

Editorial

## Reflections on the ‘Sound Health-An NIH-Kennedy Center Partnership’

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It’s been a busy season for the international community of music and medicine. An inspiring, beautifully executed conference in Barcelona this past Summer rendered some evolving global themes of Music Therapy and Medical Practitioners-and how those whose work in hospitals and clinics in cities and countries near and far, have influenced the growth of our community. The leadership of Spanish music therapist Nuria Escude and medical doctor Josep Planas was exemplary. The IAMM conferences provide rich opportunities for doctors, nurses, music therapists, musicians, and allied practitioners to submerge themselves in critical issues. So much is unpacked and generated when we can gather together with topic discussions, reviews and research-based meetings. Our conferences provide a unique forum, and a focus for us to have discourse in real, face-to-face time. The effects and advantages of shared discourse amongst our international members are always profound.

In early Fall, I had the opportunity to attend the NIH (National Institutes of Health) John F. Kennedy Center for the Performing Arts event, associated with the National Endowments for the Arts called: *Music and the Mind, Shaping Our Children’s Lives Through Music Engagement* event. For this second ‘Sound Health’ event, “acclaimed musical artists joined top neuroscientists to explore links between music, rhythm, and brain development.” (<https://www.nih.gov/sound-health/music-mind-2018>)

Last year’s first NIH-Kennedy event focused on music, health/wellness, and science while this year’s *Music and the Mind* brought together mostly innovative artists and neuroscientists to explore connections between music, rhythm, and brain development. As an invited speaker amongst a program that included performances, discussions, and workshops, the focus was music neuroscience-based and sought to define and integrate aspects of music’s core elemental influences. The ‘science’ of rhythm and learning were central to the two-day themed discussions and

demonstrations. One of the highlights was Charles Limb’s (Professor of Otolaryngology from San Francisco) demonstrations on how encouraging and developing musical improvisational skills in children has led us to a better understanding of how creativity influences the human brain.

Dr. Limb, a member of our Editorial board, was also a featured speaker at this event last year. This year he presented alongside one of his musician prodigy patients. His interest in understanding the neuro-underpinnings of how the brain functions when engaged in improvisation is noble-and the many conditions he uses in his studies, such as viewing the brain being bored or under-stimulated, versus viewing the brain being enthused, during improvisation etc is of interest, maybe most particularly because this may have long term ramifications on how treatment strategies in disease functions develop. The implications of his findings and where they may lead us to in disease research, as well as within wellness regimens, such as resilience practices, could be interesting. At one point, he was able to demonstrate how “clever” the neuro-plasticity of the brain is...by showing how his visually impaired musician prodigy-patient uses the visual centers of the brain to engage in music. He did demonstrated analyses of MRIs and shared some parts of his findings quite generously. Our friend Nina Kraus, a neuroscientist was joined by the Grateful Dead percussionist Mickey Hart and tabla master Zakir Hussain-and they illustrated as well, the art and science of rhythm through its influence on the brain. Music education, creativity and the significance of rhythm were of focus of this year’s workshops and presentations. Watching the great opera singer and ‘thinker outside of the box’-Renee Fleming, who is central to this collaboration, standing alongside CNN health correspondent Sanjay Gupta, who was next to NIH Director Francis Collins PhD, MD made me realize that our universal plight for integration of music and medicine is widening, and so too are the advantages of bringing people from every facet of music’s broad and stylish platform together. This ‘broadened’ realm pulls in multi-genes of music’s makers: like rappers, composers, educators of music, arts-based music philosophers, educators, specialists-from premature birth to teens, public broadcasters, technology engineers and of course, blending those from medicine to psychotherapy-inclusive of integrative treatment, and music therapy.

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I enjoyed presenting in neuroscientist Laurel Trainor's segment. Dr. Trainor's work has been influential for many who have studied the impact of auditory cognition and consonance including lullabies in infants and young children. She is the Director of the LiveLab at McMaster Institute for Music and the Mind, in Ontario Canada, which is one of the most interesting, innovative, cutting-edge music, brain, performance research centers in the world. In her presentation, she focused on the social impact of rhythmic entrainment and showed through her research how beat synchrony creates trust in very young children (toddlers). I have followed Dr. Trainor's research for many years-it is vast, and distinctly musical, yet also scientific. Her lab is unusual and enticing.

I was pleased to cover neonates and infants in my talk. The idea of rhythm as central to bonding has certainly been one of the core aspects of our First Sounds: Rhythm, Breath and Lullaby research/practice. The fact that Sound Health included premature infants and babies this year in their programming was an important milestone. Carnegie Hall's Lullaby Project was also a part of the segment, and our segment ended with a performance by teens from the DC Youth Orchestra.

There were other presentations and performances throughout the two-day music-lecture-filled event. In the final presentation, Dr. Limb convened a panel inclusive of a Kennedy jazz composer Jason Moran, a rapper named Anthony Veneziale, Limb's music prodigy patient, Matthew Whittaker and music therapist Edward Roth. There was an improvisation and each presenter gave a bit of discussion and 'show and tell' on the importance of improvisation relative to creativity, and in particular, its influence on the brain. In the last moments, right after Dr. Limb gave an explanation of 'flow'-he asked about 'music as medicine.' He turned to Dr. Edward Roth- and asked whether music "really has the capacity to heal disease. Does it make us better-and how does it make us no longer sick."

Dr. Roth's answer was superb, and in my mind centers on one of the most critical areas of music therapy, and perhaps how and why it is most difficult to address. The elephant in the room remains the fact that it is not solely the music, though music in and of itself is important in its curing, healing and wellness capacity. However, the body and mind are a unique instrument of multi-sounds and experiences. Our personal histories gravely affect how we will be moved or repelled by music.

