## Measurements of Time and Space in the Conscious and Unconscious Realms of Being

Music and Medicine
4(3) 125-127
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DOI: 10.1177/1943862112451751
http://mmd.sagepub.com



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A recent performance of the Paul Taylor Dance Company reflected artistic marvel and creative splendor. A beautifully timed Avro Pärt portrayal of Mr Taylor's work "The Uncommitted" was spectacular in movement, gesture, and intention. In "The Uncommitted" Mr Taylor's dances were elucidated through four short works by Mr Pärt: entitled "Fratres," "Mozart-Adagio," "Ricercar," and "Summa." The rendition was so full of bounty that it led to a discussion between my colleague and me on the properties of dance itself. We acknowledge, that unlike with music, a mere glance at the dancers' bodies can evoke a host of anticipatory emotions, from immediate beauty to the envisioned mental imagery of movement which comes over an audience just prior to the actualization of the modern dancers' motion. This can be tantalizing. The simple viewing of their bodies in stillness encapsulates a feeling of creative potential force, and the capacity for motion and stir. This is transmitted from the dancers, to every attendee of the 1000 seated in the Koch theater, even as the dancers are yet

In today's world, it is rare to see a body in motion that is not stifled or harried, confounded by carrying a pocket book, brief case, a bag, or a box of tools which hold contents that presumably assist our function in everyday life. The weight of the world literally rests on the burden we carry on our shoulders. Is the carrying of our contents that we habitually take with us, "in case we need it," a signifying qualifier that we are poor at transitions? Would Winicott, the father of the "transitional object" theory, profess that even as professional adults we are unable to let go of objects? Do the things we carry around serve some convoluted signifier of a moment we have completed, or keep us armed or on guard of that which we hope to experience or be prepared for? How surprising this is, particularly in an age where we are decisively moving toward storing our records in pen drives activated by "iclouds" surrounding us. Should it not be that our movement and our freedom within time and space could become more centered and actualized if transitions are ensured by accessible information easily in reach at end points?

Integrative medical practitioners are asking us what we are doing to stay well. It is the quality of how we are living that enhances our life. We are seeking to live better and more fully, rather than simply longer. Preventative approaches call on us to define how we live with ease, what are our inner resources that

enhance our capacity to re-source so that when and if we have disease, we can recover with the wellness practice and ritual that can recharge and sustain. Resilience implies that we can be prepared and combat what is known, particularly if we practice wellness in days where we are not sick but in good health.

Carrying less weight on a daily basis seems to be an obvious, almost mindless kind of goal that possibly could reduce back pain, increase memory and order, and perhaps might even invoke a sense of creativity and freedom in the body. I wonder how this would effect the scheduling of work and playtime. All of these thoughts come to mind with one glance of the dancers held still on the stage. The bodies are frozen, free of motion, time, and space but about to move with intention among the backdrop of beautiful sound (music) and ensembled constructions (dance) of design in assigned time and space.

Several hospitals and graduate music therapy programs have new courses in mind body music and medicine this year, and it has been a privilege for us to have had opportunities to teach them. An open inquiry at the start of such courses about the wellness practices of doctors and therapists has revealed that people who provide care are often not very good at providing care for themselves. Although one might think of inquiries of wellness practices as being inclusive of "exercise," "diet," "massage," or "acupuncture," fewer people consider options such as singing or dancing as a wellness practice. Even more obscure answers brought forth by the inquiry included "I cook my own food," "I take a walk to nowhere every day," and "I sleep 8 hours every night."

Where cooking is related to diet, and walking is considered in part a form of exercise, sleeping is one of those quiet parameters, which has only recently begun to be understood as a serious indicant of neurological function.<sup>1</sup> Sleep is an area that has

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been related intricately to pain and/or comfort measures. The problem with sleep studies is one of methodology. Often sleep studies inform us about duration of sleep (hours) but not necessarily the sleep quality which can have a large impact on function, particularly in elderly individuals with apnea and in infants and children with seizure activity.

Thinking about motion and movement and the stressors the body incurs when holding tension consciously or unconsciously seems to have direct correlations with how well or poorly we are able to let go or relax, and this may have an impact on the level, depth, and duration of our sleep. So much of our music and medicine literature attends to the body's ability to relax, and indeed it is difficult for this to happen without the mind's commitment to assist in such a process.

Watching modern dance, where themes are purposeful and often thought provoking, we are reminded of the relationship between music and movement. In stillness or in motion, in silence or in sound, our capacity to integrate our bodies with qualities of ensemble, such as the breath with the heart, the focus of mind with body, as in music meditation, is integral to our unique orchestra of daily function. Attending to our movement, and transport, and our motion in activities of daily living is well worth our attention. How we nurture ourselves with music, attending and then disconnecting from sound, for silence or sleep most certainly affects our thinking and our ability to attend.

