

Frequencies of behaviour problems and heritability of behaviour traits in breeds of domestic cat

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Although recent research has documented several positive effects of pet-keeping on the physical and psychological health of humans, problems with inappropriate behaviour of the pets may threaten these benefits. The aims of this study were to describe the behavioural characteristics, the frequencies of various behaviour problems, as well as the heritability of certain behaviour traits in domestic cat breeds. Behaviours related to the human-animal relationships, activity level, fear, and aggression were compared between Siamese, Persian, and the common non-pedigree domestic cat. The heritabilities of behaviour traits were calculated for the two pedigree breeds, each based on adult paternal half-sibs from about 20 breeding males. Questionnaires with a total of 109 questions were returned from owners of 245 Siamese and 286 Persian cats, as well as 230 non-pedigree cats and 70 cats of other breeds or mixed breeds. The return rate was 62.3% after a reminder. The average age of the cat owners were 42 years and 83% of the respondents were women. The frequencies of the various behaviour traits were reported on a 5-point scale from 'very often' to 'never'.

About 91% of the owners were very satisfied or satisfied with their cat. Siamese cats were reported to be more contact-seeking, staying longer in owner's lap, using more vocal communication, and be more playful and active than other breeds. Siamese cats showed more urine marking (spraying) and urination outside the cat toilet; 18% of Siamese cats, 5% of Persians and 3% of non-pedigree cats did this very often or often. Aggressive scratching or biting humans occurred very often or often in 10% of Siamese, 1.4% of Persian, and 6% of non-pedigree cats. Aggression towards other cats occurred in 15-16% of Siamese and non-pedigree cats, but only 5% of Persians. The non-pedigree cats more frequently behaved aggressively towards dogs in the household, but no differences in fear of dogs were reported. Often or very often fear of unfamiliar humans were reported in 17% of non-pedigree cats, 13% of Siamese, and 7% of Persians. Yet, Persians approached unfamiliar humans less frequently than Siamese cats, but more frequently than non-pedigree cats. Scratching furniture or other inappropriate objects occurred often or very often in 33% of non-pedigree cats, 27% of Siamese cats, and 13% of Persians. In general, fearfulness were most frequent among non-pedigree cats and least frequent among Persians.

The following behaviour traits showed the highest heritability estimates: The cat is active and playful ($h^2=0.37$); The cat seeks contact with unfamiliar humans ($h^2=0.31$); The cat seeks contact with unfamiliar children ($h^2=0.25$); The cat shows fear of unfamiliar humans ($h^2=0.25$); The cat shows fear of strong noise ($h^2=0.22$); The cat behaves friendly towards unfamiliar humans ($h^2=0.17$). This study showed that it is possible to estimate heritabilities of behaviour based on ordinally scaled parameters on questionnaires. Other behaviour traits including aggressions showed very low or no heritability. It is unknown to what extent this was due to the owners' imprecise knowledge of these traits in their cat. The highest heritabilities were found for playfulness, fear, and behaviour towards unfamiliar persons. These traits could be considered when selecting breeding animals in pedigree cat breeds, in order to increase further the proportion of cat owners which are satisfied with their cat.