, replacing the expert-client power imbalance seen in therapy with active collaboration that engenders

the client to actively promote their own personal health without leading to helplessness, replacing dependency with interdependency (Rolvsjord, 2010; Rolvsjord, 2004). Three interdependent aspects of collaboration are: (a) *equality*, otherwise described as actively and consciously “striving toward ideals of equal rights, counteracting oppressive power relations” (p. 79); (b) *mutuality*, referring to the shared responsibility, engagement, and emotional response and commitment to the therapeutic collaboration; and (c) *participation*, such as the act of musicking together (Rolvsjord, 2010).

The third characteristic of resource-oriented music therapy sees the client within their context (Rolvsjord, 2010). Musically, this means contextualizing not only their world outside the therapy room, but also the ways they utilize music within that world and how they could use what they learn in music therapy in their daily lives (Rolvsjord, 2010; Rolvsjord, 2004).

The fourth characteristic is that music is seen as a resource within resource-oriented music therapy (Rolvsjord, 2010). This relates to both their own musical resources and strengths, and those that they have access to outside of music therapy (Rolvsjord, 2010). We as music therapists must not neglect the client’s already existing musical competence, as people use music to regulate and process emotions and social relationships every day (Rolvsjord, 2010). As music therapists we must protect the right to accessing music, thus enabling the use of it as a resource (Rolvsjord, 2010; Rolvsjord, 2004). Rolvsjord (2010) noted that “music therapy works because the client has access to and an ability to use the musicking on offer in this setting in ways that promote growth, development, and change” (p. 83).

That being said, the therapeutic relationship itself encompasses the client's craft and the therapist's craft (Rolvjord, 2010). Within the client's craft one must see the client within context and not as a pathology or conflict in need of fixing (Rolvjord, 2010). Problems are not ignored; however, music therapy becomes equally about what the client does to make the therapeutic relationship work as well as what the therapist does (Rolvjord, 2010). Once again, this relates to the client's musical competence, how they use what is learned in and outside of therapy, and how to use strategies of self-righting and self-help between sessions to reassess their perspectives, potentials, achievements, and outcomes of their therapeutic experiences (Rolvjord, 2010).

Within resource-oriented music therapy a guidepost of the therapist's craft is shifting "focus of interest from therapeutic intervention (what the therapist does) to how the client uses the therapy" (Rolvjord, 2010, p. 197). This shift in context in therapy influences the therapist's being, in other words how they contribute to the collaboration, and doing, the methods and techniques used (Rolvjord, 2010). In regards to the therapist's doing, Rolvsjord (2010) has created a list of principles to guide music therapists. Here I shall only list the first category, *Unique and essential therapeutic principles* of resource oriented music therapy, as they are the most important principles of this approach to keep in mind when reviewing this study: (1.1) focusing on the client's strengths and potentials; (1.2) recognizing the client's competence related to her or his therapeutic process; (1.3) collaborating with the client concerning goals of therapy and methods of working; (1.4) acknowledging the client's musical identity; (1.5) being emotionally involved in music; and (1.6) fostering positive emotions (Rolvjord, 2010, p. 204-213). Lastly, the therapeutic relationship within resource oriented music therapy is

egalitarian and encompass the concepts of doing together, equality as a performance of respect, negotiations as a performance of democratic participation, mutual empowerment, and authenticity and disclosure (Rolvjord, 2010).

Summary

The literature review shows that the complexities of FMS are best addressed by treatment programs focusing on all areas of biopsychosocial functioning (Jain et al, 2003; Degotardi et al., 2006; Bell, Carruthers, & TEACH-ME Task Force, 2005), through empowerment, awareness, and self-management. Some with FMS participate in support groups as they provide a sense of normalcy, authenticity, and an opportunity to both be helped and help others (Chen, 2012; Uden Kraan et al., 2008). Themes that arose in dance/movement therapy and drama therapy included body awareness, self-awareness, movement, self-control, emotional exploration, and self-perception (Bojner Horwitz et al., 2003, 2004; Bojner Horwitz et al. 2006; Bojner Horwitz et al., 2010), and in art therapy themes included dependency/loss of autonomy, pain focused thinking, feelings of separateness from the body, and feelings of chaos (Angheluta, & Lee, 2011).

Despite a lack of music therapy research into FMS and/or chronic pain, a number of non-music therapist researchers examined how music may be used to treat FMS and/or chronic pain, finding that prerecorded music/music self-management programs aided with pain and symptom relief (Oneiva-Zafra et al., 2010; Siedlecki, 2009; Chesky, 1992; Chesky et. al, 1997) and improved movement (Prasanna, 2009). The little music therapy research to date has primarily involved one-one-one programming (Tanamura & Nagata, 2006; Jacobi, 1994; Bradt, 2006; Koenig et al., 2013). Consequently, music therapy support groups support through “participation in creative musical experiences” (Rykov,

2006, p.8), allow for benefits that touch on all areas of biopsychosocial wellbeing (Rykov, 2006; Young, 2009; Iliya 2011; Dvorak, 2011; Elefant et al., 2012; Leist, 2011). Through said musical experiences, participants in music making for health can personally define health and quality of life based on their individual context, (Ruud, 1997, 2012; Stige & Aarø, 2012). Lastly, as FMS treatment programming advocates the use empowerment strategies for people living with FMS (Jain et al., 2003), the interventions and interventions strategies utilized within this intervention research are framed by Rolvsjord's (2010) resource-music therapy approach as it is strengths-based, collaborative, egalitarian, and contextual in nature, and pairs well with the egalitarian, and self-management values associated with a support group format.

