

# Performing Arts Medicine in the Treatment of Brain Disorder

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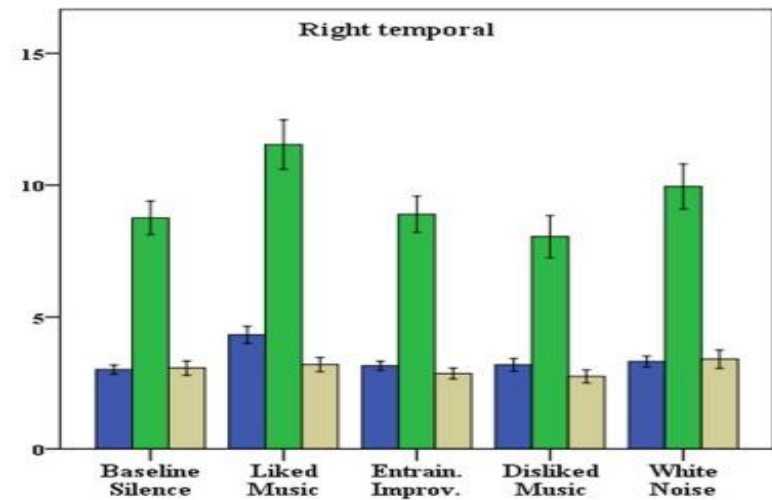
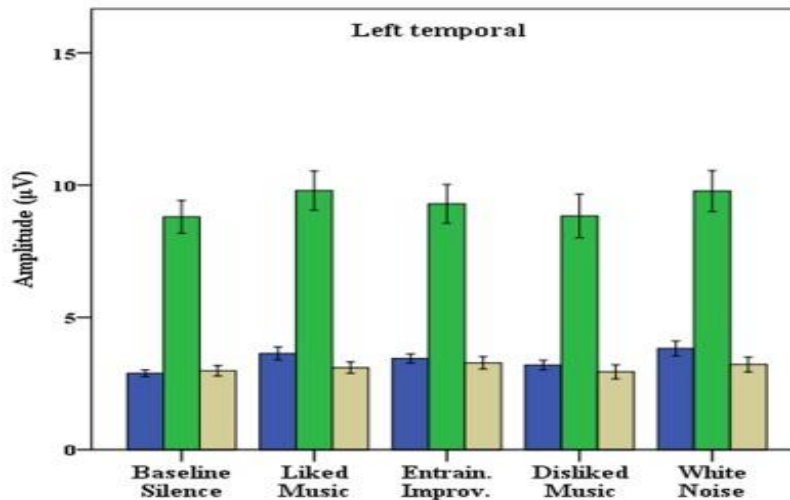
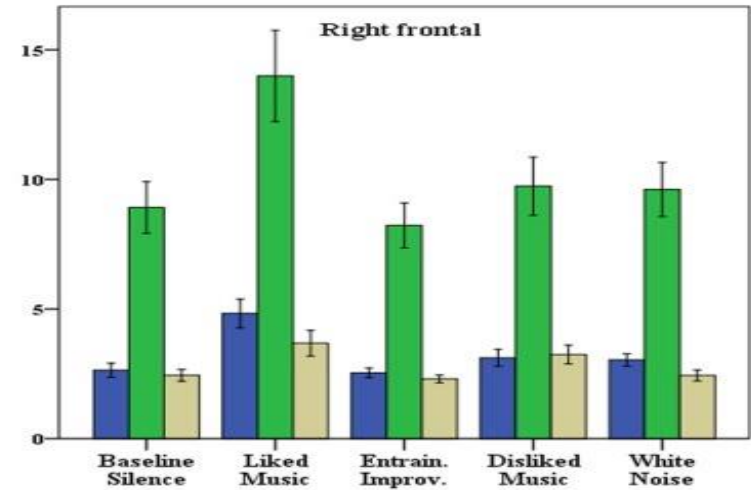
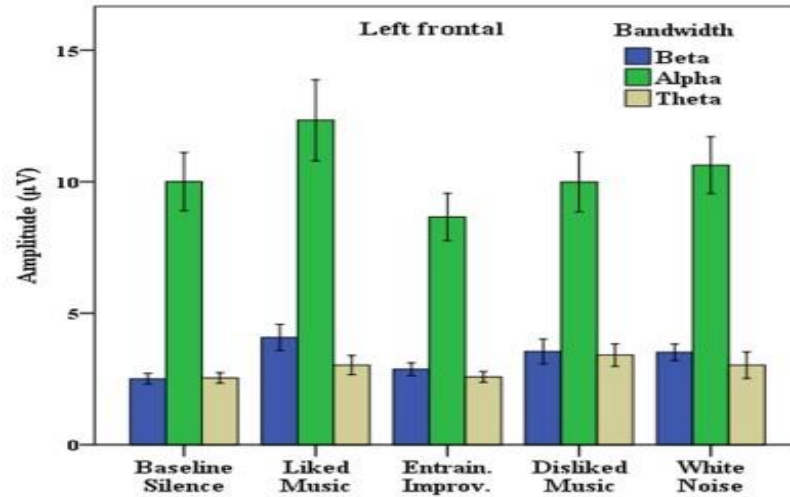
# Objectives

