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# Welfare Implications of Socialization of Puppies and Kittens

## Literature Review

June 9, 2015

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### THE NEED FOR SOCIALIZATION

The socialization period in companion animals is the time when they are most open to learning about their environment, their littermates, mother and other animals of their species, humans and other species. It is a time in the life of a puppy or kitten where providing diverse, positive experiences can prevent the development of fearful responses and subsequent behavioral problems.<sup>1,2</sup>

Dogs who had more social contacts or attended puppy classes before twelve weeks of age were less likely to develop fearful or aggressive behavior.<sup>3,4</sup> Conversely, puppies and kittens dogs who lacked early non-fearful exposure to a range of environments, people, animals may become afraid and avoid these situations.<sup>5,6</sup> In general, animals reared in barren environments (both socially and physically) are unable to deal effectively with the environment and activities a normal companion animal will experience.<sup>7,8,9</sup>

Socialization must be carried out in a manner that is mindful of the risk of disease and injury—however these risks can be managed and should not preclude provision of appropriate socialization experiences as described below.<sup>10</sup>

## THE SENSITIVE PERIOD

A sensitive period is a period of time when animals are most able to benefit from exposure to a range of stimuli.<sup>11</sup> During this period most puppies and kittens show a high willingness to explore and play and often show little fear when encountering new animals, people, objects, or experiences.<sup>4,10</sup> If deprived of exposure to people, animals and situations they may have an increased risk of developing into adults who have problems with fear, aggression and arousal.<sup>12</sup>

Exposure to relevant stimuli during the sensitive period should begin with the puppy or kitten raiser by or before 3 weeks of age and then continue with the owner.<sup>13,14,15</sup> Puppies and kittens will expose themselves at their own pace, given suitable opportunities, and their brains and behaviors will rapidly develop through to least 20 weeks of age. During appropriate exposure puppies and kittens will be comfortable and show no signs of anxiety or struggle when being handled, or when meeting unfamiliar friendly people and dogs. Fearful or shy puppies and kittens should be allowed to experience the world at their own speed, with every social encounter reinforced with biological rewards such as food and play. With continued exposure to people, places and things, many will continue to adapt their behaviors beyond 20 weeks.

**Puppies**—Puppies are most responsive to learning from exposure to unfamiliar dogs between the ages of 3 to 14 weeks.<sup>16</sup> At 3 weeks of age, puppies will also readily interact with and explore a passive human.<sup>17,18,19</sup> A puppy's eyes and ears are well-developed by 3 weeks of age and they are now able to start bonding with the animals and people around them as well as to recognize features of the environment in which they live. Early socialization is highly desirable as if it does not occur until 5 weeks of age puppies may be wary on first presentation and by 7 weeks of age they will actively avoid the passive handler.

By 8-9 weeks of age most dogs are sufficiently neurologically developed that they are ready to start exploring unfamiliar social and physical environments. Data show that if they are prohibited from doing so until after 14 weeks of age they lose such flexibility and may be forever fearful in these situations.<sup>13</sup> Such dogs may function well within extremely restricted social situations but will be fearful and reactive among unfamiliar people, pets or in environments outside of the house.

**Kittens**—The sensitive period for cats begins at 3 weeks of age but their receptivity to new experience wanes earlier than for puppies. To obtain maximum benefit from early exposure, kittens need to be exposed to people, other animals and novel environments by 9 weeks of age, and earlier exposure is strongly recommended. In general kittens benefit from early exposure to family members, other pets, visitors, grooming, veterinary visits and other life experiences. Pet cats with calm and outgoing temperaments experience better welfare and function as a more complete member of the family. Kitten classes may also assist kitten owners in learning about their new pet and thus help prevent future relinquishment of the kitten to a shelter. For these reasons a plan for the socialization of kittens by the kitten raiser and immediately after adoption should be developed.<sup>20,21</sup>

## SOCIALIZATION IN THE NATAL ENVIRONMENT: 3-5 WEEKS

All puppies and kittens should be raised in a socially and physically enriched environment that provides diverse, positive experiences, of the appropriate intensity. What does this mean?

