

Exploring Animal Welfare in Practice: How Animal Welfare Considerations Impact Behavioral
Methods

AMERICAN COLLEGE OF APPLIED SCIENCE

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2/08/2011

Abstract

Animal welfare concerns as it pertains to companion animal training, eliminating undesirable or abnormal behavior, improving handling and raising of animals for production, and designing better housing for animals in captivity have risen in recent years. These practical applications of the study of animal behavior began through applied animal behavior science, where the study of preferences and motivation of captive animals has played an important role in determining effective, welfare oriented solutions. It is incumbent upon animal behaviorists to critically review methods for behavior modification and their impact on the well being of companion animals, and to improve methods accordingly. Improved methods of training in obedience have been related to an improvement in the human –animal relationship. This paper explores the principles of animal welfare and its importance to behavioral practitioners, its history and legislative efforts, standards for practitioners that exist today, and provides a thorough review of the concept of animal sentience and its relationship to behavior modification and intervention program applications, including appropriate uses of punishment. In a review of some current literature on the topic of sentience, and applications of alternative behavior intervention methods, it considers implications for the applied animal behaviorist as to the impact developing an effective welfare -based practice model will have on successfully promoting the human animal bond, resulting in an improved relationship between animals and their human counterparts.

Animal welfare concerns as it relates to companion animal training, prevention and elimination of abnormal and undesirable behavior, improved living conditions for animals housed in captivity, and the improved raising and handling of animals for the purpose of production have risen in recent years. Given the widely accepted concept of animals as sentient beings and as professional applied behaviorists we must take into consideration an animal's welfare when providing behavioral counseling services designed to mitigate, prevent or eliminate undesirable behaviors. In spite of the growing recognition of animal welfare as an important issue within society, including public outcry which has resulted in a greater focus on and study of animal welfare science as well as the transformation of applied animal behavior science, the use of punishment, aversive methods in training, behavior modification and research remains widely used. This paper will discuss the benefits of considering and incorporating welfare based methods in behavioral practice. It will assist behaviorists in understanding the role of welfare considerations in practice; and how effective intervention in the behavior analysts' practice must necessarily include consideration for the animal's well being. This will enable the behaviorist to establish a successful model to create effective and systematically ethical behavior intervention plans, and ultimately, a successful practice, while benefitting the relationship between companion animals and their owners.

In order to address the importance of considering animal welfare in behavioral practice, this paper will begin by defining what we mean by animal welfare and provide an overview of animal welfare principles, beginning with a brief discussion of the history of the animal welfare

movement, including legislative efforts. I believe an historic reference is necessary to understand the ongoing development of and research on this issue for applied behavior analysts. This paper will also review current literature on guidelines established in applied ethology and companion animal training methods. A discussion of animal sentience and its relationship to the development of an ethical approach to behavior modification will be included, making the case (arguing) for welfare considerations on the use of training and behavior modification techniques, particularly the appropriate uses of punishment. It will discuss the drawbacks of the use of punishment in training companion animals, its practical limitations, and the impact of and need for more effective training procedures. Current literature regarding alternative approaches for eliminating undesirable behavior will be presented, as an overview of available tools for behaviorists seeking to build ethical and effective long-term practices. Finally, I will discuss my conclusions pertaining to the incorporation of animal welfare considerations in behavioral practice models, and its impact on the improvement of the human animal bond

Animal welfare principles have been established over recent decades via legislation and through the World Organization of Animal Health (OIE) in the EU region, the well-established body of National and European Union laws which is growing continuously. According to Caporale, Alessandri, Dalla Villa and Del Papa, (2005), this growth is due to various factors, such as new technology in animal farming and experimentation, exploitation of wildlife, a new understanding of animal needs, and increasing public awareness and concern. They maintain that the latter issue, that of public awareness in particular, determines the need for new animal welfare legislation to regulate and discipline the “use of” animals for different purposes such as food production, companionship, work and leisure. Earlier efforts to address welfare concerns by

