UNIVERSITY OF SÃO PAULO

INSTITUTE OF PSYCHOLOGY

DEPARTMENT OF EXPERIMENTAL PSYCHOLOGY

Natalia de Souza Albuquerque

Dogs' behavioural strategies for responding and using emotional information

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Original version

Thesis presented to the Institute of Psychology of the University of São Paulo in fulfilment of the degree of Doctor of Science.

Concentration area: Experimental Psychology – Animal Behaviour

Supervisor: Dra. Briseida Dogo de Resende

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Examining Panel

Dr _____

Institution _____ Signature _____

Dr _____

Institution _____ Signature _____

Dr _____

Institution _____ Signature _____

Dr _____

Institution _____ Signature _____

Dr _____

Institution _____ Signature _____

Dr _____

Institution _____ Signature _____

To Polly. In my heart, I will always be sure.

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ABSTRACT

Dogs can recognise the content of dogs' as well as humans' facial expressions and vocalisations. However, whether dogs respond functionally to emotional expressions and whether, and how, they infer others' emotional states and functionally use this information in social decision-making is still not known. Our goal was to address these two issues by means of two studies. First, we analysed the mouth-licking behaviour of dogs in a cross-modal preferential looking paradigm to assess whether they show valence-dependent behavioural responses to visual and auditory emotional stimuli of dogs and people and investigate differential sensory modality engagement in this processing. Second, we examined whether non-human animals have the ability to infer and make functional use of others' emotional information. We used domestic dogs as a model in a naturalistic experiment that involved the social interaction between two unfamiliar people and the exhibition of affective information. We found that dogs functionally respond to emotional expressions and actively acquire and use the emotional information within them. Our results show that dogs are able to access the affective content of emotional cues, infer potential behavioural consequences of emotional displays and functionally respond to this type of information, hinging upon the valence and the context of social situations.

Keywords: Affective communication. *Canis familiaris*. Emotions. Ethology. Social cognition.

RESUMO

Albuquerque, N. S. (2019). Estratégias comportamentais de cães para responder e usar informações emocionais (Tese de Doutorado). Instituto de Psicologia, Universidade de São Paulo, São Paulo, Brasil.

Cães são capazes de reconhecer o conteúdo de expressões faciais e vocalizações de cães e de seres humanos. No entanto, ainda está em aberto se, e como, cães respondem funcionalmente a expressões emocionais e se inferem estados emocionais e utilizam essa informação na tomada de decisão frente a problemas sociais. Nosso objetivo foi responder a essas perguntas por meio de dois estudos. Primeiro, analisamos o comportamento de *mouth-licking* (lamber a própria boca) de cães em um paradigma de preferência de olhar *cross-modal* para investigar se eles apresentam respostas comportamentais diferenciais dependentes de valência em relação a estímulos visuais e auditórios de cães e pessoas e se há um engajamento diferencial das modalidades sensoriais nesse processamento. Segundo, examinamos se animais não-humanos são capazes de inferir e fazer uso funcional de informação emocional de outros indivíduos. Utilizamos cães como modelo, em um experimento naturalístico que envolvia interação social entre pessoas não-familiares e exibição de informação afetiva. Encontramos que cães respondem funcionalmente a expressões emocionais e que adquirem ativamente e usam funcionalmente a informação emocional presente nelas. Nossos resultados mostram que cães são capazes de acessar o conteúdo afetivo das expressões emocionais, de inferir potenciais consequências comportamentais de exibições emocionais e de responder funcionalmente a esse tipo de informação, por meio de estratégias que dependem da valência e do contexto das situações sociais.

Palavras-chave: *Canis familiaris*. Cognição social. Comunicação afetiva. Emoções. Etologia.

Table of Contents