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Factors affecting faecal glucocorticoid levels in domestic cats (*Felis catus*): a pilot study with single and large multi-cat households

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Abstract

Domestic cats (*Felis catus*) are widely believed to be highly sensitive to the effects of social stress, especially when living in high density populations. Cats are capable of adapting to living in a group, but this will often require opportunities for escaping and hiding. In this pilot study, adrenocortical activity, as a valuable physiological indicator of arousal underpinning potential emotional stress, was evaluated through the measurement of mean faecal glucocorticoid metabolites (mGCM) in fourteen singly and sixteen group-housed cats. Living conditions and ratings of the owners' quality of life (evaluated from self-reported questionnaires) were used as factors associated with faecal glucocorticoid levels of the cats. A direct association between the scores of owners' social dimension of quality of life and the cats' mGCM was found for single cats only, with higher owner social scores associated with higher cat mGCM. No significant differences in mGCM were found between singly versus group-living cats. This suggests that the under-explored factor of owner lifestyle could play an important role in domestic cats' day-to-day levels of arousal, especially when kept as single pets.

Keywords: animal welfare, cat, faecal glucocorticoids, feline, life quality, stress