



Kitten socialization

Contributors: Ellis S

Introduction

- The early psychological development of kittens is of concern to the veterinary profession because inadequate socialization and habituation can result in cats who are fearful and/or anxious of people, other animals and of the general environment surrounding them. Many behavior problems such as inappropriate elimination and aggression (both human and cat-directed) are often a behavioral expression of such fear and anxiety which can hold serious negative consequences in terms of animal welfare.

Definitions: socialization, sensitive period, habituation, sensitization

Socialization

- The process whereby an animal learns how to recognize, interact and bond with the species with which it cohabits.
- In the case of the cat, this will include humans, other cats and potentially other species such as dogs.
- During adequate socialization, the animal should develop appropriate social behavior towards their own species and those others in which they are appropriately socialized too which will positively influence social behavior expressed later in life.
- Additionally, appropriate socialization has a priming effect on the ability of the animal to accept novel experiences and events later on in life therefore aiding the animal to cope in a changing environment such as the domestic home and boost the quality of the human-animal relationship.

The sensitive period

- During the sensitive period, kittens are highly responsive to the formation of social bonds and thus is the period where a program of socialization should be introduced.
- The timing of the sensitive period is genetically determined but environmental factors can cause it to vary.
- The exact start and stop date may differ between individuals but generally occurs from 2 to 7 weeks of age.
- After this time, a fear reaction becomes fully established in the kitten, thus susceptibility to positive experiences with novelty is at its optimum prior to 7 weeks.
- During the sensitive period, kittens spend less time suckling and more time actively exploring, learning about their environment and playing.

- This period coincides with weaning and the rapid development of motor and sensory skills.
- Exposure to a broad range of benign stimuli in this period is important for the realization of the kitten's genetic potential for confident and friendly behavior throughout their life.
- The kitten sensitive period for socialization ends earlier than in puppies and due to its early timing, the primary responsibility lies with the breeder or rescue shelter rather than the owner since most kittens are re-homed between 8 and 12 weeks.

Habituation

- The process whereby an animal becomes accustomed to irrelevant environmental stimuli and learns to ignore them.
- Kittens will cease to respond to a specific stimulus repeatedly presented to them if they learn it is neither noxious nor rewarding. For example, the sound of the washing machine or the television.

Sensitization

- A period of high responsiveness following arousal by rewarding or punishing experiences
- One knows sensitization has occurred in a kitten when the behaviour which is repeatedly elicited shows signs of becoming easier to produce. For example, the sight and smell of a positive person elicits approach behaviour from the kitten.
- However, it is important to be aware of sensitization during the socialization phase to ensure the kitten is not becoming increasingly responsive in a negative manner, for example, the kitten is showing increased withdrawal during handling by a particular individual. This would suggest that the kitten is not being correctly socialized and instead the negative behavioral consequences of repeated stimulation could lead to fear/anxiety of the inducing stimuli.

The influence of genetic and environmental factors on kitten socialization

A number of factors (both genetic and environmental) have been scientifically shown to influence the socialization process in kittens. The inter-play between genetics and environment and their subsequent influence on socialization should not be underestimated.

Environmental Factors: Handling

Appropriate handling of kittens by humans during the sensitive period has been shown to have positive and lasting effect on human-cat interactions. In addition, early handling has been shown to accelerate physical and behavioral development leading to a more adaptable, less easily distressed cat. Three main components of handling have been identified:

- Type of handling
 - Kittens can discriminate between different styles of handling (e.g. rough versus gentle) and thus it is important to use gentle handling techniques to ensure the kitten associates the experience as something positive.
 - Gently speaking to kittens while stroking them can improve the handling experience for the kitten.

