

Feral Cat Behavioral Analysis and Socialization: Synthesizing Shelter and Community Member Methods

By Haley Mech

Mentor: Dr. Michele Romolini

Abstract: Feral cats have become an increasing problem for cities and rural areas, as they affect human lives and wildlife. Management strategies of varying humane consideration such as Trap Kill and Trap Neuter Release are being implemented, but rely on the removal of potentially adoptable individuals. Shelters and animal control agencies struggle to identify socialized cats that can be placed in a home instead of being released or euthanized. Grassroots rescues, advocacy groups, and cat lovers often socialize kittens and cats with positive association and run their own Trap Neuter Release programs. It can be investigated that if their method of socialization is combined with current tests to determine socialization levels of feral cats, more social cats could be identified, thus preventing euthanasia. By using food as a positive association, cats who are shy but social may come out of their shells when tested in a three week study in a low unfamiliar stimulus environment.

Feral Cat Behavioral Analysis and Socialization: Synthesizing Shelter and Community Member Methods

Introduction

Feral cat populations exist tangent to human civilization all over the globe, and have done so since antiquity. According to the Merriam-Webster Dictionary, feral means “of, relating to, or suggestive of a wild beast,” yet it is understood that feral cats are a domestic species invading natural ecosystems (Hall). Colonies of cats cannot easily be categorized as either wild or domestic since they originate from abandoned pets and are not homogeneous. “Community cats” is the new term used by organizations such as the Humane Society of the United States to better describe populations as a whole (Kortis).

Community cat populations consist of socialized and unsocialized individuals. Socialized individuals live close enough to humans, had positive human contact as kittens, are unsterilized pets allowed to roam, have been abandoned, or have escaped. Unsocialized individuals had little to no human contact before age 6-8 weeks, had negative experiences with humans, or were possibly abused owned animals and now not sociable to humans (Phillips). The word “feral” now is used to refer to the latter category of cats unsocialized due to lack of positive human contact.

Community cats and their behaviors are often misunderstood. Fear is the main motive behind cats’ actions, making them much more likely to hide or flee than to attack another cat or a human (Rodan). In cases where a cat does act with intention to injure a human, it is usually a last resort and a result of fear. What can be even more confusing to humans is cats’ natural instinct to hide signs of pain or fear either by fleeing or showing little affect (Rodan).

Animal shelters across the United States struggle to identify which category of socialization many cats they receive would fall into because both socialized and unsocialized cats show signs of fear

in unfamiliar environments. A better way to analyze their behavior is necessary to prevent the euthanasia of cats who may have been socialized, but are fearful.

Background

Local governments and independent organizations have been called upon to manage community cat populations because of nuisance behaviors, such as spraying or yowling for territorial or mating purposes, and due to a fear of cats serving as vectors for diseases such as rabies (Hughes). Wildlife organizations also complain that hunting patterns of community cats interfere with conservation efforts (Hall). Cats are often euthanized or relocated to control the problem, but these methods are ineffective. When cats are removed or euthanized, this leaves their territory open and attractive to other cats, creating a vacuum effect (Kortis). The vacuum effect ends up resulting in an increase of cats in the area cats were originally removed from. Trapping and euthanizing cats also creates a moral issue between shelters and no kill advocates (Winograd). Constant euthanasia becomes a financial burden on shelters and animal control services as well (Kortis).

The most effective way to manage community cat populations in the long term is a broad Trap Neuter Release (TNR) program (Levy). TNR is not widely used because it requires coordination to be effective and does not show great results in the first year (Kilgour). However, TNR is considered the most humane because cats are vaccinated and allowed to live out their lives, and in a six year study showed results of a lower population and less euthanasia in shelters (Hughes). TNR also relies on the removal of kittens and adoptable individuals to be placed into homes instead of being released.

Released cats are marked and watched over by a caretaker that provides some food, monitors the health of the cats, and watches for new individuals and kittens. Nuisance behaviors are also less common in sterilized colonies, making cats easier to live alongside (City of Long Beach).

Local cat lovers often undertake TNR type efforts, removing kittens and adoptable individuals themselves and socializing them. Kittens younger than 6-8 weeks respond best to socialization, but older individuals have responded as well (Phillips). Common methods used to socialize kittens include using food to positively associate humans with and reduce fear. When humans are always accompanied by food, kittens build trust more effectively, learning to eat off a human's finger or allowing themselves to be held while eating (Neukum).

Owned cats often are fearful when taken into see a veterinarian, reacting negatively to being handled in an unfamiliar environment (Rodan). From this, it can be concluded that community cats, having been trapped and brought into a shelter, feel fearful since they may have never been inside before, much less surrounded by other animals and humans that cats can see, hear, and smell constantly.

