



Music as Medicine:

Combating PTSD with Music & Music Therapy

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This White Paper will explore how music and music therapy are being employed to facilitate healing; in particular how veterans and other sufferers are finding relief from the symptoms of PTSD through music.

Post-traumatic stress disorder, more commonly known as PTSD, can change a person's life for the worse, and is a serious condition that afflicts many people all over the world. Treatments range from psychotherapy to medication; however, music and music therapy is also showing great promise in relieving the effects of PTSD. Numerous organisations, most notably groups that help war veterans and other military personnel, are discovering that music can be a powerful tool in relieving the effects of this crippling disorder.

Introduction: What is Post-Traumatic Stress Disorder?

Post-traumatic stress disorder (initialism: PTSD) is a psychiatric condition that can occur in people with personal experiences of severe trauma, either first or secondhand¹. PTSD often develops immediately following the traumatic event/s, but some sufferers (around one in five) experience symptoms with delayed-onset, often not surfacing for years after the event/s.¹ According to the Diagnostic and Statistical Manual of Mental Disorders (the DSM), the storing of psychological trauma is a response to overwhelming personal threat, in which the psychic apparatus of the victim becomes surrendered to a situation of terror.

PTSD presents via a network cluster of frightening and afflictive symptoms, the onset of which are usually determinate of the form of the condition. Symptoms can present acutely; this means that they come into effect immediately following the event and last less than three months. They may also present chronically, where the duration of active symptoms lasts longer than three months. Finally, PTSD may present with delayed onset - meaning that at least six months have elapsed between the traumatic event or experience itself and the presentation of the first PTSD-like symptoms.

Symptoms and Subtypes of PTSD

Symptoms of PTSD may vary in frequency and severity. Symptoms include intrusive thoughts, such as the involuntary recollection of disturbing or upsetting sensory memories: visual (iconic), aural (echoic), tangible (haptic) or a combination of all three.² It is likely that there are further subtypes of sensory memory for olfactory and gustatory functions (smell and taste) but these are less extensively researched, despite a general public consensus that the evocative potential of these sensory systems is just as well-known. These intrusive thoughts, in their more severe forms, can present themselves as distressing dreams or flashbacks, which can appear to the sufferer so vividly that it may feel as though the sufferer is actually re-living the trauma or watching it unfold before them.¹

Further symptoms include an avoidance of reminders of the traumatic event: including people, places, objects and situations; negative thoughts, beliefs and feelings, either back towards the sufferer themselves, towards others or both; and a combination of arousal and reactive symptoms, for example irritability and susceptibility to outbursts, difficulty concentrating, problems with sleep, reckless or self-destructive behaviours, etc.¹ Ultimately, PTSD can be categorized into three subsets of symptoms: intrusion, avoidance, and hyper-arousal. In their own ways, and in their own time, these can all cause significant disturbances in the quality of life of the sufferer, particularly in terms of raised anxiety levels, lack of ability to communicate effectively and difficulties in formulating and maintaining meaningful personal relationships as a result.

Complex post-traumatic stress disorder, or CPTSD, is closely related subtype of the condition. Other subtypes include Normal Stress Response, Acute Stress Disorder, Uncomplicated PTSD and Comorbid PTSD. CPTSD, or Complex PTSD, is also known as complex trauma disorder, and is a condition which can develop as a response to chronic, repeated, prolonged exposure to traumatic experiences.³ In particular, it relates to traumatic situations involving either (or both) physical and/or psychological captivity or entrapment (for example those subjected to chronic child abuse, concentration camp survivors, residential school survivors,

¹ American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders: Fifth Edition (DSM-V)*, American Psychiatric Publishing, 2013.

² Rubin, David C. et al. "Memory in Posttraumatic Stress Disorder: Properties of Voluntary and Involuntary, Traumatic and Non-Traumatic Autobiographical Memories in People With and Without PTSD Symptoms." *Journal of Experimental Psychology: General*, vol. 137, no. 4, 2008. pp. 591-614.