- They should have conspecifics (members of their own species) to interact with who are normal, friendly and outgoing. Orphaned puppies or kittens should be raised alongside conspecifics whenever possible to avoid the behavioral difficulties associated with hand-raised animals (e.g. inappropriate social behaviors and possibly aggression).<sup>22</sup>
- They should get enough exposure to both familiar and unfamiliar people so that they learn to actively investigate or solicit attention from people rather than avoiding them or struggling. Additionally, the people should act in ways that are not scary to puppies and kittens.
- They should receive individual human handling away from their littermates on a daily basis where they are gently held and encouraged to assume various positions that will facilitate grooming and examination, and activities such as being placed in a carrier.
- They should be provided with toys of different textures in order to encourage play, and on a daily basis they should be exposed to a variety of objects, litter material, and different surfaces in order to encourage enjoyable exploration.

### CONTINUING SOCIALIZATION: 8-12 WEEKS

Socialization often begins after the puppy or kitten is weaned from the litter and adopted. Generally puppies and kittens should remain with the litter until at least 8 weeks of age.<sup>3</sup> They are often placed in a new home during or after the peak of their sensitive period and so this transition should be carefully managed.<sup>8,26</sup>

At this age the puppy or kitten is more mobile. Activities will begin to occur outside the home but these should be limited to areas that are not used by with unvaccinated animals as vaccination coverage is not complete. Steps should be taken to avoid contact with dogs of unknown temperament, health or vaccination status or surfaces that may harbor disease vectors such as grass on public parks. Prior to full vaccination a common source of well-vaccinated playmates includes socialization classes and friend's pets.

The new owner should always assume that the puppy or kitten has not been socialized prior to adoption. Because pet animals will most likely need to travel to different locations and interact with people and animals, owners will need to provide experiences that allow the young animal to build its competence in coping with new experiences and interaction. The puppy or kitten should be in an enriched environment in which it has a variety of toys and structures and play should be encouraged. Socialization should include regular positive interactions with people, other dogs and cats and other animal species, especially of types they are likely to encounter throughout their life. It's important that the interactions are supervised and puppies and kittens are not allowed to get overly-exuberant, causing an accidental injury and that the interactions not induce fear and anxiety.

Puppies and kitten may be enrolled in a socialization class outside the home as close to 8 weeks of age as possible if there is a well-run class in the area<sup>8,23,24</sup> that is held indoors.<sup>25,26,27</sup> However, class attendance alone is not sufficient.<sup>28,29</sup> Rather socialization class is where owners are taught how to perform the various exercises and shown how to practice appropriate handling and inter-puppy/kitten interactions. All puppies and kittens in a class should have received their initial immunization and be free from signs of illness.

When it comes to exposure to humans, it is important that puppies and kittens gain positive exposure to diverse people of different genders, ethnicities, ages, and sizes. These people should be wear or carry a variety of hats and carry things such as umbrellas, briefcases or backpacks so that the puppy or kitten comes to accept these objects and people as non-threatening. Owners should watch specifically that the pet shows no signs of anxiety or fear in the presence of the unfamiliar people and the objects with them.

Puppies and kittens should be provided with positive experiences in the types of environments they may encounter throughout their life. Generally that includes neighborhoods with people and traffic, various surfaces including concrete, metal, linoleum, carpet, sand and slick surfaces. It is important that the owners allow animals to withdraw when anxious, but provide praise and treats as needed to encourage the animal to remain in a comfortable and relaxed or playful state.

For puppies this includes working to leash-train the puppy to follow on a leash (the same may be done for kittens as desired). Note that this phase of training requires that owners walk puppies before the puppy is fully vaccinated. Hence it's important for owners to choose locations carefully. They should avoid areas with high likelihood of unvaccinated dogs such as dog parks and grassy areas that dogs frequent.

Owners should work on handling exercises to teach puppies and kittens to relax when placed or held in a position that allows handling or all parts of the body. Puppies and kittens should not be verbally or physically reprimanded for non-compliance, rather slower exposure is necessary.

