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Humans can identify cats' affective states from subtle facial expressions

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Abstract

Although cats' popularity as pets rivals that of dogs, cats are little studied, and people's abilities to read this apparently 'inscrutable' species have attracted negligible research. To determine whether people can identify feline emotions from cats' faces, participants ($n = 6,329$) each viewed 20 video clips of cats in carefully operationalised positively ($n = 10$) or negatively valenced states ($n = 10$) (cross-factored with low and high activity levels). Obvious cues (eg open mouths or fully retracted ears) were eliminated. Participants' average scores were low (11.85/20 correct), but overall above chance; furthermore, 13% of participants were individually significantly successful at identifying the valence of cats' states (scoring $\geq 15/20$ correct). Women were more successful at this task than men, and younger participants more successful than older, as were participants with professional feline (eg veterinary) experience. In contrast, personal contact with cats (eg pet-owning) had little effect. Cats in positive states were most likely to be correctly identified, particularly if active rather than inactive. People can thus infer cats' affective states from subtle aspects of their facial expressions (although most find this challenging); and some individuals are very good at doing so. Understanding where such abilities come from, and precisely how cats' expressions change with affective state, could potentially help pet owners, animal care staff and veterinarians optimise feline care and welfare.

Keywords: affective states, animal care, animal welfare, cats, emotional states, facial expressions