the Council of Europe and the EU and its member states have been focused primarily on the protection of animals during International transport, breeding, slaughter and conservation of companion animals, wild animals, farmed animals and laboratory animals. A total of five conventions have been drawn up since 1968, all have been based on the principle that “for his own well being, man may make, and sometimes must make use of animals, but he has a moral obligation to ensure that the animal’s health and welfare is, in each case, not put unnecessarily at risk.” (Council of Europe, Legal affairs: Biological safety use of animals by humans, website: www.coe.int/T/E/Legalaffairs/Legal_cooperation/Biological_safety%2C_use_of_animals/Introduction.asp, accessed 20 September 2005, in Caporale et al, 2005). These conventions were the first international agreements laying down ethical principles for the transport, slaughter and farming of animals, including their use as pets and for experimental purposes. These conventions were used as a reference for various countries, including the EU, for relevant national legislations. Of note is the updating of these conventions as recently as 2003 to incorporate new scientific advances and the experience acquired over the previous 30 years of application. In addition, regulations to train all non veterinary animal handlers was instituted, covering animal behavior for specific breeds commonly transported among countries for slaughter and consumption, as well as for farming and experimentation. (Caporale et al. 2005). Guidelines were added for the fitness of animals during transport, design of transport systems, as well as special conditions for the transport of animals by road, sea, rail and air. Regulations on animal protection have been enacted by European states since the 19th century, in fact. Recent efforts to investigate and improve existing legislation observed that laws protecting the transport of livestock over long distances are rarely enforced. The effort to ameliorate this issue culminated in a compromise allowing for the adoption of regulations governing length of journey,

compulsory training for staff and assurance that veterinary checks were being performed at the borders of EU countries. In addition, the EU has negotiated trade agreements including specific provisions for animal welfare. Most importantly to this topic and the role of applied behaviorists in animal welfare pursuits is that the welfare standards of the OIE approved by the International Committee in 2005 appear to be in concert with the role of applied behavior practice; that of the shared goal of reducing fear and mitigating stress, resulting in the reduction of adverse responding or “behaviors” of animals while in transport, in farming environments, in captivity and when bred or kept as companion pets. The training element of the regulation and proposals for the roles of various stakeholders in animal welfare issues indicate the strategic role training plays in the overall success of the program; developing human resources that are fully aware of the importance of management based on scientifically designed animal welfare standards, and soundly supporting the notion of individual responsibility. (Caporale et al. 2005). These regulations on animal welfare in the EU are, at present, the most advanced in the world, and are based on principles already implemented in other sectors, such as food safety.

So, what do we mean by animal welfare considerations in behavioral practice and analysis? To address this question we must look briefly to the history of animal welfare in animal studies, and the role ethics currently plays with regard to animal welfare models. Animal welfare principles embraced through legislative acts notwithstanding, there exist a variety of views on the meaning of animal welfare as it pertains to our relationship with animals as a society. Having reviewed the history of and stringent standards set by the EU , in general, and according to modern animal welfare legislation, ‘animals should be protected from suffering and lasting harm not for the benefit of us as humans as in earlier anthropocentric conceptions, but in their own

interests.’ (Wurbel, H., 2009, p.118). According to Wurbel, (2009), feelings of compassion are triggered from our empathy with animals, a driving force behind animal protection today, as is the popular view of animals as sentient beings. From the standpoint of applied behaviorist interests, this concept of animal protection and welfare represents true altruism, placing considerable ethical demands on us as applied behaviorists, veterinarians, and on all stakeholders in animal welfare issues. To this issue, Wurbel (2009) points out that it is important to distinguish between our intentions to protect animals (which may be partly selfish), and true animal protection that needs to be justified with biological data reflecting values that apply to the animals. Most contemporary views on animal protection are sentientist in nature (Linzey, 1998; Badura, 2001), and are based on the assumption that some animals are capable of experiencing feelings of suffering and well being. Scientists refer to the functioning of the organism, or the naturalness of behavioral repertoire for pragmatic reasons, thus, normal bodily functions and a full expression of an animal’s behavioral repertoire are used as an assessment method for well being and are easy to assess objectively.(Duncan & Fraser,1997) According to Wurbel (2009), based on the sentientist nature of animal welfare legislation, the greatest challenges to applied ethologists are to determine sentience in animals, and to establish valid and reliable measures of affective states and well being. Indeed, he postulates that an opportunity exists for applied ethologists to contribute to new animal welfare models in behavioral practice by strengthening its impact on ethical and legal decision-taking, thereby advancing animal welfare. For applied behaviorists, turning to scientific models to assess differing views of animal welfare has proven instructive, providing guidelines for affective states, biological function and natural living measures.