## **LIFELONG SOCIALIZATION**

Socialization opportunities should continue to be provided for the first nine to 12 months of life.<sup>26</sup> because reinforcement of the lessons is important for them to be remembered.<sup>26</sup> Owners may find that their animal's responsiveness to novel situations may vary over time, and this may include periods of increased fearfulness where the animal shows heightened negative responses to everyday events. Furthermore owners should be aware that some dogs and cats have an innately more fearful temperament and need to be managed differently from individuals who are more bold or placid.

## **ADOPTING AN ADULT DOG OR CAT WITH AN UNKNOWN OR LIMITED SOCIALIZATION HISTORY**

Habituation of older animals to various stimuli and experiences can be more challenging but follows the same basic steps as for puppies and kittens. However, it must be recognized that adult animals will vary greatly in temperament, prior experience and adaptability. Care should be taken to develop a bond with the animal and provide a sense of security for the animal to allow them to cope with new experiences without distress. Animals that are timid or aggressive may require an extended period of introduction to their new environment and all of the activities their owners may wish them to take part in. It is equally important that the owner gets to know their new pet, develops realistic expectations, and manages their pet in a way that takes into account their specific temperament and needs. This may include ensuring that their pet does not pose a safety risk to other people or animals. When a dog or cat shows significant or persistent fear or aggression, the assistance of an expert such as a veterinary behaviorist should be sought.

## DISCUSSION

These guidelines are not meant to imply that all exposure is equal, that all dogs and cats are ready for all exposures at the same time, that you stop exposing the animal when the animal is out of the sensitive period, or that if exposed, no animal will have problems. It is widely recognized that the course of socialization differs according to species and individual,<sup>12,30,31</sup> and so it is important to observe the animal closely to determine his or her progress and respond to the needs for the specific animal.

## SUMMARY-- SOCIALIZATION GUIDELINES

- Social exposure should begin at 3-4 weeks of age for kittens and 3-5 weeks of age for puppies.
- The owner must provide a deliberate program of social and environmental exposure for all puppies and kittens. Kittens do best when worked with by 9 weeks of age, and puppies by 12-14 weeks of age, but earlier is better.
- Exposure should include non-threatening, ideally positive, experiences with multiple animals of the same and other species, people, stimuli and common life experiences for pet animals such as handling and transportation.
- When well-managed puppy or kitten socialization classes are available, owners are encouraged to take advantage of these as a source of information and a safe environment for socialization and new learning activities.
- The animal's responses to social and environmental experiences should be assessed and the program adapted to avoid fearful responses and provide positive experience in the face of novel stimuli and interactions.
- Social interactions should continue to be reinforced throughout the animal's life as necessary to support good temperament and promote the wellbeing of the animal.
- Simply exposing adult animals who lacked early exposure to social situations will not likely meet their needs. These animals can benefit from individually paced interventional programs.
- For expert advice or when working with an animal that may have special needs owners are encouraged to design a socialization plan in consultation with their veterinarian and/or another animal behavior specialist.

## REFERENCES

1. Houpt KA. Domestic Animal Behavior for Veterinarians and Animal Scientists 4th Edition. Blackwell Publishing pp 2005;227-8
2. McMillan FD. Development of a mental wellness program for animals. *J Am Vet Med Ass* 2002;220:965-972.
3. Ward MR. *Behavioural therapy success and the effect of socialisation on subsequent behaviour in dogs: a thesis presented in partial fulfilment of the requirements for the degree of Master of Veterinary Studies at Massey University, Palmerston North, New Zealand* (Doctoral dissertation) 2003
4. Casey RA, Loftus B, Bolster C, Richards GJ, Blackwell EJ. Human directed aggression in domestic dogs (*Canis familiaris*): Occurrence in different contexts and risk factors. *Appl Anim Behav Sci* 2014;152:52-63.
5. Pierantoni L, Albertini M, Pirrone F. Prevalence of owner-reported behaviours in dogs separated from the litter at two different ages. *Veterinary Record-English Edition* 2011;169:468.

