Born to boogie

New research suggests that babies' brains are wired for rhythm

By Julia Thomson

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Laurel Trainor works through a "rhythm" session in her lab with mother **Jane Goehner '97** (nee Schnarr) and her seven-month-old son.

Gently bounce a baby while you sing, and you'll usually hear squeals of glee. But it's not just fun: Feeling the beat helps wire babies' brains to hear rhythm.

"The simultaneous experience of listening and moving to a rhythm wires the brain so that different senses work together," says Laurel Trainor, a psychology professor at McMaster. "Our interpretation of sound is affected not only by our auditory system but by input from our other senses as well."

In a paper published in Science, Trainor and graduate student Jessica Phillips-Silver showed that the way seven-month-old infants interpret a rhythm is influenced by the way they are bounced to that beat.

One group of infants was bounced for two minutes in the arms of an adult on every second beat and another group on every third beat. After this experience, infants who had been bounced on every second beat preferred to listen to the rhythm with accents added to be a march (every second beat louder), while infants bounced on every third beat preferred to listen to the rhythm with accents added to be a waltz (every third beat louder). Preferences were measured by having infants control how long they listened to each version in a setup in which looking at one light turned on the march rhythm and looking at another light tuned on the waltz rhythm.

The researchers concluded that even though infants were presented with exactly the same sounds during the bouncing experience, the movement caused them to interpret and remember the rhythm differently: one group heard a march and the other a waltz.

"Across all cultures, caregivers naturally provide a rich rhythmic experience for their infants by rocking and bouncing them while singing," says Phillips-Silver. "For the first time, we are able to show that this experience not only affects their emotional state, but also influences infants' sensory development."