Bolhuis & Giraldeau (2005) discuss three conceptions of animal welfare science detail, stating that the variables scientists choose to study in assessing animal welfare, and the interpretation they attach to these variables, reflect underlying, value-laden ideas about what constitutes a good life for animals. Behavioral consultants work to achieve the goal of a better life on behalf of companion animals and their owners through their practice, therefore one may argue the primary impetus for the professional behavioral practice model must reflect these values, stated as ‘ How can I improve the life experience for this animal, it’s relationship with it’s owner and it’s state of welfare in general?’ If we study all three concepts underlying animal welfare, we will need to do as some scientists (and veterinarians) do, and pay attention to their emphasis on the biological functioning of animals such as growth and overall health as fundamentals. Other scientists tend to emphasize affective states, with indicators of stress, pain, distress and related states as their basis for animal welfare. Finally, some see satisfactory animal welfare as the ability of the animals to live a relatively natural life, in keeping with their evolved adaptations, or the occurrence of natural behavior such as social interaction and body care. Here, the presence of abnormal behavior such as stereotypy and aggression may denote impaired welfare. (Bolhuis & Giraldeau, 2005, p. 364). These behaviors are of concern to the applied behaviorist in practice, inextricably linking the welfare of companion animals to our approach in practice. The study of preference and motivation of captive animals, affective states such as fear pain and distress by applied behaviorists since the 1960’s has provided a means of assessing and improving animal welfare, laying a foundation for behavioral consultants. (Bolhuis & Giraldeau, 2005)

Taking into account the welfare of companion animals cannot be fully addressed without a

thorough discussion and understanding of the perception of animals as sentient beings, which in my view, underlies the necessity for establishing welfare-based models in training and practice. An understanding of the nature of sentience in animals seems crucial to the success in behavioral practice.

It is noted that historically, there are a variety of ethical views on human-animal interactions. Current debate is dominated by two competing approaches: animal welfare and animal rights. (Regan, 1998) Animal welfare supports the humane use of animals, with the goal of minimizing suffering and lasting harm. Animal rights holds that using (some) animals is wrong by itself, and that animals should be afforded absolute rights to protect them from exploitation for human purposes, or from particular human actions such as those that induce suffering and harm. (Broom, 2003) Despite differing views, both sides share the idea of animals as sentient beings, and that animals should be protected in their own interest. Therefore, both groups depend on biological knowledge about the nature of sentience, and the extent to which animals' well being is compromised when their behavioral and ecological needs are not met. According to Dawkins (2006) the study of animal welfare science has become one of the most comprehensive and complex disciplines in biology. Such a multidisciplinary approach will be necessary if our ethical concerns over animals are to be addressed in the animals' own interests.

