

COMPARATIVE STUDY REGARDING SOME BEHAVIOR ASPECTS OF DOMESTIC FELINES RAISED INSIDE WITH AND WITHOUT THE POSSIBILITY OF GOING OUTSIDE

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Abstract

As the number of domestic felines in the shelters, as well as those raised in apartments is increasing, comparative researches have been made to point out the behavior modifications induced by their maintenance in captivity, without having the possibility of going outside and the eventual means of avoiding undesirable for behavior and welfare consequences. The main behavior manifestations of nine cats have been observed for 10 days, between 08 and 18 hours, using individual record cards, for each hourly interval of daily time. It has been noticed that for the cats maintained inside (group 1), the behavior manifestations of activity were 80.30 % out of the total studied manifestations, while the rest and abnormal behaviors were of 19.63%, respectively 0.37 %. The cats maintained with the possibility of going outside (group 2) have presented 71.13 % manifestations of activity, while the rest and abnormal behaviors were of 25.48 % and respectively 3.39%. The social behavior was more frequent for the cats from the group 1, because of a more frequent manifestation of affection behavior. For the cats in the group 2, play and aggressiveness had a higher ratio than for the ones maintained only inside. The hygiene behavior is higher for group 1, while the examination behavior is approximately the same in both cases, as well as the one for feeding and for defecating.

Key words: behavior, cats, raising inside, going outside

INTRODUCTION

Lately more and more people feel the need to have a pet. Only in Europe every third family has dog, a cat, a rabbit or a hamster, in Germany living 7,2 million cats, 5 million dogs, in France approximately 6 million dogs, in England about 8 million dogs, and in the United States of America live 45 million cats and 50 million dogs [9].

The cat can be considered a solitary animal in the relationship with men, with other cats or with other animals. This fact can be observed for cats raised at large. In conditions of captivity and affection (in apartment as a pet) the cat is less solitary and manifests affection towards the master.

Having in mind that numerous domestic felines end up from one reason or another in animals' shelters as well as a lot of them live in apartment and their possibility of going outside has raised. Thus, these solitary

animals, that were moving quite freely at large, are obliged to live in a group and/ or in conditions of serried captivity. The behavior problems for dogs and cats are an important cause for their euthanasia in specialized shelters or for abandoning of those animals raised as pets. [6], [8].

Behavior researches are needed in order to ground the possible unfavorable consequences of these life conditions over their welfare.

MATERIAL AND METHOD

The study has been made on 9 European common breed cats, split in two groups: a group containing 4 female cats, that have been maintained in apartment conditions, together with men, as pets (group I) and another group containing 5 females cats, that have been maintained in apartment conditions with the

possibility of going outside anytime, also raised as pets (group II).

The behavior of domestic felines in the two groups were followed for 10 days, the scheduling 08.00-18.00. Individual charts have been made in which the behavior manifestations have been recorded for each hour of the analyzed interval, charts that have two categories of behaviors: a category of common behavior manifestations of activity (alimentary behavior, defecation, scratching, searching the living space, aggressiveness, play and fear, food theft), from the recumbence behavior (resting behavior in several positions, sleep) as well as for abnormal behaviors and another category of behavior manifestations specific for the two groups. E.g. search behavior of cats from group I have been observed by taking into account the search of different objects, while for the cats in group II it has been observed how often they manifested the activity of going out at large. For the affection behaviors, the cats from group I have been observed for affection for their own kind and for men, while the cats in group II have been observed for activities of fur, ears, other cats' fur licking and rubbing among themselves activities.

The purpose of the research was to establish if there are differences among the behaviors manifested by cats and which are these for inside (partial liberty) maintenance compared to the possibility of going out at large (conditions of pseudo-total liberty).

After the collection of the raw data from the observation charts, these have been grouped in two time intervals, one in the morning (08.00-13.00) and an interval in the afternoon (13.00-18.00). Further on the statistical processing was made, obtaining the average and total number of behavior manifestations of each individual for the 10 study days, then the average and total number for all individuals from the analyzed lots. The percentage weight of different behavior manifestations from the total number of activities of the 10 studied days has been also calculated.

