

Behavioral Problems in Domestic Cats of Tehran

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Summary

Behavioral problems are very important because they are one of the most common reasons for the relinquishment of cats. In this study, the frequency of behavioral problems in 167 cats attending Small Animal Hospital, Faculty of Veterinary Medicine, University of Tehran, was evaluated with the use of a questionnaire. Interaction with other animals and people, outdoor access, breed, and sex of the cats were evaluated for association with the occurrence of the behavioral problems. Aggression towards people and other cats, Elimination problems, Scratching objects, Fearfulness, Attention seeking, Excessive grooming, Chasing small animals, Hiding, Vocalization in owner's absence, Obsessive behaviors and Eating fiber material were the behavioral problems evaluated in this study. Results showed that 94.6% of the cats were reported to have at least one behavioral problem with the mean number of behavioral problems for one cat being 2.71. Fearfulness, attention seeking, Aggression towards other cats/people, scratching, and Elimination problems were the most prevalent behavioral complaints reported by cats owners respectively whereas; obsessive behaviors were the least common behavioral complaints.

Data analysis revealed that inappropriate elimination is significantly more common in cats with outdoor access while interaction with other cats and people showed an association with scratching in cats. Intact female cats tended to seek less attention from their owners than their other counterparts. Breed assessment, on the other hand, showed that Persian cats are reported to have more elimination problems and less aggression problems towards people than DSH cats.

Key words: Behavioral Problem, cat, Tehran.

المشاكل السلوكية في القطط الاليفة في طهران نقاء تميمي و أ طالبي و أ مالمسي و ف تميمي و أ اميني كلية الطب البيطري / جامعة طهران

الخلاصة

المشاكل السلوكية في القطط مهمة جدا لكونها السبب الأكثر شيوعا وراء التخلي عن القطط. تمت دراسة هذا الموضوع عن طريق استبيان حول معدل حدوث الإختلالات السلوكية في 167 قطة تم احضارها إلى مستشفى الحيوانات الصغيرة التابعة لكلية الطب البيطري في جامعة طهران. بحثت هذه الدراسة إمكانية وجود ارتباط بين حدوث الإختلالات السلوكية و جنس القطة، فصيلتها، إمكانية خروج القطة من المنزل و أيضا تفاعلها مع سائر القطط أو الأشخاص. السلوك العدواني إتجاه الأشخاص أو القطط الأخرى، اضطرابات في البول و الخروج، خدش الأشياء، الخوف، السعي إلى جذب الإنتباه، مطاردة الحيوانات الصغيرة، الإختباء، اصدار ضجيج في غياب المالك، السلوك الوسواسي و تناول المواد الليلية، كانت السلوك المدروسة في هذا البحث.

أظهرت النتائج ان 94/6% من القطط أعلن عنها أنها تملك مشكلة سلوكية واحدة على الأقل بينما كان معدل عدد المشاكل السلوكية عند القطة الواحدة في هذه الدراسة 2/71. أخوف، جذب الإنتباه، السلوك العدواني أتجاه سائر القطط/الأشخاص، خدش الأشياء و اضطرابات في الإخراج كانت الأكثر شيوعا من بين شكاوى مالكي القطط بالترتيب؛ بينما السلوك الوسواسي كان أقل الشكاوى شيوعا. و كشف تحليل البيانات أن اضطرابات البول و الخروج أكثر شيوعا بشكل ملحوظ بين القطط التي تخرج من البيت بينما تبين أن تفاعل القطط مع القطط الأخرى أو الأشخاص لهما ارتباط مع خدش الأشياء عند القطط. بالإضافة إلى ذلك، تميل القطط الإناث السليمة (الغير معقمة) لألتماس أهتاماً أقل من أصحابها

بالنسبة الى غيرها. تقييم الفصيلة، من جهة أخرى، أظهر أن القطط الفارسية تعاني أكثر من غيرها من اضطرابات في البول و الخروج و تظهر سلوكا عدوانيا أقل اتجاه الأشخاص من نظيرتها DSH. الكلمات الرئيسية: الاختلالات السلوكية، القطط، طهران.

Introduction

Cats has increased in number and even surpassed the number of dogs in some countries (1, 2, 3). Because cats are easier to take care of than dogs (4, 5) and as a result of some cultural issues in countries like Iran regarding keeping pet dogs, the majority of people prefer to keep cats as pets.

Behavioral problem by definition is any behavior shown by an animal (in this context a cat) that is unacceptable to the owner. It includes behaviors such as marking that are normal feline behaviors, yet, in domestic environment, they become undesirable (6). Scratching and predatory behavior are other examples of normal but nuisance behavior of cats (7).

