The effect of music on short-term exercise performance during the different menstrual cycle phases in female handball players

Ghazel N1, Souissi A1,2, Chtourou H1,3, Aloui G1, Souissi N1
1 Physical Activity, Sport and Health, UR18JS01, National Observatory of Sport, Tunis, Tunisia; 2 High Institute of Sport and Physical Education, Ksar Saïd University of "La Manouba", Tunis, Tunisia; 3 High Institute of Sport and Physical Education of Sfax, University of Sfax, Sfax, Tunisia

The present study aimed to evaluate the effect of music on short-term exercise performance during the different menstrual cycle phases (MCP). In different MCP (i.e. menstrual phase (MP), luteal phase (LP), follicular phase (FP)) and in a randomized order, fourteen female handball players aged between 21-24 years performed during music (fast-tempo, 140 bpm) and no-music conditions the following tests: squat jump (SJ), countermovement jump (CMJ), agility T-test (TT), and repeated sprint ability (RSA). The profile of mood states (POMS) questionnaire was completed in the different MCP. The rating of perceived exertion was recorded at the end of TT and RSA. MCP does not affect the SJ, CMJ, TT and RSA performance. However, anxiety, anger, and confusion were higher in MP compared to LP and FP. Music enhances the SJ performance during the different MCP. However, the music improved the SJ performance (the first test) only following warm-up in all MCP. In conclusion, listening to music during warm-up could be beneficial for short-term exercise performance in all MCP, but the potential effect of the music on physical performance vanishes over time.
riscaldamento potrebbe essere utile per l'esecuzione di esercizi a breve termine in tutte le MCP, ma il potenziale effetto della musica sulle condizioni fisiche svanisce nel tempo.

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**Music therapy as social skill intervention for children with comorbid ASD and ID: study protocol for a randomized controlled trial**

Yen Na Yum, Way Kwok-Wai Lau, Kean Poon, Fuk Chuen Ho

Department of Special Education and Counselling, The Education University of Hong Kong, 10 Lo Ping Road, Tai Po, New Territories, Hong Kong SAR, China. yyum@eduhk.hk

Autism spectrum disorder (ASD) is a developmental impairment characterized by persistent deficits in social communication and interactions, and over half of children with ASD possess below average intellectual ability (IQ < 85). The social development and response to social skill interventions among children with ASD and comorbid intellectual disability (ID) is not well understood. Music therapy is a systematic process of intervention, wherein a therapist may help clients promote their social skills by using musical experience. The proposed study will address limited research evidence on music therapy as an intervention for social functioning in children with ASD with mild to borderline ID. A randomized controlled trial (RCT) with two parallel groups of 40 children each (1:1 allocation ratio) is planned. Participants will receive 45 min of music therapy or non-musical intervention targeting social skills once a week for 12 weeks. Primary outcome measures will be independent ratings on the Childhood Autism Rating Scale and parent ratings on the Social Responsiveness Scale-2. Linear mixed-effects models for these two outcome measures will be created for data collected at 2-week pre-intervention, 2-week post-intervention, and 4-month post-intervention sessions. In-session behaviors at the first and last intervention will be videotaped and coded offline and compared. Pretreatment neural response of quantitative electroencephalograms (qEEG) to social scenes will be used to predict the outcomes of musical and non-musical social skill interventions, whereas qEEG responses to music will be used to predict the effectiveness of musical social skill intervention. If neural markers of social skill development are found, then the long-term goal is to develop individualized intervention based on pre-treatment markers to maximize treatment efficacy. The proposed study's results may also suggest directions to development and provision of music therapy services in Hong Kong.

**Il disturbo dello spettro autistico (ASD)** è un deficit dello sviluppo caratterizzato da deficit persistenti nella comunicazione e nelle interazioni sociali, e oltre la metà dei bambini con ASD possiede capacità intellettive inferiori alla media (Q.I. <85). Lo sviluppo sociale e la risposta agli interventi sulle abilità sociali tra i bambini con ASD e disabilità intellettiva (ID) in comorbilità non sono ben compresi. La musicoterapia è un processo sistematico di intervento, in cui un terapista può aiutare gli utenti a promuovere le loro abilità sociali utilizzando l'esperienza musicale. Lo studio proposto affronterà le limitate evidenze della ricerca sulla musicoterapia come intervento per il funzionamento sociale nei bambini con ASD, con ID lieve o borderline. È previsto uno studio randomizzato controllato (RCT) con due gruppi paralleli di 40 bambini ciascuno (rapporto di allocazione 1:1). I partecipanti riceveranno 45 minuti di musicoterapia o intervento non musicale mirato alle abilità sociali una volta alla settimana per 12 settimane. Le misure di esito primarie saranno: i punteggi indipendenti alla scala di valutazione dell'autismo infantile (CARS) e le valutazioni dei genitori sulla scala di risposta sociale (SRS-2). Verranno creati modelli lineari a effetti misti per queste due misure di esito per i dati raccolti nelle sessioni di 2 settimane pre-intervento, 2 settimane post-intervento e 4 mesi post-intervento. I comportamenti in sessione al primo e all'ultimo intervento verranno videoregistrati e codificati offline e confrontati. Verrà usata la risposta neurale pre-trattamento a scene sociali con gli elettroencefalogrammi quantitativi (qEEG) per prevedere i risultati di interventi di abilità sociali musicali e non, mentre le risposte qEEG alla musica saranno utilizzate per prevedere l'efficacia dell'intervento di abilità sociali musicali. Se verranno trovati marcatori neurali dello sviluppo delle abilità sociali, l'obiettivo a lungo termine sarà quello di sviluppare un intervento individualizzato basato su marcatori pre-trattamento per massimizzare l'efficacia del trattamento. I risultati dello studio proposto possono anche suggerire indicazioni per lo sviluppo e la fornitura del Servizio di musicoterapia a Hong Kong.
Does dance counteract age-related cognitive and brain declines in middle-aged and older adults? A systematic review

