

Handbook of Music and Emotion: Theory, Research, Applications, Edited by Patrik N. Juslin and John A. Sloboda. Oxford University Press, 2010: a review

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The richness and complexity of human affective experience as it relates to music has intrigued humankind throughout history, but it is only in recent years that scientific inquiry has flourished in this emerging interdisciplinary domain. The "Handbook of Music and Emotion: Theory, Research, Applications" edited by Patrik N. Juslin and John A. Sloboda, featuring 33 chapters over 975 pages written by key experts in the field, constitutes in fact a revised and extended edition of the first volume entirely dedicated to this topic within the field of music psychology ("Music and Emotion: Theory and research", Juslin & Sloboda, 2001).

The recent developments in this domain, clearly relevant to the use of music in a therapeutic setting, are closely linked to a growing interest in the broader area of affective science. The Series in Affective Science, published since 1994 by Oxford University Press, reflects the variety of approaches to the question of human emotion, ranging from neuroscience or genetics to socio-cultural and philosophical perspectives. One of the main challenges of this field of research lies in defining emotion itself, an issue on which no consensus has been reached. Emotion is viewed by most authors, however, as a multi-faceted phenomenon, comprising not only subjective feeling but also other components such as cognitive appraisals, physiological arousal, motor expression, and behavioral tendencies (e.g. Scherer, 2004; Krauth-Gruber, Niedenthal & Ric, 2006).

As far as musical experience is concerned, the ongoing scientific debate has referred not only to a definition of "musical emotions" but even to its ability to evoke "true"

emotions in the listener at all. Though most would agree that listeners are able to describe a piece of music in emotional terms, i.e. recognize emotions in the music, the presence of a *real* emotional response in listeners, as well as its specific nature, has been, and still is, a matter of debate. This controversy has led to long-held divergent views - traditionally known as "cognitivist" as opposed to "emotivist" views - as well as to some terminological confusion.

In this sense, the introductory chapter of the "Handbook of Music and Emotion" is especially useful, particularly to those less familiar with the terminology inherent to this area of research. Apart from a general description of the contributions to this volume, the editors provide working definitions of the most relevant terms in the field, which are then applied throughout the book; thus, pertinent distinctions are made between mood, feeling, emotion, arousal or affect.

The second section of this volume provides an extensive overview of philosophical, musicological, psychological, neurobiological, anthropological and social perspectives on the field of music and emotion. Each of these six chapters opens with a general description of the corresponding discipline, as well as an updated review of the relevant literature, making them both accessible and informative. In fact, in the chapter authored by the editors "At the Interface between the Inner and Outer World: Psychological Perspectives", the authors state:

"We believe that this body of findings is useful, not only to psychologists, but to researchers in other disciplines, and to musicians and listeners. For musicologists, psychology

assists the delineation of those emotional effects that are lawfully attributable to the musical stimulus, and thus helps determine which of these effects are likely to be illuminated by the expertise of music analysts. For performing musicians, psychology helps to explain which aspects of listener response are likely to be influenced by them and what they do, and which may be outside their control. For listeners, psychology helps show that musical emotion is something that they can enhance or diminish by their purposive and deliberate engagement in the musical experience. They are not powerless 'victims' of Orpheus!" (p.92).

This statement might well apply to practitioners and researchers in music therapy as well, who can certainly benefit from the insights provided not only by psychology but also by the other related disciplines. The accessibility of the text in this sense is especially noteworthy in the chapter "Towards a Neurobiology of Musical Emotions" authored by Isabelle Peretz, in which current knowledge and future questions about the neural substrates of emotions in the context of music are explored. She explains:

"There are two plausible levels at which emotion and perception might bifurcate in the processing of music: early on after fast acoustical analysis of the musical input, or later on, after detailed analysis of emotional features. Consider a sudden dissonant chord or crash of cymbals, which may elicit a rapid, reflex-like reaction in the subcortical pathway, in the absence of detailed analysis of the music. This alerting role is probably often exploited in the soundtracks of terror movies. In contrast, the frequent alternation between major and minor keys in Klezmer music is more likely to be mediated cortically" (p.106).