Chapter 3: Methodology

The current chapter outlines how intervention research methodology was utilized and the criteria that guided the design of a resource-oriented music therapy support group intervention for adults living with Fibromyalgia. The intervention research methodology was informed by Fraser and Galinsky's (2010) *Step's in intervention research: Designing and developing social programs*, and the criteria for developing specific interventions was informed by Robb, Burns, and Carpenter's (2011) *Reporting guidelines for music-based interventions*.

Research Design

Fraser and Galinsky's (2010) five-step method for intervention research encompasses a systematic analysis of the predetermined data sources as a means of designing interventions that implement change. The steps include: (1) "develop problem and program theories"; (2) "specify program structures and processes"; (3) "refine and confirm in efficacy tests"; (4) "test effectiveness in practice settings"; and (5) "disseminate program findings and materials" (Fraser & Galinsky, 2010, p. 463). This master's thesis will encompass the first step and part of the second step.

The first step of the model involves the development of problem and program theories related to designing a resource-oriented music therapy support group intervention for adults living with FMS. This entails systematically determining the risks, protective and promotive factor associated with FMS to develop a problem theory (Fraser & Galinsky, 2010). This is followed by the identification of malleable mediators which form a program theory, and the identification of the "intervention level, setting, and agents" that will then be incorporated into the design of the intervention (Fraser &

Galinsky, 2010, p. 463). The second step entails the design of the intervention program itself as informed by the data analysis performed in step one. For this thesis, I designed the initial version of the intervention program where I outlined the essential content and fidelity criteria for administering the intervention (Fraser & Galinsky, 2010). I addressed the music therapy research questions through the systematic analysis and synthesis of current literature pertaining to FMS and the use of music and music therapy with FMS.

Intervention Criteria

The intervention(s) contained in this study are presented according to the guidelines proposed by Robb, Burns and Carpenter (2011) to ensure that the music interventions described meet the necessary principles of transparency and specificity. In Appendix B you will find the *Checklist for Reporting Music-Based Interventions*, which the authors noted could be “reprinted and used without permission as a tool to help ensure transparent reporting of music based interventions” (Robb, et al., 2011, p. 273). Their guidelines were developed in line with Consolidated Standards for Reporting Trials (CONSORT) and Transparent Reporting of Evaluations with Non-randomized Designs (TREND) statements and adjusted to take the unique attributes of music-based intervention reporting into consideration since music adds an element of complexity to maintaining transparent reporting (Robb, et al., 2011). The items on the reporting checklist encompassed the inclusion of the following information when reporting on music-based interventions: (A) Intervention theory; (B) Intervention content, including (B.1) Person selecting the music, (B.2) Music, (B.3) Music delivery method (live or recorded), (B.4) Intervention materials, and (B.5) Intervention strategies; (C) Intervention delivery schedule; (D) Interventionist; (E) Treatment fidelity; (F) Setting; and (G) Unit of

delivery (Robb, et al., 2011). Although some elements, such as intervention content and setting, are not fully known at this stage of the current research, parameters can be adjusted accordingly once the program is implemented in any future research project.

Data Collection

Data was collected for this thesis through a systematic analysis of current literature from the fields of music therapy, music and medicine, medicine, psychology, creative arts therapies and the social sciences. The FMS consensus document outlining the Canadian clinical working case definitions as well as diagnostic and treatment protocols and the *Teach-Me* sourcebook to help teachers accommodate students living with JPFS was obtained through the National Myalgic Encephalomyelitis/Fibromyalgia Action Network. Music therapy books containing relevant chapters were purchased online through Barcelona Publishers, Routledge, Hugo House, Jessica Kingsley Publishing, and MMB Music Inc. Journal articles and doctoral dissertations were obtained through database searches via PsychInfo, PubMed, ProQuest etc., with music therapy sources coming from the Canadian Journal of Music Therapy, Journal of Music Therapy, Nordic Journal of Music Therapy, Voices, the Australian Journal of Music Therapy, and allied creative arts therapies and medical publications.

Once all of the sources were obtained, the literature was broadly categorized to aid in analysis. Those categories were: Fibromyalgia Syndrome (FMS); treatment methods and intervention programs for FMS; how creative arts therapies has been used for FMS and chronic pain; the use of music with FMS and chronic pain by other health professionals; music therapy and FMS and chronic pain; music therapy support groups; music, health and wellbeing; and resource-oriented music therapy.

Data Analysis

This intervention research utilized open, axial and selective coding methods to organize and analyze what was most meaningful from the data obtained from the literature (Neuman & Robson, 2009; Neuman, 2006; Wingate, 2013). Notes on each source of literature were open coded to determine initial themes and assign initial codes, and said data was then consolidated into broader overarching themes through axial coding (Neuman & Robson, 2009; Neuman, 2006). Due to the breadth of the data pertaining to malleable mediators and action strategies, a second round of axial coding was performed on data identified for that purpose. Finally, selective coding was performed to pull specific data that conveyed the themes themselves effectively (Neuman & Robson, 2009; Neuman, 2006).