- Understand the difference between music therapy, music medicine and performance arts medicine
- Understand Dance/Movement therapy
- Examine literature and case studies in brain injury, cancer pain and chronic pain
- Review a case study

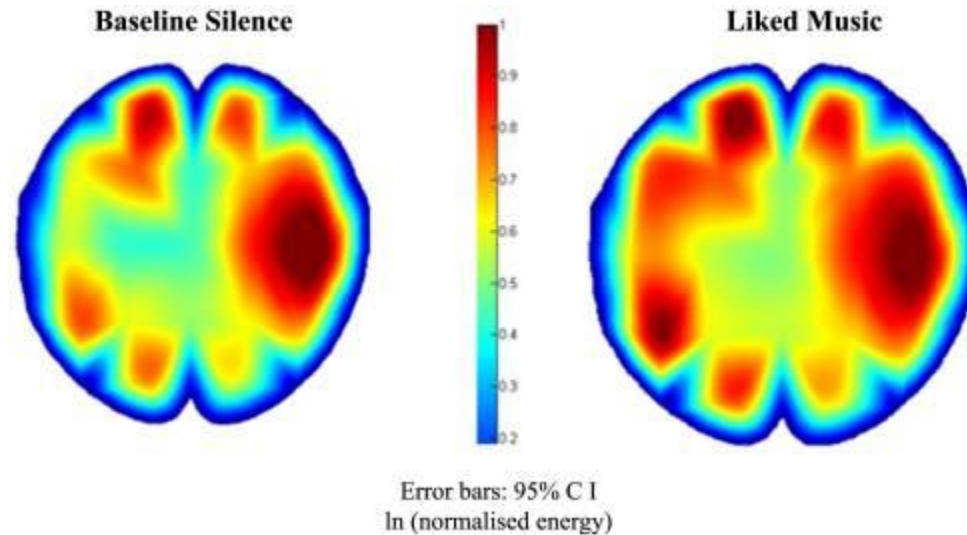
**Neurophysiological and behavioral responses to music therapy  
in vegetative and minimally conscious States.**

[O'Kelly J](#)<sup>1</sup>, [James L](#)<sup>2</sup>, [Palaniappan R](#)<sup>3</sup>, [Taborin J](#)<sup>4</sup>, [Fachner J](#)<sup>5</sup>, [Magee WL](#)<sup>6</sup>.

- Music therapy may be effective in the assessment and rehabilitation with this population due to effects of musical stimuli on arousal, attention, and emotion, irrespective of verbal or motor deficits
- Electroencephalogram (EEG), heart rate variability, respiration, and behavioral responses of 20 healthy subjects with 21 individuals in vegetative or minimally conscious states (VS or MCS)
- Increased blink rate for preferred music



Error bars: 95% C I



# Definitions

- Music Therapy: a trained healthcare provider provides music in a therapeutic model
  - Music therapist
  - Physical and occupational therapist
  - Physicians (medical students)
- Music Medicine: the use of music in a manner that is therapeutic similar to other medical modalities.
  - May not need to be administered but can be prescribed.
  - Can be both active or passive

# Definitions

- Performance arts: artists use their voices and/or movement of their bodies, often in relation to other objects to convey artistic expression.
  - A performance must occur

# The impact of music therapy versus music medicine on psychological outcomes and pain in cancer patients: a mixed methods study

**Joke Bradt & Noah Potvin & Amy Kesslick &  
Minjung Shim & Donna Radl & Emily Schriver &  
Edward J. Gracely & Lydia T. Komarnicky-Kocher**