Muiños M¹, Ballesteros S²
1 Universidad Internacional de Valencia (VIU), Valencia, Spain; 2 Universidad Nacional de Educación a Distancia (UNED), Madrid, Spain.

Dance is a multidomain activity that combines aerobic, coordination and cognitive exercise. This music-associated physical and cognitive exercise is a leisure activity that motivates people, elicits emotions, and avoids boredom, promoting adherence to practice. Continuing physical activity is of paramount importance, since cognitive benefits tend to disappear or even reverse when training ceases. The question we addressed in this systematic review is what influence dance has on the brain and cognition of healthy middle-aged and older adults.

We systematically reviewed the effects of dance on brain and cognition in older adults using MEDLINE, Psyc-Info, PubMed and Scopus databases. After screening 1,051 studies, thirty-five met the eligibility inclusion criteria. These studies showed that dance improves brain structure and function as well as physical and cognitive functions. The protective effect of dance training on cognition in older adults, together with the possibility of adapting intensity and style to suit possible physical limitations makes this activity very suitable for older adults.

Community psychosocial music intervention (CHIME) to reduce antenatal common mental disorder symptoms in The Gambia: a feasibility trial

Sanfilippo KRM¹, McConnell B², Victoria Cornelius V³, Darboe B⁴, Huma HB⁴, Gaye M⁴, Ceessay H⁵, Ramchandani P⁶, Cross I⁷, Glover V⁸, Stewart L¹
1 Psychology Department, Goldsmiths, University of London, London, UK; 2 School of Music, The Australian National University, Canberra, New South Wales, Australia; 3 Imperial Clinical Trials Unit, School of Public Health, Imperial College London, London, UK; 4 The Ministry of Health and Social Welfare, Banjul, The Gambia; 5 The National Centre for Arts and Culture, Banjul, The Gambia; 6 Faculty of Education, University of Cambridge, Cambridge, UK; 7 Centre for Music & Science, Faculty of Music, University of Cambridge, Cambridge, UK; 8 Institute of Reproductive and Developmental Biology, Imperial College London, London, UK.

Objectives Examine the feasibility of a Community Health Intervention through Musical Engagement (CHIME) in The Gambia to reduce common mental disorder (CMD) symptoms in pregnant women. Design Feasibility trial testing a randomised stepped-wedge cluster design. Setting Four local antenatal clinics. Participants Women who were 14–24 weeks pregnant and spoke Mandinka or Wolof were recruited into the intervention (n=50) or control group (n=74). Intervention Music-based psychosocial support sessions designed and
delivered by all-female fertility societies. Sessions lasted 1 hour and were held weekly for 6 weeks. Delivered to groups of women with no preselection. Sessions were designed to lift mood, build social connection and provide health messaging through participatory music making. The control group received standard antenatal care. Outcomes Demographic, feasibility, acceptability outcomes and the appropriateness of the study design were assessed. Translated measurement tools (Self-Reporting Questionnaire (SRQ-20); Edinburgh Postnatal Depression Scale (EPDS)) were used to assess CMD symptoms at baseline, post-intervention and 4-week follow-up. Results All clinics and 82% of women approached consented to take part. A 33% attrition rate across all time points was observed. 72% in the intervention group attended at least three sessions. Audio and video analysis confirmed fidelity of the intervention and a thematic analysis of participant interviews demonstrated acceptability and positive evaluation. Results showed a potential beneficial effect with a reduction of 2.13 points (95% CI (0.89 to 3.38), p<0.01, n=99) on the SRQ-20 and 1.98 points (95% CI (1.06 to 2.90), p<0.01, n=99) on the EPDS at the post-intervention time point for the intervention group compared with standard care.

Conclusion Results demonstrate that CHIME is acceptable and feasible in The Gambia. To our knowledge, CHIME is the first example of a music-based psychosocial intervention to be applied to perinatal mental health in a low- and middle-income country context.

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) and Boston (2017). The next congress is planned for June 2021 in Aarhus, Denmark, in collaboration with the Center for Music in the Brain. All these meetings have led to the publication of major volumes in the Annals of the New York Academy of Sciences.
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Editorial coordinator: Renata Brizzi
For further information: neuromusic@fondazione-mariani.org

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