Step one: Development of problem and program theories. The problem and program theories were developed through open coding of the data that initially determined the risks, protective and promotive factors associated with FMS, and were then made more specific through axial coding (Fraser & Galinsky, 2010). Coding associated with program theories yielded malleable mediators related to a resource-oriented approach to foster awareness and develop self-management strategies for those living with FMS. Links between malleable mediators and action strategies were made through an analysis of FMS and chronic pain intervention programs and my own experiences as a music therapist and as an adult living with FMS.

Step two: Program structures and processes. Data analysis performed in step one was utilized to inform the design of the intervention program. Intake procedures, interventions, session plans, and essential content were examined. Lastly, information

included in the intervention design was scrutinized to ensure that it followed the music-based reporting guidelines for intervention research as closely as possible to enable specificity and eventually transparency, once the intervention is implemented in a future project.

Chapter 4: Results

Step One: Development of the Problem and Program Theories

Identification of the problem. FMS is a generalized soft-tissue chronic pain syndrome that affects the physical, emotional, and social functioning of individuals living with it (Jain et al., 2003; Bradt, 2006; Koenig et al., 2013; Degotardi et al., 2006; Bennett et al., 2007). Previous one-on-one treatment programs developed specifically for children and youth with JPFS (Degotardi et al., 2006), and adults with chronic pain (Koenig et al., 2013) addressed physical functioning, emotional functioning, and long-term quality of life. However, as they were one-on-one, they did not explore the possible benefits of support groups on said areas of functioning, in addition to social functioning. Lastly, as emotional, physical and social functioning are affected, an empowerment approach is advocated by medical professionals as a means of fostering awareness of symptoms and self, and developing self-management strategies (Jain et al., 2003).

Program theories. The overarching theory of the program is that music therapy methods are an effective way of addressing emotional, physical, and social functioning associated with living with FMS (Koenig et al., 2013; Bradt, 2006; AMTA, 2010). Also, the empowerment, strength and resource based principles associated with resource-oriented music therapy (Rolvjord, 2010), as well as mutual support and the shared common experiences of a support group format (Rykov, 2006; Toseland & Rivas, 2005, 2012), are both viable and effective frameworks for fostering awareness and developing self-management strategies for those living with FMS.

Malleable mediators. Five malleable mediators were determined from the data, and fall within the categories of awareness and self-management.

Awareness. In her group work with women living with chronic pain, Bradt (2006) noted that “for chronic pain patients, the awareness and acceptance of the fact that the pain is here to stay will often be more beneficial in reducing the suffering than trying to desperately escape from the pain” (p. 297). In an internet survey conducted by Bennett et al. (2007) of 2596 people living with FMS, “six of the most frequently cited exacerbating factors involved some form of emotional distress (endorsed by 83% of respondents)” (p. 8). Also, throughout the literature, goals and treatment strategies aimed to facilitate and/or support body awareness (Prasanna, 2009; Angheluta, & Lee, 2011; Bojner Horwitz et al., 2003; Bojner Horwitz et al., 2004; Bojner Horwitz et al., 2010; Koenig et al., 2013; Bradt, 2006) and foster trust of their own lived experiences and symptoms (Jain et al., 2003; Bradt, 2006). Therefore, the three malleable mediators associated with awareness are: to foster or maintain emotional awareness; to improve or maintain body awareness; and to develop self-trust through awareness of strengths and resources.

Self-management. As emotional distress is seen as a common exacerbating factor for those living with FMS (Bennett et al., 2007) a malleable mediator within the framework of developing self-management strategies is to provide tools and opportunities for emotional expression. In addition to emotional expression, disturbed sleep and coping with pain were two areas addressed within FMS treatment guidelines and interventions (Degotardi et al., 2006; Jain et al., 2003; Prasanna, 2009; Siedlecki, 2009; Oneiva-Zafra et al., 2010; Koenig et al., 2013). Within the framework of the support group, sleep cannot be addressed. Also, since FMS is a generalized soft-tissue pain syndrome (Jain et al., 2003) and pain itself cannot be targeted alone due to its subjective and multisystem

qualities in FMS. However, music therapy techniques can address relaxation (Mitchell et al., 2007; AMTA, 2010; Iliya, 2011), and may support the creation of a “healing environment” by helping to promote the four S’s: simple, serene, slow, and supportive (Jain et al., 2003, p. 23). Therefore, the last malleable mediator for self-management is to develop musical resources that promote relaxation and tension relief.

Summary. The following five malleable mediators were determined as having the potential to positively influence awareness and help develop self-management strategies:

1. To develop self-trust through awareness of strengths and resources.
2. To foster or maintain emotional awareness.
3. To improve or maintain body awareness.
4. To provide tools and opportunities for emotional expression.
5. To develop musical resources that promote relaxation and tension relief.

Action strategies. The action strategies will be grounded in the characteristics of resource-oriented music therapy and in support group formats. Vocal and receptive music therapy techniques will be utilized and their specific uses are outlined below.

To develop self-trust through awareness of strengths and resources. This action strategy is intertwined throughout the approach and the format of the support group itself. The weekly session format is designed to foster egalitarian and collaborative relationships between the group members and the music therapist, encouraging a supportive environment. Also, the program design itself incorporates an oscillation between the introduction of a musical resource, and opportunities of choice, which through scaffolding allow for mastery of skills and recognition of tools and strengths they can use later.

