The Yoga Research Society Newsletter

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## Through a Dogs Ear

excerpted from the book, "Through a Dog's Ear:

Using Sound to Improve the Health and Behavior of Your Canine Companion"

by Joshua Leeds and Susan Wagner

When we first considered recording music for dogs, we had absolutely no idea if human brainwave states and heart rates corresponded in any way to that of the canine range. However, based on initial research, it seemed a good bet that what effected humans would have some kind of effect on dogs as well. We just did not know the extent.

From previous studies, we understood music did, in fact, have an effect on companion and farm animals. The value of *auditory enrichment* had been researched with a variety of species, including horses, cattle, birds, and primates. However, we were surprised to see that only one canine-specific study had been conducted.

In 2002, Belfast-based psychologist and animal behaviorist Deborah Wells undertook a research program to determine the influence of five types of auditory stimulation: human conversation, classical music, heavy metal music, pop music, and a silent control (no music at all). From Dr. Wells's study, we came to understand that classical music had a marked soothing effect on dogs in animal shelters when compared to the other types of auditory stimulation. In the discussion section of her published research, Dr. Wells stated, "Classical music resulted in dogs spending more of their time resting than any of the other experimental conditions of auditory stimulation. This type of music also resulted in a significantly lower level of barking. Research



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suggests that calming music may have a beneficial effect on humans, resulting in diminished agitation, improved mood and lower levels of stress. Although the specific effect of classical music on dogs remains unknown, the findings from this study suggest that it may, as in humans, have a calming influence." She concluded that heavy metal agitated the dogs, indicated by increased frequencies of standing and barking, and that neither human conversation nor pop music had any apparent effect on the dog's behaviors, perhaps due to habituation to radio exposure.

Dr. Wells stated, "Further work is still required to unravel the specific acoustic elements that dogs respond to." That challenge inspired us to take our bioacoustic research where no one had gone before.

Understanding that some things about classical music were having an optimum effect on dogs, we endeavored to take Deborah Wells's work one step further. The purpose of our BioAcoustic Research & Development project was to investigate the effects of multiple types of classical music on the behavior of dogs in kennel and home environments. The music was chosen and arranged according to the principles of entrainment (beats per minute) and harmonic complexity (active listening versus passive hearing). We know that dogs have the same brain wave patterns as humans. However, dog's heart rates vary according to size; the larger the dog, the slower the heart rate. The tempos used in this project were based on an average-size dog.

We also recognized that domesticated animals possess more highly tuned hearing than people, yet we did not know if animal cerebral function would allow them to recognize sonic relationships (i.e., intervals, harmonies, and fast or slow external rhythms). In short, effectuating change in the human nervous system with sound and music is known, but what would be the result using the same principles on dogs?

After highly specific recordings were made, we created two pilot studies,



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involving more than 150 dogs.

Between June 2004 and September 2005, these dogs were observed while listening to different combinations of the recordings Lisa Spector made for the project, as well as the control CDs, which consisted of non-psycho-acoustically-arranged classical music.

## Two Pilot Studies

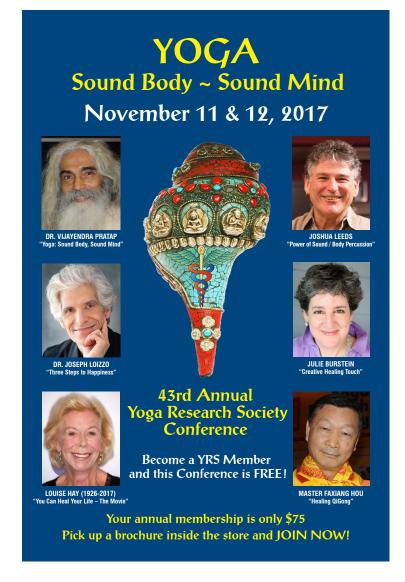
[In Pilot I], four albums of psychoacoustically designed classical music were tested—two albums of solo piano at varying tempos and two albums of piano trios, also at varying tempos.

- In the kennel environment, over 70 percent of the dogs became calmer with the simplified, 50-60 beats per minute (bpm)—both solo piano and trio music.
- In the home environment, the solo piano at 50-60 bpm showed an average of 85 percent becoming calm, and over half the dogs went to sleep.

[Pilot 1 Summary] Instrumentation and tempo of the classical music can produce marked differences in results. Solo instruments, slower tempos, and less complex arrangements has a greater calming effect than faster selections with more complex harmonic and orchestral content.

The purpose of Pilot II was to determine if music arranged according to psychoacoustic principles would have an effect on specific anxiety issues in dogs, such as fear of separation, thunderstorms, and fireworks. Ten dogs were used in Pilot II. Their specific anxieties stemmed from the following:

- Other dogs or children
- Visitors in the home environment
- Thunderstorms
- Riding in the car
- Excessive need for attention–pawing at guardian
- Separation anxiety
- Fireworks



[Pilot II Summary] Results showed 70 percent of anxiety behaviors were reduced with psychoacoustically designed music, while 36 percent of anxiety behaviors were reduced with the non-psychoacoustic control CD. Both CDs calmed the dogs enough to make them lie down. However, it appears that the psychoacoustically designed music, with slower tempo and simpler arrangements and sounds, is more effective in reducing anxiety.

Joshua Leeds will present
"The Power of Sound"
at the 2017 YRS CONFERENCE
"YOGA: Sound Body-Sound Mind."