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The Old School, Brewhouse Hill, Wheathampstead,
Hertfordshire AL4 8AN, UK

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A model to quantify the anticipatory response in cats

G Tami^{*†‡}, A Martorell[‡], C Torre[§], M Compagnucci[§] and X Manteca[‡]

[†] Carrer de les Arts 16, Corbera de Llobregat, Barcelona 08757, Spain

[‡] Departament de Ciència Animal y de los Alimentos, Facultat de Veterinària, Universitat Autònoma de Barcelona, Barcelona 08193, Spain

[§] Affinity Petcare, Pl Xavier Cugat, 2-Edificio D, 3a Planta, St Cugat Nord 08174, Spain

* Contact for correspondence and requests for reprints: kaleb39@hotmail.com

Abstract

The aim of this paper was to develop a protocol to study the anticipatory response in cats as a measure of welfare. Seven experimental cats were trained in a classical conditioning paradigm to associate a sound with food arrival, while sound and food were presented without contingency in four control cats. Increasing the interval between sound and food up to 60 s allowed a detailed description of cats' anticipatory response. Compared to control animals, experimental cats showed significantly shorter latencies to orient towards (average 2.96 s) and approach the source of the sound (12.98 s) as well as longer durations of exploring and standing by the source of the sound (namely 69.97 and 52.32%, respectively of the interval sound-food). Experimental cats also exhibited behaviours that may derive from predation patterns, eg short pauses and predatory crouch while approaching the source of the sound (namely in 28.93 and 29.64% of trials), rapid head movements while watching it (55.36% of trials) and pouncing on the food (9.29% of trials). This protocol should be further studied to assess its effectiveness in highlighting differences according to the welfare of individual cats.

Keywords: animal welfare, anticipatory response, cat, cat cognition, classical conditioning, cognitive bias