To foster or maintain emotional awareness. Emotional awareness will be primarily facilitated through brief check-in activities designed to musically foster emotional awareness. As phases progress, singing of pre-composed songs chosen by the group and active vocal and receptive relaxation activities will also facilitate emotional awareness.

To improve or maintain body awareness. Body awareness will be achieved through weekly vocal warm-ups, and music-guided relaxation utilizing receptive, vocal, and breathing techniques.

To provide tools and opportunities for emotional expression. Emotional expression will be fostered through the choices that are integrated within the program design. Also, the brief check-in at the start of each session will reinforce expression. As well, song choices throughout the program, and the use of chanting and toning in later sessions will provide multiple opportunities for emotional expression.

To develop musical resources that promote relaxation and tension relief. As muscle tension and emotional distress (i.e., worrying, stress) are common exacerbating factors according to those living with FMS (Bennett et al., 2007), receptive and active relaxation activities are incorporated into every session. They are designed to provide group members with relaxation resources they can use in their daily lives.

Step Two: Program Structures and Processes

Program goals and objectives. The goals and objectives are as follows:

Goal 1: To foster awareness.

Objective 1.1: Group members will foster self-trust by developing awareness of strengths and resources through participation in a collaborative support group process.

Objective 1.2: Group members will use musical check-ins, singing, and active and receptive relaxation techniques to foster or maintain emotional awareness.

Objective 1.3: Group members will use vocal warm-ups, music guided breathing techniques, relaxation, and singing activities to improve or maintain body awareness.

Goal 2: To develop self-management strategies.

Objective 2.1: Group members will use musical check-ins, and singing techniques as tools and opportunities for emotional expression.

Objective 2.2: Group members will use musical resources for promotion of relaxation and tension relief during and after support group sessions.

Program intake procedures and restrictions. To engender the mutual support characteristic of support groups, the group is restricted to those living with FMS. The group will be no larger than 12 to 15 people. The music therapist will form an alliance with chronic pain clinics, a local branch of the Arthritis Society, and/or local rheumatologists, who will refer people to the group. As this is a support group, formal clinical assessments will not be completed, although the music therapist as a facilitator will likely make notes at the close of sessions. Settings for sessions should ideally occur in a large room, with comfortable seating that will not exacerbate pain arranged in a circle, and have a piano and whiteboard. The setting should also have sufficient electricity for recording equipment and microphones.

Session format and phase structure. Each session will follow the same format, designed to address the same goals and objectives outlined above on a weekly basis. This is a 10-week program divided into five phases, each 2 weeks in duration. Each session will be 1 hour in duration. Each phase scaffolds on the resources, strengths and awareness

developed in the previous phase, within which choice is used in two ways: (1) to encourage mastery of musical resources so that they can be utilized in daily life; and (2) to foster a collaborative and egalitarian group dynamic. The session format is as follows: (1) vocal warm-ups (5 minutes); (2) brief check-in (10 minutes); (3) relaxation activity/techniques (10 minutes); (4) singing activities (25 minutes); (5) closing (10 minutes).

Program processes reporting format. The program phases below will all have the same session goals as indicated previously in the *Program goals and objectives* section. Therefore the descriptions of the phases will only outline the essential content and the session plans themselves.

Phase one. Phase One encompasses weeks one and two of the program.

Essential content. The essential content of Phase One is to lay the foundation for a collaborative support group environment. Collaboration will be established through the introduction of singing and relaxation activities, as well as through the creation of group determined rules. The group members will be encouraged to contribute song ideas for the creation of a song list or book to be utilized for the remainder of the program as a means of showing group members that they already have a degree of musical competence.

Session plan—Week one and two. Each session will begin with vocal warm-ups that will include gentle body stretches, breathing, and voice exercises. This will be followed by a brief check-in.

Brief check-in. During Week One, the check-in will be used to introduce the purpose of the group, and to collaborate on group ground rules. If time permits a brief discussion on what brought everyone to the group will be encouraged. During Week

Two, emotional awareness will be subtly introduced as the group members will be taught a simple lyric substitution song, such as *Peace is Flowing like a River*, or *I Got to Sing*. Each member will be given a chance to offer a new feeling word to complete the lyrics, which will then be sung by the entire group before moving on to the next person.

Relaxation component. In the first 2 weeks the group members will be eased into relaxation activities by starting with music-guided breathing activities. The music therapist will invite the group members to find a comfortable sitting position, with their eyes open or closed. Rhythmic grounding will be offered through the use of an ocean drum in the first week, and gentle drumming in the second week. The music therapist will use a calm flat vocal intonation to provide breathing instructions. When using the ocean drum, the music therapist will offer the group members an opportunity to operate the ocean drum with the help of the music therapist. At the close of the music-guided breathing, the music therapist will make sure that group members are grounded by bringing their awareness to their surroundings and the weight of their bodies in their chairs or on the ground.

