Independent Study 490A: Does Handling of Kittens Improve Over 5 Consecutive Days of Handling?

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Summary and Implications

The adoptability of an animal from a shelter largely depends upon its socialization and friendliness towards humans. For kittens, habituation and proper socialization is an important part of ensuring that the adult cat it will be able to interact properly with humans, thus reducing its chance of being relinquished in the future. In addition, kittens that have been relinquished or placed into a shelter are often subject to several stressors that may impact not only the well-being of the kitten but impair further socialization attempts. The objective of this study was to determine if the kittens' responses to handling tests improved over a period of 5 consecutive days. This study was conducted at the Animal Rescue League of Iowa (ARL-IA), and involved 14 neonate kittens of mixed sex and breed, between 6 and 8 weeks of age. The treatment was five consecutive days of handling. During treatment kittens were exposed to several handling tests. Data will be presented descriptively. Kittens over the five days scored on average a 1 for the majority of handling tests which indicates a calm kitten. On days four and five, kittens allowed for their rear paws to be held for the maximum 10-s. For front paws on day 4 kittens allowed their paws to be held 9-s but by day 5 this had dropped to 6-s (front left) and 7-s (front right) s respectively. In conclusion, though kittens did not tolerate their front paws being handled as long as rear paws by day five. Overall handling tests conducted on the kittens did not result in any aversive reaction from the kitten to the handler. This data could be useful in further developing socialization and acclimatization programs for kittens in shelters, thereby increasing their adoptability and overall well-being, both in the present and the future.

Introduction

Kittens relinquished into a shelter may be subjected to a barrage of novel or unfamiliar situations that may negatively impact the well-being of each individual kitten. Stressors may include other animals, people, the design of the facility, the process of transporting the kitten to the shelter, and changes in environment and nutrition. Stressors that affect a kitten may vary in time, intensity, mode, and degree of novelty, as well as in how they affect the kitten itself while the kitten is developing coping mechanisms to deal with both the acute and chronic stresses it is undergoing (Broom and Johnson 1993). However, it may be possible to reduce and/or eliminate the stressors that can act individually or in concert that ultimately affect the kitten during its time at a shelter. Handling of the kitten by humans routinely may result in habituation, improving the kittens' well-being and their future adoptability. The objective of this study was to determine if the kittens' responses to handling tests improved over a period of 5 consecutive days.

Materials and Methods

The protocol for this experiment was approved by the Iowa State University Institutional Animal Care and Use Committee (1-11-7057-F). The experiment was conducted over March and April 2011.

Arrival: Upon arrival at the ARL-IA kittens were subjected to a health check performed by a vet tech, which included a check-up, administration of a dewormer, and vaccinations. All kittens were then allowed 3-d to acclimate to their new housing.

Animals, housing and feeding: This study was performed at the Animal Rescue League (ARL) of Iowa, located in Des Moines, IA. A total of 14 neonate kittens mixed sex and breed were observed. Neonate was defined as eyes and ear canals open. Kittens ranged between 6 and 8 wk of age and weighed between 680 and 970 grams. All behavior evaluations were conducted by two trained undergraduate research assistants. All kittens were brought in as strays and did not have a Queen. Kittens were kept as the litter that they were brought in as. In the cattery room there were 8 cages. Each cage measured 0.66 m wide × 1.2 m long x 0.8 m high. The cage had stainless steel wire meshing at the front. In each there as one water bowl and one feed bowl and kittens were provided bedding material. Kittens were observed at least three times a day by the ARL-IA staff.

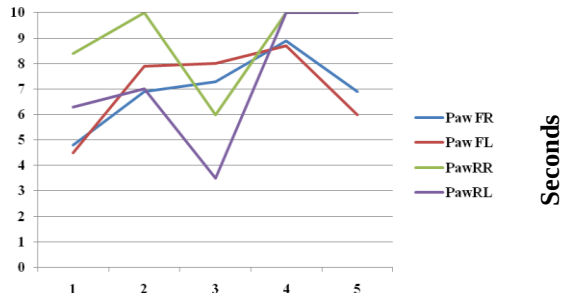
Treatments; One treatment was analyzed: 5-d (n=14) of consecutive kitten handling. Handling of kittens by other staff members was limited to spot clean during the trial time period.

