

Why do dogs look back at the human in an impossible task? Looking back behaviour may be over-interpreted



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Introduction

It is a widespread idea that domestication has influenced both dogs' exceptional social skills in understanding human communication and dogs' poor performance in physical cognition tasks, where dogs prefer to rely on human's help instead of solving the task by themselves. In the famous 'impossible task'[1], it is a common interpretation that dogs give up sooner and look back at humans to seek assistance. This has never been questioned although simpler explanations are possible. The **aim** of this study was to better investigate the looking back behaviour, presenting a novel version of the impossible task to free ranging dogs (FRd) that had no previous experience of human help and pet dogs (Pd).

Predictions

- If dogs look back for human assistance we expect:
- Subjects to look back sooner at the human than at a 'dummy' object after attempting the impossible
 - Pd to look back more frequently than FRd due to their higher level of experience with humans
 - Subjects to look at the human more frequently after attempting the impossible than the possible
 - Subjects to be less persistent when the human is present than when they are alone

Methods

Subjects

- 14 free ranging dogs (FRd) tested in Morocco
- 20 mixed breed pet dogs (Pd)

Apparatus and procedure

- 4 bowls (3 possible/1 impossible) simultaneously presented
- 4 test conditions



ALL dogs (FRd + Pd)



ONLY pet dogs

Data collected:

- **Looking back** (duration, latency and frequency):
looking at the person/dummy objects
- **Persistence**:
duration of manipulation of the 'impossible' bowl

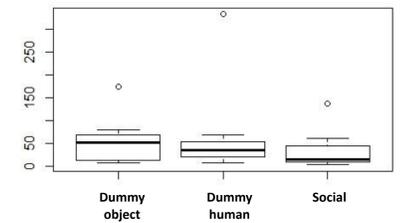
Results

Looking back

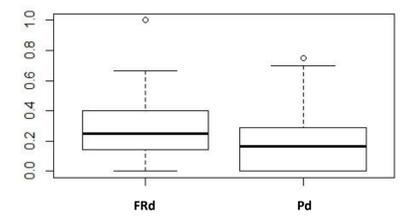
- Pet dogs looked longer at the human than the dummy objects (GLMM: S-C1 z = 3.4, p < 0.01; S-C2 z = 6.0, p < 0.001), and longer at the dummy human (C1) than the dummy object (C2) (GLMM: z = 2.6, p = 0.02)

... BUT

- No differences across conditions in the latency to look back after attempting the impossible (GAMLSS: S - C1 t=1.7 P= 0.09; S - C2 t=-1.8, P=0.07; C1-C2 t=-0.25, P=0.8)



- No differences between Pd and FRd in the frequency of looking back at the human after attempting the impossible bowl (GLM: t= -0.07, p= 0.94)



- Both Pd and FRd looked at the human equally often after attempting the possible and the impossible (GLMM: FRd $\chi^2 = -1.57$, p=0.2, Pd $\chi^2 = 3.32$, p=0.06)

Persistence

- No differences in duration of manipulation of the impossible bowl between Pd and FRd (GAMLSS: t=0.54; p=0.58) for both social and asocial condition (GAMLSS: t=-0.6; p=0.55)

Discussion

Subjects do look back at the human BUT are not asking for help:

- ➔ **Looking back** is linked to giving up to manipulate and then looking at the most salient stimulus in the environment rather than asking for help



References

1. Miklósi A, Kubinyi E, Topál J, Gácsi M, Virányi Z, Csányi V. A simple reason for a big difference: wolves do not look back at humans, but dogs do. *Curr Biol*. 2003 Apr 29; 13(9):763-6.