Support Care Cancer (2015) 23:1261–1271

DOI 10.1007/s00520-014-2478-7



Bradt, J., Potvin, N., Kesslick, A., Shim, M., Radl, D., Schriver, E., Gracely, E. J., Komarnicky-Kocher, L.T. (2015) The impact of music therapy versus music medicine on psychological outcomes and pain in cancer patients: a mixed methods study. *Care in Cancer*, 23(5), p.1261-1271

Themes	Categories
<p>Symptom Management: Listening to music and music making improve patients' stress, pain and mood.</p>	<ul style="list-style-type: none"> <li>• Escape: Music provides a mental escape from concerns related to cancer diagnosis and treatment and other day-to-day worries.</li> <li>• Mood Enhancement: Engagement in music listening and music making lifts people's spirits and provides enjoyment and fun.</li> <li>• Peaceful/soothing: Music helps to relax, feel more peaceful, and reduce anxiety and pain.</li> </ul>
<p>Memories: Music brings back memories through which participants connect to pre-illness self as well as to loss and trauma. The music helps to bridge past, present and future.</p>	<ul style="list-style-type: none"> <li>• Memories of childhood: Music evokes memories of a beautiful, carefree childhood.</li> <li>• Memories of healthy self: Music helps participants connect to their pre-illness self.</li> <li>• Memories of loss and trauma: Music has the potential to evoke memories and feelings of loss and trauma.</li> <li>• Memories form a bridge across time: Music helps to bridge past, present, and future.</li> </ul>
<p>Hope for future: music offers hope and motivation</p>	

# Example quotes

- It made me forget about my treatment, the pain and it just had me feel like I was floating on a cloud.
- It calmed me down from the inside. It like take me away from where I was, put me in another place. Took my mind from cancer for the moment.
- It lifted my spirit and whatever I was feeling before, whatever mood I was in before, it just took it away! It put me in a good mood and put me in a good space and it made me happy.
- It also made me forget the pain. It relaxed me more. It was just more relaxing. More soothing.
- It takes me back to my childhood when everything was beautiful. Like you know, the sunny days and eating ice cream, sitting on steps.
- When I was thinking of the music, it was more like looking at my life. You know, the things that I used to do...

- Well, in some instances, it took me from my circumstance... of what I am going through....
- When I was listening to the music it brought back memories of different things, good and bad. And it's kind of bridging, making a connection from my old life to my new life. I found that very helpful.
- The music made me think about my past. It made me think about my past and my future.
- When the doctor first tells you that you have a cancer you feel like tomorrow is your last day, but the music makes you feel like there's a future...makes me feel like now I am going to see my grandchildren grow up. Especially when she played how great thou art...it gave me my life back it feels like, you know?

# What is Dance/Movement Therapy?

- Dance/Movement Therapy (DMT) is “The psychotherapeutic use of movement to further the emotional, cognitive, physical and social integration of the individual” (ADTA, 2009).
- A Creative Arts Therapy
- DMT uses the expressive and creative movement as well as verbal processing to help people to connect to their body and mind, and process feelings and thoughts that are often inaccessible through verbal therapy alone.

# DMT theoretical premises

- Interdisciplinary foundations in psychology & in the arts, dance/movement studies, dance education, mind/body research, Nonverbal communication
  - ❖ All movement is both functional and expressive.
  - ❖ Movement reflects personality, culture, development, resources for coping, health & dysfunction.
  - ❖ Changes made on the movement level generalize to other aspects of functioning.
  - ❖ Core concepts: body action, rhythmic group activity, therapeutic movement relationship, symbolism

