

Case Report

The Development of a Music Therapy Protocol: A Music 4 Life® Case Report of a Veteran with PTSDRebecca Wellman¹, Judith Pinkerton²¹Wellman Therapy Services, Chicago, Illinois, USA²Music 4 Life®, Las Vegas, Nevada, USA**Abstract**

A music therapist-directed protocol designed to assist in resolving unsettled moods and bringing emotional balance is explicated through a case report of a 36 year old Army veteran. Upon completing a protocol, increased motivation, decreased stress, and a reported sense of feeling more “complete” following four years of medical disability and significant social phobias was noted. Posttests completed at marked intervals during the 10 week treatment period showed significant shifts in emotional states with reduced anxiety and depression. Physician directed cessation of anti-anxiety, depression, and pain medications subsequently led to increased reengagement with previously enjoyed activities and a reported enhanced quality of life.

Keywords: PTSD, adults, veterans, depression, anxiety, social phobiasmultilingual abstract | mmd.iamonline.com**Introduction**

American veterans returning to public life often face difficulty as a result of symptoms of Post Traumatic Stress Disorder (PTSD). Along with Traumatic Brain Injuries (TBI), PTSD is one of the most prevalent diagnoses being treated at Veterans Health Administration offices across the country [1]. The US Department of Veterans Affairs [2] and the Diagnostic and Statistical Manual of Mental Disorders V [3] criteria for a diagnosis of PTSD includes directly experiencing traumatic events, witnessing traumatic events occurring to others, learning about a traumatic event which happened to a close friend or family member, or continued or “extreme exposure” to the intimate details of traumatic events such as those who are first responders. In addition, those with PTSD may experience flashbacks, avoidance of people or places related to the trauma, negative beliefs about oneself, reduced interest in previously enjoyable activities, feelings of irritation, and difficulty concentrating or sleeping for a duration of a month or longer. Those experiencing PTSD are at a higher risk for suicidal ideation and suicide attempts. They also incur higher instances of physical, social, and occupational disability.

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Wellman Therapy Services, Chicago, Illinois, USA; Music 4 Life®, Las Vegas, Nevada, USA E-mail: wellmantherapy@gmail.com | COI statement: The authors declared that no financial support was given for the writing of this article. The authors have no conflict of interest to declare.

Individuals with PTSD may have difficulty in social situations, educational settings, their interpersonal relationships, their workplace, and with their physical health [3].

According to the American Music Therapy Association [4] music therapy has been shown as a treatment option for returning soldiers since 1945 when the US War Department included music therapy in Technical Bulletin 187, however there are documents indicating its use during World War I as well. This endorsement continued with research by both the U.S. Army and the Office of the Surgeon General. Music therapy techniques have been utilized in patients with PTSD to provide a safe environment where clients can experience and express feelings initially, without needing to talk. Music therapy has demonstrated efficacy with those impacted by war or conflicts [5-6] as well as with persons who have experienced complex traumas [7-17].

The use of music to elicit or entrain emotional responses has also been shown as a possible means of treatment [18]. Research shows that music listening has been found to alter interleukin-1 and cortisol levels in participants [19], reduce perceived stress [20], increase levels of relaxation and concentration [21,22], undo or cancel feelings of anxiety [23,24], evoke specific desired emotions [25-28] and reduce pain [29-31], or assist in recollection of previous information (memory) or emotional states [32,33]. By utilizing the iso-principle [34] of matching music to the client’s presented mood and modulating affect response through applying the entrainment mechanisms [35] to their desired emotional state, as well as accounting for client preference, music therapists can aid in reducing the emotional distress presented by veterans.

Music preferences have an impact on client responses. By incorporating the client’s personal music preferences into treatment, therapists can increase relaxation and reduce

anxiety [36-40], promote adherence to a prescribed listening program, increase focus and productivity [41], and reduce pain perception [42,43]. Preference combined with specific listening sequences could assist veterans dealing with PTSD through evoking previous feelings of anxiety, stress, or depression and transitioning the experiencing of the former dreadful circumstance to a state of relaxation. This can help to revive their social engagement system in a way which is viewed as non-threatening [44], increasing focus and productivity, and a gradual return toward finding enjoyment from activities which were previously experienced as meaningful.

Inspired by a master class with Pablo Casals, Manfred Clynes launched into research of sentic cycles. His focus was in understanding how individuals could experience emotion both in real situations, or in fantasy. The fantasy aspect is where people can feel emotion without currently being in a reality that prompts them, such as listening to music. Clynes developed a device that allowed for measurement of emotion through alterations in touch. He found that the participants could not only replicate these emotions on command through intensity of touch, but that by doing so in a specific continuum, their actual mood state could be altered. Clients were able to experience these emotions without them being directed toward another person. They could also achieve these emotional states through imagining a specific event. A full spectrum of feelings could be experienced in a limited amount of time allowing the client to feel calm and relaxed. This premise lends well to the utilization of music to evoke such sentic cycles, particularly when assisting clients who present with emotional imbalances [45-47].

