

Move over Mozart: Study shows cats prefer their own beat

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Ginger tabby cat. Credit: Public domain

As more animal shelters, primate centers and zoos start to play music for their charges, it's still not clear whether and how human music affects animals.

Now, a study from the University of Wisconsin-Madison shows that

while [cats](#) ignore our music, they are highly responsive to "music" written especially for them. The study is online at *Applied Animal Behaviour Science*.

"We are not actually replicating cat sounds," says lead author Charles Snowdon, an emeritus professor of psychology. "We are trying to create music with a pitch and tempo that appeals to cats."

The first step in making cat music is "to evaluate music in the context of the animal's sensory system," he says. Cats, for example, vocalize one octave higher than people, "So it's vital to get the pitch right. Then we tried to create music that would have a tempo that was appealing to cats." One sample was based on the tempo of purring, the other on the sucking sound made during nursing.

In the tests, Snowdon and former UW undergraduate student (now a Ph.D. student at Binghamton University) Megan Savage brought a laptop and two speakers to the homes of 47 cats and played four sound samples: two from [classical music](#), and two "cat songs" created by University of Maryland composer David Teie.

The music began after a period of silence, and the cat's behavior was noted. Purring, walking toward the speaker and rubbing against it were adjudged positive response, while hissing, arching the back and erecting the fur were negative.

The cats were significantly more positive toward cat music than classical music. They began the positive response after an average of 110 seconds, compared to 171 seconds for the human music. The slow responses reflected the situation, Snowdon says. "Some of them needed to wake up and pay attention to what was going on, and some were out of the room when we set up."

The cats showed almost the same number of aversive responses to each type of music.

The study follows a 2009 report by Snowden and Teie, which showed that a monkey called the cotton-top tamarin responded emotionally to music composed specifically for them. That work led Snowden and Teie to believe that "the same features that are effective in inducing and communicating emotional states in human music might also apply to other species." These features include pitch, tempo and timbre.

Studies of [animals](#) and human music have produced conflicting results, and one influential study supposedly proved that animals do not appreciate music.

Snowdon says the field has labored under mistaken premises. One is the frequency problem: Animals hear different ranges than we do. Researchers who played Mozart to rats in Japan proved that the animals were ignoring frequencies below 4,000 hertz, meaning that most human music is irrelevant to them.

The second misconception is that all classical music will be calming, when it may in fact be invigorating, angry or ominous.

Combined, these factors may eliminate any chance that the animals would respond as expected to the "music" under study. "The problem is a bit of both," says Snowden. "They don't hear it, and it's not music to them."

With more people trying to "enrich" the lives of animals by playing music to them, Snowden hopes the more sophisticated approach he and his colleagues take will help put some facts on the table.

"A reporter for National Public Radio is convinced his dog likes

classical, so he puts on NPR all day," he says. "A guy from a rock station thought his dog liked heavy metal, so he put that on all day. There is a lot of silly stuff going on. We don't yet know, for most cases, what the effects of [music](#) are on animals."

Provided by University of Wisconsin-Madison

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