Do Dogs Experience Cognitive Dissonance?

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Introduction

- Cognitive dissonance, the psychological discomfort experienced when one behaves inconsistently to their beliefs, motivates people to reduce or eliminate it by either changing their inconsistent belief or changing their inconsistent behavior (Festinger, 1962).

- One paradigm to study cognitive dissonance is the effort justification paradigm, in which one group of participants completes a task requiring little effort while another group completes an effortful task. The high effort group rates rewards higher than the low effort group.

- The effort justification effect is usually attributed to cognitive dissonance. Putting effort towards a minimal reward produces dissonance but telling oneself the reward is valuable reduces this dissonance. Thus, the more effort put towards the reward, the more valuable it seems.

- An alternative explanation for the effort justification effect, contrast theory, explains the effort justification effect as due to a greater difference between participant’s starting and ending hedonic states (See Figure 1).

Our Study

- Dogs participated in a modified version of the effort justification paradigm designed to rule out contrast theory.
- Task: Hear soft or loud noise
  Reward: Orange or green treat
- Dogs were assigned to either a contingent treatment or a non-contingent treatment.

Hypothesis

Dogs will demonstrate the effort justification effect in the contingent treatment but not in the non-contingent treat.

First preference test
Dogs’ preferences are evaluated by having them choose green or orange treat 12 times.

“Treat machine” phase
Dogs hear alternating severe and mild noises. Each noise is followed by a corresponding colored treat (dispense by a hidden experimenter).

In the contingent treatment, the noise precedes the treat at a regular interval. In the non-contingent treatment, the noise precedes the treatment at a random interval.

Second preference test
Dogs are again given the choice between a green or orange treat 12 times.

Discussion

We failed to find the effort justification effect in either treatment. This could be due a few limitations:
- Small sample size (N = 11). This makes our results more likely to be affected by outliers and decreases our statistical power.
- Color difference between treats was not salient enough. Dogs may not have paid attention to this difference. This could be improved by having treats distinguishable by more than color (smell, taste, shape).
- The task was not effortful enough. We chose the task of listening to sounds because we had limited time and this required no training. However, this task may have been too passive for the effort justification effect to occur.

Our results are inconclusive. We do not know if dogs demonstrate the effort justification effect or experience cognitive dissonance.

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