

COMMUNITY CASE REPORT

Management of Free Roaming Cat Populations in Slovakia: Attitudinal Perspectives of Residents Engaged with Unowned Cats – A Community Case Report

Supplementary material

Questionnaire (English translation)

Red text has not been part of the questionnaire and provides explanation on functionality of an online survey.

Original questionnaire in Slovak language can be accessed via this link:

<https://forms.gle/Qr7aoVDhkZcVnjND9>

Cat population management in Slovakia – people working with unowned cats

Information about the study

We ask you to fill in this questionnaire which aims to obtain a better understanding of the current situation of domestic cat population management in Slovakia and is intended for anyone who is involved in any way in activities related to it (helping cats). The questionnaire is a part of the thesis of General veterinary medicine student at the University of Veterinary Medicine and Pharmacy in Košice (UVMP Košice) Ivana Bozikova, supervised by MVDr. Noema Gajdos Kmecová, PhD. The research was approved by the Ethics Committee of UVMP in Košice.

Information about the questionnaire

In the questionnaire you fill in answer 10-15 questions about yourself, your level of involvement in the cat population management in Slovakia and your opinions and preferences related to these activities. You will answer the questions by marking the options or writing your answers. In all questions your answer is mandatory, but in each question you have the option to choose or write "I do not wish to state".

The questionnaire will take you approximately 10-15 minutes to complete.

If you decide that you do not want to be part of this study, you can leave the form at any time up to the point of submitting the questionnaire. If your response is anonymous, once you submit your completed questionnaire, it will not be possible to identify you and therefore remove you from the study. If you provide your email address, you may withdraw your consent to participate in the study at any time by notifying the principal investigator at noema.gajdos.kmecova@uvlf.sk. From that time on, your email address will not be kept for more than one month.

If you have any questions about this study, if you would like to learn more about its results, or if you would like to participate in another, similar study on cat population management in Slovakia, you can contact us at: noema.gajdos.kmecova@uvlf.sk

Please indicate whether, on the basis of the above information, you agree to complete this questionnaire

- I am over 18 years of age, agree to complete the questionnaire and do so voluntarily. I do not wish to give my personal details and wish to complete it anonymously. (Skip logic to section: OPINIONS AND ATTITUDES)
- I am over 18 years of age, agree to complete the questionnaire and do so voluntarily. I am interested in participating in research on cat population management in Slovakia in the future (e.g. in the form of additional information, participation in focus group meetings, workshops, pilot application of management procedures) and therefore I also provide my contact email address and agree to the processing of my personal data in accordance with Section 13, paragraph 1) letter a) of Act No. 18/2018 Coll. on the Protection of Personal Data and on Amendments and Amendments to Certain Acts. (Skip logic to section: PROVIDING AN EMAIL ADDRESS)

PROVIDING AN EMAIL ADDRESS

If you are interested in participating in research related to cat population management in Slovakia in the future (e.g. in the form of additional information, participation in focus group meetings, workshops, pilot application of management practices), please provide your contact email address: (typed answer)

OPINIONS AND ATTITUDES

Note: If you are completing the questionnaire on a mobile phone, please turn the questionnaire horizontally ("landscape") for better viewing of the options and convenience.

Division into five distinct parts/"questions" is due to provision of convenient display when filling the online survey, so the row with answer options is visible when reading the statement. Answer options were as follows: Strongly agree, Agree, Neither agree nor disagree, Disagree, Strongly disagree, I do not wish to state

Please indicate how much you agree/disagree with the following statements (1/5):

- Organisations helping unowned cats should decide which cats to take in
- Free-living cats should be regularly counted to measure the impact of neutering programs
- Euthanasia is acceptable for cats whose life would be highly likely to be associated with suffering (e.g. a trapped street cat with no history of close contact with humans, diagnosed with an illness/injury with an uncertain prognosis requiring long-term hospitalization)
- The time the cat spends in the shelter/foster care should be as short as possible
- Not all cats can be pets

Please indicate how much you agree/disagree with the following statements (2/5):

- Cats that don't have an owner are always better off in a shelter/temporary care than on the street
- Cat neutering programmes should also have a preparation and planning phase
- Organisations helping unowned cats should always be able to find a place for a cat that needs help
- Select "Agree"
- Every cat benefits from handling ("handling" - touching the cat, stroking)

Please indicate how much you agree/disagree with the following statements (3/5):

- Organisations helping unowned cats should collect information about the cats in their care and analyse it to measure the impact of their work
- The communication, data collection and information technology skills of people working with unowned cats can help improve the welfare of cats
- All cats should have a loving home
- Cats should remain in a shelter/temporary care until an ideal home is found for them
- Kittens (cats up to 6 months of age) should be part of a spay/neuter program, i.e. trap-neuter-release to the original or new location.

