

Olympic Music: Inspiration From the Olympic Games, London 2012

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Television showed it live and with detail to a global audience: while entering the Aquatic Center at the London Olympics each athlete wore earphones, most did so even when they were being introduced to the audience, and some actually left them on as they approached the starting line. Performance enhancement through functional music is an ancient method in sports. More than 2500 years ago, high-performance athletes controlled and enforced their exercise programs by incorporating music into their daily routine. Live music at that time was offered by flute players typically using the Greek double flute called Aulos. Ancient images drawn on ceramic vases depict such “ensembles.”¹

In current times, it is not particularly novel for us to observe modern athletes using rap, techno, country Western, or other genres of music to prepare for the ultimate performance. Little is published about the music of their routine or the functional applications of music on athletes, which is understandable in times of fractions of athletic prowess exhibited in split seconds, of achievements in gold, silver, or bronze categories, relating to national representation of winning or losing and placement of gain in each sport.

The genre of music used is virtually kept as a personal secret by the athletes. Sports psychologists have studied some aspects of this topic and have published a few glimpses into how music is used. Rendl et al,² for instance, investigated the impact of fast- and slow-tempo music on 500-m rowing sprint performance. They found that time to completion was shortest in the fast music condition. And yet, perhaps surprisingly, the slow-tempo music shortened the time to completion compared with the control without any music. Interestingly, the strongest treatment effects were observed in the number of strokes per minute. It was significantly higher during rowing under fast-tempo music compared with slow-tempo music or no music. Thus, motor performance in high-pressured, brief, and strenuous sports exercises seems to be enhanced by fast-tempo music.

These results are most likely no surprise to our readership. Our interventions are increasingly observing the impact of music entrainment on function. But are our athletes missing out on an aspect of resilience and incentive that could enhance their stamina and fortitude? Would a consult or music medicine coach add a component of physiological function that would improve performance? Should this be an area that is investigated with greater focus?

Notably many regular exercisers and people who go to local gyms make frequent complaints about the overhead music that

is played at workout clubs. Anecdotally, the reports of computerized, repetitive bass can be experienced by those who workout as “tiring,” “repetitive,” or even “invasive.” Could it be that with more appealing and better-“driven” music, Western societies, in particular where obesity is an increasing health threat to many disease progressions, would be more prone to exercise and/or increase the duration of their exercise workout time? Could music medicine or music therapy “coaches” be among the employees that work within the environmental aspects of public gym spaces? Such advisors could also certainly work directly with the individual class instructors as they design the music recordings for classes such as aerobics, yoga, and pilates, for example, offered daily in gyms, hotels, and other such places.

Former reports from the Sydney Olympic Games suggested that endurance can be markedly increased up to 15% when musical stimuli were used before competition. Examples of performance enhancement through music are scattered in the literature. Most studies have been conducted by sports psychologists, not by music therapists or doctors specialized in sports medicine. For instance, Jennifer R. Brown looked into the effects of stressed tempo music on performance times of track athletes, providing a literature overview in her master’s thesis at Florida State University.³ However, the significance of some studies was markedly reduced as musical stimuli itself were not sufficiently described. Again this underlines the necessity for multidisciplinary research teams to be involved in functional music research, including therapeutic as well as biostatistical and methodological expertise in planning and analyzing such studies.

Music was always part of the game—and with multiple functions. In 1980, co-Editor Loewy recalls singing at the Winter Olympics in Lake Placid, where she learned numerous national anthems that were chorally sung as medals were presented for the various games. The memory of how the music and the anthems culturally and referentially sanctified the

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athletes and both their personal achievement and the countries landmark in the achievement was memorable.

In most sports arenas where competition will occur, national anthems are sung by competitors and onlookers alike. It serves a seemingly collaborative spiritual function, a reminder that no matter how fierce the competition between human beings may be, we arrive as a member of our united country and we will leave as such. The music of anthem is a purposeful reminder.

Drum beats, marching bands, cheerleaders, and celebratory riffs of brass when a score takes place are typical music incentives within stadiums of many sports events of current times.