Singing component. In the first week the group will be invited to choose from a list of songs pre-selected by the music therapist. The list will cover as many genres as possible. The group will be invited to sing two to three songs, following which they will be given an opportunity to collaborate on song suggestions to create a group-selected list of songs that will be used throughout the remaining sessions. Each group member will be encouraged to contribute so that all feel included. If they have difficulty thinking of a song, they will be invited to suggest a singer or genre. They will be told that they are welcome to add to the list as the group continues. In the second week, songs will be sung

from the group's song list. In both weeks, lyric sheets will be handed out in folders prior to the start of the singing component each week.

Closing. Each closing will begin with a brief announcement of what to expect the following week and/or what to keep in mind. In Week One they will be informed that they are welcome to bring pillows or mats to make themselves physically comfortable. A closing song will be sung. In Week Two the group will be asked to decide on which song may be a closing song that represents the group. When this song is selected it will become a weekly anthem/ritual for the group.

Phase two. Phase Two encompasses weeks three and four of the program.

Essential content. The essential content of Phase Two is to continue to foster the collaborative support group environment by singing songs from the group list, and through check-in activities. Awareness of musical competence will be fostered as songs begin to be familiar, resulting in increased recognition of strengths and resources. Body awareness will continue to be fostered through the relaxation component, and mastery of relaxation skills will begin to be introduced. The possibility of a capstone project, such as an iPod/CD project, will be discussed as a means of facilitating post-support group self-management.

Session plan—Week three and four. Each session will begin with vocal warm-ups that will include gentle body stretches, breathing, and voice exercises.

Brief check-in. During Week Three a conducting check in will be used in conjunction with singing. The music therapist will divide the group into trios or pairs, and assign each a note of the pentatonic scale. Tone chimes or bells can be used to reinforce the assigned tone. The music therapist will model how to conduct the group, showing the

extremes in mood (e.g. excited to lethargic). Group members will be invited to volunteer conducting the group as they sing.

During Week Four, the group will be invited to write a brief song about FMS. A template with blanks will be provided to make ensure speediness. Small percussion instruments will be available to add sound effects to the song.

Relaxation component. In week three the music therapist will introduce receptive relaxation. The music therapist will invite the group to find a comfortable position on the floor, or in their chairs, and to close their eyes. A short induction will be done and then a short piece of music will be played as the music therapist reads a relaxation script. At the close of the receptive relaxation activity the music therapist will bring their awareness back to their bodies and their surrounding to ensure they are grounded. If there is time they will be given a chance to discuss the imagery they might have experienced. During Week Four, the group will be given a choice for the relaxation activity, choosing between music-guided breathing and another receptive relaxation activity. The music therapist will prepare for both scenarios.

Singing component. For both weeks, two to four songs will be sung from the group's song list, and lyric sheets will be handed out in folders prior to the start of the singing component each week. Body awareness while singing will be brought to the group's attention through brief explanation of singing posture, and by singing while sitting and standing up throughout multiple renditions of the songs.

Closing. In Week Four, the group will be asked to think about whether they would like to have an iPod/CD project or a group songbook created for the end of the support group. Then the group's closing song will be sung.

Phase three. Phase Three encompasses weeks five and six of the program.

Essential content. The essential content of Phase Three build on the safe environment created by the support group. Emotional awareness and expression will be highlighted more as the group has become comfortable. Choice will be utilized in both the check-in and the relaxation component of the program to continue to foster awareness in all areas, and develop self-management. Whether or not a project will be worked towards will be decided in week five.

Session plan—Week five and six. Each session will begin with vocal warm-ups that will include gentle body stretches, breathing, and voice exercises.

Brief check-in. During Week Five, the music therapist will introduce an adapted version of a mirroring activity designed by Iliya (2011). The music therapist will use a gentle drumbeat on a frame drum to ground the group. Group members will be asked to make a vocal sound and movement to “get out a feeling inside of you” (Iliya, 2011, p. 19). Feelings will not be labelled in the moment so that flow is maintained. The group mirrors their fellow group member’s sound and movement (Iliya, 2011). This activity provides non-verbal awareness of emotion, and elicits body awareness.

During Week Six the group will be given a choice for their check-in, choosing between conducting, lyric substitution, singing their song, or repeating Iliya (2011) mirroring exercise. The music therapist will prepare for all scenarios.

Relaxation component. In Week Five the music therapist will introduce a chant activity to the group. The group will choose whether they wish to stand or sit for the activity and the music therapist will accommodate them accordingly. A theme for the chant will be chosen by the group, and one or two mantras will be chosen to be chanted.

The music therapist will start the chanting, oscillating dynamics if needed. The music therapist will end the chant by making the clients aware of their surroundings and bodies so that they can return to a grounded state. During Week Six the group will be given a choice for the relaxation activity, choosing between music-guided breathing, another receptive relaxation activity, or chanting. The music therapist will prepare for all scenarios.

Singing component. For both weeks, two to four songs will be sung from the group's song list, and lyric sheets will be handed out in folders prior to the start of the singing component each week. Body awareness while singing will continue to be fostered. Decisions on how to proceed with the group project will be made.

Closing. General announcements will be made as to what needs to be remembered for the following week. Then the group's closing song will be sung.

Phase four. Phase Four encompasses weeks seven and eight of the program.

Essential content. The essential content of Phase Four is to begin to work towards wrapping up and finding closure in relation to the music therapy FMS support group, while continuing to add to the musical resources the group has developed. Reflection on members' strengths, resources, and lessons from the group will be done through verbal dialogue and musical components.