Please indicate how much you agree/disagree with the following statements (4/5):

- All unowned kittens (cats up to 6 months of age) should go to a new home with their owner.
- Select "Strongly disagree"
- Organisations helping unowned cats should have a thorough process for selecting prospective owners for the cats in their care
- The decision to humanely euthanize a cat whose recovery from illness/injury would be associated with great stress (e.g. due to overcrowding in a temporary care facility) is the correct one
- Cats should be respected as a unique species that is different from other animal species, including humans

Please indicate how much you agree/disagree with the following statements (4/5):

- Anyone who performs cat neutering events (trap- neuter- return) should be trained to do so
- All cats placed in a cage should have a place to hide
- It would be hard for me to refuse to take an unowned cat into a shelter/foster care, I would prefer to help them all
- All cats, even feral ones, will find their way to a human with enough love and patience
- Organisations helping unowned cats should cooperate with each other whenever possible

CHALLENGES AND EDUCATION

Which aspect of working with cats do you find the most challenging (multiple choice)

- Working with people
- Taking the time to plan and review previous activity
- Managing challenging cases requiring veterinary care for cats
- Making decisions on quality of life of cats
- Managing social networks, creating albums and posts
- Decision-making on euthanasia
- Finding the right owner for cats in shelter/foster care
- Deciding on the future of cats that have been for too long in the shelter or in foster care
- Deciding which cats will be taken into shelter/foster care and which will not
- Communication with local authorities and municipalities
- Deciding on the fate of kittens from colonies of free-living cats
- Determining when a cat is suffering from stress
- Determining when a cat is unwell or in pain
- Getting finances
- I do not wish to state
- Other (typed answer)

Please indicate your level of interest in a topic of education that would be helpful in your work with cats:
(multiple choice)

- Cat behaviour
- Planning an effective neutering programme (trap- neuter- return)
- Cooperation with other organisations
- Self-evaluation and measuring the impact of my work
- Different categories of domestic cat lifestyles and appropriate care
- Strategies for helping cats that are not suitable for shelter/foster care
- Helping stressed cats
- Helping cats that are unwell or in pain
- Help with difficult decisions
- Data collection and analysis
- Communication with people
- I do not wish to state
- Other (typed answer)

Which of the following statements do you agree with (tick all that you agree with):

- Nothing prevents me from learning new things
- I don't want to learn more about working with cats
- I don't need to learn more about working with cats
- I don't think that learning will affect the way I perform my work with cats

- I don't have the mental capacity to learn new things that would help me when working with cats
- I don't have the physical capacity to learn new things that would help me when working with cats
- I'm not sure what training I should take part in
- I don't have enough support from my peers to learn new things that would help me in my work with cats
- I don't have enough equipment (e.g. computer, internet access) to be able to learn new things that would help me when working with cats
- I don't have the money to pay for my education
- I don't have time to learn new things
- I do not wish to state

BASIC QUESTIONS

What is your age? (typed answer) _____

What is your gender/sex? (Slovak language only has one term “pohlavie”)

- Female
- Male
- I do not wish to state
- Other (typed answer)

How many years have you been working with/helping unowned cats (strays, street cats, feral cats)
(typed answer) _____

How would you classify the work you do?

- Caring for cats in the facility of the civic association/shelter and/or finding homes for these cats
- Foster care for unowned cats (in your own home)
- Spay/neuter programme (trap-neuter-return/release)
- Care for cats in colonies (outdoors, near human dwellings)
- Media coverage of the topic of cat management and care
- I am a veterinarian, dealing (also) with the issue of management and care of cats (e.g. veterinary practice- cooperation with civic associations, shelters, state administration, research, education)
- Administrative and/or legislative work related to cat population management (I am not a veterinarian)
- Academic activity- research and education in the field of cat management and care (I am not a veterinarian)
- I do not wish to state
- Other (typed answer)

Are you part of an officially established organization helping cats (city shelter, civic association, charity)?

