How much beat do you need? An EEG study on the effects of attention on beat perception using only temporal accents

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EVENT ABSTRACT

« Back to Event

How much beat do you need? An EEG study on the effects of attention on beat perception using only temporal accents.

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The perception of a regular beat in a musical rhythm is a very basic skill. Earlier, using naturalistic stimuli with clear acoustic accents, we have shown that the brain can detect regularity in music without attending to it (Bouwer et al., in prep; see also Ladinig et al., 2009). However, others have shown the necessity of attention for perceiving a beat in highly syncopated rhythms with only temporal accents (Chapin et al., 2010). To reconcile these differences we propose that the level of attention needed to perceive a beat depends on the complexity of a rhythm and the type of accents used. Here we test the latter prediction. We examine the relationship between attention and beat perception using strictly metrical stimuli with only temporal accents.

In the current experiment participants are presented with a simple rhythm in which deviants are introduced in two different positions, either on the beat or not on the beat. Deviants occur in the form of sound increments and sound decrements. We compare the ERP response to the deviants under attended and unattended conditions. The different positions of the deviants will allow us to probe the presence of beat perception under different attentional conditions. Comparing the results from this experiment with previous work will give us insight in the role of acoustic and temporal accents in the perception of a regular beat under unattended conditions.

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