A discussion of animal sentience follows in Wurbel's (2009) assessment of the state of ethics and animal welfare. As it relates to behavior analytic practices, the study and review of the concept of animal sentience and subsequent understanding of its meaning in the context of behavioral practice is a necessary element to consider and in my view, is at the core of the argument for improved ethics in behavioral analytic practice. A concept often debated with

regard to animals as sentient beings is whether animals have a “conscience” similar to humans. . Dawkins (2006) proposes there are two sorts of evidence for sentience: evidence from animal cognition and evidence from the study of animal emotions. Sentience, in the context of animal cognition or awareness, refers to the ability to have the “experience “of seeing and feeling pain, according to Dawkins (2006), who firmly believes that animals possess at least this basic kind of consciousness, which in turn, gives rise to concerns for their welfare. In a definition offered by Wurbel (2009), he states that animal sentience “refers to the ability of animals for affective states, including feelings of suffering and well-being.” He goes on to write that affective states are “subjective” by their very nature and therefore cannot be assessed objectively. Given this fact, the difficulty lies in measuring what is, and what is not. What is needed then, to determine sentience in animals, is to determine an argument by analogy. (Sambraus, 1995) In his summary, Wurbel (2009) writes that recent studies in fish have shown that a powerful case for animal sentience can be made on the basis of argument by analogy. Thus, Dawkins (2008) stated that “If you believed it was wrong to inflict pain on an organism, and also thought that fish do not feel pain, you might think it morally acceptable to cut up a living fish or fish with hooks. But if you came across recent evidence that fish feel pain, you might begin to reconsider your behavior.”(p.123) The difficulties in diagnosing pain or anxiety in animals vs. humans reside in the fact that they are thought to be different by degree, not in kind. How different they are depends partly upon differences between animals and humans in 1.) the significance of external stimuli, and their responses to these stimuli, and 2.) nervous system architecture and function. Thus, animal sentience must be assessed from the standpoint of whether animals feel pain or anxiety based on observations drawn from within their environment. Suffering covers a wide range of emotional states, such as fear, thirst, hunger, pain, and boredom, etc. What is important

is that they all are unpleasant enough for an animal to want to get out of them. (Dawkins, 2006) Dawkins concludes that this “behavioral way of recognizing suffering provides us with a way of recognizing animal suffering in an objective way.” (in Wurbel, 2009, p.123) She further defines emotions as “instrumental reinforcers”, as states elicited by rewards and punishers. Thus, suffering can be caused by the presence of punishers (e.g. predators), or the absence of reinforcers(e.g. deprivation; Dawkins, 2008). Clearly this view supports the ethical animal welfare model for behavioral practice in theory. Finally, she writes that “For Charles Darwin, it was obvious beyond any need for argument that non-human animals are sentient.” (Dawkins, 2006, p.4) In *The Descent of Man and Selection in Relation to Sex* (Darwin, 1871), he writes “the lower animals, like man, manifestly feel pleasure and pain, happiness and misery” (p.39). In *The Expression of the Emotions in Man and Animals* (Darwin, 1872) he catalogues different ways in which animals express a full range of emotions such as fear, anger and affection, stressing the evolutionary continuity between humans and animals, and taking it for granted they behave emotionally, and also, that they experienced those emotions as well.

More recently, new research in assessing animal sentience has begun based on a more direct way of assessing animal emotions, pioneered by Mendl and colleagues (Harding and Paul, 2004; Mendl and Paul, 2004). This approach uses cognitive measures known from human cognitive science to correlate with emotional valence. These measures are promising for two reasons: they aim to measure what we need as behaviorists, that is, the animals’ state of mood under the conditions they live, and, such measures are suitable for “in-situ” applications on farms, in zoos and in laboratories. Researchers have since begun the search for cognitive measures of emotional states based on spontaneous behavioral responses, with some success. We

also know that the response of injured animals to pain or anxiety relieving drugs indicates they are able to choose the option which provides them with relief. (Dawkins, 2006) In addition, we now have a variety of ways of “asking” animals what they want, and also what they want to avoid or get away from. We can offer them choices, train them to press levers, peck keys or push doors to gain a variety of rewards, and so, determine the conditions they like or dislike.

Continued work in these areas will benefit the development of new welfare based models for behavioral practitioners.

