

Fuzz Fix: The Physiological Effects of Both Human and Canine Interactions on a College Campus

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Abstract:

The implementation of Animal Assisted Activities (AAAs) on college campuses during finals week has grown in popularity in recent years. The belief is that AAAs help reduce student stress levels during a week of difficult exams. However, there is limited research on the effects of these programs on both the students and the dogs. This study looked at the effects that interaction with a dog prior to taking a test had on student's heart rate and blood pressure. Participants in the experimental group had their heart rate and blood pressure measured before and after interacting with a dog, while participants in the control group had their heart rate and blood pressure measured before and after a coloring activity. Additionally, the heart rates and blood pressures of the dogs participating in the study were measured at baseline and after interacting with a human. Male participants had a significantly lower systolic blood pressure after petting a dog and dogs had a significantly higher heart rate after a human interaction. No other significant changes were found.

Background:

·Research has suggested that petting an animal reduces blood pressure and heart rate. (Barker, Barker, McCain, & Schubert, 2016).

·College students tend to be under high levels of stress, particularly during finals week (Beiter et al., 2015)

·Animal Assisted Activities has been a growing trend on college campuses to help combat stress in college during finals, but there has been limited research on the affectiveness of these programs (Barker, Barker, McCain, & Schubert, 2016)

Goals:

