



# Movement is more strongly attracted to music than to speech

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People often move in synchrony with musical beats whereas synchronization of movement with speech accents is rare. To examine whether movement is more likely to be captured by music than by speech, 33 nonmusicians tapped their finger in synchrony with an isochronous auditory Target sequence (i.e. tones with 600-ms IOIs) while a Distractor sequence was presented (i.e. well-known musical excerpts or fragments of children poetry). Distractors were presented at one of various phase relationships with respect to the target. The analysis of the asynchronies and of their variability showed that musical distractors attracted movement more strongly than speech distractors. The attraction was larger when distractors preceded the target tones than when they followed them. This effect was replicated when controlling for potential confounding variables which may account for the differences between music and speech, such as distractors' average pitch and temporal variability, and the timbre of the Target sequence. Differences between speech and music in attracting participants' taps were attenuated by these manipulations, but still significant. In addition, similar results were obtained in a further experiment where a continue measure of the force participants exerted during synchronization with the Target sequence was recorded with a force transducer. In sum, there is converging evidence that musical rhythms attract movement more than stress structure in speech. Music, because of the regularity of its metrical structure, may be particularly well-suited to engage brain mechanisms underlying sensorimotor synchronization and motor entrainment (e.g. the cerebellum and the basal ganglia).