³ Herman, Judith Lewis. "Complex PTSD: A Syndrome in Survivors of Prolonged and Repeated Trauma." *Journal of Traumatic Stress*, vol. 5, no. 3, 1992. pp. 377-391.

prisoners of war, victims of slavery or human trafficking, indentured servants, victims of domestic violence, victims of kidnapping, etc.)⁴

Alongside the aforementioned PTSD symptoms, sufferers can experience changes in and difficulties with emotional regulation, including dysphoria, suicidal preoccupation, self-injury, explosive or inhibited anger, compulsive or inhibited sexuality.⁵ Attachment issues can also form, as well as trouble with behavioural control, particularly in children and adolescents. Additional symptoms include changes in self-perception, changes in attitudes towards a perpetrator, alterations in relations with others, and changes in systems of meaning.⁵

Therapeutic Responses to PTSD & The Role of Music

Whilst multiple therapeutic approaches have been taken in the treatment of PTSD over the years, musical therapies have been particularly stand out in their efficacy in comparison with more traditional and mainstream talking therapies. The origins of the music therapy profession are inherently “intertwined with the treatment of trauma”.⁶ Music therapy was actually devised initially as a trauma response to aid the treatment of World War II veterans.⁷ Much of the research which has since surfaced, therefore, identifies the therapeutic technique with the treatment of those suffering from post-traumatic stress as a result of experiences in war zones, natural disasters and physically violent confrontations.^{8,9,10,11} Inevitably, however, sufferers of PTSD are not limited to those who have emerged from such circumstances: severe trauma of any nature can manifest in the development of the condition, and in addition to the groups mentioned above, “minority groups, women and children are also likely to suffer from PTSD as a result of abuse”.¹²

Research has demonstrated that PTSD sufferers respond particularly well to musical therapies. In part, this is due to the relationships between stimuli provoked by music and the access to and post-processing of traumatic events. Music is uniquely catered to achieve this: non-threatening mediums such as music have often been seen to stimulate recollections of traumatic memories.¹² Therefore, these recollections can be brought to the forefront of the mind in a controlled setting where the sufferer can feel that they have more agency; that they have more explicit authority over the memory - in a manner which allows them to engage and interact with the memory whilst having more of a sense of being ‘in control’, in order to navigate a rational path through the trauma and the healing from and management of traumatic memories.

Further, traumatic stress can often exert a ‘silencing’ impact on sufferers: disabling them from being able to communicate effectively around their trauma, in other words, causing them to experience a “loss of expressive ability, especially verbal expression”.¹² Music, and the incorporation of music into PTSD therapies, therefore has the potential to act as a sort of bridge or neutral ground between the therapist and patient. This is due to the fact that, in certain circumstances, music can behave as an instrument of substitution for the standard forms of communication during therapy which the sufferer may struggle to engage with, as a result of the often avoidant and non-verbal nature of the condition.¹³ Particularly, Felsenstein reminds us in his research, this is especially likely to be the case for pre-school or early years children who have undergone trauma, due to their already underdeveloped ability to communicate verbally.¹²

Part of the rationale behind the introduction of music therapies to the treatment of PTSD victims was founded in the nature of traumatic memories, particularly those taking the form of intrusive thoughts, flashbacks and nightmares, as being stored as primitive, sensory fragments (either visual, haptic, aural etc., or a combination). Memories of this type are often stored as whole snapshots, with significant detail recorded and included, and re-emerge when stimulated by a similar or resemblant sensory input or

⁴ Stein, JY et al. “Does One Size Fit All? Nosological, Clinical and Scientific Implications on Variations in PTSD Criterion A.” *Journal of Anxiety Disorders*, vol. 43, 2016. pp. 106-117.

⁵ Herman, Judith Lewis. *Trauma and Recovery: The Aftermath of Violence — From Domestic Abuse to Political Terror*. Basic Books, 1997.

⁶ Felsenstein, Rivka. “From Uprooting to Replanting: on Post-Trauma Group Music Therapy for Pre-School Children.” *Nordic Journal of Music Therapy*, vol. 22, no. 1, 2013. pp. 69-85.

⁷ Horden, Peregrine. *Music as Medicine: The History of Music Therapy Since Antiquity*. Ashgate, 2000.