A study was conducted by leading veterinarians and behaviorists with the American Society for the Prevention for Cruelty to Animals to categorize the socialization of owned and unowned cats (Slater, "Practical Physical and Behavioral Measures"). The cats were placed in an unfamiliar environment and underwent a series of tests, such as being presented a novel object or touched with a rod. The study found that over a three day testing period, positive, social behaviors such as chirping and kneading did not appear in more than half of the cats known to be social until the third day, if at all. Before the testing period, cats were given three days to adjust to their environment, but it appears that many were still too nervous to display social behavior. Also, the cats were in an environment where multiple cats could be observed at once, suggesting they could sense each other, which may have affected a cat who may have previously had to fight other cats for food or territory. This leads me to believe that the way shelters test the socialization of cats may not be identifying all social cats. I aim to

investigate how we can better evaluate the social level of community cats brought into shelters by making the environment calmer and building positive associations with human contact, thus combining shelter methods of analysis with kitten socialization techniques.

Methods

I propose to partner with a Los Angeles organization such as Kitty Bungalow: Charm School for Wayward Cats, which socializes and fosters feral kittens and runs a TNR program, and the Wallis Annenberg PetSpace, which is an animal adoption facility and research supporter on the human-animal bond with a partnership with Loyola Marymount University.

Cats deemed as feral or not suitable for adoption by a shelter will be received in small groups of around 10 at a time, every three weeks over the course of about a year, so as to be easier to house, until we reach a total of 200 cats. Annenberg PetSpace receives animals from LA County Shelters, so a connection can be established with a county shelter to receive feral cats from them. All participating cats will be basically medically evaluated and vaccinated. Cats who do not pass the medical exam will be excluded from the study. Annenberg PetSpace has cat suites that prevent cats from having the same high level of sensory stimulation that a shelter would, so it would be preferred to house the cats with them, in identical but separate environments. Cameras will be installed to closely monitor cat behavior. Professionals such as veterinarians and animal behaviorists will help analyze the behavior in the footage, and volunteers that help at Annenberg PetSpace or Kitty Bungalow will be asked to volunteer for the duration of the study.

The study will be conducted in three phases. If at any point a cat fails to pass on to the next phase within a week, they will be removed, neutered, and released with the aid of Kitty Bungalow's TNR program. The first phase will be letting the cats adjust to their new environment. In previous

studies, this cooling off phase lasted three days (Slater, “Practical Physical and Behavioral Measures”). The length necessary for this period may differ from cat to cat, so a cat will move from Phase One to Phase Two when nervous behavior is no longer displayed or if positive social behavior is displayed when a human volunteer walks past the front of their suite.

Phase Two will involve a human entering a cat’s suite while the cat is eating twice a day, limiting eye contact. This can help build or rebuild trust in humans in more social cats. If the cat eats while in a human’s presence, the human may subtly attempt to move closer to the cat in this session and the next. If the cat moves away, the human should back off. This will continue for another week if needed to allow the cat to feel comfortable in the human’s presence.

Phase three will be building upon phase two, but the human shall attempt to pet the cat on their back while the cat is eating. If the cat shies away, the human should return to their position, not chasing the cat or forcing contact. The human may try again after giving the cat time to resume eating.

Expected Results

From the videos and using elimination after failing a phase, we should be able to categorize the cats into different levels of socialization and determine which are ready for adoption, which could use some socialization but have potential, and those that are totally unsocialized. It is that middle group that are the most in danger of being euthanized unnecessarily. The goal is to create a more clear cut system to better determine if every cat has adoption potential and prevent euthanasia. If animal behaviorists’ analyses are gathered and utilized beforehand, and video examples taken from the experiment are distributed, it would be easier for rescue groups and shelters to better analyze their own cats. A video guide would be created at the end of the study explaining the procedure and how it could

be replicated, along with an article detailing the study to be published in a veterinary or animal behavior journal.

Conclusion

Feral or community cats are often misunderstood by the public, which boils down to misinformation and poor education about their lives and behavior. The main goal of this research is to prevent euthanasia by saving the most at risk cats and behavior profiles. Fear is what has kept feral cats alive for centuries, and it is hard to break down and understand that fear. We need better tools to do so. Rescue groups and big shelters often do not communicate as well as they could, even though they usually have the same goal. By synthesizing the two points of view, I can hope that more groups will get involved in TNR programs and better monitor the behavior of their cats.

References

“Community Cats.” *Animal Care Services*, City of Long Beach, www.longbeach.gov/acs/wildlife/community-cats/.

Hall, Phoebe. "Kitty the killer? The raging debate over feral cats." *E*, Sept.-Oct. 2003, p. 14+. *Environmental Studies and Policy Collection*, <http://link.galegroup.com/apps/doc/A108149585/PPES?u=loym48904&sid=PPES&xid=aeaa3836>. Accessed 25 Nov. 2018.

