

Neuroendocrine Effects of Human-Companion Animal Interaction

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Background:

The study is based on the doctoral dissertation work of J. S. Odendaal, documenting the neurohormonal effects of the HAB among both humans and dogs. The present study replicates and extends Odendaal's work.

Purpose:

The study aims to discern, to what extent:

1. chemical changes indicative of the HAB occur in both adult and dog subjects when they are bonded?
2. mood is altered in adults as a result of interacting with a dog (bonded or not bonded)?
3. chemical changes indicative of the HAB occur in response to interaction with a robotic dog?

Method:

An experimental design in which adult dog owners participate in a 15-30 minute session of friendly, quiet interaction with their dog, with a friendly but strange dog, and a robotic dog. Non-dog owners participate in a 15-30 minute session of friendly, quiet interaction with a strange dog and with a robotic dog. Serum chemical indicators (in dog and human subjects) measured pre-post include: cortisol, oxytocin, prolactin, endorphin, phenylethylamine, dopamine, serotonin, norepinephrine and epinephrine. Additionally, mood is assessed in the humans before and after the sessions.

The pilot study (n=10) showed trends similar to Odendaal's findings in that endorphin and serotonin levels increased and cortisol levels decreased when subjects interacted with their own dogs. Findings from the complete study will be presented.

Results of this study may shed light on human-dog interaction as a beneficial and cost-effective treatment for many chronic and debilitating diseases, such as depression, hypertension, cancer, and dementia (senility).