"...future work should aim at defining the nature of the musical characteristics that are quickly and effectively picked up by a subcortical pathway to verify if there is a 'short-cut' from music to emotions. The point is not only theoretically relevant, but clinically important as well. For example, direct access to subcortical structures may account for the fact that patients with Alzheimer dementia continue to respond to music despite the existence of vast and diffuse cortical lesions" (p.111).

Thus, it seems clear that gaining an understanding of the neural bases of emotional processing, particularly in clinical populations, is of utmost importance for the therapeutic use of music. But the necessity of combining research and healthcare concerns is also emphasized from completely different perspectives, as for instance in Tia DeNora's fascinating description of an ethnographic interview study conducted by Batt-Rawden (2007a) in which people suffering or in recovery from chronic conditions reported their use of music to cope with their illness.

"Batt-Rawden's research was explicitly action-oriented. This is to say that she was not simply attempting to discover or observe impartially what her respondents did with music. Rather, the use of repeated interviews provided her participants with informal training, helping them to expand their repertoires of music use by talking with them about how music was and might be used so as to promote health. In this respect, she was not merely seeking data – as an interviewer – but was functioning also as a kind of conductor of health-music practice, a pedagogue in how to use music to prompt imagination and modify bodily states and thus, also, to some extent, a lay 'musical carer'" (p.176).

In this context, of particular interest is the third section of the Handbook, devoted exclusively to the measurement of emotions. Methodological issues such as the validity of different self-report methods with respect to general as well as domain-specific models of emotion, or the extensive possibilities for implicit or psychophysiological measures are discussed in detail. Again, similar health-related topics are raised in chapters referring to extremely diverse methodologies, all of which of great relevance to music therapy research. For instance the role of music in the management of anxiety is reflected both in listeners' self-reports, where *"peacefulness and tension turned out to be further important classificatory units of musically induced affect. Peacefulness and relaxation seem an obvious affective consequence of the prototypical mental state of the music listener – one in which there is a certain detachment from the 'real' world with its physical and psychological threats"* (p.208) as Marcel Zentner and Tuomas Eerola observed, as well as in neuroimaging research, where authors Stefan Koelsch, Walter A. Siebel and Thomas Fritz conclude:

"With regard to clinical applications, it would be useful to have more insight into the neural correlates of the anxiety-reducing effects of music listening. Similarly, we need more knowledge about the neural correlates of the emotional effects used in music therapy for the treatment of patients. Notably, this does not only pertain to patients with affective disorders (such as Depression), but also – due to the effects of emotions on the autonomic, endocrine, and immune system – to patients with diseases related to dysfunctions of these systems (such as autoimmune diseases). Such knowledge would help to develop more systematic, widespread, and evidence-based applications, which make use of the powerful effects of music on emotions to improve human health" (p.338).

The next two sections of the Handbook explore emotions in music making and in music listening, respectively. Issues often overlooked concerning the lives of performers, including of course that of performance anxiety, are thoroughly addressed. The exhaustive and creative accounts of how performers convey musical expression, and the specific musical features at play, are invaluable sources of information for those seeking to expand their knowledge of music as means of communication. The last chapter, dedicated to possible mechanisms underlying the induction of emotion in listeners, is particularly helpful and clarifying in this respect (see also Juslin & Västfjäll, 2008), including examples of implications for health research and music therapy:

"The development of such [individualized health] interventions will obviously benefit from a better understanding of the underlying mechanisms. The framework outlined earlier can hopefully contribute to more hypothesis-driven approaches to exploring mechanisms affecting emotion and stress. It might also contribute to music practice, by illuminating the processes that underlie different therapy techniques such as the 'iso principle' or Guided Imagery with Music" (p.633).

The idea of individualized interventions in music therapy is closely linked to the focus of the next section, namely the developmental aspects of music and affect, the topic of personality and its relation to musical preference, as well as social and cross-cultural considerations. All these factors

strongly influence affective responses to music in listeners and therapists alike, and are of critical importance when, for instance, developmental disorders are involved – the cases of autism, Williams syndrome or deaf children with cochlear implants are reviewed in the chapter authored by Sandra E. Trehub, Erin E. Hannon and Adena Schachner.