Hughes, Kathy L., et al. "The Effects of Implementing a Feral Cat Spay/Neuter Program in a Florida County Animal Control Service." *Journal of Applied Animal Welfare Science*, vol. 5, no. 4, Oct. 2002, pp. 285–298. *EBSCOhost*, electra.lmu.edu:2048/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=9442439&site=ehost-live&scope=site.

Kilgour, R. J., et al. "Estimating Free-Roaming Cat Populations and the Effects of One Year Trap-Neuter-Return Management Effort in a Highly Urban Area." *Urban Ecosystems* 20.1 (2017): 207-16. *ProQuest*. Web. 14 Oct. 2018.

Kortis, Bryan, director. *Feral Cats. Outdoor Cats: The Humane Society of the United States*, Humane Society of the United States, 2007, m.humanesociety.org/issues/feral_cats/?credit=web_id283904620.

Levy, J.K., et al. "Effect of High-Impact Targeted Trap-Neuter-Return and Adoption of Community Cats on Cat Intake to a Shelter." *The Veterinary Journal*, vol. 201, no. 3, 5 May 2014, pp. 269–274., doi:10.1016/j.tvjl.2014.05.001.

Neukum, Cathe, and Daniel Breton. *Tough Love: Socializing Feral Kittens. Tough Love Video - UrbanCatLeague*, American Society for the Prevention of Cruelty to Animals, 2008, www.urbancatleague.org/TamingVideo.

Phillips, Mike. "Feral FAQ." *Feral FAQ - UrbanCatLeague*, Urban Cat League, 2002, www.urbancatleague.org/FeralFAQ.

"Relocating Feral Cats." *Resources: Relocating Feral Cats*, Best Friends Animal Society, 2 Aug. 2016, bestfriends.org/resources/relocating-feral-cats.

Rodan, Ilona. "Understanding Feline Behavior and Application for Appropriate Handling and Management." *Topics in Companion Animal Medicine* 25.4 (2010): 178-88. *ProQuest*. Web. 16 Oct. 2018.

Slater, Margaret. "How Many Cats Do We Need to Sterilize to Reach Zero Population Growth?" *ASPCApro*, American Society for the Prevention of Cruelty to Animals, 24 Feb. 2017, www.aspcapro.org/blog/2017/05/05/how-many-cats-do-we-need-sterilize-reach-zero-population-growth.

Slater, Margaret, et al. "Practical Physical and Behavioral Measures to Assess the Socialization Spectrum of Cats in a Shelter-Like Setting during a Three Day Period." *Animals* (2076-2615), vol. 3, no. 4, Dec. 2013, pp. 1162–1193. *EBSCOhost*, doi:10.3390/ani3041162.

Wagner, Melanie. "Welcome to Kitty Bungalow Charm School for Wayward Cats!" *Kitty Bungalow-Charm School for Wayward Cats | Adoption | Los Angeles*, 2017, www.kittybungalow.org/.

Webster, Noah. "Feral." *Feral | Definition of Feral*, Merriam-Webster, Incorporated, 2018, www.merriam-webster.com/dictionary/feral.

Winograd, Nathan J., editor. *Defining No Kill. Defining No Kill*, No Kill Advocacy Center.

Budget Estimate

Category	Item	Per Cat in a Max. 3 Week Period	Per 200 Cats/Length of Study
Cat Care	Royal Canin Wet Food	\$17.87	\$3,573.50
	Royal Canin Dry Food	\$6.65	\$1,329.69
	Bowls	\$6.00	(reusable) \$60.00
	Litter (Made from recycled paper)	\$2.58	\$515.43
	Litter Boxes	\$22.99	(reusable) \$229.90
	Scratching boards	\$12.34	\$2,468.00
	Blankets	\$3.18	\$95.40
	Toys	\$3.49	(reusable) \$34.99
			Total: \$8,306.91
Cleaning	Cleaning Products (Rescue/Accel disinfectant)	N/A	\$206.36
	Rags	N/A	(reusable) \$29.00
	Vinyl Gloves	N/A	\$69.00
			Total: \$304.36
Veterinary Needs	Evaluation	\$50.00	\$10,000.00
	Minor Treatment (such as for fleas/ticks)	\$20.00	\$4,000.00
	Vaccinations	\$25.00	\$5,000.00
	Sterilization	\$80.00	\$16,000.00
			Total: \$35,000
Staff	Volunteers	N/A	N/A
	Video Evaluators	N/A	\$5,000
			Total: \$5,000
Misc.	Cameras	\$25.00	(reusable) \$250.00
	Transportation	\$2.00	(5 cats/car) \$80.00
	Carriers	\$21.00	(reusable) \$210.00
			Total: \$500.00

Grand Total: \$49,151.27