The Music 4 Life® Music Medicine protocol of Mood Sequence Formulas™ utilizes these principles in developing specific listening programs for clients to reach their desired goals. It was first developed in 1986 by Judith Pinkerton as a recording to help a loved one manage pain and blood pressure through back surgery. She found that, by listening to prescribed music, less blood pressure medication was needed post-op. Further investigation into music therapy and music therapy techniques led Pinkerton to research that sought to determine the effectiveness of the protocol. Music 4 Life® Music Medicine has been used with music therapy clients in individual and group sessions since 2002. Board certified music therapists have been trained in this protocol since 2012 [38-50].

This Music Medicine method incorporates musical genres and songs preferred by clients along with those that are clinically deemed fit by the therapist to elicit a desired emotional response, in order to guide clients through the mood sequence. Through systematic utilization of specially selected music in a Mood Sequence Formula™ clients are able to work through emotional ‘sticking points’ to fully realize their goals and objectives.

The Mood Sequence Formulas™ are designed to progress a client through a programmed series of music intentionally chosen to entrain specific emotions throughout the listening

experience [51]. It may start with a client’s chosen theme song. The theme song is chosen by the client, as one that describes him/her at the time of assessment. It is included as it may increase adherence to the listening protocol and ease him/her into the sequence. The listening protocol dictates that the client listens to the entire CD without breaks at least once a day. Listening may be completed more than once a day as the client deems necessary, but the minimum listening requirement is once per day. Clients are also prompted to complete a diary that documents their listening experience each day marking the date they listen and the emotions they are experiencing. Clients are also directed to write in a journal as they listen to document any memories, issues, feelings, or concerns which arise as they complete their daily listening experiences.

The first section of music is designed to work through a client’s unsettled emotional states [52]. Within the unsettled section of listening, the client is exposed to a progressive sequence starting with a piece which matches or elicits the most intense emotion presented and then transitions to one of a lower unsettled state. The second and third sections of music are designed to work through a client’s soothed and energized emotional states [51]. Similar to the approach used in the unsettled section, the soothed sequence is designed to move in a progressive manner from heightened music to evoke relaxation and decreased anxiety to those which entrain a deeper sense of calm. Likewise, the energized portion moves from mildly energizing music to highly motivating music. These sequences, while determined by the music therapist, stem from verbal and non-verbal responses documented from the client and therapist observations during the listening assessment.

As the client expresses perhaps some repressed moods, the attachment to the music selections may shift and change. In order for the CD programs to continue to be effective with potentially multiple traumatic events that may not be adequately addressed by the initial music selections, the therapist must alter the current listening sequence to meet the needs of the newly surfaced traumatic memory that is having an impact on their response. Modifications will enhance the listening sequence and does not alter the method or parameters set forth by the Music 4 Life® Music Medicine protocol nor the goals established during the assessment.

Methods

Participant

A 36 year old female Army veteran was the single participant in this case report. Tessa (name changed) presented with diagnoses of depression, anxiety, chronic pain, trauma/PTSD, and issues associated with Graves Disease, Fibromyalgia, cervical disc deterioration, and holes in her left ear drum causing sound sensitivity. She identified past episodes of abuse, the loss of several friends to tragedy and being stationed as an operating room/trauma tech at Fort Hood

during the shootings in November 2009, as possible triggers for her initial unsettled emotional state. She was continually exposed to others with extreme medical conditions in her position in the Army. In her initial emotional assessment, Tessa stated that she felt frustration, depression, anxiety, anger, stress, tired, ill, sad, and “extreme unbalance.” She identified difficulty relaxing and extreme social phobias as well. At the time of her initial assessment the client was taking synthroid, propranolol, and Vitamin D. Her continued medical concerns, misdiagnoses, and lack of adequate treatment continued to exacerbate her feelings of trauma.

Protocol

During her initial assessment, Tessa completed three inventories: client, emotional, and music. These inventories were developed by Pinkerton [53]. The client inventory outlined demographic information and medical history. The emotional inventory provided a checklist to determine hidden anger symptoms; Likert scales (four ratings) measured 45 unsettled (U), soothed (S), and positive or energized (E) current feelings and 14 statements about negative and positive current states. 24 Hidden Anger Symptoms (HAS) include, but are not limited to, issues such as difficulty sleeping, headaches, diminished interest in activities, procrastinating, and feelings of depression. Negative Current States (NCS) include feeling statements reflecting levels of anxiety, depression, and anger. Positive Current States (PCS) include feeling statements reflecting levels of peace, joy, focus, and positive well-being. The emotional inventory serves as a pretest-posttest within the protocol. Each of the sections (HAS, Unsettled, Soothed, Energized, NCS, and PCS) is totaled based on the scoring the client indicates for each category. The music inventory explored current preferences for creative arts, instruments, musical styles, songs identified with different emotions or preferences, musical background, and how the client would label him/herself if he/she were a song.