⁸ Lang, Louise and Una McInerney. Bosnia: A Music Therapy Service in a Post-War Environment. *Music, Music Therapy and Trauma: International Perspectives*. 1st ed. Jessica Kingsley Publishers, 2006. pp 153-174.

⁹ Pavlicevic, M. “Transforming a Violent Society: Music Therapy in South Africa.” *Human Development*, vol. 16, no. 2, 1995. pp. 39-42.

¹⁰ Goldberg, J., True, W.R., Eisen, S.A., & Henderson, W.G. “A twin study of the effects of the Vietnam War on posttraumatic stress disorder.” *Journal of the American Medical Association*, vol. 263, no. 9, 1990. pp. 1227-1232.

¹¹ Tiao, J.H.-Y. “Music Therapy to Stable Land: Post-Earthquake Crises Intervention in China.” *Proceedings of the 13th World Congress of Music Therapy*, Sookmyung Wooken’s University, 2011.

¹² Felsenstein, Rivka. “From Uprooting to Replanting: on Post-Trauma Group Music Therapy for Pre-School Children.” *Nordic Journal of Music Therapy*, vol. 22, no. 1, 2013. pp. 69-85.

¹³ Bensimon, Moshe et al. “Drumming through Trauma: Music Therapy with Post-Traumatic Soldiers.” *The Arts in Psychotherapy*, vol. 35, 2008. pp. 24-48.

experience. Research has suggested a level of inflexibility to the structures in which these memories are preserved: an inflexibility which makes them more awkward to negotiate, reroute and transform.¹⁴¹⁵¹⁶¹⁷¹⁸ Part of this state of inflexibility of memories results in an inability to translate sensory motor representations, supposedly processed in the right side of the brain, into significant symbolic and verbal representations which are processed and stored in the left-hand side of the brain.¹⁹ Essentially, the traumatic memory, during a flashback or nightmare, is frozen in the part of the brain which initially registered the original traumatic experience - making an engagement with the memory, with the feelings or emotions surrounding or associated with it, an incredibly difficult pathway to create in the brain. Music, it would appear, is proving to be useful, as this paper will demonstrate, in forging this pathway.

Music and PTSD: On the Treatment of Veterans

Research surrounding the involvement and implications of music and musical therapeutic techniques in the treatment of post-traumatic stress disorder has often focused in on studies particularly relating to veterans suffering from the condition. Although it is not solely a technique which has been a successful aid to veterans and ex-forces personnel who have suffered traumas, significant data has arisen from studies suggesting the particular suitability of music therapies to treating these cases of PTSD. Amongst veterans, combat stress reaction is a highly prevalent syndrome which can often present as or develop into a form of PTSD.²⁰²¹²²²³ It is recorded that between 27% and 29% of World War II veterans have knowingly suffered from PTSD, with more inevitably having gone undiagnosed or since died, prior to data being collected.²⁴²⁵ Similarly, around 16% of front-line Israeli soldiers were reported to have presented with explicit PTSD symptoms a year after the 1982 Lebanon War.²⁶ Meanwhile, the National Vietnam Veterans Readjustment Study (NVVRS) has estimated that the prevalence of PTSD in Vietnam veterans sits at around 15.2%.²⁷ However, it is likely that all of these figures are merely the tip of the iceberg, and in fact highly probable that the recorded figures do not give the full picture in terms of numbers of post-combat PTSD sufferers. PTSD often surfaces in veterans and ex-forces personnel as a development out of a syndrome known as combat stress reaction, which is incredibly common in veterans. It is known to provoke emotions such as loneliness and feelings of isolation in sufferers²⁸²⁹ and is likewise associated with sensations of helplessness and lack of control, power or agency³⁰³¹³². Furthermore, those experiencing the condition will also likely suffer from flashbacks and intrusive memories of the trauma, as well as from sudden outbursts of anger or rage.³³

¹⁴ Brett, E.A. and Ostroff, R. Imagery and posttraumatic stress disorder: An overview. *The American Journal of Psychiatry*, vol. 142, no. 4, 1985. pp. 417–424.

¹⁵ Gardner, H. *Art, Mind and Brain*. Basic Books, 1982.

