

Music Therapy and its effects on Chronic Pain Management

Carson Tanner

Chtanner@ksu.edu

Kansas State University



Rationale for Research

- Chronic pain's extensive impact demands effective solutions.
- Addressing unmet needs requires accessible, adaptable treatments.
- Conventional treatments may not fully address chronic pain's complexities.
- Pursuing innovative approaches like music therapy offers new avenues for relief.
- Emerging research highlights music's potential to alleviate pain and enhance quality of life.



Music Therapy's Role in Chronic Pain Management



Music therapy is a holistic healthcare intervention that utilizes music to address physical, emotional, cognitive, and social needs ("What is Music Therapy?", n.d.).



Chronic pain is a complex health condition that persists for an extended period, often beyond the expected healing time, and significantly impacts an individual's quality of life ("What is Music Therapy?", n.d.).



Literature Review, Isn't There Room for Music in Chronic Pain Management?

Prevalence and Impact of Chronic Pain

- Over 40% of the population suffers from chronic pain.

Limitations of Conventional Pain Management

- Adverse effects and inadequate responses to medication.

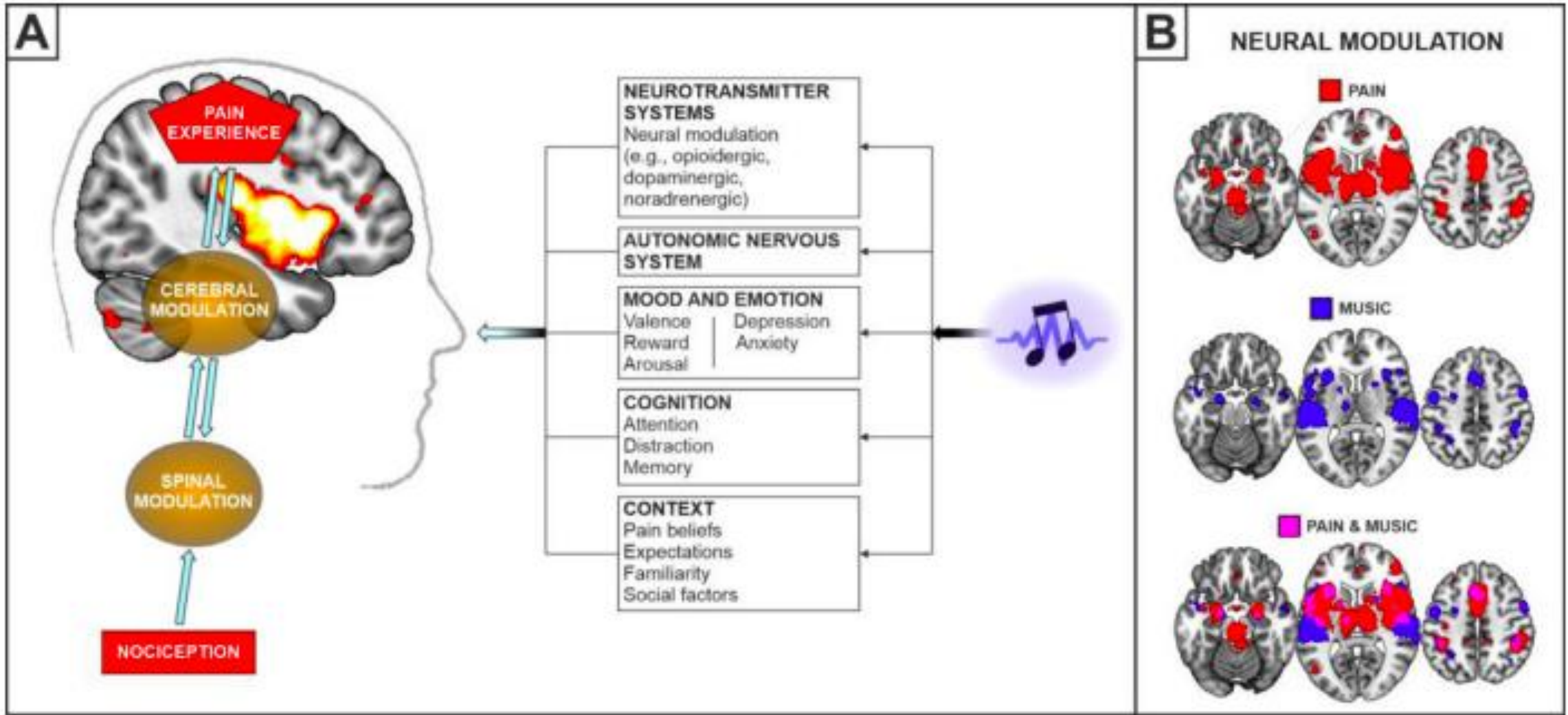
Efficacy of Music Interventions

- Music shown to reduce chronic pain, anxiety, and depression.
- Potential cost-effective and easily applicable complementary treatment.

Neurobiological Mechanisms

- Music modulates the pain network and emotion circuitry of the brain.
- Activation of the mesolimbic dopaminergic system correlates with pain relief (Sihvonen, 2022).