- While most kittens will prefer to be handled on the head, cheek, chin and back regions, it is important to remember that every kitten is an individual and different kittens will have different tolerances for different areas on the body.
 - Rough play and handling during the socialization period can result in the kittens becoming aggressive later in life to humans.
- Number and type of people carrying out the handling
 - The more contact (positive and neutral contact) kittens have with people, the more sociable they tend to be in later life.
 - It is suggested that a minimum of four different people should handle the kittens during their sensitive period to help the kittens generalize that people are friendly.
 - Research has shown that kittens handled by five people made fewer escape attempts to a stranger, unlike kittens that were handled by one person or not at all.
- Time spent being handled
 - Kittens handled daily during the sensitive period have been shown to be less fearful of strangers and of novel objects than unhandled kittens.
 - Up to a certain limit (approximately one hour daily), the more positive handling a kitten receives during the sensitive period the friendlier it is likely to be.
 - Research has shown that typically, a kitten that is handled for more than 1 hour per day will go directly to a familiar person, climb up onto their lap, purr and either play or sleep whereas a kitten that has been handled less, for example, only 15 minutes per day is more likely to approach, head rub the familiar person and move away.

Environmental Factors: The presence of the queen

- Interaction with the litter in the presence of the queen appears to promote socialization due to her ability to maintain a degree of familiarity for the kittens.
- Her presence has been shown to influence the speed and type of approach to people with kittens being quicker to explore and interact with people in her presence and more hesitant and cautious in her absence.
- The queen's social contact with her kittens is critically important for normal emotional and behavioral development including reduction in anxiety experienced by kittens. Those who are completely deprived of maternal care are at higher risk of developing fearful or aggressive reactions to other cats and are reported to show impaired learning abilities.
- The handler's relationship with the queen is really important for positive socialization of the kitten(s) in the presence of the queen. If the queen is friendly towards the handler, it is likely that this will promote her kitten(s) friendliness.

Environmental Factors: The presence of siblings and other cats

- Kittens are found to be more confident during socialization if accompanied by their siblings.
- Kittens who are not socialized towards other cats are at higher risk of developing fear or inappropriate social behavior towards other cats in later life. For example, cats who were not socialized to other cats in a study were shown to exhibit more signs of behavioral distress when group-housed in an animal shelter than socialized cats.

Environmental Factors: The presence of other species

- Like dogs, cats require positive experiences with members of other species during their socialization period to understand such animals are non-threatening. This is particularly important for species cats may live with in the domestic environment, for example, dogs.

Genetic Factors: Mother

- It is hard to know exactly what genetic influence a mother has on her kittens' socialization ability due to her also being directly involved in the care of the kittens and thus genetic influence is hard to tease apart from environmental influence.
- However, it has been shown that kittens of outgoing mothers tend to be more capable of developing attachments to humans, even if handled later in adulthood.

Genetic Factors: Father

- It has been possible to investigate what genetic influence the father has on his kittens' behavior since he has no involvement in the rearing of the kittens and thus no environmental influence.
- It has been shown that 1 year old socialized kittens born from a friendly father approached people more readily than those from a more fearful father.
- Kittens of outgoing fathers tend to be more capable of developing attachments to humans, even if handled later in adulthood.
- Father friendliness (or as now known, boldness) is known to interact with socialization in that the friendliest, most confident kittens are from friendly fathers and have been well socialized.

Genetic Factors: Breed

- Little research has been carried out on breed differences in cats although breed descriptions will describe some breeds are more friendly towards people.
- It may be that certain breeds have a predisposition to friendliness towards people.

Practical considerations to a socialization programme

Genetics

- If kitten is a pedigree kitten, ensure father chosen for mating is friendly towards people.
- If buying a pedigree kitten, do not rule out visiting the father of a kitten before selecting which litter to choose a kitten from and choose from litter with friendly father.
- Ensure the temperament of the mother is friendly towards humans (and ideally other cats).