The data has been processed with the aid of the Microsoft Excel 2003 software program.

RESULTS AND DISCUSSIONS

Average number, total and the percentage weight of different manifestations studied from the total number

During the mornings cats from the group I have manifested in a proportion of 78.07% behavior manifestations of activity, while the repose and abnormal behaviors had an average of 20.13%, respectively 0.11% (Table 1). During the afternoons, the same cats have manifested an average of 82.54% activity behaviors, by 4.47 % higher than the mornings. The repose behaviors for cats in the group I had an average of 13.45 %, by 6.68 % lower than in the mornings. Abnormal behaviors had an average of 0.63%, by 0.52 % higher than mornings. During mornings the cats from group II have manifested an average of 70.52 % activity behaviors, while the repose and abnormal had an average of 26.87 %, respectively 2.61%. During afternoons, the same cats had manifested an average of 71.75 % activity behaviors, by 1.23 % higher than the mornings. The rest behaviors for cats in group I had an average of 24.10 %, by 4.16% lower than during the mornings. Abnormal behaviors had an average of 4.16 %, by 1.55% higher than during the mornings.

Among the activity behaviors during the morning, cats from the group I had the highest average of social behavior, 25.63 %, by 9.19 % lower than in the afternoons, when the cats manifested an average of 34.82 %. During mornings, the highest average among the activities of cats from group II was the social one 23.13 %, by 2.17 % lower than the afternoons, when the cats manifested an average of 25.30 %.

For cats in the group I, among the rest behaviors, the highest average was recorded by the lying laterally behavior (1.02 % during mornings and 1.06 % during afternoons), followed by the lying abdominally behavior or dorsal (0.74 % during mornings and 1.10% during afternoons).

Table 1
Average number, total and the proportion of different behavioral manifestations of their total number

Behavior type	Group I						Group II					
	Morning 8-13			Afternoon 13-18			Morning 8-13			Afternoon 13-18		
	To-tal	Average on hour	%	To-tal	Average on hour	%	To-tal	Average on hour	%	To-tal	Average on hour	%
Activity	736	14.7 ± 3.45	78.07	778	15.56 ± 2.43	82.54	433	8.66 ± 2.21	70.52	414	8.28 ± 2.41	71.75
<i>Food</i>	90	1.8 ± 0.83	9.53	88	1.76 ± 0.55	9.25	49	0.98 ± 0.22	7.98	44	0.88 ± 0.22	7.62
<i>Defecating</i>	55	1.1 ± 0.23	5.83	62	1.24 ± 0.56	6.52	43	0.86 ± 0.12	7.00	30	0.60 ± 0.21	5.20
<i>Scratching</i>	48	1.0 ± 0.33	4.84	23	0.46 ± 0.11	2.49	29	0.58 ± 0.23	4.72	22	0.44 ± 0.14	3.81
<i>Social, of w.:</i>	196	4.8 ± 1.88	25.63	247	6.84 ± 1.76	34.82	142	2.84 ± 0.44	23.13	146	2.92 ± 1.11	25.30
<i>Play</i>	8	0.2 ± 0.09	0.85	24	0.48 ± 0.10	2.52	24	0.48 ± 0.11	3.91	44	0.88 ± 0.43	7.63
<i>Aggressiveness</i>	73	1.5 ± 0.33	7.73	69	1.38 ± 0.83	7.26	59	1.18 ± 0.09	9.61	43	0.86 ± 0.13	7.45
<i>Affection</i>	115	2.3 ± 0.77	12.18	154	3.08 ± 0.98	16.19	32	0.64 ± 0.22	5.21	39	0.78 ± 0.15	6.75
<i>Food theft</i>	1	0.02	0.11	7	0.14 ± 0.06	0.73	16	0.32 ± 0.07	2.61	17	0.34 ± 0.06	2.94
<i>Fear</i>	1	0.02	0.11	1	0.02	0.09	11	0.22 ± 0.02	1.79	3	0.06	0.52
<i>Meowing</i>	66	1.3 ± 0.25	8.97	95	1.90 ± 0.33	10.41	69	1.38 ± 0.22	11.24	75	1.50 ± 0.15	12.99
<i>Searching</i>	158	3.2 ± 1.22	16.74	143	2.86 ± 1.33	15.03	81	1.62 ± 0.25	13.19	83	1.66 ± 0.83	14.38
<i>Hygiene</i>	191	3.8 ± 1.44	20.23	154	3.08 ± 1.45	16.19	20	0.40 ± 0.05	3.26	14	0.20 ± 0.09	2.43
Repose	190	3.8 ± 1.22	20.13	128	2.56 ± 0.83	13.45	165	3.30 ± 1.34	26.87	139	2.78 ± 1.12	24.10
- Standing. /sitting	45	0.9 ± 0.22	4.76	15	0.30 ± 0.09	1.58	80	1.60 ± 0.33	13.03	49	0.98 ± 0.07	8.49
- Lying abdominally	37	0.74 ± 0.11	3.92	55	1.10 ± 0.12	5.78	11	0.22 ± 0.05	1.79	21	0.42 ± 0.04	3.64
- Lying laterally	51	1.0 ± 0.24	5.40	53	1.06 ± 0.23	5.57	10	0.20 ± 0.11	1.63	10	0.20 ± 0.04	1.73
- Crouched (coil)	57	1.14 ± 0.33	6.03	5	0.1 ± 0.01	0.53	24	0.48 ± 0.23	3.91	22	0.44 ± 0.11	3.82
- Sleeping	17	0.34 ± 0.08	1.81	39	0.78 ± 0.13	4.10	40	0.80 ± 0.23	6.51	37	0.74 ± 0.12	6.41
Abnormal	1	0.02	0.11	6	0.12 ± 0.03	0.63	16	0.32 ± 0.10	2.61	24	0.48 ± 0.11	4.16

