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Comment on van Kerkhove's "Wolf-Pack Theory"

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van Kerkhove (2004/this issue) attempts to address an applied animal behavior problem. A cacophony of issues, however, points to the difficulty of understanding and integrating the scientific literature on principles of animal behavior and conditioning (learning theory). The author's primary focus seems to be on the inappropriateness of "wolf-pack theory" (not a theory at all) to guide treatment programs for the reduction of dog–dog (intraspecific) aggression. The author's commentary also includes other topics that deserve critical comment and may be conceptualized within several categories.

CAPTIVITY

Captivity contributes to changes in social structure in wild canids, but it would be unfortunate to conclude that captivity always results in a rigid, linear hierarchy or any other social structure when more than two wolves, dogs, or other canids spend time together. Moehlman (1987) provided a wonderful description of the important factors associated with the regulation of social structure and behavior in wild canids: characteristics of the canid (size, weight, and sex); the group (group size, territory, and reproductive strategies); and access to food (temporal and spatial distribution of prey). Captivity very likely influences a number of these factors that, in turn, contribute to changes in social status

DOMESTICATION

Is a hierarchical model of wolf social structure a valid (or helpful) model of domesticated dogs' social relationships? Domesticated dogs are not subjected to the same selection pressures as are wild canids—nor have they been for thou-

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sands of years. Homologous mechanisms of behavior no doubt can be identified between wolves and dogs, but it is doubtful that any wild canid social structure provides the best model for describing social relationships among domesticated dogs reared in a home environment.

SUGGESTED INCLUSIONS

Missing from van Kerkhove's commentary are a discussion of the powerful effects of domestication on social behavior and the possibility that different genotypes (breeds) may differ in the ease with which they (genotypically different dogs) form dyadic relationships. It follows that different breeds—and different individuals within a breed—may be more responsive to one kind of intervention than to another.

It would be helpful to discuss the effects of domestication on the development of social behavior. One might consider domestication as a process leading to changes in anatomy, physiology, and behavior (Clutton-Brock, 1995; Morey, 1994; Price, 1984, 1998; Trut, 1999)—and specifically in dogs—changes in ontogenetic timing mechanisms (Coppinger & Coppinger, 1998); social cognition (Mikloki, Topal, & Csanyi, 2004); and preference for people over other dogs (Tuber et al., 1999).

Intraspecific aggression in domesticated dogs may occur developmentally or due to a traumatic event. Fighting may be exhibited in different contexts, including competition over a resource and contexts not clearly related to resource possession (Hahn & Wright, 1998). Furthermore, the development of intraspecific aggression and other social relationships is not the same for all breeds of dog (Hahn & Wright, 1998). The differential effectiveness of different treatment procedures on compliant behavior is a classic example of a Genotype (breed) × Environment (rearing) interaction (Freedman, 1958): Some dogs respond better to indulgence and others to mild discipline. Thus, not all treatment procedures (or models of social relationships) will be equally effective in reducing dog–dog fighting.

OTHER TOPICS AND SEPARATE ISSUES

Although van Kerkhove fails to address some important topics, she addresses others that could be treated as separate issues.

1. The effectiveness of decreasing social rank proximity as a procedure for decreasing intraspecific aggression in domesticated dogs;
2. the use of behavior modification procedures for decreasing intraspecific aggression in domesticated dogs; and

3. the substitution of one kind of treatment strategy—behavior modification—for another—changes in social rank proximity.

With regard to the three topics listed above, the decision to use principles of conditioning to reduce intraspecific aggression versus increasing the distance between dogs' social rank is based on a false dichotomy. The tools for behavior change (principles of conditioning) may be used to facilitate changes in the social roles between two dogs. Combining the two procedures involves teaching the clients (and their dogs) a concept (different social roles and role-appropriate behaviors) and teaching them how to bring about change with the use of conditioning principles. The specific conditioning procedure used to reduce emotion-laden behavioral disorders is more likely to be classical counterconditioning than operant conditioning, because for most emotionally disordered behaviors, the emotional state drives the behavior—not the other way around. The decision to use one treatment procedure over another depends, in part, on the dogs' physiological and behavioral arousal and the context in which the aggression occurs. Wright, Reid, and Rozier (in press) reviewed the different procedures used to reduce intraspecific aggression and other emotional disorders in dogs.

CONCLUSIONS

Finally, I believe it risky to assume that the authors of "how to" books written for the lay public intended their publications to serve as legitimate substitutes for an understanding of the richness of theory and research on topics of an applied nature. The vagaries implicit in any applied behavior setting require an integration of theory with knowledge, process, and experience to arrive at treatment hypotheses that, if implemented, are likely to bring about humane and effective change. The same process is followed for analyzing the causative factors for the onset and maintenance of the problem behavior.

As in any hypothesis-testing scenario, one does not try the same procedure (technique) over and over again if there is no progress; rather, the hypothesis can be altered or a second hypothesis can suggest a direction for behavioral change. Prescribing either one or the other treatment procedure for all cases of intraspecific aggression is bound to result in disappointment for all concerned.

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