¹⁶ Van der Kolk, B. A., Blitz, R., Burr, W., Sherry, S., & Hartmann, E. Night-mares and trauma. *American Journal of Psychiatry*, vol. 141, 1984. pp. 187–190.

¹⁷ Van der Kolk, B. A., & Fislis, R. "Dissociation and the fragmentary nature of traumatic memories: Background and experimental evidence." *Journal of Traumatic Stress*, vol. 8, 1995. pp. 505–525.

¹⁸ Volkman, S. "Music therapy and the treatment of trauma-induced dissociative disorders." *The Arts in Psychotherapy*, vol. 20, 1993. pp. 243–251.

¹⁹ Sifneos, P. E. "The prevalence of alexithymic characteristics in psychosomatic patients." *Psychotherapy and Psychosomatics*, vol. 22, 1973. pp. 255–262.

²⁰ Solomon, Z. Characteristic psychiatric symptomatology of post-traumatic stress disorder in veterans: A three-year follow-up. *Psychological Medicine*, vol. 19, 1989a. pp. 927–936.

²¹ Solomon, Z. Psychological sequel of war, a 3-year prospective study of Israeli combat stress casualties. *The Journal of Nervous and Mental Disease*, vol. 177, 1989b. pp. 342–350.

²² Solomon, Z., & Oppenheimer, B. "Social network variables and stress reaction lessons from the 1973 Yom-Kippur War." *Military Medicine*, vol. 15, 1986. pp. 12–15.

²³ Solomon, Z., Oppenheimer, B., Elizur, Y., & Waysman, M. "Trauma deepens trauma: The consequences of recurrent combat stress reaction." *Israel Journal Psychiatry and Related Sciences*, vol. 27, 1990. pp. 233–241.

²⁴ Rosen, J., Fields, R. B., Hand, A. M., Falsette, G., & van Kammen, D. P. "Concurrent posttraumatic stress disorder in psychogeriatric patients." *Journal of Geriatric Psychiatry and Neurology*, vol. 2, 1989. pp. 65–69.

²⁵ Speed, N., Engdahl, B., Schwartz, J., & Eberly, R. "Posttraumatic stress disorder as a consequence of the POW experience." *Journal of Nervous and Mental Disease*, vol. 177, 1989. pp. 147–153.

²⁶ Solomon, Z., Oppenheimer, B., Elizur, Y., & Waysman, M. "Trauma deepens trauma: The consequences of recurrent combat stress reaction." *Israel Journal Psychiatry and Related Sciences*, vol. 27, 1990. pp. 233–241.

²⁷ Kulka, R. A., et al. *The National Vietnam Veterans Readjustment Study: Tables of findings and technical appendices*. Brunner/Mazel, 1990.

²⁸ Solomon, Z., & Mikulincer, M. "Life events and combat-related posttraumatic stress disorder: The intervening role of locus of control and social support." *Military Psychology*, vol. 2, 1990. pp. 241–256.

²⁹ Walker, J. I., & Nash, J. L. "Group therapy in the treatment of Vietnam combat veterans." *International Journal of Group Therapy*, vol. 31, 1981. pp. 379–389.

³⁰ Herman, J. L. *Trauma and recovery*. Basic Books, 1992.

³¹ Stark, E., & Flitcraft, A. "Personal power and institutional victimization: Treating the dual trauma of woman battering." In F. Ochberg (Ed.), *Post-traumatic therapy and victims of violence*. Brunner/Mazel, 1988. pp. 115–151.

³² Symonds, M. "Victim responses to terror: Understanding and treatment." In F. Ochberg & D. Soskis (Eds.), *Victims of Terrorism*, Westview, 1982. pp. 95–105.

³³ American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders: Fifth Edition (DSM-V)*, American Psychiatric Publishing, 2013.