Importantly, in the present edition of the Handbook, a whole section is fully dedicated to Applications – including, among others, "Music Therapy", authored by Michael H. Thaut and Barbara L. Wheeler, and "Music, Health and Well-Being" by Suzanne B. Hanser. These comprehensive chapters cover not only a historical overview of music in healthcare contexts but also theoretical frameworks specifically addressing emotion:

"The exact role of emotion in most music therapy has not been considered in the literature. We may gain some understanding of its role by looking at the focus of the work. In music psychotherapy, the focus of the therapy is emotion, while in some other forms the focus is cognitive or physical functioning. However, just as people always have emotions, so music therapy always deals with emotion in one form or another" (p.821).

"...by accessing and modulating affective states, music not only addresses emotional and mood responses but also modulates a broad range of cognitive states regarding attention and perception, memory, psychosocial functions, and executive functions" (p.834).

In the chapter by Thaut and Wheeler, a detailed integrative model of music in therapy is described *"intended to integrate an objective neurological basis for the effect of music stimuli, and their respective stimulus properties and associated responses, with the subjective variables of perceptual and evaluative music processing, in order to arrive at a predictable, analyzable, and measurable treatment result"* (p.842).

Still, authors acknowledge empirical data is scarce. In Hanser's words:

"Music is, by its nature, a variable that defies objectivity, as it is produced by a unique human being or ensemble of humans. Research protocols that test interesting musical interventions, therefore, can be subjective and complex, challenging attempts at generalizing their impact to other

audiences or participants. The paucity of experimental research indicates that while there is much discussion about engaging in musical activity for health and well-being, it is difficult to design research to test specific outcomes. Yet the disciplines of science and medicine demand rigorous and randomized clinical trials for music interventions to be considered evidence-based practice" (p.856).

Despite the difficulties, in the last section of the Handbook, entitled "The Past, Present and Future of Music and Emotion Research", the editors report the results of a mini-survey conducted among several contributors asked to indicate up to three priorities of research in this field for the next five years: along with measurement issues and the importance of social context, "At least eight query responses concerned the role of musical emotions in health: 'well-being'; 'immunological changes'; 'management of emotional disorders (i.e. anxiety and depression)'; 'neurorehabilitation and psychiatry'; 'psychological and physiological health'; 'pain-reducing effects of music'. Several chapters in the present volume (...) discuss health aspects, which can be taken as further indication that this will be a salient topic in coming years" (p. 939).

The relevance of the field of music and emotion to music therapeutic interventions and research is thus emphasized in spite of current challenges and controversies. Overall, this impressive volume can serve as basis for the examination of the issues involved not only in therapy but in music activity in general. The comprehensive and detailed accounts of the diversity of approaches and theoretical perspectives, combining the highest standards of scholarship with an accessible presentation and style, make it recommended reading for anyone interested in the intricate relation between music and human emotion.

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About the authors (back cover)

Patrik N. Juslin is Associate Professor of Psychology at Uppsala University, Sweden, where he directs their research and teaching in music psychology. He completed his PhD in 1998 and became associate professor in 2004. Juslin has published numerous articles in the areas of expression in music performance, emotional responses to music, music education, and emotion in speech. In 2001, he edited the volume *Music and Emotion: Theory and Research* together with John Sloboda. Juslin is associate editor of the journals *Music Perception* and *Musicae Scientiae*. He is a member of the International Society for Research on Emotions and received ESCOM's 'Young Researcher Award' in 1996. Alongside his work as a researcher, he has also worked professionally as a guitar player.

John A. Sloboda is Emeritus Professor at Keele University, honorary Professor of Music at Royal Holloway University, London, and Visiting Research Fellow at the Guildhall School of Music & Drama, London. He has been a member of the School of Psychology at Keele since 1974 and was Director of its Unit for the Study of Musical Skill and Development founded in 1991. John Sloboda is internationally known for his work on the psychology of music. He is a Fellow of the British Psychological Society, and was President of the European Society for the Cognitive Sciences of Music, where he serves on the editorial board of its journal, *Musicae Scientiae*. He was the recipient of the 1998 British Psychological Society's Presidents Award for Distinguished Contributions to Psychological Knowledge, and in 2004 was elected to Fellowship of the British

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