Handling procedure: The day before testing began, the stomachs of the kittens were shaved and each kitten was identified by a number on their shaved stomach. On the day of testing one handler was responsible for handling of kittens regardless of treatment. Cell phones were turned off before entering the room and hands were washed. All clothing that the handlers wore had not been around other animals to reduce the issue of unintentional exposure to a sensory environment. One kitten at a time was removed from the cage, proceeded through the handling tests and was then replaced back into the cage with their littermates. The order of testing each day for the kittens was done in a randomized order but the order of tests was consistent (Table One). During the test no verbal or physical reinforcement/correction was directed towards the kitten by the handler. Data will be presented descriptively.

Results and Discussion

Kittens over the five days scored on average a 1 for the majority of handling tests which indicates a calm kitten (Table Two). On days four and five, kittens allowed for their rear paws to be held for the maximum 10-s. For front paws on day 4 kittens allowed their paws to be held 9-s but by day 5 this had dropped to 6-s (front left) and 7-s (front right) s respectively (Figure One).

Figure One. Average scores for the handling tests on the paws for kittens handled 5 consecutive days at the ARL-Iowa.



In conclusion, though kittens did not tolerate their front paws being handled as long as rear paws by day five. Overall handling tests conducted on the kittens did not result in any aversive reaction from the kitten to the handler. This data could be useful in further developing socialization and acclimatization programs for kittens in shelters, thereby increasing their adoptability and overall well-being, both in the present and the future.

Acknowledgements

Special thanks to the felines and all the staff of the Animal Rescue League of Iowa.

Table One. Handling tests.

Measure	Definition	Recording levels	Measure	Definition	Recording levels
Held to chest	Pick up kitten under belly. Bring kitten to upper chest. Rear legs placement on one hand, second hand support kitten body. Hold for 10 s.	**1:** Remains calm, purrs, moves in for interaction. **2**: Struggles but struggling reduces for at least the last 5 s. Mild vocalization. **3**: Tries to escape continuously, excessive vocalization, becomes fractious.	Teeth check	Lift up one side of kitten lips for 3 s.	**1**: Remains calm, purrs, body relaxed, accepts handling. **2**: Tries to avoid handling, mild vocalization, does not leave table, accepts after first interaction **3**: Tries to escape, excessive vocalization, becomes fractious.
Repetitive stroke	Pick up kitten under belly. Place kitten onto test table with towel. Run hand from base of kitten's neck to tip of tail. Repeat three times.	**1**: Remains calm, purrs, arches into petting, moves in for interaction. **2**: Moves around on table, accepting of petting, does not leave table. **3**: Tries to escape continuously, excessive vocalization, becomes fractious.	Scruff	Scruff and restraint on the table, hold for 5 s and release.	**1**: Remains calm, purrs, body relaxed, accepts scruff. **2**: Tries to avoid handling, mild vocalization, body relaxes during scruff. **3**: Tries to escape, excessive vocalization, becomes fractious.
Ear check	Ear check: holding the kitten's head to complete a visual inspection of one ear for 3 s.	**1**: Remains calm, purrs, body relaxed, accepts handling. **2**: Tries to avoid handling, Mild vocalization, does not leave table, and accepts after first interaction. **3**: Tries to escape , excessive vocalization, becomes fractious.	Paw grasp	Kitten is placed on the human's lap, gently tip kitten back towards your body. Each paw is gently grasped by the human and held for 10 s (mimic trim/ paw). Once paw is pulled back, test on that paw is concluded.	Length of time for paw to be pulled back/away.
			Righting reflex	Human is sitting, tip kitten onto back into crook of arm, while second hand is gently placed over kitten's belly and held for 10 s.	1: Remains calm, purrs, makes soft eye contact. 2: Struggles but struggling reduces for at least the last 5 s, mild vocalization. 3: Tries to escape continuously, excessive vocalization, becomes fractious.

Table Two. Average scores for the handling tests for kittens handled 5 consecutive days at the ARL-Iowa.

	Handling test							
Day	**Held**	**Stroke**	**Left ear**	**Right ear**	**Right teeth**	**Left teeth**	**Scruff**	**Righting**
1	1.6	1.1	1.6	1	1.6	1.7	1.1	1.6
2	1.1	1.1	1.1	1.2	1.4	1.9	1	1.6
3	1.3	1.2	1	1.1	1.4	1	1.1	1.7
4	1.2	1	1.3	1	1.4	1.8	1.1	1.4
5	1.2	1	1.6	1.1	1.4	1.7	1	1.4