Reviewing existing guidelines for animal behavioral practices, appropriate uses of punishment, and animal welfare in general will contribute further to the discussion towards a case for promoting animal welfare in behavioral practice. Behavior analysts ascribe to professional standards, or written guidelines of practice which are developed, refined and revised periodically by certification and licensing boards. Many of these standards directly address ethics in practice. (Cooper, Heron & Heward, 2007). Behavior analytic practitioners abide by ethical principles to accomplish the following: a.) produce meaningful behavior change of social significance for the person entrusted to their care (Hawkins, 1984) b.) reduce or eliminate unwanted or harmful behavior (e.g., self injury or injury to others), and c.) conform to the ethical standards of learned societies and professional organizations. In contrast with other fields of study involving animal research, there are currently no guidelines written specifically for those engaged in applied ethology studies. (Sherwin, Christiansen, Duncan, Erhard, Lay, Jr., Mench, O’Connor, & Pethrick, 2003). More recently, ethical concerns have been raised regarding less invasive studies such as animal behavior research. (Mench, 2000). In the editor’s introduction to *The Journal of Applied Animal Welfare Science*, Shapiro and Zawistowski

(1998) associate ameliorative science definitively with welfare as being “intimately related”, inviting contributory articles and behavioral research conclusions that will encourage further application of one conceptual framework of “alternatives”, or the three R’s (Russell & Birch, 1959/1992) to lessen the suffering of animals, particularly in research. This inaugural issue included 2 reports on the welfare of laboratory animals, examining experimental procedures that cause unrelieved pain and distress in order to identify alternative methods that may be less aversive, or eliminate them altogether (the “remove” element of the three R’s: reduce, replace, remove). Clearly, the need to further develop and apply animal welfare science is made evident in the introduction and stated goals of The Journal of Applied Animal Welfare Science, which has contributed greatly to this effort since it’s inception in 1998. Veterinary codes of Ethics (Lafrana, 1993, in Arkow, 1998) have been set for business practices and personal behavior, however have been limited in confronting animal welfare concerns. (Shurtleff, 1983) According to Arkow, in a practice which is firmly grounded in animal welfare ethics, the veterinarian will favor the welfare of the patient over the concerns of the client. He proposes that veterinarians will find that using the tools of the ethical argument will become more and more necessary to augment their technical knowledge. Odendaal (1998) writes that in order for veterinarians to claim they pursued their patients’ welfare fully, the animal’s total environment and interaction with its daily surroundings must be taken into account as an integral part of clinical medicine. Animal health, in this sense, would be creating an equilibrium between the animal and its environment, a holistic approach to comprehensive care.

Since domestic dogs are kept in large numbers by humans worldwide, their welfare is worth serious ethical and practical consideration. Most domestic dogs are kept within the home,

and the manner in which they receive training may be of particular importance to their welfare. (Hiby, Rooney & Bradshaw, 2004) Within the greater animal community, traditional training techniques have used mainly aversive stimuli, either in the form of positive punishment, which is described as the “application of an aversive stimulus in response to an undesirable behavior”, or negative reinforcement, or “the removal of an aversive stimulus leading to an increase in performance of a desirable behavior.” (Lieberman, 1999 in Hiby, Rooney & Bradshaw, 2004). According to Hiby et al. (2004), the use of aversive stimuli in training may have negative welfare implications, as it is thought to cause suffering. In addition, the use of punishment procedures may pose health risks for the companion animal through increased levels of physiological stress, as well as being found to be related to the development of aggression towards other dogs. (Roll & Unshelm, 1977). This is in stark contrast with the intent of the professional and stringent guidelines for behavior analytic practitioners. It also prompts the question, why use punishment at all as a training method since it has the potential to produce such negative consequences for the animal and everyone’s well being in general? Problematic behaviors may be very important to the welfare of dogs for a variety of reasons. Some of these were highlighted in a study documented by Hiby et al. (2004). They include the fact that problematic behaviors are often caused by, or result in, states of anxiety, and that these behaviors have been found to contribute to the weakening of the pet-owner relationship. This may result in relinquishment or abandonment of the dog, or even in euthanasia. This key consideration underlies the importance of the future development of companion animal welfare and needs based behavioral assessments and the role of behaviorists in improving the human animal bond.

