



The empowering effect of being locked to the beat of music

Marc Leman¹, Edith Van Dyck¹, Bart Moens¹ and Jeska Buhman¹

¹ IPEM – Department of Musicology, Ghent University, Ghent, Belgium

A regular rhythm in music is a strong driver for establishing a synchronized human rhythm. Typically human rhythm tends to go along with the musical rhythm in such a way that a salient feature of the human rhythm matches the timing of a salient feature of the musical rhythm. But what are the underlying mechanisms behind music-movement synchronization, and what are the generated effects? The goal of this talk is to introduce and offer different views on the study of the underlying mechanisms, and to show how being locked to the beat of the music can pave the way for an overall empowerment effect. We base our ideas on a technology that allows us to manipulate the entrainment strength towards phase-locked synchronization. The results of our findings are relevant for assistive synchronization technologies such as a smart walkman for patients with Parkinson's disease, or a running assistant for healthy runners developed in BeatHealth.