Tessa’s initial assessment results indicated that she would label herself as a Headstrong Conundrum. Her emotional inventory pretest scores were as follows (Table 1).

HAS	Unsettled	Soothed	Energized	NCS	PCS
13	37	21	22	20	14

Table 1: Initial Assessment Scores

Once the inventories were completed and reviewed by the music therapists, an interview was conducted to obtain further information and more specific details regarding issues and events which may greater inform the therapeutic progress.

The following day Tessa returned to the clinic for an intensive listening session. She was exposed to a variety recorded songs from each section of unsettled, soothed, and energized music to determine which songs and genres triggered specific emotions. Based on the information

obtained from the inventories and the listening session, the music therapists designed the Mood Sequence Formula™ which was determined to be the most appropriate progression to entrain the desired emotions within the iso-principle, entrainment, and vectoring therapeutic approaches. The client’s final listening sequence included 14 songs from heavy metal, alternative, new age, Native American, classical, jazz, country, and world genres (Table 2).

Theme	Star Wars: Metallica
Unsettled	Let’s Start a War: The Exploited
	Struggle Within: Metallica
	Retreat and Descent: Black Aria
	Hidden Song: Staind
Soothed	Raein: Olafur Arnalds
	The Cello’s Song: David Arkenstone
	Desert Song: Han Meyer from Native Spirit
	Canon in D: Pachelbel
Energized	What a Wonderful World: Louis Armstrong
	Stand: Rascal Flatts
	Orinoco Flow: Enya
	Khululuma: African Rhythm Travelers
	Crazy Benny: Safri Duo

Table 2: Custom CD Listening Sequence

These pieces were edited using Cakewalk Software for time and to ensure that the music flowed smoothly and quickly from one to the next in order to create a continuous stream of listening with optimal entrainment. Tessa’s CD totaled 49 minutes of listening.

Tessa returned the following day for her initial therapeutic listening session. A treatment booklet containing the protocol, instructions, a listening guide of her selected pieces, song lyrics, copies of the listening diary and journal, and a copy of the consent for treatment was compiled, given to the client, and reviewed prior to the commencement of listening. She was placed in a quiet, secluded area of the clinic to listen to her custom CD. She was prompted to relax in a lounge chair and the lighting was dimmed to promote relaxation. Her recording was played on a portable Onn CD player S/N30413935 with Sentry stereo dynamic digital headphones 880CD so she could listen without distraction and adjust the volume to her personal preference. She was directed to mark how she felt in her diary (unsettled, soothed, or energized for each listening section) and document her thoughts, feelings, and impressions on the first journal page while listening.

Upon completion, the therapists met with Tessa to discuss her reactions and identify any issues with the recording. It was discussed that Tessa needed an additional outlet for her anger while listening to fully express her emotions and help her process them in an appropriate therapeutic way. While this is not regularly part of the protocol, Tessa demonstrated difficulty processing the intense anger she was experiencing on a purely cognitive level. It was determined that using a drum to strike during those intense

moments would help her work through this emotion. She was issued a twenty-two inch REMO® brand buffalo drum and mallet to use during her unsettled listening segments during her home listening sessions. She was instructed to play the drum as she experienced these feelings to provide both a physical and vibrotactile outlet for her emotions [52,54]. The holes in her left ear caused problems with her ability to listen without pain, but the therapists’ recommendation to place cotton or a tissue in the ear piece of her headphones resolved the issue.

Results

At the first follow-up session at the end of the first week of listening, Tessa’s posttest reported a change in scores on the emotional inventory (Table 3).

HAS	Unsettled	Soothed	Energized	NCS	PCS
2	20	35	42	9	26

Table 3: Week 1 Posttest Scores

She shared that she was dealing with her pain better and was not noticing as much anger, frustration, or flashbacks. Tessa related how she was able to attend a job fair for veterans, speak with potential employers without fear or hesitation, and was interviewed for a segment on local television. She stated, “It was fun. I wasn’t getting sweaty or hot. I didn’t want to run out the door. I wasn’t afraid of people touching me.” “It was nice to think of myself in a better light.” She also said that she was more motivated to get out and exercise and that the listening helped “put things into perspective”. It was recommended that she continue listening to the entire recording as previously indicated along with drum playing as she felt necessary and return in a week for a follow-up session. At the end of the second week of listening Tessa completed the emotional inventory posttest with the changes indicated as follows (Table 4).

