

# **Indoor-housing of the Domestic Cat (*Felis silvestris catus*): a question of welfare**

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## Introduction

Indoor living has many benefits for the domestic cat, such as decreased risk of injury from fighting, and decreased exposure to disease. However, with a stimulating outdoor environment replaced by the more controlled environment of indoor living, the potential for the development of behavioural disorders may increase and thus constitute a welfare issue.

Traditionally, the outdoor domestic cat has been thought of as 'self-sufficient', with no need for companionship (Crowell-Davis, 2005). However, the indoor cat relies heavily on its owner to provide not only sustenance, but also mental stimulation. In addition, natural behaviours such as urine spraying and hunting are often suppressed when cats are kept indoors. Freedom to express normal behaviour forms part of the Five Freedoms, a set of guidelines proposed by the Brambell Committee in 1965 (reviewed in 1993) to establish basic welfare standards for animals in captivity (Webster, 1994). The restraint of normal behaviour constitutes a welfare issue, and therefore, clear standards for housing and care must be made that specifically address the behavioural needs of the indoor-housed cat.

## Discussion

Behavioural problems tend to occur more often in indoor-housed cats than in those allowed free access to the outdoors (Rochlitz, 2000), and with behavioural problems being the leading reason for euthanasia of pets (Overall, 1997), there is a potential welfare issue to consider when recommending that cats be housed exclusively indoors. A study by Rochlitz (2005) summarises the housing requirements of indoor cats in relation to their wellbeing, with emphasis on environmental enrichment. Environmental enrichment is important as it can lead to an increase in the number of natural behaviours included in an animal's behavioural repertoire, and may thus reduce the frequency of abnormal behaviour (Young, 2003).

Rochlitz (2005) addresses the importance of appropriate physical, sensory, occupational, and nutritional environments for cats housed exclusively indoors. Suggestions are made to provide catnip and grasses for sensory stimulation, as well as providing resting areas that consist of pillows, and elevated vantage points for the cat. The provision of scratching posts can stimulate natural marking and scenting behaviours, thus encouraging natural behaviour patterns. Emphasis on the need for appropriate social stimulation is also made. Rochlitz (2005) states that periods of time should be made available to the cat that do not include care-taking procedures, but rather involve social interaction between cat and owner. Appropriate social interaction requires knowledge of feline behaviour. Do cat

owners understand feline behaviour enough to respect their pet's behavioural needs, and respond appropriately? Few studies have looked at how the owner influences the cat's wellbeing.

Adamelli *et al.* (2005) investigated the cat-human relationship with regard to the quality of life of the domestic cat. In this study, three questionnaires were given to participants; these investigated the care, behaviour, and features (e.g., age, breed, disease status) of their cats, while one questionnaire addressed the owner's features (e.g., age, marital status, education). A physical exam of each cat was also completed to establish the level of physical health present.

A significant finding was that although 87.2% of the 62 cat-owner dyads investigated scored a medium quality of life total score (17.7% received a high total score), only 16.1% of cats did not show abnormal behaviour. This highlights the fact that while an owner may appear to provide for the cat as far as care and physical needs are concerned, behavioural needs are unlikely to be addressed. Therefore, while environmental enrichment can partially fulfil the needs of a house cat, human interaction is also a large factor in determining a cat's behavioural wellbeing.

Research shows that environmental enrichment reduces stress levels in confined animals (Young, 2003), but most of this evidence is collected from farm and laboratory animals, and not companion animals. One recent study conducted by McCobb *et al.* (2005) endeavoured to show a clear connection between cat stress levels and enriched versus impoverished environments. Although this study was carried out on shelter cats, the findings may be extended to include indoor-housed cats, as some similarities exist between the two, such as a reduction in environmental stimulation. However, the cat-owner relationship could not be explored in this study.

In the study by McCobb *et al.* (2005), 120 cats were randomly selected from four animal shelters. Two shelters were of the traditional style, while the other two were considered 'environmentally enriched' in that they were specifically designed with the cats' needs in mind. Cats' stress levels were measured by using a behavioural assessment scale, and with measurements of urine cortisol-to-creatinine ratios to evaluate physiological stress. Urine samples were collected from litter trays, and thus avoided undue stress on cats from clinical procedures.

A striking finding of this study was that the behavioural assessment did not correlate well with the cortisol-to-creatinine ratios in relation to stress levels, indicating that assessing a cat's stress level by observing behaviour is inadequate in evaluating its wellbeing. This is an important finding as it highlights the fact that by utilising behavioural assessment alone, we may underestimate cat wellbeing. However, McCobb *et al.* (2005) did find that cats in enriched environments showed lower

physiological stress than those in traditional shelters. Again this emphasises the fact that environment is important in relation to cat wellbeing.

### Conclusion

Although environmental enrichment does have a positive impact on the welfare of indoor-housed cats, methods to evaluate the adequacy of current recommendations may not be entirely reliable, especially in relation to the accurate measurement of stress levels. Further studies to ascertain what is sufficient in terms of environmental enrichment need to be completed, especially in relation to what cat owners need to provide in order to meet their cats' behavioural needs. Furthermore, veterinarians have an important role in improving the welfare of indoor-housed cats, not only through research, but also through educating their clients regarding appropriate environmental enrichment and social stimulation for their feline companions. In this way we can ensure that the welfare of indoor cats is equal to, if not superior to, that of cats housed outdoors.

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