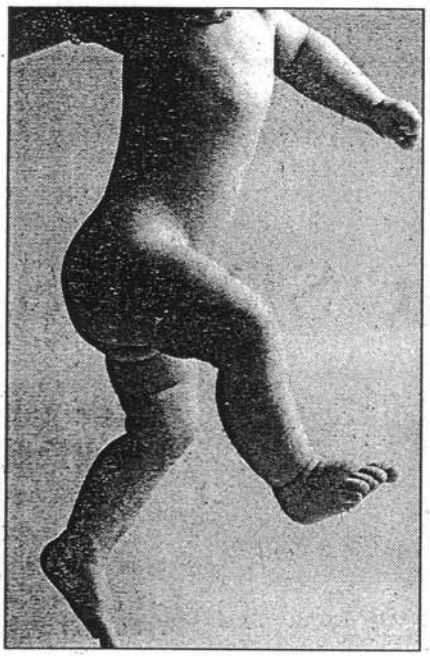
Babies groove to the music

BY HELEN BRANSWELL



TORONTO ✦ People tend to think of the senses as distinct — taste, touch, sound, smell.

But a new study of babies' responses to music suggests there may be more overlap than we might think.

Moving babies to the rhythm of music, something adults everywhere do, actually appears to influence the way the baby hears the music, a new McMaster study indicates.

"This is saying the way we move shapes what we hear. That's very important," said Jessica Phillips-Silver, co-author of the study, published in this week's issue of the journal Science. Phillips-Silver is a PhD candidate at McMaster University.

"There's a reason that people across the world and throughout history have moved their bodies to music. And there's a reason that we do it naturally with babies."

Senior author Laurel Trainor, professor of psychology at McMaster, said the pair wanted to see if the universal practice of singing or playing music to a baby while swaying, swinging or rocking served some function.

"Everything we know about how the brain gets wired through experience suggests that when you have concurrent information coming into the brain ... the brain associates those events together," Trainor said.

The two devised an ingenious study to see if their theory was correct. They played music with an ambiguous rhythm to 16 seven-month-old babies being held by their mothers.

The mothers jiggled their infants as the music played. Some babies were bounced on every third beat as if it was a waltz. The others were bounced on every second beat, as if it was a march.

Later, researchers played the same music to the babies, this time adding distinct march and waltz rhythms and measured which caught and held the babies' attention longer.

Babies who'd been bounced in a waltz pattern were more attracted to the music when it was played with the waltz rhythm. Those who'd experienced it as a march were more drawn to the music played with a distinct march beat.

What we feel, in a sense, "becomes what we hear," Phillips-Silver said.

Babies who were not bounced but watched an adult move to the music — either to a waltz or march beat — did not encode the music the way the babies who were bounced did.

But babies who were blindfolded, and were therefore not getting any visual clues, did respond more to the music when the rhythm matched the way they had been bounced.

Sandra Trehub, who has also worked on infants' perception of music and rhythm, said the study shows "babies are very good learners."

"The fact that they make these connections relatively quickly (means) they learn all kinds of things about their language, what sounds go together with what objects, how things work in the world, what Mum sounds like and how she moves. And they sort of put it all together."

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