Session plan—Weeks seven and eight. Each session will begin with vocal warm-ups that will include gentle body stretches, breathing, and voice exercises.

Brief check-in. During Week Seven a lyric substitution song will be used around two themes: joy and strengths. Using a similar format to that used in Phase One, the music therapist will invite the group members to shout out lyrics as the song progresses

that reflect their strengths and joys. During Week Eight the group will be given a choice for their check-in, choosing between conducting, lyric substitution, singing their song, or repeating Iliya (2011) mirroring exercise. The music therapist will prepare new versions for all scenarios.

Relaxation component. In Week Seven the music therapist will introduce toning to the group if they are in a place where toning will not be too unnerving. A new chant exercise will be created as an alternative if the toning is not a feasible option. The group will sit for the toning activity as a means of keeping them grounded. The music therapist will support the toning on piano or guitar through a simple two chord pattern. The group will be invited to sing tones or make sounds as they feel them. The music therapist will end the toning by vocally and musically bringing them back to tonic, and verbally making the clients aware of their surroundings and bodies so that they can return to a grounded state. During Week Eight the group will be given a choice for the relaxation activity, choosing between music-guided breathing, another receptive relaxation activity, toning or chanting. The music therapist will prepare for all scenarios.

Singing component. For both weeks, two to four songs will be sung from the group's song list, and lyric sheets will be handed out in folders prior to the start of the singing component each week. Progress will be made on the group project.

Closing. In Week Seven or Eight the group will be asked to think about what they would like to do in the final session (e.g., celebration). Then the group's closing song will be sung.

Phase five. Phase Five encompasses weeks nine and ten of the program.

Essential content. The essential content of Phase Five is to bring closure to the

support group experience by finalizing the group project, and bringing awareness to how they can each use their own resources for self-management outside of the support group.

Session plan—Weeks nine and ten. Each session will begin with vocal warm-ups that will include gentle body stretches, breathing, and voice exercises.

Brief check-in. During Week Nine the check-in will be a group call and response around a theme relating to closure. The group will be divided in two, and the call and response will be done using their voices while being supported by percussive or keyed instruments. During the final week the group will be given a choice for their check-in, choosing between singing their song, or lyric substitution. The music therapist will limit the choices to these to make sure that the mood stays upbeat and celebratory of the work the group accomplished.

Relaxation component. In Week Nine the group will be given a choice for the relaxation activity, choosing between music-guided breathing, another receptive relaxation activity, toning or chanting. The music therapist will prepare for all scenarios.

In the final week the group will return to the original music-guided breathing activity. This will create a full-circle mentality to the group and help with closure. Also, it is a less intense activity which will help ground the group in their final session.

Singing component. For both weeks two to four songs will be sung from the group's song list, and lyric sheets will be handed out in folders prior to the start of the singing component each week. In week nine the finishing touches will be made on the group project. In the final week the project will be handed out to the group.

Closing. In both weeks the group's closing song will be sung. In the final week this will be followed by a celebration. Group members will be given information sheets

detailing local counselling and music therapy resources that they can use if they wish to continue therapy in group or individual contexts.

Chapter 5: Discussion

This thesis combined a systematic analysis of current literature from the fields of music therapy, music and medicine, medicine, psychology, creative arts therapies and the social sciences along with my own clinical experiences and my experiences as member of the population studied, to inform and create a resource-oriented music therapy support group program for adults living with FMS. The overarching aims of the intervention program are to foster awareness and develop self-management strategies for those living with FMS. Vocal and receptive music therapy techniques were incorporated into the intervention design to support said overarching aims by fostering the development and maintenance of participants' own resources and strengths.

The overarching value of this program is contained within its collaborative nature and practical use of music therapy techniques. By fostering awareness in relation to each group members' strengths, emotions, and body, a foundation is laid in which group members are empowered by said awareness, thus enabling them to use the practical musical resources and skills developed in the support group to help to promote emotional expression and relaxation/reduced muscle tension in their daily lives. It is my belief that in bringing awareness to, and developing and supporting the musical competence of FMS support group members, that they will be able to successfully transfer these skills into the context of their daily lives. The elements of collaborative and egalitarian relationships, support of musical competence, and having therapy goals and outcomes that are conducive to the context of individuals' lives outside the therapy room are all in line with the four main characteristics, and views on the client's and therapist's craft as outlined in

Rolvjord's (2010; 2004) resource-oriented music therapy approach and writings on empowerment.

The combination of structured choices and the subsequent scaffolding within the context of the program are a means of facilitating opportunities for interdependent collaboration, and mastery of musical skills. This was done to offset the determination of group goals and objectives, and malleable mediators by the music therapist rather than the group. In a resource-oriented music therapy approach goals for treatment would be determined through the course of treatment by the music therapist and client together, and music therapy techniques would then be determined from there by incorporating the client's resources and craft in the process (Rolvjord, 2010). As the premise of the intervention method means that overarching goal areas need to be determined ahead of time, my adaption of the resource-oriented approach was to design the intervention session format to include as much choice and collaboration on treatment as possible. The benefit of the use of choice, is that by scaffolding the choices on a bi-weekly basis, group members are able to develop mastery of musical skills. In this way the group members can pick and choose what they can use in their daily life. Also, the tangibility of a project both supports the use of developed resources after the group is done, and provides a sense of accomplishment and tangible evidence of their strengths and resources.