Roederer was among the first to discuss the neuropsychological processes linked to perception that are accessed with music. He wrote about the “survival value” of music⁴ in human evolution, for instance in recognizing enhancement and entrainment of physiological functions in humans.

Research in this area is needed to identify musical capacities in performance enhancement which in particular might have transfer applicability to rehabilitation programs for physically and mentally handicapped individuals. This is a field of growing and special interest in times of aging populations.

This issue of *Music and Medicine* provides a plethora of music medicine and music therapy approaches with a variety of clinical populations developing throughout the varying clinical settings from all over the globe. In the first article, Wang Feng Ng, Yinsheng Zhou, Patsy Tan, and Ye Wang, a team inclusive of doctors and music therapists from Singapore, share their use of the MOGCLASS in music therapy group sessions with individuals who had muscular dystrophy. This is a population where music therapy interventions are not frequently explored. Perceptions of enjoyment, motivation, and success during music therapy group sessions were enhanced, and the authors realized through their research the necessity for further investigations that they would like to see, particularly sessions that implement technology in vulnerable populations such as those with muscular dystrophy, in whom movements and coordination may be compromised.

Music and Medicine has received numerous studies related to neonatal intensive care. Significant areas which have led to publication that were undertaken by past contributing authors have related to active live music interventions and the effects that music can have on infants as well as parents, caregivers, and staff with regard to trauma. In this issue, music therapist Friederike Barbara Haslbeck stretches the researchers’ thinking by taking them back to theory and strategy. She eloquently provides rationale and informed theory requesting that we re-search our thinking about the way we might achieve more informed and accurate means of data gathering and synthesis. Her writing will motivate researchers in neonatal intensive care unit investigations to achieve a closer understanding of how active music therapy can be achieved and translated in neonatal music therapy care.

Our next author from India, Mamta Sharma, takes on an interesting and impressive explorative investigation of music intervention in slow learners. Children with learning difficulties were evaluated in key areas of learning to see whether

music interventions might influence their reading, writing, and math academic functioning.

In Bernardo Canga, Cho Long Hahmn, David Lucido, Michael Grossbard, and Joanne Loewy’s “Environmental Music Therapy: A Pilot Study on the Effects of Music Therapy in a Chemotherapy Infusion Suite,” we again see an interdisciplinarity both in the research aims and within the investigatory team. The majority of articles in this issue combine teams inclusive of music therapists, doctors, psychologists, nurses, and teachers. This study is the first of its kind to examine the effects of live music in 2 fragile hospital environments—the waiting room and in chemotherapy. Feedback from patients, staff, and caregivers provides interesting insight and suggests a basis for future EMT studies in such settings.

The impact of caregivers, be it professional staff or personal relatives who offer care, cannot be overlooked in the day-to-day lives of patients’ tendering. In this issue, 2 articles directly related to caregiving and singing, provide useful accounts of music in function enhancement.

First, Gabriella Engström and Lena Marmstål Hammar consider the use of caregiver humming and sought to measure the effects and potential of humming on persons with dementia and cognitive decline which compromises their ability to meet universal self-care needs. Their descriptive findings of whether caregivers’ humming during lunch situations affected eating and feeding problems should be of great interest as people with dementia have weight loss and decreased interest in eating where feeding becomes an issue.

In Eva Götell, Charlotta Thunborg, Anne Söderlund, and Petra Wägert Heideken’s work, which viewed what they call “transfer situations” during caregiver singing in dementia care, readers are reminded of the importance that music can make in the transition of function activity. This study provides a convincing utilization of singing in activities of daily living, particularly in situations that might under usual circumstances evoke anxiety.

From neonatal care to dementia, from the classroom to the chemotherapy suite, we hope that you will find the integration of music and medicine to be stimulating. We are eager to receive your feedback about the areas where music and medicine can promote effective strategies in theory and practice and where the evidence can lead toward further investigations throughout the world. We look forward to your contributions.

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