Drumming through Trauma

In a study conducted in Israel out of Bar-Ilan University, Moshe Bensimon and colleagues reported reductions in the presentation of PTSD symptoms in a group of six soldiers suffering from what was diagnosed as combat or terror related PTSD. The study was amongst the first in studying the impacts of musical therapies for veterans suffering from PTSD using drumming, and was the first which took an explicitly empirical approach to data collection. Whilst drumming had already begun to acquire acclaim and attention as a musical therapeutic technique prior to the study conducted by Bensimon and colleagues,³⁴³⁵³⁶³⁷³⁸³⁹ fewer of these were explicitly related to music therapy in the treatment of PTSD.⁴⁰⁴¹⁴²⁴³ Bensimon and colleagues' study not only worked towards building on this existing research body, but honed in on the treatment of PTSD as a result of war trauma with veterans, which was even less extensively researched,⁴⁰ and did so using empirical research, which no previous study had been able to offer. Music therapy sessions conducted throughout the study took the format of group drumming sessions, and the data for the study was collected via a combination of digital cameras recording the sessions, which picked up patterns and observed changes in body language, verbal communication and external engagement amongst participants and the therapist, open-ended in depth interviews with the participants in the programme, and a self-report carried out by the therapist in charge. Multiple symptomatic changes were noted as the sessions progressed: notably, the veterans experienced an increase in feelings of "openness, togetherness, belonging, sharing, closeness, connectedness and intimacy, as well as achieving a non-intimidating access to traumatic memories, facilitating an outlet for rage and regaining a sense of self-control".⁴⁴ In other words, group drumming as a therapeutic technique proved to be hugely successful in many ways.

As a result of the nature of the condition, many sufferers experience difficulties in solo therapy with coming to terms with the absurd realities of their situation and experiences. For veterans in particular, processing the trauma effectively can be facilitated in part by an encouragement to understand and feel a sense of 'we-ness', a sense of shared experience, common ground, and thus, on some level, being understood. It is for this reason that group therapy in the treatment of PTSD victims emerging from war-zones and combat or terror related traumatic situations, has the potential to facilitate real healing. Yet, group talking therapies, for example, begin to present their challenges for sufferers in terms of communication and vulnerability. Here, music becomes profoundly and distinctly helpful in the beginnings of processing trauma. In the context of group discussions, or group talking therapies, there is a degree of "individuality" required for "intelligibility".⁴⁴ In other words, it is not possible for participants to speak simultaneously; there is only enough room for one voice at one time in order for a participant to be heard and validated in a session.

Solidarity Amongst Sufferers

The avoidant nature of PTSD makes authenticity in this kind of setting problematic; ultimately, speaking trauma out loud, to a room of silent faces, can be an intimidating, isolating activity to engage with as a person experiencing the condition. It is therefore more difficult to foster and encourage this aforementioned sense of 'we-ness', this sense of being and feeling understood amongst sufferers. However avant-garde it may sound, this manner of simultaneous participation, voicing and engaging with struggles and traumatic memories through playing, and the consequential sense of togetherness that these bring about can be much more quickly

³⁴ Aigen, K. *Path of development in Nordoff-Robbins music therapy*. Gilsum, NH, 1998.

³⁵ Amir, D. *Meeting the sounds. Music therapy practice, theory and research*. Modan, 1999.

³⁶ Edgerton, C. L. "The effect of improvisational music therapy on the communicative behaviours of autistic children." *Journal of Music Therapy*, vol. 31, 1994. pp. 31–62.

³⁷ Kaser, V. A. "Music therapy treatment of pedophilia using the drum set." *The Arts in Psychotherapy*, vol. 18, 1991. pp. 7–15.

³⁸ Nordoff, P., & Robbins, C. *Creative music therapy*. New York: John Day Company, 1977.

³⁹ Watson, D. A. "Drumming and improvisation with adult male sexual offenders." *Music Therapy Perspectives*, vol. 20, 2002. pp. 105–111.

⁴⁰ Burt, J. W. "Information sharing: Distant thunder: Drumming with Vietnam veterans." *Music Therapy Perspectives*, vol. 13, 1995. pp. 110–112.

⁴¹ Orth, J., & Verburt, J. "Sounds of trauma: An introduction to methodological in music therapy with traumatized refugees in a clinical setting." In J. P. Wilson & B. Drozdek (Eds.), *Broken spirits: The treatment of asylum seekers and refugees with PTSD*, Brunner-Routledge Press, 2004. pp. 443–481.

