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Editorial Introduction

Multidisciplinary Developments in Mind, Music, and Mental Health

In this special issue of *Journal of Consciousness Studies*, you will find ten articles dedicated to a multidisciplinary investigation of how playing or listening to music interacts with our consciousness, and of the pervasive effects of music on mental health. How is it that musical engagement can alter, stabilize, or otherwise affect our embodied and situated minds? And why is it that engagement with music can lead to improved individual and collective mental health?

These questions invite a multidisciplinary approach simply because no single discipline has the empirical and theoretical resources to adequately couple analyses of mind, music, and mental health. Therefore, we, the editors, have cast a very wide net, inviting colleagues from neurophysiology, psychiatry, music psychology, musicology, philosophy, music therapy, and finally peace and conflict research to answer these questions from the perspective of their own discipline. We sincerely thank each of the contributors for their innovative and thorough work. Each article is like listening to a beautiful instrument: clear, distinct, rich, and meaningful just on its own. Yet if you, the reader, want to hear the brilliance of the entire symphony, and

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conceive of your own answers to the questions about the relations between mind, music, and mental health, we urge you to read all the articles in cohesion.

This special issue is intended to serve as a new nexus for music-related scientific and philosophical work that has not hitherto been brought together. In the last decades, music-related research across many disciplines including neuroscience, psychology, psychiatry, evolution, and philosophy has greatly expanded, illuminating a wide variety of factors that help us answer how music, mind, and mental health are related. For instance, experiments in neuromusicology have demonstrated global effects of music on emotional and biological health (Kölsch, 2025). Research in arts-based activities with schizophrenic patients has demonstrated participants' greatly stabilized self-awareness, agency, and intentionality (Mundy *et al.*, 2022). Studies in music therapy have demonstrated how music therapists leverage highly specialized practical knowledge about the ways that music impacts mental health (Stige, 2002). Studies in music psychology have shown how music listening (and, relatedly, theatre attendance) entrains synchronized behaviour and physiology between audience members, which correlates with positive emotions, shared intentionality, prosocial behaviour, and empathic relatedness (Ardizzi *et al.*, 2020; Tschacher *et al.*, 2023; Swarbrick and Vuoskoski, 2023). Work in evolutionary musicology and sociology of music has illuminated the importance of musical participation across time and cultures for group formation and social inclusion (Cross, 2001; Jan, 2022; DeNora, 2010). Work in philosophy has shown how music can enhance our cognitive, affective, and intentional capacities (Krueger, 2009; Maiese, 2016; Noë, 2015; Schiavio and De Jaegher, 2017). Medical studies on low-frequency music stimulation have demonstrated its potential for pain reduction through Pacini receptor stimulation (Sigurdardóttir *et al.*, 2019). Finally, music has been demonstrated to be effective in peacebuilding and conflict resolution, through honing those empathic spaces afforded by joint musicking (Urbain, 2007; Golden, 2016). While each above-mentioned branch of research is compelling on its own in saying something about how music interacts with our minds, bodies, and health, they have never been brought together to establish an academic overview of the wide-ranging effects of music on the whole human being in its neurological, biological, psychological, cultural, historical, and conscious existence.

The ten articles compiled here are loosely structured around a principle of starting in the microscopic and ending in the macroscopic:

We begin with specific neural systems that respond to music. We then move through fields of psychiatry, psychology, musicology, and philosophy with their various empirical and theoretical examinations of individual human beings or larger groups as engaged in musical activities or environments. We end with world-oriented, direct applications of music in therapy and at the grand socio-political scale, investigating the role of music in peacebuilding and conflict resolution.