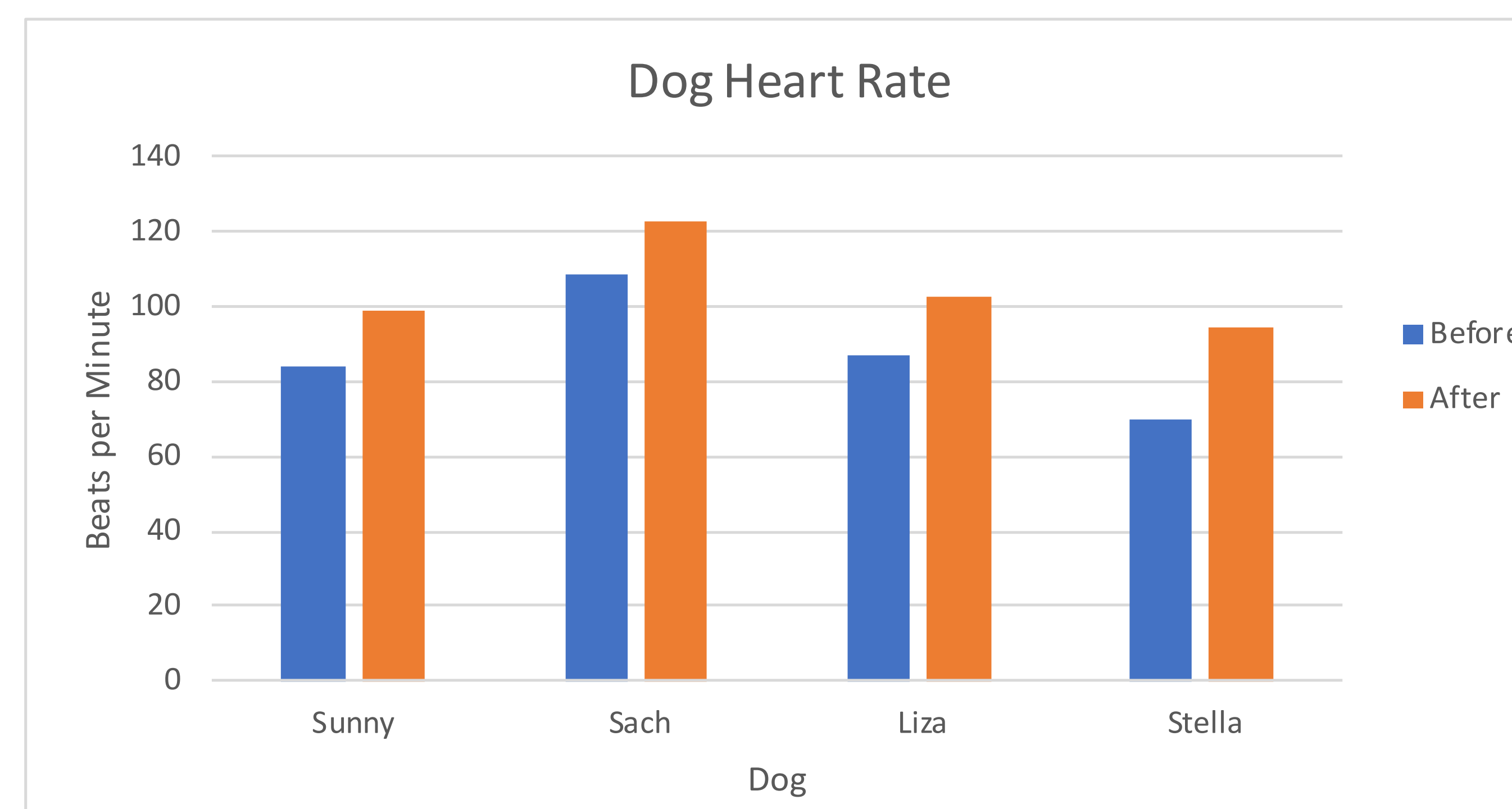
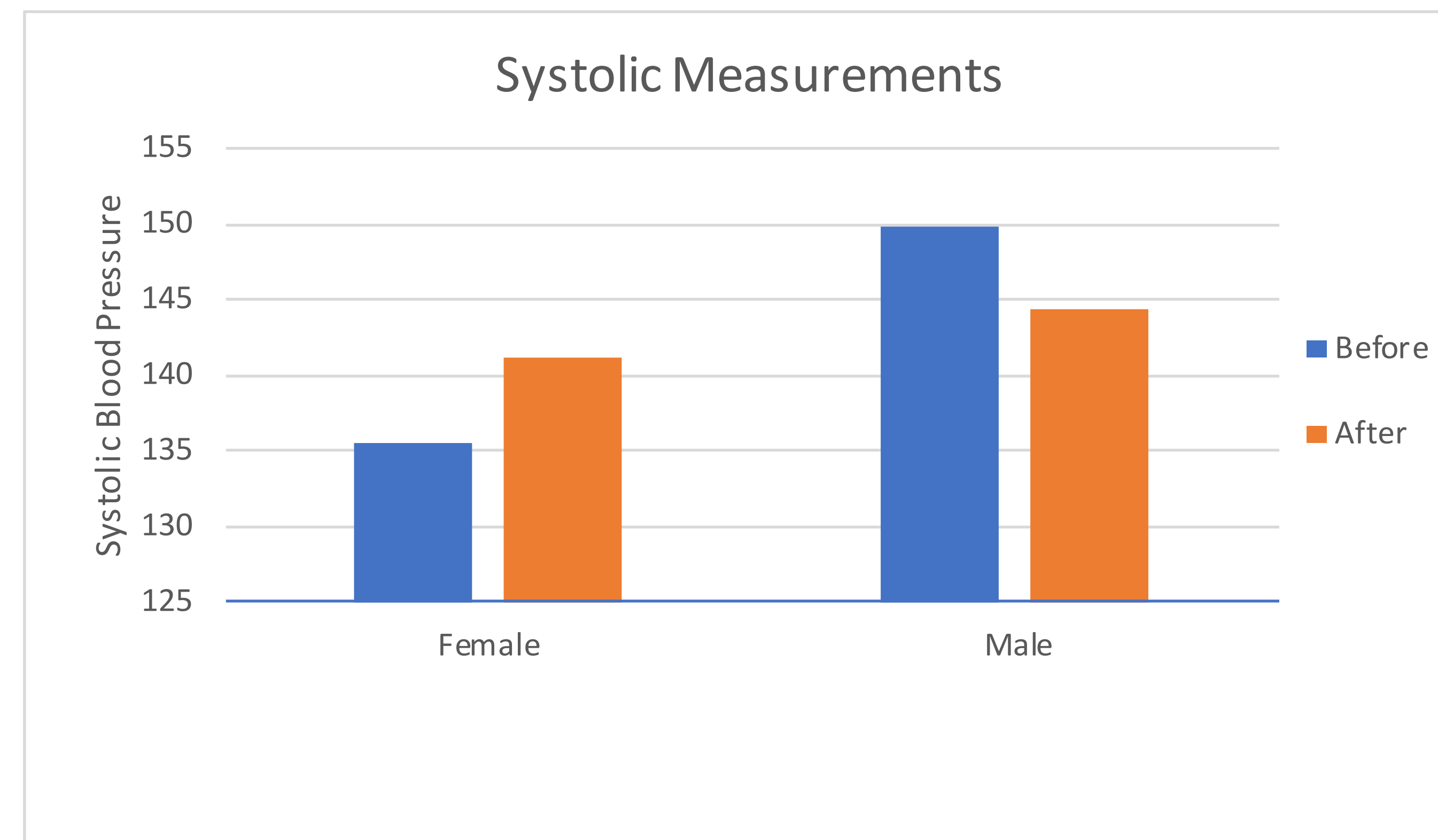
·To determine whether dog interaction during finals week is an effective way to manage physiological aspects of stress in college students.

