

Temporal Dynamics and Connectivity of Dyadic Emotional Processing in Frontal Brain Areas During Active Music Therapy

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Abstract:

Social neuroscience researches the neural underpinnings of social interactive behaviour (1, 2). A core element of music therapy is the interaction between a patient and a therapist, often engaged in dyadic clinical 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 employ an in situ, wireless EEG hyperscanning approach combined with synchronized audio and video recordings. Here we present the preliminary findings of a single case study with a music therapist engaged in active music therapy with an actor simulating a depressed client (while the therapist was assuming to be working with an actual patient). The video recording of this session was analyzed by independent raters, including 33 music therapy students. Based on identified moments of interest during the session, we analyzed the cortical frontal alpha asymmetry (FAA), which is a well-established measure of central emotional processing (3), also indicating role in social interaction (4). More specifically, we were interested in how the temporal FAA dynamics (5) changed during these moments and the interplay of peak emotional events in both participants, indicating shared emotional processing. Results suggest that cortical frontal asymmetries seem to be a promising tool for neuroscientific investigations into music therapy processes.

References

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