- Yes (Skip logic to section: QUESTIONS FOR MEMBER OF ORGANISATIONS HELPING CATS)
- No (Skip logic to section: THE END)
- I do not wish to state (Skip logic to section: THE END)

QUESTIONS FOR MEMBER OF ORGANISATIONS HELPING CATS

Are you paid for your work in an officially established organization helping cats (municipal shelter, civic association, charity)?

- Yes
- No
- I do not wish to state

How many people, other than yourself, are actively working for this organization (including staff and volunteers)?

- Up to 10 people
- 11-20
- 21-50
- 50 and more
- I do not wish to state

THE END

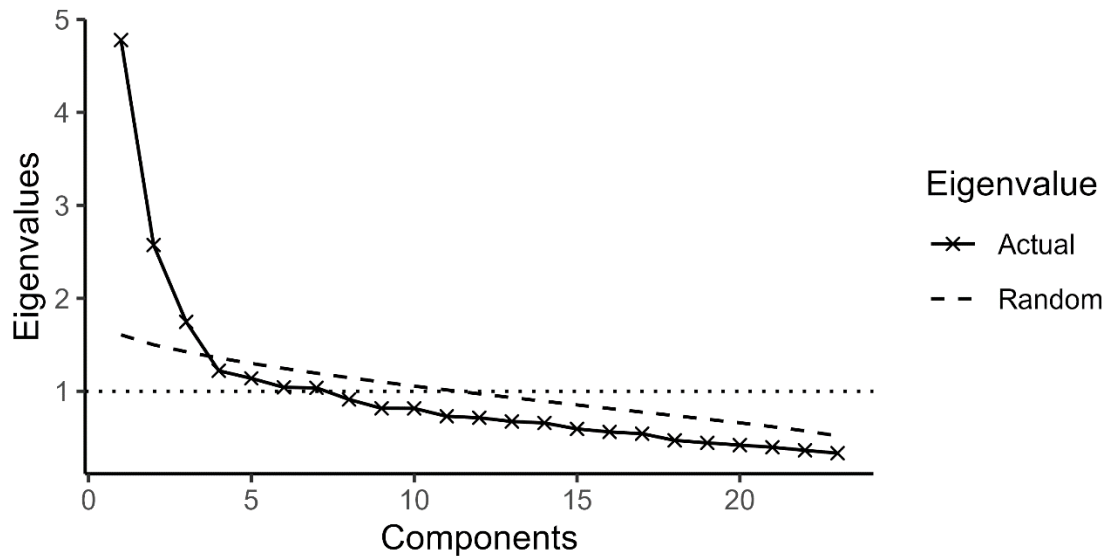
Select the appropriate:

- I have paid attention to completing the questionnaire and you should take my answers into account
- I did not pay attention to filling in the questionnaire and you should not take my answers into account

If you would like to share with us your additional views, attitudes and insights that you feel are important to mention, please use the space of this question to do so. _____ (typed answer)

Supplementary Figure 1

Parallel analysis scree plot



Three factors were above the parallel analysis expectation (random value) and two just below it. Seven factors had eigenvalues above 1 (Kaiser's Criterion), but only five were more than barely above it. Furthermore, three and four factor models showed a significant goodness-of-fit test, while five factor model did not [$\chi^2(148) = 159$. $p = .25$]. Taking into account all the measures, the five factor solution was deemed a satisfactory choice for number of factors.