Behavioral problems are very important because they are one of the most common reasons for the relinquishment of cats (8). They have been known to be the reason behind the death and relinquishment of more pets per year than infectious, neoplastic, and metabolic diseases all together (9). A 2009 study indicated that 38% of cats were relinquished to a shelter because of their behavioral problems, the most common of which being aggression towards other cats (10). Among all behavioral problems aggression, scratching and inappropriate elimination have been the most common behavioral problems in cats, and have been associated with their relinquishment to shelters (11, 12).

From a public health point of view behavioral problems are also important because although the percentage of aggression problems is higher towards other cats than towards people, a high number of aggressive episodes are still directed towards people (13, 14).

Epidemiological studies can help us to understand the risk factors associated with behavioral problems and to use the best preventive measures. Since cats are solitary hunters in nature, their environment and domestication can have a great deal of influence on developing a behavioral problem but the results, however, can vary widely in different locations and studies. For instance, data that are obtained through a questionnaire to the general practitioners differ from those obtained through a consultation in a referral service (15). Although plenty of studies have been conducted regarding feline behavioral problems in some countries, notable studies haven't been undertaken along these lines in Iran. Our objectives were to describe the most common behavioral problems in a feline population attended the small animal hospital, Faculty of Veterinary Medicine, University of Tehran and to identify the association of sex, breed, interaction with other animals and people and outdoor access with the development of behavioral problems in the cat.

Materials and Methods

Study site and Subjects

A convenient sample was used from the caseload of the small animal hospital, Faculty of Veterinary Medicine, University of Tehran. From June 2008 to June 2009, owners who had referred their cats to the small animal hospital, University of Tehran for routine checkups, were interviewed and completed a questionnaire. 167 cats were included in the study. Cats under the age of 4 months were excluded from the study.

Data collection

A questionnaire was specifically developed for this study which included 40 behavioral questions. Basic information such as cat's age, sex, breed, outdoor access, its interaction with people other than family members and other animals (dogs, cats ...) were also recorded. The frequency of the following behavioral problems was evaluated: Aggression towards people and other cats, Elimination problems, Scratching objects, Fearfulness, Attention seeking, Excessive grooming, Chasing small animals, Hiding, Vocalization in owner's absence, Obsessive behaviors and Eating fiber material. The definitions upon which the behavioral

problems were presumably diagnosed are shown in Table-1. The frequency of these behavioral problems was assessed on the basis of owners' answers. Further questions regarding the owner's reaction to the unwanted behavior and his/her intention to seek help for the given problem were also asked.

Table-1: Definition of the behavioral problems upon which the presumptive diagnosis was made.

Behavioral problem	Definition
Fearfulness	Showing any sign of fear towards different targets
Attention seeking	The cat tries to attract its owner's attention
Aggression towards other cats	Expressing aggressive behaviors towards other cats, from mild to serious ex. biting
Aggression towards people	Expressing aggressive behaviors towards people (familiar or unfamiliar), from mild to serious ex. biting
Scratching objects	Scratching inappropriate objects in and around the house
Inappropriate elimination: Marking House soiling	Elimination in inappropriate spots in either of the two below: Spraying small amount of urine on specific spots specially vertical objects with the typical figure of marking and retaining normal use of litter box Complete evacuation of the bladder or bowels in inappropriate spots with loss of use of litter box
Vocalization in owner absence	The cat vocalizes when its owner is not around
Chasing small animals	The cat chases small animals like squirrels and birds if it gets the chance
Hiding	The cat tries to avoid interaction with its owner most of the time
Excessive grooming	The cat spends most of the day grooming itself
Obsessive behaviors	Expressing out of context behaviors that interferes with the cat's normal life
Eating fiber material	Tending to eat fiber material

Statistical Analysis

The Pearson Chi-square test was used to evaluate the correlation between occurrence of behavioral problem and interaction with other animals and people, outdoor access, breed, and sex of the cat. Confidence limit of 99% was used for chi-square test. A value of $p < 0.05$ was considered significant for the analysis. The statistical analyses were computed using SPSS 15.0 for Windows.

Results

167 cats were included in the study, 90 (53.89%) of which were female (24 neutered & 66 intact) and 77 (46.11%) were male (15 castrated and 62 intact). These cats were mostly domestic shorthairs (DSH) (86.8%); with the less proportion being Persian cats (12%) while

only 2 (1.2%) belonged to other breeds. The average age at evaluation was 3.88 years. The average age at which the cats were obtained was 4.84 months.

Assessing the results, 94.6% of the cats were reported to have at least one behavioral problem according to their owners. The mean number of behavioral problems in cats assessed in this study was 2.71 (median: 2). Only 19 (11.4%) of owners tended to take action in order to solve their cats' behavioral problem(s).

