



Kinematics of music-induced movement: effects of exogenous and endogenous factors

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Music is commonly regarded as being primarily an auditory phenomenon, and the bulk of research on music perception focuses exclusively on this sensory modality. Only recently have the multimodal aspects of music processing gained significant attention. In addition to the auditory, other sensory modalities such as visual, tactile, and proprioceptive, play a significant role in the processing of musical information. A common feature of the latter modalities is that they rely on corporeal movement. Examples of the importance of movement in music are abundant. For instance, in most cultures music is associated with dance. Furthermore, we tend to move while listening to music, in particular when the music has a clear pulse. Additionally, corporeal movement is important for the interaction and communication between musicians, helping to maintain synchronization and convey expressive intentions. Lastly, movement is an important ingredient in social interaction associated with music listening. Music can thus be regarded as a fundamentally spatiotemporal phenomenon. Therefore, understanding how the kinematics of music-induced movement depends on both exogenous factors, such as characteristics of music or genre conventions, and endogenous ones, such as personality or preference, would be crucial to provide credible accounts for the multimodal nature of music cognition. In my talk I will review our research on music-induced movement that utilizes a naturalistic paradigm combining Music Information Retrieval with advanced kinematic methods to analyse complex multidimensional, multilevel, and nonstationary dance movement. Topics include characteristics of metrical synchronization, influence of musical features, perceived emotion, and personality on movement characteristics, as well as effects of personality and empathy on movement interaction.

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