

PROCEEDINGS OF THE 11TH INTERNATIONAL VETERINARY BEHAVIOUR MEETING

Edited by **Sagi Denenberg**



11th International Veterinary Behaviour Meeting
Samorin, Slovakia, September 14-16, 2017



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Predictors of Gaze-Directed Attention in Dogs

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Funding: This study was funded by a grant from the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation program (Grant Agreement No. 680040) and from the Bolyai Foundation of the Hungarian Academy of Sciences.

Conflict of interest: the authors declare no conflict of interest

Keywords: behaviour, dogs, attention, gazing

Introduction

A growing body of evidence suggests that eye-contact and gaze-following are important part of the dog's social repertoire, but little is known about the factors facilitating attention towards the eyes and face. The aim of this study was to investigate factors that influence dogs' gazedirected attention.

Material and methods

We used a semi-automated image presentation of humans and dog heads, either facing the observer (portrait) or facing away (profile). These stimuli were presented to 38 pet dogs on a screen (1) in a spontaneous looking condition without food and (2) in the presence of a food reward in front of the screen. In the latter condition, we assumed that dogs might be more hesitant to approach the food if a dog portrait is facing them depending on breeds.

Results

Dogs looked longer at portraits than at profiles, and looked longer at images of other dogs than of humans. Female dogs and dogs of brachycephalic head-shape looked longer at the images in both conditions, and approached the food reward slower. Looking time was longest for dogs belonging to non-cooperative breeds in the without food condition and dogs belonging to cooperative breeds in the with food condition. Finally, old dogs looked longer and approached food slower.

Conclusion

Our results suggest that in the dog gaze-directed attention is driven by mechanisms similar to those found in humans and by factors previously found to aid the dog's understanding of human gestures. We also encourage further exploration of the relationship of this social communicative behaviour with gender, development, and aging.