6. Appleby DL, Bradshaw JW, Casey RA. Relationship between aggressive and avoidance behaviour by dogs and their experience in the first six months of life. *Vet Rec* 2002;150:434-438.
7. Melzack R, Scott TH. The effects of early experience on the response to pain. *J Comp Physiol Psych* 1957;50:155.
8. Thompson WR, Heron W. The effects of restricting early experience on the problem-solving capacity of dogs. *Can J Psych* 1954;8:17.
9. Lindsay, S. R. Adaptation and learning. *Handbook of Applied Dog Behaviour and Training 1* 2001;298-305.
10. Day MJ. Vaccine safety in the neonatal period. *J Comp Path* 2007;137:S51-S56.
11. Bateson P. How do sensitive periods arise and what are they for? *Anim Behav* 1979;27:470-486.
12. Casey RA, Loftus B, Bolster C, Richards GJ, Blackwell EJ. Human directed aggression in domestic dogs (*Canis familiaris*): Occurrence in different contexts and risk factors. *Appl Anim Behav Sci* 2013;152:52-63.
13. Landsberg GM, Hunthausen WL, Ackerman LJ. *Behavior Problems of the Dog and Cat3: Behavior Problems of the Dog and Cat*. Elsevier Health Sciences; 2012.
14. Radosta L. Preventative behavioral medicine. FVMA's 79th Annual Conference, October 3-5, 2008.
15. Scott JP. Critical Periods in the Development of Social Behavior in Puppies. *Psychos Med* 1958;20:42-54.
16. Overall K. *Manual of Clinical Behavioral Medicine for Dogs and Cats*. Elsevier Health Sciences 2013.
17. Pfaffenberger CJ, Scott JP. The relationship between delayed socialization and trainability in guide dogs. *J Genetic Psych* 1959;95:145-155.
18. Freedman DG, King JA, Elliot O. Critical periods in the social development of the dog. *Sci* 1961;133:1016-1017.
19. Pfaffenberger CJ, Ginsburg BE. (1964). *The new knowledge of dog behavior*. Howell Book House.
20. Overall K, Rodan I, Beaver BV, Carney H, Crowell-Davis S, Hird N, Kudrak S, Wexler-Mitchel E. Feline behavior guidelines from the American Association of Feline Practitioners. *J Am Vet Med Ass* 2005;227:70-84.
21. Seksel, K. *Training your cat*. Hyland House, 2001.
22. Mellen JD. Effects of early rearing experience on subsequent adult sexual behavior using domestic cats (*Felis catus*) as a model for exotic small felids. *Zoo Biol* 1992;11:17-32.
23. Horwitz D, Mills D, Heath S. 2002 BSAVA Manual of Canine and Feline Behavioural Medicine. Gloucester: British Small Animal Veterinary Association.
24. Anderson RK. Puppy classes: benefits of early learning and socialization versus risks of disease. The Association of Pet Dog Trainers Conference, New Orleans, Oct 24-28, 2005.
25. Crowell-Davis S. Socialization classes for puppies and kittens. *Compend Contin Educ Vet* 2007;29:674-6.
26. Meyer J. Early puppy socialization: risks vs. benefits. *Veterinary Medicine* 2009;104:572-578.
27. Stepita ME., Melissa JB, Philip HK. Frequency of CMV Infection in Vaccinated Puppies that Attended Puppy Socialization Classes. *J Am Anim Hosp Assoc* 2013;49: 95-100.
28. Duxbury MM, Jackson JA, Line SW, Anderson RK. Evaluation of association between retention in the home and attendance at puppy socialization classes. *J Am Vet Med Assoc* 2003;223:61-66.
29. Seksel K, Mazurski EJ, Taylor A. Puppy socialisation programs: short and long term behavioural effects. *Appl Anim Behav Sci* 1999;62:335-349.
30. Serpell J, Jagoe JA. Early experience and the development of behaviour. *The Domestic Dog*. I. Serpell, Cambridge University Press 1995; 82-102.
31. Markwell PJ, Thorne CJ. Early behavioural development of dogs. *J Small Anim Prac* 1987;28:984-991.