How Can Music Reduce Stress In Dogs.

Presented by Quinn Newton Project#86

Acknowledgements: Dr. Lynn Seibert, Dr. Robert S. Sobolewski, Dr. Brooke Newton

For this research project, I came up with the problem statement. That is how can music be used to lower stress in dogs and shelters and veterinary appointments I picked the topic as it is two of my passions, which is the love for music and love for animals I also feel That if we lower stress in dogs, it can lead for them to have a better life. For this , I will conduct an experiment that involves six dogs all of different breeds and play music for 20 minutes and record visible signs of stress, such as excess leaking and aggression. We will then have a control a.k.a. no noise and I will test different genres as well

My Hypothesis for this project is that, classical music being played to dogs in a kennel or at the vet is will lower the dogs stress in a way that could be measured to the naked eyes and ears. I base this hypothesis off of te fact that music has a similar effect to humans and dogs' ears are far more sophisticated letting them hear the music far better than humans

My methodology for this project was to conduct an experiment that involves six dogs all of different breed. I first recorded the dogs with no music to measure the dogs base stress levels. I started this timer two minutes after I left so me disturbing the dogs will not alter the beginning data. After 20 I will then repeat but this time I will play music for 20 minutes and record visible signs of stress.I measured stress levels with actions such as excess salivating pacing and more importantly barking.

My materials for this project included: Dogs, A video recorder, a speaker, a timer, and a veterinary space to work,

Research data

- The dogs that seemed to have the most benefit were the dogs that were the most reactive.
- These dogs seemed to have a near 20% reduction in barking while pacing was reduced by nearly 50% (This may not be due to music as near the end of the control period they reduced their pacing anyway)
- Dogs who were less reactive were hard to measure as sometime they would have zero signs of stress in both so we have no idea if the music benefited them.
- The first experiment had a deaf dog that nonstop barked and this barking seemed to completely negate the music's effects.
- the second most reactive dog in the first experiment had basically no change with the music nor did any other dogs at least visually.

Conclusion

After we conducted this experiment, the data for the first experiment was different from the second one. The first experiment found very little to no benefit for the dogs, while the second one actually did seem to lessen physical stress indicators such as barking and pacing (salivating was hard to read and we couldn't get a straight response so we discarded but we believe it didn't change very much). While the first experiment didn't seem to have an effect, we quickly figured out why. There was a blind and deaf dog in the sample group who would not stop barking and whining. With this constant stimulus from the dog, the other dogs seemed to react more to that then the music which points to outside stimuli that increase stress may be more powerful and distracting than what music can help. All that aside, it seems that from experiment 2, the evidence points to music having a calming effect to dogs, or at the very least, not having a negative effect. Reactive dogs seemed to benefit the most while less reactive dogs did not, but we are aiming to relieve stress and if the dog has no stress then that dog does not need the help.

Applications for later and Limitations

In the future, to continue this experiment, I will not only conduct more experiments the same way, but I will also introduce different genres of music. Another change will be the amount of time each experiment is conduct with 45 minute intervals instead of 20 minutes to give the dogs more time to adjust to the music. Some of my limitations for this project was scheduling, permission to access facilities, permission to use a each dog in a experiment, time, and money.

Citations

Wiadomości Zootechniczne, R., & Lvi ; De Jonge. (2018). Effect of classical music on dogs' behavior in the shelter. 3, 137–147. https://wz.iz.edu.pl/files/WZ_2018_3_art18_en.pdf.

Pets Add Life. "17. Veterinarian Appreciation & Music for Dogs." YouTube, 18 June 2024, www.youtube.com/watch?v=V6X04w3FjVQ. Accessed 4 Feb. 2025.

Dhungana, S., Khanal, D. R., Sharma, M., Bhattarai, N., Tamang, D. T., Wasti, S., & Acharya, R. C. (2018). Effect of Music on Animal Behavior: A Review. Nepalese Veterinary Journal, 35, 142–149. https://doi.org/10.3126/nvj.v35i0.25251.

Wiadomości Zootechniczne, R., & Lvi ; De Jonge. (2018). Effect of classical music on dogs' behavior in the shelter. 3, 137–147. https://wz.iz.edu.pl/files/WZ_2018_3_art18_en.pdf.

Bowman, A., Scottish SPCA, Dowell, F. J., & Evans, N. P. (2015). "Four Seasons" in an animal rescue centre; classical music reduces environmental stress in kennelled dogs. Physiology & Behavior, 143, 70–82. https://doi.org/10.1016/j.physbeh.2015.02.035

Zapata-Cardona, J., Maria Camila Ceballos, & Berardo. (2024). Music and Emotions in Non-Human Animals from Biological and Comparative Perspectives. Animals, 14(10), 1491–1491. https://doi.org/10.3390/ani14101491.

Amaya, V., Descovich, K., Paterson, M. B. A., & Phillips, C. J. C. (2020). Effects of Music Pitch and Tempo on the Behaviour of Kennelled Dogs. Animals, 11(1), 10. https://doi.org/10.3390/ani11010010.