Music and music therapy's therapeutic potency is not formulaic or even prescriptive. While we know that rhythm or predictability can be enhanced with groove, or that singing and playing, especially improvisatorily can improve mood, the most essential element that may underlie one's capacity to heal might be classified as 'agency.' In dis-ease, one's agency is inclusive of his/her history, the point of trauma, and the realization that the experience of illness occurs within a

unique context. Applications of music are equated amidst belief systems, and the capacity to trust one's self and others is an essential part of the equation. These are core components that direct and influence the 'art' of the 'therapy' and along with unique aspects and conditions of music therapy, are certainly central to how the medicine of music is applied. And yet, these concepts are so easily, and almost naturally left out of the equation of the potency of music therapy treatment regimens. This is probably due to the fact that this is indeed perhaps the most subtle element of the science, in part because it is not only an art, but its result is inclusive of one's therapy training. The relationship is perhaps the most important core theme.

Professor Roth spoke about the importance of observation, first, in its simplicity. And then, in its effect to lead us toward a 'rehabilitative' outcome as we have seen music therapeutic's potency- in its 'natural' form. Then he questioned what it really means "to heal" and this was where he zoned in on the essence of one of our biggest problems in music therapy and music medicine. He explained that it's not the specific interventions alone, although they may be provided with potency to regain certain parts of function-such as singing for stroke aphasia recovery, or rhythmic regimens for Parkinson's. However, it's not just one part of an intervention, or recovered capability-that directs a healing process. "We don't treat people piece by piece, part by part" Roth said, "though we know music affects us at the cellular level, as well as at the developmental, behavioral level and so on." His discussion became larger-and moved toward inclusion of the outer levels, family, society and ripples of emotional impact and multi-individual impact. He broadened the scope of music scaling on the advantages music can have on mood and the greater societal-oxytocin sparks of influence. The impetus of music's capacity of 'social context' may be most fitting first or foremost, particularly at this time when the world is moving so quickly toward new regimes, and where we all are realizing that our technology and machines are taking on so much of our remedial but also creative musical function mechanisms. There are also international threats to our 'synchrony' or lack thereof.

I was more than pleased at the way this question was taken on by Ed Roth and the panel. It led the musician representative of the panel to then discuss the role of empathy and survival-and the quest of live music and its role most particularly in under-represented cultures. Now is the time for us to harvest new research, that may lead us toward the development of new and innovative practice models.

This issue reflects some new and integral pathways. We start with Anjana Muralidharan Pillai's and Dave Darshan Jitendra's study about the *Evaluation of the Effect of Indian Classical Music on the Blood Sugar Level of Type-2 Diabetes Mellitus Patients*. While prevalence of diabetes mellitus is rising significantly worldwide, stress has been identified as one the key etiological factors. Using receptive application of

Raga Music, their pilot study demonstrates the need for future research on larger groups of individuals.

Another malady of rising importance especially in so-called developed countries is high blood pressure leading to cardiovascular diseases. James D. Halbert in his article entitled *Low Frequency Music Slows Heart Rate and Decreases Sympathetic Activity*. He looks into low-frequency music as a means of decreasing blood pressure and increasing Heart Rate Variability- describing impact on sympathetic nervous activity as part of general stress behavior. As first results are promising, this work calls for expansion in further studies with larger groups of individuals here, too.

*Music Treatment for Anhedonia in Major Depressive Disorder: Implications for Therapeutic Interventions* is discussed by Aaron Cheng through a literature review examining the neurological bases for pleasure, music, and anhedonia, exploring the relationship among the three and the implications that these connections could have.

Khadejah Ahmed Bamakhramah elaborates on the *Perceptions on the Functions of Music among Professionals in the Special Education Field in the United Arab Emirates*. While there is little published about this part of the world during the last 100 years, the Arabic communities have nevertheless made significant contributions to the science and art of healthcare over many centuries since 800AD, including music for healing purposes.

Research in Music Therapy and MusicMedicine demands mixed-methods approaches comprising quantitative and qualitative data acquisition. Artur Jaschke proposes and discusses the use of a so-called *Clinical Music Study Quality Assessment Scale (Musiquas): Systematic Reviews & Meta-analysis*. He proposes using this as a means of understanding systematic reviews and fostering meta-analysis in evaluating studies in the field.

Friederike Haslbeck, Monika Nöcker-Ribaupierre, Marie-Luise Zimmer, Leslie Schrage-Leitner, and Verena Lodde have taken the task to display a common framework of music therapy in neonatal care for German-speaking countries and Switzerland in: *Music Therapy in Neonatal Care: A Framework for German-speaking Countries and Switzerland*. This paper should trigger international as well as interdisciplinary discussion on the topic, hopefully leading to some broader consensus for a very important area of practice in music therapy.

Jeffrey Denney describes his findings from an RCT about *The Effects of Music Intervention on Women's Anxiety Before And After Cesarean Delivery*. Results match with earlier research studies using similar methods to monitor effects on stress levels under labor. His broad methodological approach underlines again the need of well-elaborated research concepts using mixed-methods designs for such complex clinical studies.

*The Medicine of Salsa* is the title of a poetic discussion offered by Marjorie Jacobs to promote understanding of recovery-based rehabilitation, the brain, and mindfulness practice. It reminds us of how multi-faceted the relationship of music and health really is.

We look forward to receiving your contributions and to further expand our level of knowledge and deepen our understanding of music and health through forthcoming articles and future discourse.