Effect of music combined with swaddling on pain in full-term newborns: randomized clinical trial

Martins de Melo G1, Moreira Leitão Cardoso MVL1, de Almeida PC2, Conceição Rodrigues E3

1 Universidade Federal do Ceará, Fortaleza, Ceará, Brazil; 2 Universidade Estadual do Ceará, Fortaleza, Ceará, Brazil; 3 Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil

The objective was to evaluate the effect of music applied within ten and 15 minutes, combined with swaddling, on behavioral (facial action) and physiological (heart rate) responses to pain in full-term newborns, before and during venipuncture for blood sampling. A randomized, triple-blind, clinical trial with 52 rooming in infants randomly assigned to four groups of 13: Experimental 1 (music [10 minutes] plus swaddling), Experimental 2 (music [15 minutes] plus swaddling), Control 1 (no music [10 minutes] plus swaddling), and Control 2 (no music [15 minutes] plus swaddling). Pain was measured using the Neonatal Facial Coding System in the basal and procedural moments. Experimental 2 group showed high pain absence (p < 0.05); low heart rate mean (p < 0.0001) in the basal and procedural (antisepsis, puncture, blood squeezing/aspiration, compression) moments. Neonates who listened to 15 minutes of music plus swaddling showed a greater absence of facial pain actions.
Scientific Reports volume 11, Article number: 19036 (2021)

Functional network connectivity during Jazz improvisation

Vergara VM¹, Miller R¹, Norgaard M², Beaty RE³, Dhakal K⁴, Dhamala M⁵, Calhoun VC¹

¹ Tri-Institutional Center for Translational Research in Neuroimaging and Data Science (TReNDS), Georgia State University, Georgia Institute of Technology, and Emory University, 55 Park Place, Atlanta, GA, 30303, USA; ² School of Music, Georgia State University, Atlanta, GA, USA; ³ Department of Psychology, Pennsylvania State University, University Park, PA, USA; ⁴ Department of Radiology, Massachusetts General Hospital, Harvard Medical School, Athinoula A. Martinos Center for Biomedical Imaging, Charlestown, MA, USA; ⁵ Department of Physics and Astronomy, Neuroscience Institute, Georgia State University, Atlanta, GA, USA

One of the most complex forms of creativity is musical improvisation where new music is produced in real time. Brain behavior during music production has several dimensions depending on the conditions of the performance. The expression of creativity is suspected to be different whether novel ideas must be externalized using a musical instrument or can be imagined internally. This study explores whole brain functional network connectivity from fMRI data during jazz music improvisation compared against a baseline of prelearned score performance. Given that creativity might be affected by external execution, another dimension where musicians imagine or vocalize the music was also tested. We found improvisation was associated with a state of weak connectivity necessary for attenuated executive control network recruitment associated with a feeling of “flow” allowing unhindered musical creation. In addition, elicited connectivity for sensorimotor and executive control networks is not different whether musicians imagine or externalize (through vocalization) musical performance.

Cogn Emot 2021 Oct 27;1-19

Music-induced emotions influence intertemporal decision making

Zhou L¹, Yang Y², Li S²,³

¹ Music College, Shanghai Normal University, Shanghai, People's Republic of China; ² CAS Key Laboratory of Behavioural Science, Institute of Psychology, Chinese Academy of Sciences, Beijing, People's Republic of China; ³ Department of Psychology and Behavioral Sciences, Zhejiang University, Hangzhou, People's Republic of China

People tend to choose smaller, immediate rewards over larger, delayed rewards. This phenomenon is thought to be associated with emotional engagement. However, few studies have demonstrated the real-time impact of incidental emotions on intertemporal choices. This research investigated the effects of music-induced incidental emotions on intertemporal choices, during which happy or sad music was played simultaneously. We found that music-induced happiness made participants prefer smaller-but-
Music therapy to alleviate anxiety in cervical brachytherapy - Do we change a tune? A randomized, single institute study

Barthwal Sr M¹, Pareek V², Patil P³, Mallick S², Sharma A², Sharma DN²

¹National Cancer Institute, AIIMS, New Delhi, India; ²All India Institute of Medical Sciences, New Delhi, India; ³National Cancer Institute, AIIMS, New Delhi, India

