

Editorial

Aspects of Research Methodology: For Today and TomorrowRalph Spintge¹, Joanne V. Loewy²¹Department of Algesiology and Interdisciplinary Pain Medicine, Regional Pain Centre DGS, Sportklinik Hellersen, Lüdenscheid, Germany²Institute for Music Therapy, University for Music and Drama HfMT Hamburg, Germany³The Louis Armstrong Center for Music & Medicine, Mount Sinai Beth Israel, New York, NY, USA⁴Icahn School of Medicine, New York, NY, USA

What is it that connects together work of a doctoral student and studies conducted by a high profile lab team lead by a senior professor? Research methodology, is based upon establishing the basic connective tissue while crossing borders across hierarchies and disciplines. Although Research Methodology is not a discipline in its own right, comprising design, data collection, data analysis, and discussion, it is the foundation upon which we grow our common knowledge base in science. During the past several years, methodological innovations have changed the kinds of research design and methodological approaches studies have taken on in significant ways [1].

For instance Big Data and new technologies for data acquisition as well as for data analysis will enforce changes in not only numbers, but in quality, and intensity. Researchers have to use such innovative methods to a steadily growing extent, in order to keep track of the above mentioned developments within the international science community.

One major consequence is that former strict barriers between quantitative and qualitative research will diminish. So-called Mixed Methods Research will come to the forefront more and more. Music Therapy and MusicMedicine will greatly benefit from such developments, as valid research only is possible through combinations of quantitative and qualitative research parameters [2].

It is important to note that today there is no longer a discussion of which methodological approach is “more valid”, qualitative or quantitative. State of the art especially in healthcare related science is a mixed approach.

Another significant aspect is the establishment of Centers of Excellence - research networks between research institutions in- and outside universities, in order to cope with these innovative challenges and taking advantage of the above mentioned chances to reach a higher level of problem-orientated research applicable as well as to individuals as to

society in general. Such networks consist of multidisciplinary teams providing necessary resources and expertise to match Big Data as well as new technologies. The near future already visible at universities especially in US and Europe is a combination of Crowd Sourcing with Artificial Intelligence used to draw deep insights into sociopsychological as well as therapeutic topics to an extent not yet known. The Arts in Healthcare, Music Therapy and MusicMedicine should try to be part of such research networks as this provides a chance to realize inclusive research approaches in the field, holding huge promises for the future of holistic healthcare.

Holtrop et al provide a recent overview of how mixed-methods research can be applied to large-scale studies with Big Data utilizing data transformation for merging qualitative and quantitative data sets in addition to traditional analytical procedures [3].

While introducing such innovative and most powerful tools in our research work, we should however consider another major aspect of such changes which is under growing discussion today. This is the art of connecting actual knowledge with hermeneutic competence. As our focus is shifting more towards technology and data that can be recorded, documented and controlled mixed methods are even more important and facilitate our capacity to keep up the balance between numbers and real human life [4]. Science in healthcare should be meant to bring together formulas and data with real human life. Using numbers exclusively, a physician or a Music Therapist will never understand her/his patient / client. Health care needs both, hard scientific data, statistics and external evidence on one side, and a creative method to evaluate and describe human interaction when meeting the patient. Quality within health care means quality of individual interaction, including building mutual trust, free atmosphere, inner reflection and freedom to be open. This is the complexity that formulated the inner core of the Healing Arts.

Music Therapy and MusicMedicine serve as THE paradigm for such approaches to research and practice. The articles presented in this issue provide excellent examples.

In *Music Therapy and Stroke: An Integrative Review* Jamee Ard and Barbara Wheeler provide an integrative review that explores how clinicians and researchers have addressed the various consequences of stroke through the use of music therapy. They identify 39 articles and explore the potential of

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music therapy as a critical intervention-providing rehabilitative mechanisms that they summarize as being useful in developing and refining clinical practice in treating stroke survivors.

In a topic that is not typically addressed in music and medicine, Eric Pfeifer, Anna Sarikaya and Mac Wittmann take on the phenomenon of silence in *Changes in States of Consciousness during a Period of Silence after a Session of Depth Relaxation Music Therapy (DRMT)*. Their quest to understand the role of silence in relaxation and prevention is notable, and this study is the first of its kind, providing interesting findings for clinicians and their use of music with any and all populations.

In *An Experimental Field Study of the Effects of Listening to Self-selected Music on Emotions, Stress, and Cortisol Levels*, a team of researchers, Marie Helsing, Daniel Västfjäll, Pär Bjälkebring, Patrik Juslin, and Terry Hartig question the role of self selected music on stress and emotional intensity. Their findings substantiate the critical role of perception and qualification for patients' musical inferences.

The next article takes readers from silence, and patient-preferred into a new systemic understanding for investigating the theoretical framework of music listening modalities, such as GIM and other similar music listening therapies. In Harry Ballan and Anna Abraham's *Multimodal Imagery in Music: Active Ingredients and Mechanisms Underlying Musical Engagement* we examine the biological roots as well as the role of music in the regulation of individual and social life viewing integration from a multimodal perspective. Concepts such as arousal, imagery, attentional engagement, emotion, memory and analogous processes are considered, making this work a most interesting read.

One arena that is not so commonly addressing in music and medicine is the role of spirituality. In *Integration of Spirituality, Music and Emotions in Health Care* Frances Hendriëta Le Roux, and Christof Sauer substantiate the thinking that holistic, whole-person care must consider the complex spiritual needs of patients. They argue that music is capable of affecting spiritual aspects which are distinctly related to the emotional needs related to health and wellness. This article substantiates how they are inextricably linked.

In the past two issues of 'Music and Medicine'- we have read about the Canadian-based Music Care model. One of the goals of our journal is to showcase models of integration as they are developing in hospitals and Universities across the globe. In *Part 3 of 3: 10 Domains of Music Care: A Framework for Delivering Music in Canadian Healthcare Settings* Beverly Foster, Sarah Pearson and Aimee Berends reflect exquisitely how Music Care melds the therapeutic principles of music within formal healthcare settings and community and home-based contexts. The authors' conceptual framework for understanding music care and how it is delivered is well worth the read. The *10 Domains of Music Care* presented in the current study can be used, as both a research mechanism, or it

can provide the means for development-as a protocol for healthcare providers, or managers, and, even as she states "decision-makers."

Where would we be without the composers, the source of our great classics? The impetus for so many opportunities where we can create and compose, but which also service our provisions in our developing relaxation programs, which affect us in health, but also serve as a stronghold in times of deep need. It is useful to understand and scrutinize the roots of great music, particularly the generating elements that influence great works. In *Comparing the Clinical Course of Tuberculosis with the Musical Flow of Chopin's Prelude No. 4*, Vernon H. Hoepfner examines the relationship between music and medicine, through the biographical account of Frederic Chopin who died of suspected tuberculosis in his young adulthood. As his disease may have influenced his composition, Hoepfner's analyses of his music needs and expressions provide a unique view of his final Prelude, and a premise of how he may have so eloquently had goodbyes on his mind, and perhaps did so within music.

The issue ends on this note-and we are hoping that the wide range of articles provided in this compilation will inspire further investigations and developments of practice for our growing readership. The scope of topics broaden our capacity to challenge and at the same time unite the way we study, treat, negate and affirm the seeds of integrative arts and medicine. We look forward to your continued submissions.

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