Amongst these cats, 37.1% had interaction with other cats (lived in multiple cat households), 16.2% had interaction with people while the rest 46.7% did not interact with other people or cats. Access to outdoor was reported for 53 (31.7%) of the cats in this study while the rest 114 (68.3%) were not reported to have outdoor access. The frequencies of behavioral problems are shown in table-2.

Table-2: Frequencies of behavioral problems reported in 167 domestic cats

Behavioral Problem	No. of cats reported with the problem	Percentage
Fearfulness†	76	45.5%
Fear of Dogs	47	
Fear of People	45	
Fear of cats	6	
Other fears	2	
Attention seeking	62	37.1%
Aggression towards other cats	55	32.9%
Aggression towards people	53	31.7%
Scratching objects	51	30.5%
Inappropriate elimination†	51	30.5%
House soiling	46	
Marking	7	
Vocalization in owner absence	25	15%
Chasing small animals	25	15%
Hiding	23	13.8%
Excessive grooming	19	11.4%
Obsessive behaviors	15	9%
Psychogenic alopecia	8	
Staring	7	
Eating fiber material	8	4.8%

Some cats may have multiple problem types, so the total may surpass the cat's number

Analyzing the data revealed that outdoor access of cats did not have any association with the occurrence of behavioral problems except for inappropriate elimination ($X^2=7.985$, $df=2$, $CI=99\%$ [0.006-0.028], $p=0.018$) and cats with access to outdoor were reported with more elimination problems than their counterparts. Interaction with other cats and people showed an association with scratching in cats' suggesting that cats with less interaction with people had more tendencies for scratching objects ($X^2=7.195$, $df=2$, $CI=99\%$ [0.014-0.040], $p=0.027$). Furthermore, attention seeking, appeared to have a correlation with the cats' sex in that intact females showed less tendency for attention seeking than other cats ($X^2=10.696$, $df=3$, $CI=99\%$ [0.010-0.015], $p=0.013$). And finally, the cats' breed showed to have association with aggression towards people ($X^2=8.668$, $df=2$, $CI=99\%$ [0.008-0.014], $p=0.013$) and house soiling ($X^2=5.743$, $df=2$, $CI=99\%$ [0.039-0.050], $p=0.044$). In other words, Persian cats were significantly reported to have more house soiling problems than domestic shorthair (DSH) cats, while they represented fewer tendencies for aggressive behaviors towards people than DSH cats.

Discussion

According to the current study 94.6% of cats were reported to have at least one type of behavioral problem according to their owners with the average number being 2.7 for each cat.

It should be stressed that fearfulness and attention seeking were the most common owner complaints according to the current study. Aggression towards other cats (32.9%), aggression towards people (31.7%), inappropriate elimination (30.5%) and scratching (30.5%) were also common and were reported with similar rates in the current study (Table-2). These results are different from those obtained in referral practices, for instance, Amat and colleagues reported aggression and elimination problems as the most common reported behavioral problems (11) with their results being similar to other referral practices (16, 17, 18, 19). However, the rate of 39% which was reported by the Association of pet behavior counselors (18) and Amat and colleagues (11) for inappropriate elimination appears to be close to the rate (30.5%) obtained in our study and the difference is only in the ranking of the behavioral problem. It is worth mentioning that the source of information can be a major factor in this difference. The data that has come from a referral practice and data obtained by questionnaire from general practice do not reflect the same information. The fact that owners might not refer their cats for specific behavioral reasons until some irritating behaviors (such as aggression or elimination problems) happen should also be kept in mind.

House soiling was reported in 48% of cats in one study, 69% of which were related to inappropriate elimination, 19% to marking behavior and the rest 12% belonged to both (20).

Relinquishment of cats was most associated with aggressive behaviors, scratching and inappropriate elimination (12). These behaviors were noted to be common in the current study (Table-2).

Human directed aggression is a very serious behavioral problem in cats. It was reported in 31.7% in our study while different rates have been cited by other studies (11, 21). This difference is also the result of multiple reasons, mainly the source of information.

Feline fear can be a true issue in cat behavior; a fact that was reflected in the results of this study as fearfulness was reported with the highest rate (45.5%). This is when the number of cats referred for their fear or phobic problems were as few as 6 out of 336 according to Amat (11). Is it only the source of information or are there other factors (such as the owner's expectation) involved, is open to debate.

The results of this study suggest that outdoor access can be a risk factor for elimination problem while cats with access to outdoors may show more elimination problems. Another possible risk factor which was associated with scratching problem was the cat's interaction with people/cats. In other words, whenever cats had less interaction either with cats or people they intended to scratch objects more; therefore having interaction with other people or cats can have a good impact on the cat's scratching behavior. Persian cats were indicated to have more elimination problems; a finding that has been cited by other studies (11). Persian cats also showed less aggressive behaviors towards people than their DSH counterparts. Takeuchi and Morio also found similar results in that Persian cats show mild aggression in comparison with other breeds (22).