The format of the session was informed by the literature on CBT and music therapy interventions for chronic pain and FMS, my clinical group work experiences and my research assistant experience with a Singing and Health group led by Dr. Laurel Young. In the FMS literature the need to create a relaxing environment for the purpose of reducing stress, muscle tension, and promoting better sleep was encouraged (Degotardi

et al., 2006; Jain et al., 2003). For this reason, standard vocal warm-ups included gentle stretching and breathing, and a weekly active or receptive relaxation component was integral to the design of the program. By incorporating relaxation before singing, muscle tension is reduced and the body is relaxed, allowing the body to be ready to sing without strain or injury. Degotardi et al. (2006) found that treatment outcomes for children with JPFS were better if sleep was addressed first. It is my belief that having the relaxation component is conducive to the pacing and physical needs of those living with FMS when they participate in a music therapy support group. The overall use of voice as an integral mechanism of resource development within the support group format was informed by my research assistantship work with Young and her 2009 article on singing and health groups for those living with cancer.

It is my belief that resource-oriented music therapy and music therapy support groups could be beneficial in combination. Both approaches rely on concepts of mutuality, mutual support, empowerment, self-help, resourcing and strengths (Rykov, 2007; Rolvsjord, 2010; Rolvsjord, 2004). It may be beneficial for music therapy practice to explore the possibility of combining them in future research.

The findings of this research could be transferable to those living with chronic pain, and forms of arthritis. Future research to complete the remaining steps of Fraser and Galinsky's (2010) intervention model in relation to the program developed in this thesis should be done. The presence of Koenig et al.'s (2013) music therapy research, and the use of vibroacoustics with FMS by Ahonen as presented in her keynote address at the Canadian Association for Music Therapy's 2013 conference shows initial interest in how music therapy can be used with FMS and chronic pain. Also, future research and music

therapy support groups for partners of those living with FMS would be an interesting vein to explore (Söderberg, Strand, Haapala, & Lundman, 2003). It is my hope that further the body of knowledge in relation to the use of music therapy with people living with FMS and chronic pain will continue to grow.

Limitations

It should be noted that this intervention was created in a limited time-frame. Another limitation of this thesis is that the medical, psychological, and music therapy intervention research for those living with FMS or chronic pain was very limited. Often details related to how their programs were implemented were lacking. However, Degotardi et al. (2006) and Koenig et al. (2013) provided enough detail to serve as a model for programming, with Koenig et al. (2013) providing valuable outlines of how they used active music therapy with people living with chronic pain.

Lastly, the current research was influenced by my lived experiences associated with being an adult living with FMS, and as a music therapy clinician and novice researcher. Despite extensive bracketing, this can be seen as both a benefit and a limitation. It is a benefit in that I have a working knowledge of how music affects my own FMS symptoms, but can be a limitation in that, despite bracketing, this program may be influenced by my own experiences with music and FMS. As a music therapist, I am a vocalist, and I see the accessibility and benefits this has on my own FMS symptoms. In that regard, it may not be as accessible as I perceive it to be to others living with FMS.

Conclusion

This thesis resulted in an intervention design for a 10 week resource-oriented music therapy support group for adults living with FMS. Five malleable mediators were

determined which fall under the umbrella themes of awareness and self-management—target areas determined through the systematic analysis of the literature. It is my belief that grounding the program in a resource-oriented approach and a support group format can effectively address exacerbating factors reported by those living with FMS (Bennett et al., 2007), as well as ascribe to treatment programming suggestions provided by medical professionals who state that the empowerment of those living with FMS is a primary goal within which to ground treatment (Jain et al., 2003). However, putting aside the recommendations and analysis of the literature, and speaking as person who has experience as both a music therapist and as an adult living with FMS, this program was not created as a response to those living with FMS who are not seeking support. As a member of the FMS community I can tell you many stories about the support sought on social media websites, and of us holding each other up and offering support. Those living with FMS are constantly seeking out resources; I simply believe that music therapy is an untapped resource that could offer some additional good. I hope some of my music therapy colleagues will join me on this journey.

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Appendix A: Canadian Diagnostic Criteria for Fibromyalgia

The following chart outline the diagnostic criteria set out in Jain et al.'s (2003) document entitled *Fibromyalgia Syndrome: Canadian Clinical Working Case Definition, Diagnostic and Treatment Protocols—A Consensus Document*. The following information is from page 7-8, and outlines the “Canadian Clinical Working Case Definition of FMS”.