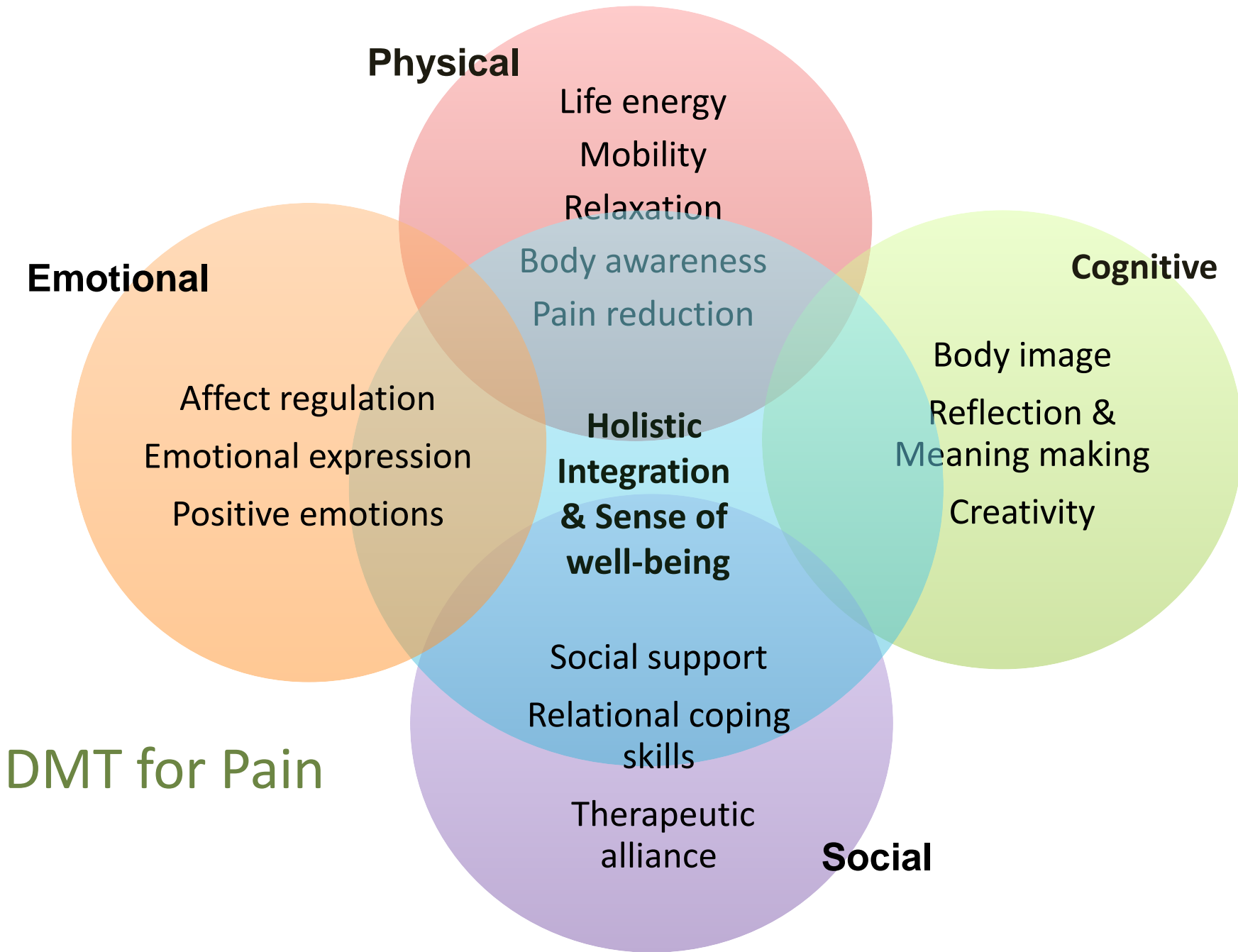
# Overarching theoretical and philosophical concepts

- Mind/body integration and embodiment
- Experiential therapy, and shared action
- Body image
- Non-verbal communication/relationship
- Metaphor and the isomorph
- Creative process and improvisation

# DMT for Chronic Pain

- Improves body awareness & body image
- Reduces discomfort and movement pain
- Increases mobility and life energy
- Positive change in coordination & quality of movement
- Decreases the fear of movement
- Increases social support
- Assertiveness and confidence in social engagement
- Helps finding deeper existential meaning in the given life situation and strengthen the ability to project a possible future



