

Can you groove to the beat — or are you an awkward dancer? It may be in your genes

Moving in time to musical rhythm is so automatic that people are often not conscious of the exquisite coordination that it demands of our brains, minds and bodies.

“Tapping, clapping and dancing in synchrony with the beat — the pulse — of music is at the core of our human musicality,” said Reyna Gordon, PhD, associate professor in the Department of Otolaryngology – Head and Neck Surgery and co-director of the Vanderbilt Music Cognition Lab.

Through a new study led by Vanderbilt Genetics Institute researchers in collaboration with 23andMe, a personal genomics and biotechnology company, Gordon and her colleagues have made a significant discovery about the biological underpinnings of musical rhythm.

The study, published in the journal [Nature Human Behaviour](#), is the first large-scale genome-wide association study of a musical trait.

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This study identified 69 genetic variants associated with beat synchronization — the ability to move in synchrony with the beat of music. Many of the variants are in or near genes involved in neural function and early brain development. “Rhythm is not just influenced by a single gene — it is influenced by many hundreds of genes,” Gordon said.

In addition, the study found that beat synchronization shares some of the same genetic architecture involved in biological rhythms such as walking, breathing and circadian patterns.

[This is an excerpt. Read the original post here.](#)