

Neural Dynamics of Moments of Interest During Dyadic Improvisation in Music Therapy

Clemens Maidhof^{*1,2}, Astrid Heine², Julia Vogl², Gerhard Tucek², and Jorg Fachner^{1,2}

^{*}Corresponding Author: clemens.maidhof@anglia.ac.uk

¹Cambridge Institute for Music Therapy Research, Anglia Ruskin University, Cambridge, United Kingdom

²Josef Ressel Centre – Principles of Personalised Music Therapy, FH IMC Krems, Krems, Austria

Music Therapy is an interpersonal process during which music and its elements are used by a trained music therapist, and can be beneficial for e.g. people with mental disorders, dementia, or brain injuries. A core element of music therapy is the interaction between a patient and a therapist, often engaged in clinical musical improvisation. During these interactions, some segments can be regarded as being of indicative importance for patients' development in therapy. To study the underlying neural dynamics of such moments of clinical interest (MOIs), we plan to employ an in situ, wireless EEG hyperscanning approach combined with synchronized audio and video recordings, as well as a participant observation of music therapy sessions. Based on video recordings of their sessions, participants will select MOIs and moments of less interest, and will be interviewed about their selections. Behavior and musical interactions will be analyzed (e.g., eye contact, synchronicity), as well as neural indices of increased inter- and intra-brain coupling measures, aiming to explore potentially enhanced mutual understanding and sharing of emotional states. In this poster, we will present our preliminary strategy exemplified with a pilot study involving music therapy students, targeting to model real-world music therapy situations.