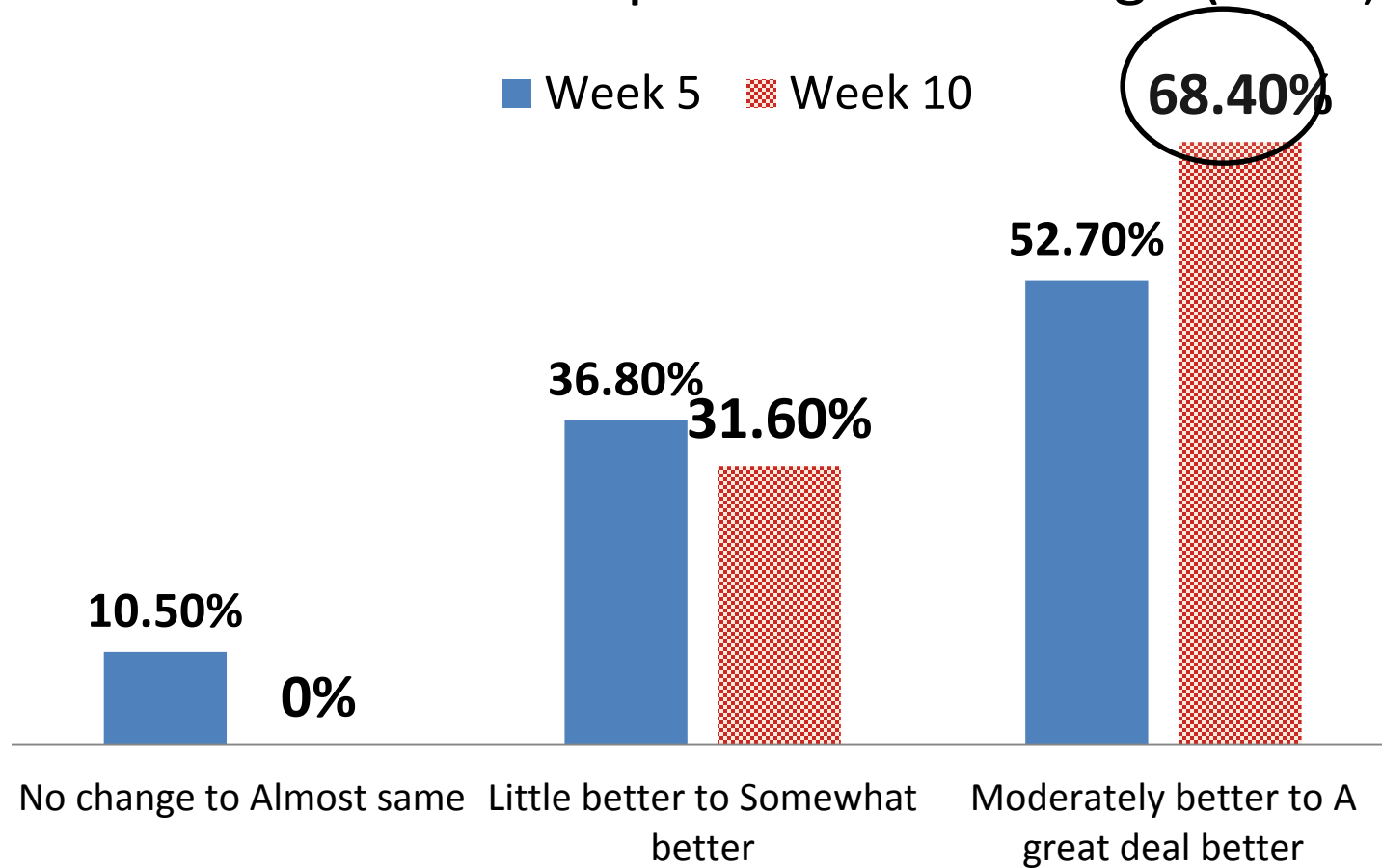




# Quantitative Findings

- Resilience (T2-T3\*) (MD=7.84, SE= 1.60,  $p < .001$ )
  - The ability of the body to recover after deformation
- Kinesiophobia (T1-T3) (MD=-2.79, SE= .98,  $p = .031$ )
  - Fear of movement
- Body awareness - 'Attention regulation' (MD=.586, SE= .185,  $p = .016$ )
- Pain intensity ( $t = -2.19$ ,  $p = .03$ )
- Immediate effect of DMT on Mood: 2.13 (2.44), Stress: -2.19 (2.80), Relaxation: 2.50 (2.62) & Pain: -.96(2.01) with  $p < .001$  for all outcomes
- Correlation between Body Awareness and Self-efficacy ( $\rho = -.5091$ ,  $p < .0001$ )

- Patients' Global Impression of Change (PGIC)



# Current areas of research

- Efficacy of Music Lessons in the Treatment of Patients with Chronic Pain
  - Active and passive music
  - Creation of music
- The impact of music meditation therapy on pain scale and quality of life when botulinum toxin injection is utilized

Please have melody gardot video  
added here.