Supplementary Table 1

Loading from 5-factor analysis with varimax rotation

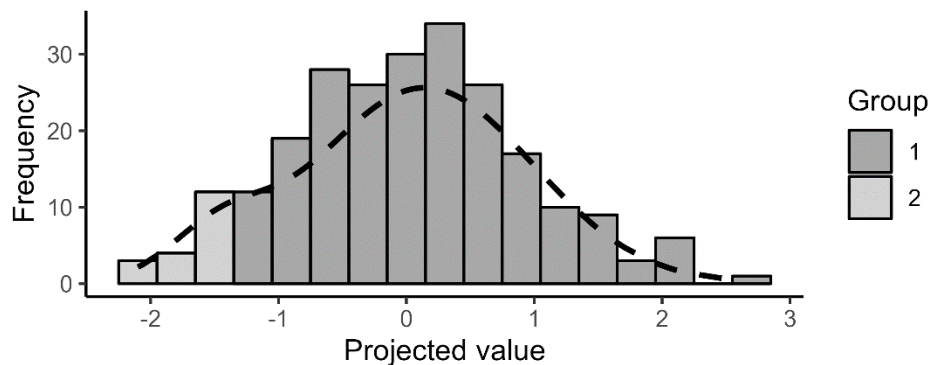
	Loadings				
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
24. All cats, even feral ones, will find their way to a human with enough love and patience	0,671	0,02	0,218	-0,106	0,078
10. Every cat benefits from handling ("handling" - touching the cat, stroking)	0,622	0,217	-0,157	0,106	0,088
5. Not all cats can be pets	-0,581	0,042	0,158	0,222	-0,114
6. Cats that don't have an owner are always better off in a shelter/temporary care than on the street	0,516	0,236	0,148	-0,12	0,368
13. All cats should have a loving home	0,479	-0,003	0,356	-0,137	0,369
8. Organisations helping unowned cats should always be able to find a place for a cat that needs help	0,401	0,197	0,24	0,024	0,083
16. All unowned kittens (cats up to 6 months of age) should go to a new home	0,398	0,11	0,275	0,014	0,104

with their owner.					
1. Organisations helping unowned cats should decide which cats to take in	-0,34	0,162	-0,003	0,182	0,096
11. Organisations helping unowned cats should collect information about the cats in their care and analyse it to measure the impact of their work	0,055	0,67	0,16	0,097	0,136
2. Free-living cats should be regularly counted to measure the impact of neutering programs	0,146	0,609	0,142	-0,049	-0,026
12. The communication, data collection and information technology skills of people working with unowned cats can help improve the welfare of cats	0,058	0,574	0,283	0,058	0,207
7. Cat neutering programmes should also have a preparation and planning phase	-0,005	0,461	0,252	0,019	0,105
21. Anyone who performs cat neutering events (trap - neuter - return) should be trained to do so	-0,003	0,262	0,18	0,078	0,031
15. Kittens (cats up to 6 months of age) should be part of a spay/neuter program, i.e. trap-neuter-release to the original or new location.	0,211	0,259	-0,003	0,123	-0,01
25. Organisations helping unowned cats should cooperate with each other whenever possible	0,099	0,2	0,568	-0,086	0,151
23. It would be hard for me to refuse to take an unowned cat into a shelter/foster care, I would prefer to help them all	0,344	0,005	0,496	-0,04	0,017
22. All cats placed in a cage should have a place to hide	0,012	0,197	0,491	0,099	0,038
18. Organisations helping unowned cats should have a thorough process for selecting prospective owners for the cats in their care	0,017	0,154	0,436	-0,061	0,272
20. Cats should be respected as a unique species that is different from other animal species, including humans	0,055	0,114	0,395	-0,057	0,006
4. The time the cat spends in the	-0,079	0,234	0,384	-0,108	-0,109

shelter/foster care should be as short as possible					
19. The decision to humanely euthanize a cat whose recovery from illness/injury would be associated with great stress (e.g. due to overcrowding in a temporary care facility) is the correct one	-0,106	-0,017	-0,055	0,86	-0,022
3. Euthanasia is acceptable for cats whose life would be highly likely to be associated with suffering (e.g. a trapped street cat with no history of close contact with humans, diagnosed with an illness/injury with an uncertain prognosis requiring long-term hospitalization)	-0,128	0,221	-0,098	0,498	-0,119
14. Cats should remain in a shelter/temporary care until an ideal home is found for them	0,316	0,239	0,098	-0,101	0,747

Supplementary Figure 2

Cluster analysis projection histogram – projection of the data onto the line between the two group means



Using a clustering method employing a Gaussian mixture model, two clusters were identified, both characterized by a spherical covariance matrix - describing factor scores by a dot plot in the form of two circular clusters (BIC = -3025) was preferred to characterizing them as a single circular (BIC = -3035) or ellipsoidal cluster with correlations (BIC = -3094). Group 2 initially appears separate from group 1 (the mean from group 2 is at the 94th percentile of the marginal distribution of group 1, i.e. 6% of the group 1 lies beyond the mean of group 2) but is considerably smaller in size, so its contribution to overall shape is adding a “shoulder” or a corner to group 1, see Supplementary Figure 2 above.