·To determine the physiological aspect of stress that a dog experiences during those interactions.

References:

- Barker, S. B., Barker, R. T., McCain, N. L., & Schubert, C. M. (2016). A randomized crossover exploratory study of the effect of visiting therapy dogs on college student stress before final exams. *Anthrozoös*, 29(1), 35-46.
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- Kuhne, Hößler, & Struwe. (2014). Emotions in dogs being petted by a familiar or unfamiliar person: Validating behavioural indicators of emotional states using heart rate variability. *Applied Animal Behaviour Science*, 161, 113-120.

Graphs



Acknowledgements

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Methods:

Participants:

- 59 Humans
- 43 Experimental (interacting with a dog)
- 16 Control (coloring)
- 4 Anthrozoology Program Dogs

Procedure:

·Blood pressure and heart rate measurements of human participants were taken before and after a two minute time frame of either coloring or interacting with a dog with a wrist heart rate cuff

·A baseline heart rate and blood pressure measurement was taken for each dog as well as a measurement after each interaction using a canine wrist monitor

Data Analysis:

·A within subject t-test was used to compare heart rate and blood pressure before and after interaction

Results:

·No significant difference between experimental (N=43) and control (N=16) groups on time (before, after) or heart rate and blood pressure.

·Follow up comparisons found no difference in systolic changes in females before or after ($t(29) = -1.199, p=0.240$) as well as no significant difference in heart rate before or after ($t(29) = -1.446, p=0.159$).

·However, a marginally significant effect was found for males comparing systolic rates before versus after ($t(12) = 2.092, p=0.058$) but no significant difference in heart rate for males was found comparing before to after ($t(12) = 0.535, p=0.602$).

Dogs

·Dogs showed significantly higher heart rate following interacting with people compared to baseline ($t(3) = -7.373, p=0.005$). There was no significant changes in systolic or diastolic rates in the dogs following interaction with people (systolic: $t(3) = -1.054, p=0.369$; diastolic: $t(3) = 0.559, p=0.615$).

Conclusions:

·We found that males had lower systolic blood pressure rates after interacting with a dog. However, we found no other significant physiological effects after petting a dog. This may be due to the fact that our male sample size was small and so a follow up study should be done with a larger male sample.

·We also found that dogs had significantly higher heart rates after interacting with a human. However, higher heart rate may not necessarily mean higher stress levels (Kuhne, Hobler, & Struwe, 2014).