<p><i>The two compulsory pain criteria [adopted from the American College of Rheumatology 1990 Criteria (1)] are merged with Additional Clinical Symptoms & Signs to expand the classification of FMS into a Clinical Working Case Definition of FMS.</i></p>
<p><u>1. Compulsory HISTORY of widespread pain.</u> Pain is considered widespread when all of the following are present for at least three months:</p> <ul style="list-style-type: none">• pain in both sides of the body• pain above and below the waist [including low back pain]• axial skeletal pain [cervical spine, anterior chest, thoracic spine or low back]. Shoulder and buttock involvement counts for either side of the body. “Low back” is lower segment.
<p><u>2. Compulsory PAIN ON PALPATION at 11 or more of the 18 defined tender point sites.</u></p> <ul style="list-style-type: none">• <i>Occiput [2]</i>—at the suboccipital muscle insertions [see Figure 1]• <i>Low cervical [2]</i>—at the anterior aspects of the intertransverse spaces [the spaces between the transverse processes] at C5-C7• <i>Trapezius [2]</i>—at the midpoint of the upper border• <i>Supraspinatus [2]</i>—at origins, above the scapular spine near its medial border• <i>Second rib [2]</i>—just lateral to the second costochondral junctions, on the upper rib surfaces• <i>Lateral epicondyle [2]</i>—2 cm distal to the epicondyles [in the brachioradialis muscle]• <i>Gluteal [2]</i>—in upper outer quadrants of buttocks in the anterior fold of muscle• <i>Greater trochanter [2]</i>—posterior to the trochanteric prominence• <i>Knee [2]</i>—at medial fat pad proximal to the joint line
<p><u>3. Additional clinical symptoms & signs.</u></p> <p>In addition to the compulsory pain and tenderness required for research classification of FMS, many additional clinical symptoms and signs can contribute importantly to</p>

the patients' burden of illness. Two or more of these features are present in most FMS patients by the time they seek medical attention. On the other hand, it is uncommon for any individual FMS patient to have all of the associated symptoms or signs. As a result, the clinical presentation of FMS may vary somewhat, and the patterns of involvement may eventually lead to the recognition of FMS clinical subgroups. These additional clinical symptoms and signs are not required for the research classification of FMS but they are still clinically important. For these reasons, the following clinical symptoms and signs are itemized and described in an attempt to expand the compulsory pain criteria into a proposed Clinical Case Definition of FMS [see Appendix 2, p. 79].

Neurological manifestations: Neurological difficulties are often present such as hypertonic and hypotonic muscles; musculoskeletal asymmetry and dysfunction involving muscles, ligaments and joints; atypical patterns of numbness and tingling; abnormal muscle twitch response, muscle cramps, muscle weakness, and fasciculations. Headaches, temporomandibular joint disorder, generalized weakness, perceptual disturbances, spatial instability, and sensory overload phenomena often occur.

Neurocognitive manifestations: Neurocognitive difficulties usually are present. These include impaired concentration and short-term memory consolidation, impaired speed of performance, inability to multi-task, easy distractibility, and/or cognitive overload.

Fatigue: There is persistent and reactive fatigue accompanied by reduced physical and mental stamina, which often interferes with the patient's ability to exercise.

Sleep dysfunction: Most FMS patients experience unrefreshing sleep. This is usually accompanied by sleep disturbances including insomnia, frequent nocturnal awakening, nocturnal myoclonus, and/or restless leg syndrome.

Autonomic and/or neuroendocrine manifestations: These manifestations include cardiac arrhythmias, neurally mediated hypotension, vertigo, vasomotor instability, sicca syndrome, temperature instability, heat/cold intolerance, respiratory disturbances, intestinal and bladder motility disturbances with or without irritable bowel or bladder dysfunction, dysmenorrhea, loss of adaptability and tolerance for stress, emotional flattening, lability, and/or reactive depression.

Stiffness: Generalized or even regional stiffness that is most severe upon awakening and typically lasts for hours as occurs with active rheumatoid arthritis. It can return during periods of inactivity during the day.

Appendix B: Checklist for Reporting Music-Based Interventions

The following is the Checklist for Reporting Music-Based Interventions created by Robb, Burns, and Carpenter (2011)

Music-based intervention reporting criteria

A: Intervention theory

Provide a rationale for the music selected; specify how qualities and delivery of the music are expected to impact targeted outcomes.

B: Intervention content

Provide precise details of the music intervention and, when applicable, descriptions of procedures for tailoring interventions to individual participants.

B.1: Person selecting the music

Specify who selected the music: (1) pre-selected by investigator; (2) participant selected from limited set; (3) participant selected from own collection; or (4) tailored based on patient assessment.

B.2: Music

When using published music, provide reference for sheet music or sound recording. When using improvised or original music, describe the music's overall structure (i.e. form, elements, instruments, etc.).

B.3. Music delivery method (live or recorded)

When using live music, specify who delivered the music and the size of the performance group (e.g. interventionist only, interventionist and participant). When using recorded music, specify placement of playback equipment and the use of headphones vs. speakers. Specify who determined/controlled volume (e.g. interventionist; participant. Specify decibel level of music delivered and/or use of volume controls to limit decibels.

B.4: Intervention materials

Specify music and/or non-music materials.

B.5: Intervention strategies

Describe music-based intervention strategies under investigation (examples: music listening, songwriting, improvisation, lyric analysis, rhythmic auditory stimulation, etc.).

C: Intervention delivery schedule

Report number of sessions, session duration, and session frequency including practice sessions.

D: Interventionist

Specify interventionist qualifications and credentials.
Specify how many interventionists deliver study conditions.

E: Treatment fidelity

Describe strategies used to ensure that treatment and/or control conditions were delivered as intended (e.g. interventionist training, manualized protocols, and intervention monitoring).

F: Setting

Describe where the intervention was delivered: include location, privacy level, and ambient sound.

G: Unit of delivery

Specify whether interventions were delivered to individuals or groups of individuals, including the size of the group.

Note: This checklist may be reprinted and used without permission as a tool to help ensure transparent reporting of music-based interventions.