The articles can also be divided into two broad categories:

The first category concerns individual and therapeutic approaches to music and mental health, with a focus on neurodiversity and particular (psycho)pathologies: For instance, **Peter Michael Nielsen** (medicine) & **Suraiya Luecke** (biology and cognitive science) present groundbreaking exploratory and experimental work on how stimulating the body's Pacini receptor system via low-frequency vibrations helps alleviate symptoms of chronic pain, long COVID-19, and depression. **Birgit Bundesen** (psychiatry) & **Simon Høffding** (philosophy) show how free music improvisation helps flex, stabilize, and enhance the sense of agency of people diagnosed with schizophrenia. **Michelle Maiese** (philosophy) develops new theory on how music improvisation and music therapy can foster a more stable sense of self for clients with borderline personality disorder. **Michael Hambrook**, **Zamir Kadodia** & **Joel Krueger** (philosophy) bring together theory and practice in music therapy with the neurodiversity movement to show how 'autistic people use music in everyday life for affective self-regulation, identity (co)-construction, and social connection'. Finally, **Brynjulf Stige** (music therapy), **Hans Petter Paulen Solli** (music therapy) & **Kjetil Vikene** (neuroscience) analyse how their therapeutic work helps patients with schizophrenia and Parkinson's disease.

The second category concerns more general arguments about, theories of, and experiments with music and mind: **Neta Spiro**, **Ian Cross** & **David Duncan** (music psychology) devised an encouraging experiment of 'singing with strangers', finding that the basic enjoyment of just singing together significantly outweighs the importance of whether the performance was in tune or not. Scaling up further and developing the emerging scientific niche of 'concert research' (Tröndle, 2021; Høffding, Hansen and Jensenius, 2024; D'Amario, Bishop and Jensenius, under contract), **Wolfgang Tschacher** (psychology), **Steven Greenwood** (media art and programmer), **Christian Weining** (musicology), **Melanie Wald-Fuhrmann**

(musicology), **Chandrasekhar Ramakrishnan** (mathematics and computer science) & **Martin Tröndle** (art research) staged a large-scale concert research initiative, recording physiological signals and questionnaire data from 690 'Western Classical' music audience members to investigate the psychophysiology of musical enjoyment and excitement. Further, in the first ever article (to our knowledge) to couple music, mind, and peacebuilding, **Olivier Urbain** (conflict research) and **Michael Golden** (musicology) argue that music might contribute to peacebuilding and reconciliation through its ability to affect human empathy and sense of identity. Moving on to evolutionary studies of humans and music, **Steven Jan** (musicology) argues that music has its own sense of autonomy and identity, a 'consciousness of itself' that demonstrates its own kind of evolution. Finally, with an eye towards possible futures of music, **Nanette Nielsen** (musicology) provides arguments for why AI cannot supplant human creativity and musical intelligence.

In addressing the topic of consciousness, the majority of the articles engage with embodied, and specifically enactive, approaches (Thompson, 2007; Newen, De Bruin and Gallagher, 2018), both of which stipulate that consciousness is not reducible to the brain or neuronal interactions, but must be considered as situated in the entire body, and in interactions with others and one's environment. It is interesting to observe that enactivism is becoming a foundational, go-to theory of mind across a wide variety of fields including musicology, psychiatry, music therapy, and peace research. Further, as also suggested by Stige, Solli and Vikene (this issue), this special issue carries with it an implicit proposal for a new cognitive science as such. If music — not as formally written and analysed, but as practised and lived — can ground studies ranging from neurophysiology to psychiatry, psychology, philosophy, and sociology (as found in peace research), it may promise an alternate starting point for an integrated study of consciousness and cognition. Further, the lived practices of 'musicking' (Small, 1998), as found for instance in our singing of 'Happy Birthday', in our live-concert attendance, or in our therapeutic interventions, can act as an ecologically valid experimental cradle for fresh theory construction or hypothesis testing across a wide variety of disciplines.

Stepping aside from grand, integrative, scientific reveries to the current volume, let us conclude: we have aimed to provide a multidisciplinary overview of how music and mind interact and how this interaction may improve our individual and collective mental health.

Providing such an overview is both timely and essential for today's society. Haunted by stress, depression, and diagnoses pertaining to emotion regulation and attention deficits, society is long past the threshold where individualized psychological counselling or psychopharmaceuticals can adequately respond. Already, research in music therapy and in music and peacebuilding shows that musical engagement can respond effectively to this collective mental health crisis. But in order to understand which kinds of interventions work better and why, we need a strong multidisciplinary epistemic platform. Our hope is for this special issue to contribute to constructing one such platform, which can thereby provide a strong — and collective — foundation upon which more effective therapeutic interventions, more informed political decisions, and more appropriate cultural initiatives can be cultivated.

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