Hygiene behaviors for cats in group I had an average of 20.23 % during the mornings, by 4.04% higher than in the afternoon, when an average of 16.19 % has been recorded. For the cats in group II, hygiene behaviors had an average of 3.26 % in the mornings, by 0.83 % higher than the afternoons, when an average of 2.43 % has been recorded. The hygiene behaviors had a lower average for cats in group II compared to the cats in group I. Searching behaviors averages for cats in group I were almost the same for mornings (16.74 %), as well as for the afternoons (15.03 %). For cats in group II searching had

as well a similar average during mornings (13.19 %), and afternoons (14.38 %).

The food and defecating behaviors for cats in group I had almost the same average during mornings (9.53 % alimentary behavior and 5.83 % defecating behavior) and afternoons (9.25 % food behavior and 6.52 % defecating behavior). Scratching had a higher average in the morning 4.84 %, compared to the afternoons 2.49%. The food and the defecating behaviors for cats in group II had almost the same average in the mornings (7.98 % food and 7% defecation) and in the afternoons (7.62% food and 5.20%

defecation). Scratching behavior had a higher average during mornings 4.72 %, compared to the afternoons 3.81 %.

For cats from group II, among the repose behaviors, the highest weight was the

behavior of standing/ sitting both in the morning (13.03 %), as well as in the afternoon (8.49 %, by 4.54 % less than in the morning), followed by sleep (6.51 % during morning and 6.41 % in the afternoon).

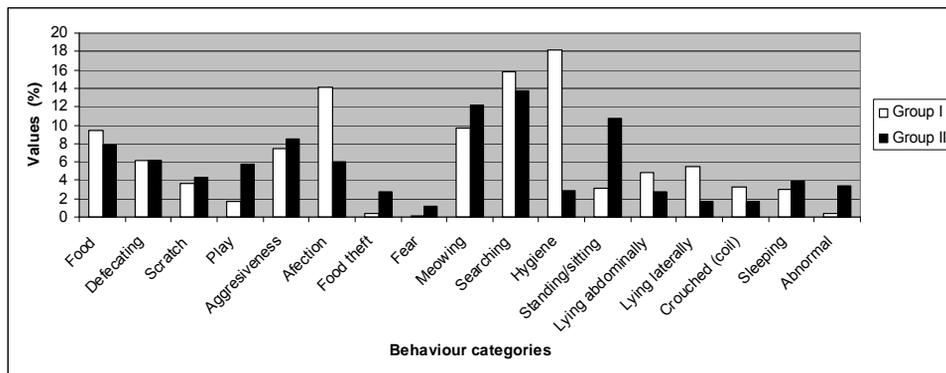


Figure 1. Structure types of behavior (%) in cats in the two groups between the hours 08.00-18.00