⁴² Rogers, P. "Research in music therapy with sexually abused clients." In H. Payne (Ed.), *Handbook of inquiry in the arts therapies*, Jessica Kingsley, 1993. pp. 197–217.

⁴³ Slotoff, C. "Drumming technique for assertiveness and anger management in the short-term psychiatry setting for adult and adolescent survivors of trauma." *Music Therapy Perspectives*, vol. 12, 1994. pp. 111–116.

⁴⁴ Bensimon, Moshe et al. "Drumming through Trauma: Music Therapy with Post-Traumatic Soldiers." *The Arts in Psychotherapy*, vol. 35, 2008. pp. 24-48.

facilitated in group music playing. In musical terms, the pitch intervals allow for “harmonious voice blending” when sounding together and the “temporal regularity facilitates motor synchronicity”.⁴⁵⁴⁶ Additionally, the technique allows for participants to simultaneously focus on their own rhythm and playing, the sound made by another drummer, and the entire group product - enabling a sense of collective experience, of “harmonic entity”, without the necessity for eye-contact.⁴⁶⁴⁷ According to multiple studies, the facilitation of a genuine sense of interpersonal connection, belonging and fellowship is a primary aim in group therapies with PTSD sufferers.⁴⁸⁴⁹⁵⁰⁵¹ Personal testimonies from participants in the study confirmed such thinking. On participant noted:

“All of the mutual crazy drumming created openness which enabled free talking about everything. Once you beat the drum, although you don’t know anyone, it gives a feeling of togetherness which makes it possible for you to share everything with the group. It’s as if you’ll go naked in front of them. Yes! Exactly! As if they saw everything, so I can tell them all about myself. If I spoke about personal issues it’s only due to the group drumming which enabled us to open up. It brought us closer to each other when we hit the drums. I really connected myself with the group members. It’s like working together. If something facilitated intimacy above all the instruments, it was the drums”.⁴⁶

Therefore, the devising of innovative and effective techniques which allow for this sense of connectedness and openness to occur, even in the context of the avoidant nature of the condition, is vital to the success of such programmes - which, in themselves, are hugely valuable in terms of treating PTSD effectively.^{48 49 50 51 52}

Music & Trauma: Music Therapies for Children

Whilst particular attention has been paid to the effects of music therapies in post-traumatic stress intervention relating to sufferers experiencing PTSD symptoms following experiences of war, natural disasters and other forms of violent confrontation in the literature to date,⁵³⁵⁴⁵⁵⁵⁶ studies have also been conducted concerning the role of music therapies in the treatment of trauma in relation to children, who - like women and minority groups - are likely to experience trauma as a result of poverty, abuse, homelessness, displacement etc.⁵⁷⁵⁸⁵⁹⁶⁰ In fact, experimental and descriptive investigations and trials in the use of music and art therapies with traumatized children, adults and families have been ongoing since the 1950s: even prior to PTSD emerging as an acknowledged and formalized as a accredited and authenticated psychiatric condition.⁶¹

⁴⁵ Brown, S. “The ‘musilanguage’ model of music evaluation.” In N. Wallin, B. Marker, & S. Brown (Eds.), *The origins of music* (pp. 271–300). MIT Press, 2000. pp. 271-300.

⁴⁶ Bensimon, Moshe et al. “Drumming through Trauma: Music Therapy with Post-Traumatic Soldiers.” *The Arts in Psychotherapy*, vol. 35, 2008. pp. 24-48.

⁴⁷ Dixon, M. Group music therapy for posttraumatic patients. Unpublished doctoral dissertation. Ramat-Gan, Israel: Bar-Ilan University, 2005.

⁴⁸ Blake, R. L. “Vietnam veterans with post-traumatic stress disorder: Finding from a music and imagery project.” *Journal of the Association for Music and Imagery*, vol. 3, 1994. pp. 5–17.

⁴⁹ Blake, R. L., & Bishop, S. R. “Special feature—The Bonny method of guided imagery and music (GIM) in the treatment of post-traumatic stress disorder (PTSD) with adults in the psychiatric setting.” *Music Therapy Perspectives*, vol. 12, 1994. 125–129.

⁵⁰ Burt, J. W. “Information sharing: Distant thunder: Drumming with Vietnam veterans.” *Music Therapy Perspectives*, vol. 13, 1995. pp. 110–112.