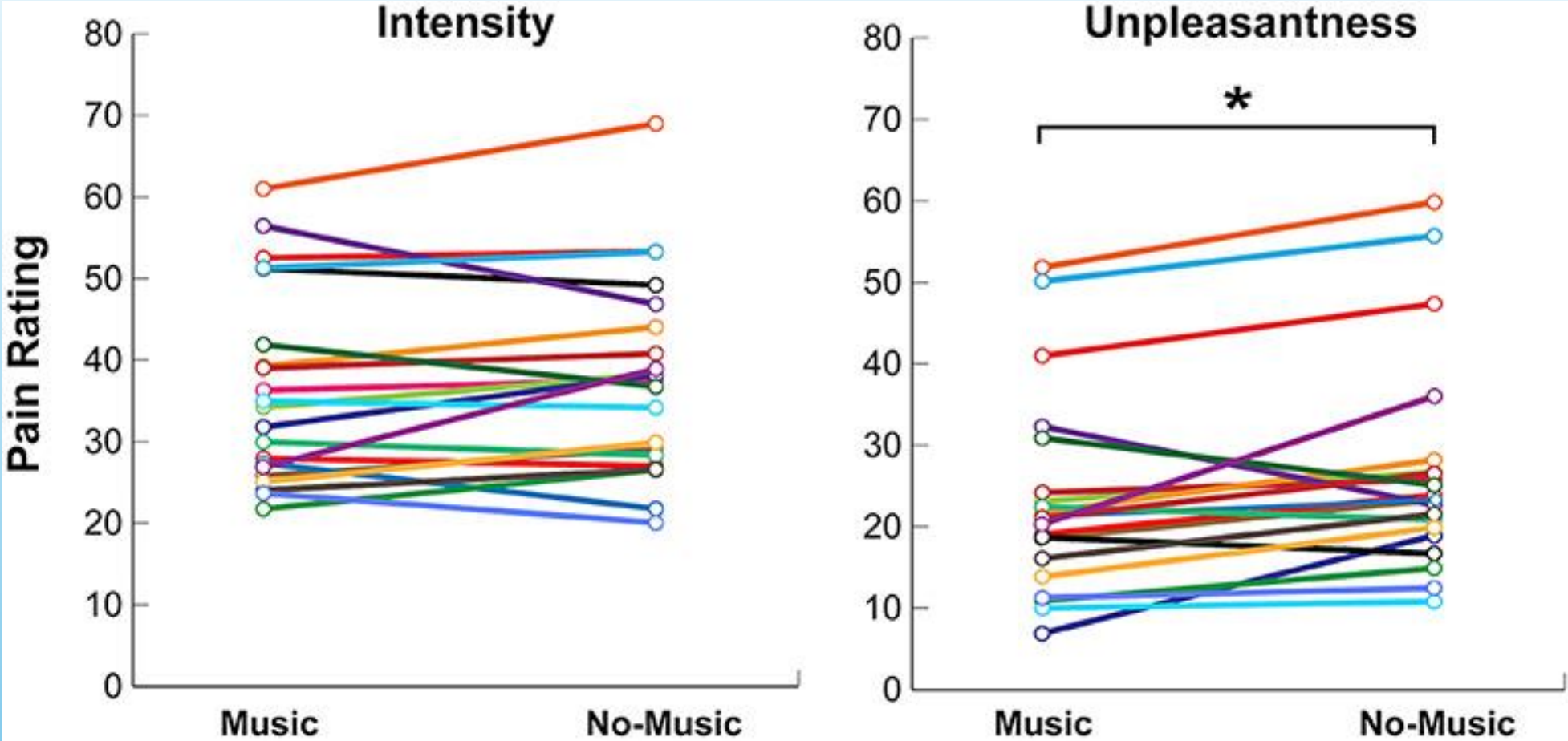


Literature Review: The Effects of Music on Pain

- Music interventions, including live and recorded music, showed significant reductions in chronic pain.
- Participants reported improved well-being and reduced symptoms of anxiety and depression.
- The effectiveness of music interventions was independent of music selection and delivery method for older adults (Lee, J. H. 2016).