Proportion of different behavioral activities

Cats in group I showed a rate of 80.30 % activity behaviors, while the repose and abnormal manifestations were a proportion of 19.63 % and respectively 0.37 % (Figure 1).

From the category of social behaviors (30.22%), for cats in group I the highest average was recorded for affection (14.18%), meowing (9.69 %) and aggressiveness (7.49%).

Play behaviors (1.69 %), fear (0.10 %) and food theft (0.42 %) had a very small average.

Hygiene behaviors had an average of 15.85 % for cats in group II, while the searching behaviors had an average of 18.21 %.

Food and defecating behaviors had an average of 9.39 % and 6.17% respectively. The scratching behavior had an average of 3.66%.

From the repose category of behaviors, the highest average was recorded for the lying laterally behavior (5.49%) followed by the lying abdonminally (4.85%).

Crouched (coil) behavior had an average of 3.28 %, while the standing/ sitting

behavior had an average of 3.17%, and the sleeping behavior had an average of 2.95%.

The cats from group II manifested an average of 71.13% activity behaviors, while the rest and abnormal behaviors had an average of 25.48 %, and respectively 3.39 %.

From the social behaviors activities (24.22%) for cats in group II the highest average was recorded by meowing (12.12%), aggressiveness (8.53%) and affection (5.98%). The play behaviors had a higher average than group I (5.77%) but also the fear behaviors (1.16%) and food theft (2.78%) had a higher percentage than for cats in group I.

Hygiene behaviors had an average of 2.85% for cats in group II, while the searching behaviors had an average of 13.78%.

The food and defecating behaviors had an average of 7.80% and 6.10%. The scratching behavior had an average of 4.26%.

From the repose category of behaviors, the highest average was recorded for the standing/ sitting behavior (10.76%) followed by the sleeping behavior (6.46%). The crouched (coil) behavior had an average of 3.87%, while the lying abdonminally/ dorsal behavior had an average of 2.72%, and the

behavior of lying laterally had an average of 1.68%.

Aggressiveness for cats is more a defense mechanism, and it is more linked to insufficient food and their territorial behavior, cats not being aggressive towards men [3]. In a study conducted over cats and dogs behavior accomplished in Spain it is mentioned that 65% of the aggressive behavior cases is among cats [4]. Some researchers [5] have determined a weight of cats' aggressiveness of 12%, while others [1] have determined a weight of cats' aggressiveness of 9% which is similar to the one found in this study for group II. Some researchers [7] mention o weight of abnormal behavior for cats of 3.3%, similar to the one in this study for group II. Other researchers mention that the most frequent abnormal behavior problems for cats raised as pets are defecating in improper places (66% of the cases) followed by aggressiveness (25%) [2].

CONCLUSIONS

The group of cats kept as pets in indoor conditions (partial liberty, group I) found a higher percentage of events of activity compared with the cats kept as pet in indoor conditions with the possibility of opening to the outside (pseudo total liberty, group II) with 9.17%. This difference was due to the higher proportion of social hygiene behavior in cats in group I compared with the cats in group II. In social behaviors, the cats in group I held the highest share of affection and caterwaul behaviors, while the group II of cats share the highest meowing and aggressiveness behavior.

Food and defecating behaviors were approximately equal in both groups.

Rest behaviors had a higher weight for cats in group II compared to cats in group I. Abnormal behaviors were by 3.02% higher for cats in group II compared with the cats in group I.

Certainly further studies are necessary to determine precisely the share of various behaviors in cats kept as pets in different conditions.

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