⁵¹ Dixon, M. “Music and human rights.” In J. Sutton (Ed.), *Music, music therapy and trauma*, Jessica Kingsley, 2002. pp. 119-132.

⁵² Orth, J., & Verburgt, J. “One step beyond: Music therapy with traumatised refugees in a psychiatric clinic.” In D. Dokter (Ed.), *Art therapists, refugees and migrants*, Jessica Kingsley, 1998. pp. 80-93

⁵³ Lang, L., & McInerney, U. “A music therapy service in a post-war environment.” In J.P. Sutton (Ed.), *Music, music therapy and trauma: International Perspectives*, Jessica Kingsley, 2000. pp. 153-174.

⁵⁴ Pavlicevic, M. Transforming a violent society: Music therapy in South Africa. *Human Development*, vol. 16, no. 2, 1995. pp. 39–42.

⁵⁵ Goldberg, J., True, W.R., Eisen, S.A., & Henderson, W.G. A twin study of the effects of the Vietnam War on posttraumatic stress disorder. *Journal of the American Medical Association*, vol. 263, no. 9, 1990. 1227–1232.

⁵⁶ Tiao, J.H.-Y. “Music Therapy to Stable Land: Post-Earthquake Crises Intervention in China.” *Proceedings of the 13th World Congress of Music Therapy*, Sookmyung Wookon’s University, 2011.

⁵⁷ Kim, Jinah. “Music Therapy with Children Who Have Been Exposed to Ongoing Child Abuse and Poverty: A Pilot Study.” *Nordic Journal of Music Therapy*, vol. 24, no. 1, 2013. pp. 27-43.

⁵⁸ Kim, Jinah. “Effects of Community-Based Music Therapy for Children Exposed to Ongoing Child Maltreatment & Poverty in South Korea: A Block Randomized Controlled Trial.” *The Arts in Psychotherapy*, vol. 54, 2017. pp. 69-77.

⁵⁹ Felsenstein, Rivka. “From Uprooting to Replanting: on Post-Trauma Group Music Therapy for Pre-School Children.” *Nordic Journal of Music Therapy*, vol. 22, no. 1, 2013. pp. 69-85.

⁶⁰ Fairchild, Rebecca et al. “Exploring the Meaning of a Performance in Music Therapy for Children and Their Families Experiencing Homelessness and Family Violence.” *Music Therapy Perspectives*, vol. 35, no. 1, 2017. pp. 36-49.

⁶¹ Pratt, Rosalie Rebollo. “Art, Dance and Music Therapy.” *Physical Medicine and Rehabilitation Clinics of North America*, vol. 15, 2004. pp. 827-841.

The official validation of the term PTSD, or post-traumatic stress disorder, as a recognized psychiatric condition, in the American Psychiatric Association Diagnostic and Statistical Manual of Mental Disorders,⁶² along with other moments of collective significance in terms of trauma that have occurred since, i.e. wars, natural disasters, etc., have pushed the creative arts, including music, further into investigation as either primary or supplementary therapies in the treatment of PTSD symptoms - and not just for veterans.⁶³

The Potential of the Non-Verbal

As previously noted, in the face of trauma, verbal communication with therapists can prove to be extremely troubling, difficult and sometimes impossible for the PTSD sufferer.⁶⁴ Therefore, employing music as a neutral middle ground between patient and therapist - behaving as a substitute for conventional forms of communication - is a thoroughly useful tool.⁶⁵ Particularly, though, this is true for pre-school and early years children, who, due to their stage of social and cognitive development, are already limited in their verbal communication capacities, even before trauma comes into the equation.⁶⁶

It is this non-verbal feature of music that makes it so uniquely well-catered towards assisting in the treatment of children suffering from PTSD or in the process of overcoming trauma. Children are instinctively drawn to and connected with music: processing sound is a sensory register that occurs even before birth.⁶⁷ Research has demonstrated that the impersonal, unobtrusive nature of music as a communicative medium allows children to engage with it more freely and with less inhibition than they otherwise would with conventional therapies, thus enabling them to more easily re-encounter their traumatic experiences in a non-threatening manner and context, and providing an opportunity to find their voice through music and emerge from the silencing, psychologically imprisoning effects of their trauma.⁶⁸