Handling

- Handling should commence at 2 weeks (some gentle handling may have been carried out by breeder/carer beforehand)
- Ensure the queen (if available) is reasonably relaxed before commencing handling with the kitten. Queen should be positively reinforced for relaxed behavior (e.g. appropriate food treat).
- Ensure the siblings (if available) are reasonably relaxed before commencing handling. Siblings should be positively reinforced for relaxed/positive behavior (e.g. verbal praise, appropriate petting, appropriate food treat).
- Start handling with the more accepted areas first building up to the less tolerant areas and lifting and gentle restraint
- Start handling in a the least threatening posture, for example knelt or sat on floor alongside kitten(s) and in familiar environment for the kitten(s).
- Start handling sessions for a short period of time (few minutes) and build up gradually depending on kittens tolerance
- Always end handling session on a positive note so that kitten recalls the experience as positive as possible
- Introduce items such as toys, grooming brush, nail clippers etc during handling sessions to habituate kittens to such items and encourage play (which induces a positive emotional state).
- Introduce handling by different people (both sexes, different ages including children, different races etc) once kitten is coping well with handling by familiar people.

Getting used to new equipment

- The socialization period should be the time when the cat begins to learn about equipment it may encounter during its life that is relevant to it, for example, collars, harnesses, cat carriers, litter trays, grooming brush/comb nail clippers etc.
- Introduction to such items should begin with allowing the kitten to investigate the equipment while it is placed on the floor.
- Positive reinforcement such as small food treat (post-weaning), verbal praise and gentle stroking can be used to reinforce calm and relaxed behavior in the presence of the equipment.
- This process can be built up to having physical contact with the equipment and for entering cat carrier on own accord as well as for placing head voluntarily in loose collar/harness to receive food treat. Note: this type of work should be carried out in the latter part of the socialization period and continued beyond in the new owners home.

Getting used to new environments

- Since the socialization period for kittens is very early and the kittens are still likely to be with the breeder/carers and not have had their first vaccination, experience with new environments should be carried out using a cat carrier with the kitten placed inside.
- Making sure the kitten is with the queen and/or siblings will aid the process of introducing new environments.

Providing the right environment for socialization

- The breeder/carer should provide the right environment for kittens to reach their potential for the development of confidence.
- Breeders/carers should ensure exposure to a wide range of normal environmental stimuli.
- Research and experience suggest that a domestic maternal environment is preferable to the stimulus deprivation normally associated with outside pens and similar locations.
- A kitten that has had regular experience of a television, vacuum cleaner, baby crying etc will be more able to cope with stimuli beyond the breeder's/shelter environment than one that has been shut away in a quiet cattery pen or room.
- Audiotapes, CD and video recordings of stimuli that occur outside the domestic environment can be made and played. These are particularly useful for kittens reared outside the home environment (e.g. in a rescue environment) and should include sounds such as washing machines, vacuum cleaners, televisions etc.
- Advice regarding hygiene and infection control procedures should be given to breeders and animal shelter staff as well as to new owners or raisers. Advice should be obtained from the veterinary profession.
- Breeders, shelter staff and carers share responsibility for ensuring that new owners are aware of the importance of social referencing and habituation after the kitten has left the maternal environment and how they can achieve it. This involves broadening the kitten's experiences in a positive manner.

Getting used to Examination

- Owners should be encouraged to frequently simulate external examination. Once it is evident that the puppy has learnt to enjoy the procedure they should ask other people to conduct the procedures. Developing pleasant associations with this activity reduces the potential for stress and defensive behavior during actual examination.
- Examination should include all body areas; eyes, ears, mouth, feet, tail, etc.
- Care must be taken not to allow this examination to turn into a play-fight.
- Coercion and punishment must not be used but the use of positive reinforcement for

Handler response to fear

- Owners must be aware of the signs of apprehension so that they do not inadvertently ignore signs that a kitten is not overexposed to a situation it is frightened of.

- Reassurance may reinforce fear and should be avoided.
- However, positive reinforcement for calm and relaxed behavior should be utilized.
- Handlers should avoid trying to pressure a kitten into approaching a stimulus it is fearful of.
- Stimuli that worry the kitten should be minimized by increasing the distance at the time of exposure or reducing the salience of the stimulus so that the kitten can become habituated or desensitized to it. As the kitten's response improves the level of exposure can be increased.

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Vetstream contributor(s)

- **Dr Sarah Ellis PhD**

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