In conclusion, knowing the rates of different behavioral problems in cats in addition to the knowledge of the mentioned risk factors could help prevent behavioral problems. The high number of cats reported with undesirable behaviors according to their owners in this study is important enough to convey the message that professional practitioners are needed to help overcome this problem by increasing awareness and educating owners and veterinarians.

References

1. PFMA, (2000). Pet Food Manufacturers' Association report. London.
2. Kendall, K., Ley, J., (2006). Cat ownership in Australia: barriers to ownership and behaviour. *J. Vet. Behav: Clin. Appl. Res.* 1, 5–16.

3. APPMA,(2008). American Pet Products Manufacturers Association, USA. Available at: www.americanpetproducts.org/.
4. Zaslloff, R.L., Kidd, A.H., (1994). Attachment to feline companions. *Psychol. Rep.* 74, 747–752.
5. Downey, H., Ellis, S., (2008). Tails of animal attraction: Incorporating the feline into the family. *J. Business Res.* 61, 434–441.
6. Casey, R.A., Bradshaw, J.W.S., (2008). Owner compliance and clinical outcome measures for domestic cats undergoing clinical behavior therapy. *J. Vet. Behav: Clin. Appl. Res.* 3, 114–124.
7. Horwitz, D.F., Neilson, J.C., (2007). Blackwell's Five-Minute Veterinary Consult clinical companion: Canine & Feline Behavior, first edition. Blackwell Publishing. 109-320.
8. Kass, P.H., 2007. Cat overpopulation in the United States. In: Rochlitz, I. (Ed.), *The Welfare of Cats*. Springer, The Netherlands, pp. 119–139.
9. Sigler, L., 1991. Pet behavioral problems present opportunities for practitioners. *AAHA Trends.* 4, 44-45.
10. Casey RA, Vandebussche S, Bradshaw JWS, Roberts MA, (2009). Reasons for Relinquishment and Return of Domestic Cats (*Felis Silvestris Catus*) to Rescue Shelters in the UK. *ANTHROZOOS.* 22(4), 347-358.
11. Amat M., Lu's R.J.T., Fatjo' J., Mariotti V.M., Wijk S.V., Manteca X.,(2009). Potential risk factors associated with feline behavioral problems. *Applied Animal Behavior Science*, 121: 134–139.
12. Souza-Dantas, L. M. de; Soares, G. M.; D'Almeida, J. M.; Paixao, R. L. ,(2009). Epidemiology of domestic cat behavioral and welfare issues: a survey of Brazilian referral animal hospitals in 2009. *Journal of Applied Research in Veterinary Medicine.* 7(3), 130-137.
13. August, J.R.,(1995). Dog and cat bites. *J. Am. Vet. Med. Assoc.* 193, 1394–1398.
14. Heath, S.,(2002). Feline aggression. In: Horwitz, D., Mills, D., Heath, S. (Eds.), *BSAVA Manual of Canine and Feline Behavioral Medicine*. BSAVA, Gloucester, pp. 216–228.
15. Fatjo' , J., Ruiz de la Torre, J.L., Manteca, X.,(2006). Epidemiology of small animal behaviour problems in dogs and cats: a survey of veterinary practitioners. *Anim. Welf.* 15(2), 179–185.
16. Blackshaw, J.K., (1985). Behavioral problems of cats part II. *Aus. Vet. Pract.* 15, 164-168.
17. Borchelt, P.L., Voith, V.L., (1987). Aggressive behavior in cats. *Continuing Educ. Art.* 49(1), 49-56.
18. Association of Pet Behaviour Counsellors,(2005). Annual review of cases 2005. UK, available at: www.apbc.org.uk/.
19. Bamberger, M., Houpt, K.A., (2006). Signalment factors, comorbidity, and trends in behaviour diagnoses in cats: 736 cases (1991–2001). *J. Am. Vet. Med. Assoc.* 229, 1602–1606.
20. Berteselli G, Cannas S, Michelazzi M, Volonte L, Palestrini C., (2008). Focus on feline behavioral disorders. Part I: Inappropriate elimination and marking. *Veterinaria .* 22(4): 21-26.
21. Beaver, B. V., (1989). Feline behavioural problems other than housesoiling. *Journal of the American Animal Hospital Association.* 25 (4): 465-469.
22. Takeuchi Y. and Morio Y. (2009). Behavioral Profiles of Feline Breeds in Japan. *Veterinary Medical Science.* 71 (8): 1053-1057.