HAS	Unsettled	Soothed	Energized	NCS	PCS
0	17	36	52	9	31

Table 4: Week 2 Posttest Scores

She stated that her relationship with her husband was better, she noticed less pressure in her chest, and that she was more relaxed and was not as quick to anger. She talked about her relationship with her family and that it was different now in her mind. While desiring to reestablish a relationship with them, she felt she was clearer regarding boundaries. Due to the progress identified and the client’s comfort in identifying her emotional state she transitioned to maintenance listening options. This allowed her to either choose a song from each section of her original recording or substitute them with songs from her personal library which matched her current emotional state and progressed within the same sequence (Unsettled, Soothed, Energized). She would follow-up with

the therapists upon her return from a trip to visit her family across the country.

Tessa returned for a follow-up session at the end of the sixth week of listening. Her emotional inventory posttest presented results as follows (Table 5).

HAS	Unsettled	Soothed	Energized	NCS	PCS
0	17	48	52	9	33

Table 5: Week 6 Posttest Scores

She shared how she coped with a potentially dangerous emotional situation while visiting her family by utilizing her recording to help remain calm and find a positive solution to the situation. “I was able to handle it so much better than I ever thought I would. I found some [music] that made me angrier than what we had [chosen]. I found it helped me let it go when dealing with my sister. I found better ways to deal with it and support my nephew and mom.” “Learning to calm my emotions and regulate my mood it was so much easier to deal with life.” She said that she had two interviews as a result of her attendance at the job fair and that she’d noticed a decrease of asthma flare-ups when she was upset. She reported that her doctors were pleased with her progress and agreed to discontinue her anxiety medications.

Tessa returned at week ten for an additional follow-up session. Her emotional inventory posttest scores were as follows (Table 6).

HAS	Unsettled	Soothed	Energized	NCS	PCS
8	25	26	24	16	13

Table 6: Week 10 Posttest Scores

She completed a new music inventory that presented a changed CD title to describe herself to “Hold Your Head Up High, My Life.” Due to increased health issues, Tessa found that her original CD was no longer working. She developed a new sequence using her own music library which addressed her emotional needs while not increasing her physical symptoms as is appropriate with the maintenance protocol. She stated “I felt like I was doing something positive [by developing a new sequence] rather than falling apart.” During the assessment she indicated that her emotional state was more unsettled than previous sessions, but she still felt that the music was helping her remain positive in light of increased physical distress. She reported being able to visit a large local tourist attraction using her headphones to mute the sounds and was “OK”. She said that she would not have been able to adapt to this type of environment prior to completing the listening program. Her music inventory also revealed a change to liking more creative arts, more genres of music, and feeling more competent in matching her music to her current mood for more effective mood regulation.

Discussion

Conclusions derived from Tessa's statements and scores on her emotional inventories reflect that her Mood Sequence Formula™ was effective in helping her meet her goals of feeling motivated and balanced, reducing her feelings of stress and depression, and feeling more complete, outgoing, and having a better attitude. While week 10 reflected a negative change in her emotional inventory scores, her statements reflected that the music was still effective in impacting her mood. She was experiencing more hidden anger symptoms and negative emotions, but she felt she was able to cope with them more effectively and maintain a more positive outlook. Tessa was originally referred for music therapy from the area Office of Veteran Services that links veterans to community services that further their education and life goals, including work, housing, and post-traumatic stress support. This case reflects the progress of only one veteran.

The co-author is only the third music therapist to complete the Music 4 Life® Music Medicine practitioner training. As more therapists complete the training both in the United States and internationally, there will be more opportunities to test for inner-rater reliability of the assessment tools and the reliability and validity of the protocol itself. With more professionals using the inventories with veterans and other populations experiencing trauma, we will be able to determine if the protocol is working as it presents in this writing. The Emotional and Music Inventories were developed twenty-one years ago and have been used in the Music 4 Life® Music Medicine protocol since.⁵⁷ As more therapists utilize them, there will be more opportunities to test reliability and validity.

Further investigation of the Mood Sequence Formulas™ is specifically warranted to determine the consistency of its effectiveness with larger numbers of veterans and others dealing with PTSD in a variety of situations, socio-economic backgrounds, and within a broader radius of geographical areas. A nationwide, longitudinal study is suggested to examine the long-term effects of Mood Sequence Formulas™ with veterans dealing with PTSD, who present with a variety of backgrounds, experiences, and issues-but who all might benefit from a music program that is specifically catered to address their unique needs.

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Judith Pinkerton, MT-BC/L, developed Music 4 Life's Music Medicine protocol and trains music therapists as Practitioners in the protocol, providing court-ordered programs and working with addiction, military and oncology populations, with past experience as clinic director, researcher, author, recording artist, adjunct university faculty, and TEDx speaker.