The procedure of Intracavitary Brachytherapy (ICBT) involves use of spinal anesthesia and invasive procedure leading to anxiety among the patients. Music therapy (MT) has been established as an excellent measure to alleviate anxiety; however, the role is scarcely employed. This randomized study evaluates the impact of MT on anxiety and distress during the procedure of ICBT in cervical malignancies. In this single institute, Randomized trial comparing MT versus no MT in patients undergoing ICBT for cervical malignancies, subjective assessment for stress and anxiety was done with use of pre-State-Trait Anxiety Inventory (STAI-S Anxiety) questionnaire and Symptom Distress Thermometer (SDT). Patients under the MT group were counselled for their choice of music prior to the treatment and the non-MT group did not receive any such counselling. After the completion of treatment, both the questionnaires were again repeated and repeated-measures analysis of variance was used to assess treatment effects on STAI and SDT. Correlation between STAI and SDT was also assessed at both time points and by group with Spearman correlation coefficients. A total of 70 patients with histopathological proven cervical malignancy were enrolled with 35 each in the MT and non-MT group. The median age was 48.5 years and both groups were matched in the treatment and patient characteristics. The overall mean pre- and post-simulation STAI-S scores were 42.3 (range, 22-62) and 37.7 (range, 20-64), respectively. The overall mean pre- and post-simulation SDT scores were 4.6 (range, 0-10) and 3.2 (range, 0-10), respectively. The MT group had mean pre- and post-simulation STAI-S scores of 42.8 and 32.3, respectively (P < 0.001) and the mean SDT scores before and after simulation were 4.5 and 1.9, respectively (P < 0.001) The no-MT group's mean pre- and post-simulation STAI-S scores were 41.9 and 39.9, respectively (P = 0.54), and the mean SDT scores were 4.7 and 3.9, respectively (P = 0.76). The role of Music therapy as a method to reduce the patient anxiety has been well established in our study. The reduced anxiety in the patient helps the oncologist in performing a better implant which indirectly would lead to better disease control and survival. MT should be incorporated in the Brachytherapy Operating room to help alleviate the patients alleviate their procedure related stress and anxiety.
La procedura di brachiterapia intracavitaria (ICBT) prevede l’uso dell’anestesia spinale e una procedura invasiva che porta ansia ai pazienti. La musicoterapia (MT) è stata stabilita come una misura eccellente per alleviare l’ansia; tuttavia, questo metodo è scarsamente impiegato. Lo studio randomizzato degli Autori valuta l’impatto della MT su ansia e disagio durante la procedura di ICBT nelle neoplasie cervicali. In un singolo istituto, uno studio randomizzato che confrontava MT contro non MT in pazienti sottoposti a ICBT per neoplasie cervicali, la valutazione soggettiva di stress e ansia è stata effettuata con l’uso del questionario pre-State-Trait Anxiety Inventory (STAI-S Anxiety) e il Symptom Distress Thermometer (SDT). I pazienti del gruppo MT hanno ricevuto un counseling rispetto alla scelta della musica prima del trattamento e il gruppo non MT non ha ricevuto tale consulenza. Dopo il completamento del trattamento, entrambi i questionari sono stati nuovamente ripetuti e l’analisi della varianza con misure ripetute è stata utilizzata per valutare gli effetti del trattamento su STAI e SDT. Anche la correlazione tra STAI e SDT è stata valutata in entrambi i momenti e per gruppo con coefficienti di correlazione di Spearman. Sono stati arruolati un totale di 70 pazienti con neoplasia cervicale dimostrata istopatologicamente con 35 ciascuno nel gruppo MT e non MT. L’età media era di 48,5 anni ed entrambi i gruppi erano appaiati per caratteristiche di trattamento e di paziente. I punteggi STAI-S medi complessivi, prima e dopo la simulazione, erano rispettivamente 42,3 (intervallo 22-62) e 37,7 (intervallo 20-64). I punteggi SDT medi complessivi, prima e dopo la simulazione, erano 4,6 (intervallo, 0-10) e 3,2 (intervallo, 0-10), rispettivamente. Il gruppo MT aveva punteggi STAI-S medi, prima e dopo la simulazione, rispettivamente di 42,8 e 32,3 (P <0,001) e i punteggi SDT medi, prima e dopo la simulazione, erano rispettivamente di 4,5 e 1,9 (P <0,001). I punteggi medi STAI-S del gruppo, prima e dopo la simulazione, erano rispettivamente 41,9 e 39,9 (P = 0,54) e i punteggi medi SDT erano rispettivamente 4,7 e 3,9 (P = 0,76). Il ruolo della musicoterapia come metodo per ridurre l’ansia del paziente è stato ben stabilito nello studio degli Autori. L’ansia ridotta nel paziente aiuta l’oncologo a eseguire un impianto migliore che, indirettamente, porterebbe a un migliore controllo della malattia e alla sopravvivenza. La MT dovrebbe essere incorporata nella sala operatoria di brachiterapia per aiutare i pazienti a ridurre lo stress e l’ansia legati alla procedura.

The Pierfranco and Luisa Mariani Foundation
Since its beginnings in 1985, the Mariani Foundation has established itself as a leading organization in the field of paediatric neurology by organizing a variety of advanced courses, providing research grants, and supporting specialized care. The Foundation works in close cooperation with major public healthcare institutions, complementing their scientific programs and other activities. In 2009 it became the first private entity in Italy to join the founding members of the National Neurologic Institute “Carlo Besta” in Milan. In addition to its services, the Foundation aims, through its continuing medical education courses and publications, to spread knowledge in the field of paediatric neurology in order to help treat or alleviate a large number of paediatric neurologic disorders.

In the year 2000, the Mariani Foundation has added a new and important dimension to its activities: fostering the study of the multiple links between the neurosciences and music, including music education and early intervention. This significant commitment has inspired the series of “Neurosciences and Music” conferences, held in Venice (2002), Leipzig (2005), Montreal (2008), Edinburgh (2011), Dijon (2014), Boston (2017), and Aarhus (2021). All these meetings have led to the publication of major volumes in the Annals of the New York Academy of Sciences.

"Neuromusic News"
Direttore responsabile Luisa Bonora
Pubblicazione periodica. Registrazione n. 318 Tribunale di Milano del 10-06-2011

Edited by Fondazione Mariani
Contributors: Luisa Lopez, Giuliano Avanzini, Maria Majno and Barbara Bernardini
Editorial coordinator: Renata Brizzi
For further information: neuromusic@fondazione-mariani.org

Notice on privacy of personal information
"Neuromusic News", providing periodic updates on Neurosciences and Music, has been sent to you since you have registered to the Neuromusic Mailing List or because you have expressed an interest in this field (as a participant in our Neurosciences conference or through a request on the subject).
Your data is stored securely and will be handled confidentially. It will be used exclusively by the Mariani Foundation to communicate its own information and will not be passed on to third parties.
If you no longer wish to receive “Neuromusic News”, please go to our website www.fondazione-mariani.org and log in with your Username and Password, then access “My personal details” page and deselect the option "I agree to receive Neuromusic News".