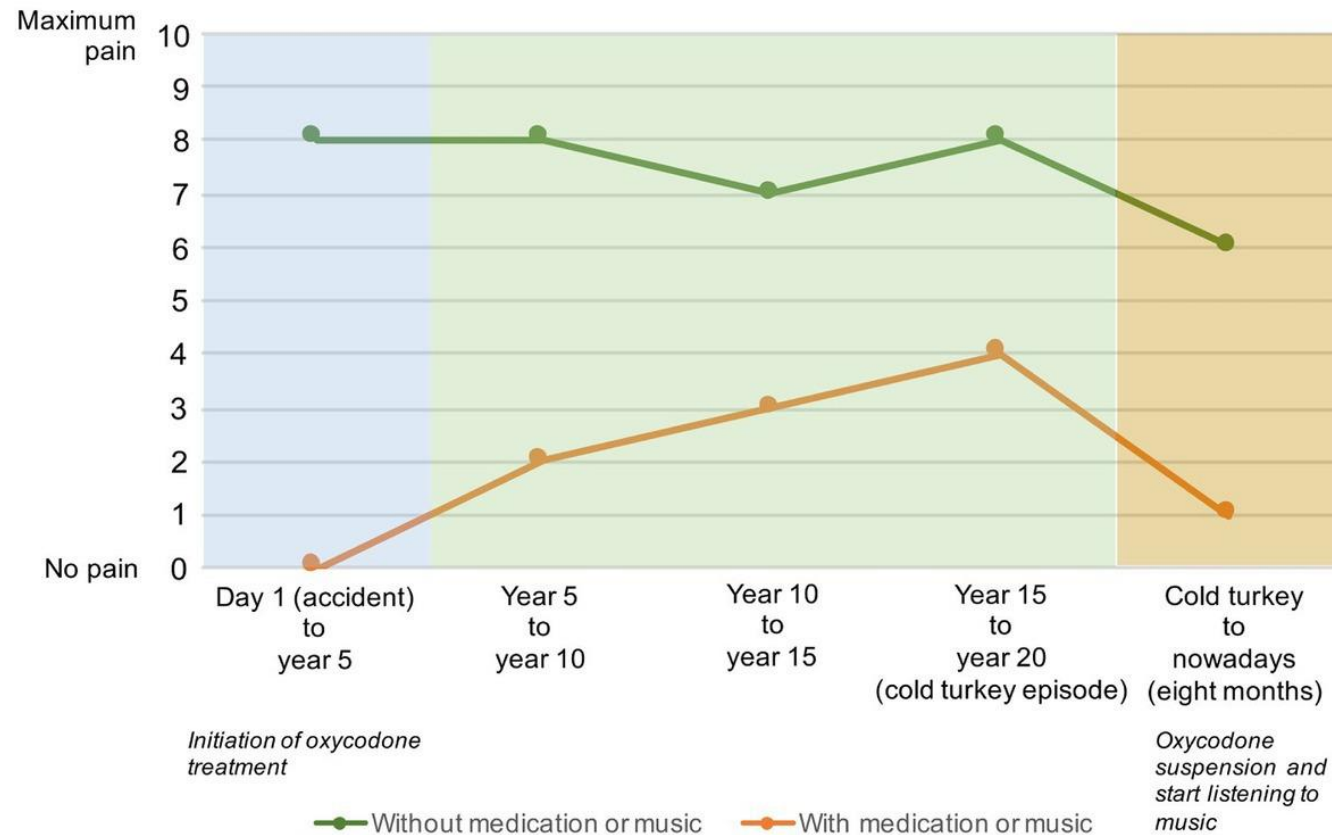


Behavioral Results

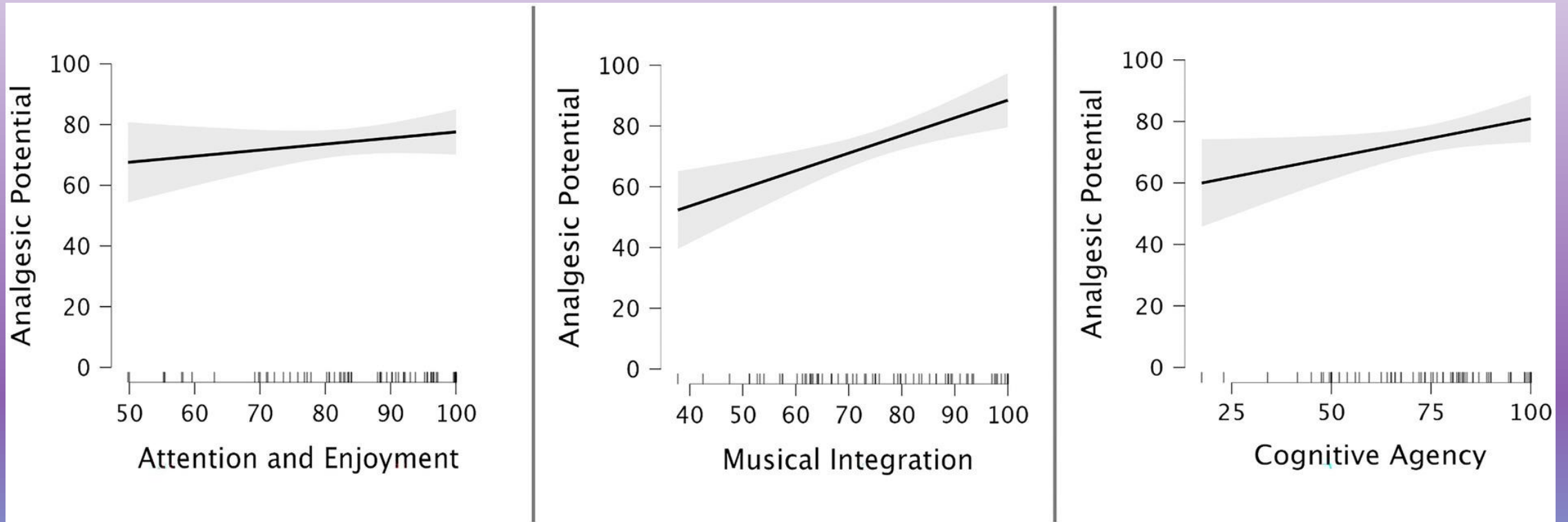


“I got my brain back” A patient’s experience with music-induced analgesia for chronic pain

- When the participant began oxycodone, they experienced temporary relief from pain, but it increased leading up to the cold turkey episode. However, after starting to listen to music, along with reiki, acupuncture, and Buddhist meditation for pain, the participant reported periods completely free of pain, with occasional days reaching an intensity of 6 if music was not used. On average, their pain intensity in the last two months was around 3, with occasional spikes to 6 or 7 during activities like hiking (Mercadillo, 2023).