We are pleased that *Music and Medicine* continues to address music as an intervention in disease, but at the same time supports research in prevention and wellness practices. We have featured articles which welcome interdisciplinarity and will continue to highlight studies which enhance integrative function.

In this issue, the authors elaborate on diverse clinical applications of music, theoretical aspects, and conceptual foundations, as well as on music's impact on stress and well-being.

In the first article, Marko Punkanen and Esa Ala-Ruona provide a rare insight into the state of knowledge on the use of low-frequency sound on health parameters, which is based on the concept of vibroacoustic therapy (VAT) as established by pioneer Olav Skille<sup>2</sup> over four decades ago and still studied and practiced today. The VAT incorporates the receptive use of pulsed, sinusoidal sound applied through specially designed chairs or beds. Effects are both physical and psychological, so that this is a multimodal approach. The authors put special emphasize on technical foundations, treatment regimes and procedures, documentation, and evaluation of treatment. They offer the results of recent research, adding recommendations for further research in the field. When sensitively and appropriately applied, VAT seems to be a promising intervention as a multimodal treatment option of various health problems, ranging from handicapped children to applications for menstrual pain.

Another example of a multimodal means of music therapy is given in the next article by J. Yoon Irons, Dianna T. Kenny, Margaret McElrea, and Anne B. Chang. Singing therapy for cystic fibrosis seems to be a valuable intervention for patients with the most serious malady that risks restricting life extensively. Quality of life scores and physical parameters of respiratory status are used to compare the impact of

recreational activities with effects of singing sessions. While respiratory muscle strength seems to improve in the singing group, no such effects could be observed in the recreational group in this study. Singing is used as a kind of physical therapy while at the same time has vast potential impact on the emotional and psychological state of patients in general.

Janeen Bower and Helen Shoemark address theoretical foundations of music therapy for pediatric patients experiencing agitation during posttraumatic amnesia. Again singing intervention is used to help manage agitation in children emerging from coma following traumatic brain injury. While the authors state that there is a paucity of evidence for using familiar songs in such situations, they present a theoretical framework comprising knowledge from such diverse disciplines such as neuropsychology, pediatric coma therapy, and music therapy seeking to provide a compelling starting foundation for their approach.

Looking at the other side of the human life span, Teppo Särkämö, Sari Laitinen, Mari Tervaniemi, Ava Numminen, Merja Kurki, and Pekka Rantanen evaluate the capacity of music to evoke emotion and induce arousal reaction in elderly people with dementia. Their review of recent literature provides insights from current clinical findings about the beneficial effects of traditional music therapy as well as of caregiver-implemented musical activities upon emotional and behavioral disturbances. Emphasizing the need for studies looking into rehabilitative capacities of musical stimuli in such patients their timely article meets a field of rapidly growing importance in health care and society in general.

The unique topic of Susanne Metzner's article titled "A Polyphony of Dimensions: Music, Pain and Aesthetic Perception" is a philosophically based theory of aesthetic perception with its implications for so-called music-imaginative pain treatment. A transmodal therapeutic process linking affective sensory pain perception to audiosensory music experience with an assignment of musical symbols to pain phenomena leads to a modified experience of pain. Such 2-fold description of the music therapy process in pain may serve as a platform for necessary interdisciplinary discussions. The editors are eager to learn about the responses of our readership.

Occupational health disorders of musicians and artists are a topic of special interest to our readership. Jaana Heikkilä, Leena Hamberg, and Jukka H. Meurman devote their contribution to a specific, yet common kind of disorder, "Temporomandibular Disorders: Symptoms and Facial Pain in Orchestra Musicians in Finland." Professional symphony orchestra musicians were asked about their respective complaints. A remarkable prevalence of 30% were found among all instrumentalist groups to be demanding more specific attention from health care providers and occupational health specialists. Obviously there is also a need for accompanying preventive measures.

Occupational health, prevention, and well-being are also addressed in the article presented by Charles D. Larsen, Midori Larsen, Michael D. Larsen, Cherish Im, Amr M. Moursi, and Marylin Nonken. These authors look into the impact of an interdisciplinary concert series, and measure its impact upon

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stress and work—life balance of students, staff, and faculty in a dental college. Their preliminary results demonstrate that future in-depth research may render proof of the beneficial effects of live music concerts on relevant stress parameters, quality of life scores, and even professional productivity.

In the last article, Derek DeVelder writes about the importance of enhancing clinical activity through dialogue between performing artists and therapists, and doctors and musicians. With focus on an upcoming symposium "Music, the Brain, Medicine, and Wellness" occurring in Santa Fe in August, he provides readers with insight, suggesting we stretch our topic and performance venues in our development of further conferences and symposia in the future.

We again welcome your feedback on the submissions within this issue and look forward to your continued contributions. Integrative medicine is represented at its best in *Music and Medicine*. It is your journal and the areas of growing interest continue to represent aspects of disease as well as provide a rich variety of perspectives in the diverse global expansion of integrative medicine.

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