Studies have examined the similarities and differences between using songwriting versus recreational music as techniques in music therapies and the effects on the patients that these respectively exert,⁶⁹ as well as more recently conducted experiments which evaluated the impacts of free music-making (using a combination of songwriting and singing, improvisation, orchestration, listening, movement and dance, etc.) on a group of children suffering from PTSD type-symptoms following a forced evacuation from their homes in Israel. The results of the former, perhaps due to the overlap of the two distinct therapeutic techniques, were comparatively inconclusive, whilst the recorded impacts of the latter showed serious promise.

The three months of group music therapy sessions allowed for the children to “work through” their trauma, even prior to having a stable backdrop environment, by formulating a sense of “group cohesiveness”, which allowed the children to distribute the emotional burden of their personal trauma across the group through the sense of “dialogue” created by group musical activity: due to music’s unique quality of being able to “create an immediate feeling of belonging”.⁷⁰ Group cohesiveness, facilitated by the actions of “singing together, group song-writing, drumming circles and group improvisation”⁷⁰, in turn fosters a sense of group cohesion - a joining together of sufferers through music - whether those sufferers be veterans, children or any other trauma victims - in order to allow them to access their pain, process it and begin to heal.

The Power of Percussion Play

The outdoor musical instruments manufactured here at the Percussion Play workshop are indubitably well-suited to individual or group musical therapy use. The effects of percussion, in particular, and music therapies in general, on creating a sense of voice, connection and agency to those who have experienced voicelessness and silencing in the face of trauma is well documented, as this white paper has demonstrated - and can therefore allow PTSD sufferers to engage with the healing process, with understanding and

⁶² American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders: Fifth Edition (DSM-V)*, American Psychiatric Publishing, 2013.

⁶³ Gantt, L and Tinnin, L. W. “Support for a Neurobiological View of Trauma With Implications for Art Therapy.” *The Arts in Psychotherapy*, vol. 36, 2008. pp. 148-153.

⁶⁴ Malchiodi, C. A. “Preface.” *Creative Interventions with Traumatized Children*, Guilford Press, 2008. pp. xiii-xvii.

⁶⁵ Bensimon, Moshe, et al. “Drumming Through Trauma: Music Therapy With Post-Traumatic Soldiers.” *The Arts in Psychotherapy*, vol. 35, no. 1, 2007. pp. 34-48.

⁶⁶ Felsenstein, Rivka. “From Uprooting to Replanting: on Post-Trauma Group Music Therapy for Pre-School Children.” *Nordic Journal of Music Therapy*, vol. 22, no. 1, 2013. pp. 69-85.

⁶⁷ Trevarthen, C. “The Foundation of Intersubjectivity: Development of the Interpersonal and Cooperative Understanding in Infants.” *The Social Foundation of Language and Thought: Essays in Honour of Jerome Bruner*, Norton, 1980.

⁶⁸ Austin, D. “The Wounded Healer. The Voice of Trauma: A Wounded Healer’s Perspective.” *Music, Music Therapy and Trauma: International Perspectives*, Jessica Kingsley, 2000. pp. 231-259.

⁶⁹ Coulter, S. J. “Effect of Song Writing Versus Recreational Music on Posttraumatic Stress Disorder (PTSD) Symptoms and Abuse Attribution in Abused Children.” *Journal of Poetry Therapy*, vol. 13, no. 4, 2000. pp. 231-259.

⁷⁰ Felsenstein, Rivka. “From Uprooting to Replanting: on Post-Trauma Group Music Therapy for Pre-School Children.” *Nordic Journal of Music Therapy*, vol. 22, no. 1, 2013. pp. 69-85.

communicating their trauma and its resultant effects, and with the future management of their condition and easing of their symptoms. We have percussion instruments which cater towards those for whom eye-contact is a point of tension, awkwardness or struggle, multiple drum ensembles with slight tonal differences, which would allow for larger group to experience senses of connectedness and harmony as a part of learning to contextualise and cope with their trauma.

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