How do people with chronic pain choose their music for pain management? Examining the external validity of the cognitive vitality model



Conclusion

In conclusion, the research on music therapy's role in chronic pain management highlights its potential to provide meaningful relief from pain, anxiety, and depression, offering an alternative or complementary approach to traditional treatments. By leveraging music's ability to modulate the brain's pain network and emotion circuitry, we unveil a holistic method for addressing chronic pain's complexities. Integrating music into pain management strategies holds promise for enhancing outcomes and improving quality of life for those affected. Moving forward, interdisciplinary collaboration and continued research will be essential to fully harness the benefits of music therapy and tailor interventions to meet individual needs.



Implications and Next Steps

- Further investigation into neurobiological mechanisms:
 - Deepen understanding of music-induced analgesia.
 - Conduct more extensive neuroimaging studies.
- Exploration of optimal intervention parameters:
 - Investigate genres, tempo, and duration.
 - Tailor interventions to individual preferences.
- Examination of long-term effects:
 - Assess impact on chronic pain management.
 - Evaluate quality of life outcomes.
- Potential for interdisciplinary collaboration:
 - Integrate neuroscience, psychology, and music therapy.
 - Develop effective and personalized approaches to pain management.



Discussion Questions

- How do the social and humanistic dimensions of health intersect with the application of music interventions for chronic pain management, and what ethical considerations arise in ensuring equitable access and effectiveness of these interventions?
- How can an understanding of multicultural awareness inform the development and implementation of music-based approaches to pain management, particularly considering the diverse cultural, racial, and ethnic backgrounds of patients, and how might this impact health outcomes?



Work Cited

- Howlin, C., Walsh, R., D'Alton, P., & Rooney, B. (2023). How do people with chronic pain choose their music for pain management? Examining the external validity of the cognitive vitality model. *Frontiers in Psychology, 13*. <https://doi.org/10.3389/fpsyg.2022.969377>
- Lee, J. H. (2016). The Effects of Music on Pain: A Meta-Analysis. *Journal of Music Therapy, 53*(4), 430–477. <https://doi.org/10.1093/jmt/thw012>
- Low, M. Y., Lacson, C., Zhang, F., Kesslick, A., & Bradt, J. (2020). Vocal Music Therapy for Chronic Pain: A Mixed Methods Feasibility Study. *Journal of Alternative and Complementary Medicine (New York, N.Y.), 26*(2), 113–122. <https://doi.org/10.1089/acm.2019.0249>
- Mercadillo, R. E., & Garza-Villarreal, E. A. (2023). Case Report: “I got my brain back” A patient’s experience with music-induced analgesia for chronic pain. *Frontiers in Psychology, 14*. <https://doi.org/10.3389/fpsyg.2023.1141829>
- Powers, J. M., Ioachim, G., & Stroman, P. W. (2022). Music to my senses: Functional magnetic resonance imaging evidence of music analgesia across connectivity networks spanning the brain and brainstem. *Frontiers in Pain Research, 3*. <https://doi.org/10.3389/fpain.2022.878258>
- Sihvonen, A. J., Pitkaniemi, A., Särkämö, T., & Soinila, S. (2022). Isn’t There Room for Music in Chronic Pain Management? *The Journal of Pain, 23*(7), 1143–1150. <https://doi.org/10.1016/j.jpain.2022.01.003>
- What is Music Therapy? | What is Music Therapy? | American Music Therapy Association (AMTA)*. (n.d.). Retrieved May 2, 2024, from <https://www.musictherapy.org/>