So, how do we balance the use of punishment with the need for effective animal training?

What are some alternative tools for behaviorists and trainers which take into consideration an animal's well being? Fortunately, there has been a growing trend in both zoological and laboratory animal communities to recognize the value of using operant conditioning techniques as an animal care and management tool. (Laule, 1993) As animals have been trained for use in public exhibition for many centuries, recent shifts towards a more versatile menu of options for training has been explored, and reflects a movement towards the use of operant conditioning and positive reinforcement training techniques more so than in the past. In light of these developments and the movement towards the use of positive reinforcement training, many practitioners and trainers are relinquishing the use of punishment as a fall back only when there exists a life threatening situation for the animal or the owner. According to Laule, (1993) operant conditioning provides the tools, and how the trainer uses them provides endless opportunities. It is noted that some adjustments are made to basic technique for different species, to include the differences among individual animals, consideration for the particular environment and social situation they live in, and the ultimate goal, or training objective. For example, training has been found to be effective in addressing problems with aggression in social groups within a variety of species. In group situations therefore, it can be argued that training allows animals more control over their lives when it contributes to a change in environment whereby the animal does not have to be restrained for a procedure because instead, it voluntarily cooperates. (Laule, 1993) In addition, trainers may turn to the use of enrichment for stereotypic behavior problems requiring modification in order to treat the problem behavior, or replace it with an alternative response. Suggestions include simply raising the activity and stimulation level for the animal to reduce or eliminate problematic behaviors. An example of the success of this strategy involved a case of a bottlenose dolphin, whereby such training strategies were successful in eliminating four problem

behaviors: swallowing foreign objects, frequent regurgitation, biting trainers and inability to integrate into a social group. Positive reinforcement training was also successfully implemented with a group of elephants whereby aggressive behavior was not punished, and at the same time, cooperative, nonaggressive behavior was reinforced when it occurred. As a result of this strategy, over a period of 365 training sessions with four elephants, the animals chose to work 99% of the time, demonstrating a system of intervention that does not rely on social dominance or escape/avoidance techniques as with punishment, rather, on the voluntary participation of the elephant. (Laule, 1993) Positive reinforcement in this training environment produced three significant changes in behavior; reduced self-directed behavior, reduced inactivity, and increased social play, all beneficial to the animals' well being, or welfare. (Laule, 1993) Certainly, a model based on welfare considerations in behavior management has resulted in benefits for both animals and trainers. With companion animals such as dogs, obedience is a very important attribute of a dog-owner relationship and therefore warrants our attention as behavioral practitioners. Data suggests that the use of specific training methods may be linked to enhanced displays of problematic behaviors. (Hiby et al., 2004) In this case study, the number of times punishment based methods were used correlated directly with the number of problem behaviors reported by owners. It is postulated that the use of punishment in these cases resulting in an increase in problematic behaviors may have been due to the increase in anxiety or conflict within the dog, later expressed as a problematic behavior. The conclusion reached by Hiby et al. (2004) was that there are indeed welfare concerns regarding the use of punishment in dog training methods, methods which may result in pain and suffering. We know from experience that problematic behaviors can cause problems for the dog-owner relationship; so much so, that it often results in the relinquishment of the animal. Our role in behavior analytic practice becomes

clear, since we have the tools necessary to prevent this from occurring, and have the opportunity to improve the relationship accordingly. According to Guerra and Clark (2003) positive reinforcement and negative punishment are effective and humane tools in their dog training program. They also caution on the many side effects of punishment such as aggression and biting, and advocate the education of owners to correct the notion that punishment equals physical abuse, rather, it is a basic principle of operant conditioning, which, when applied correctly, will offer an alternative behavioral response for which the animal may be reinforced.

Defining success in practice means establishing an effective, welfare oriented model in behavioral practice, bringing with it the many considerations outlined herein. Our goal as behaviorists must be to establish a high level of competence and trust within our animal communities, fostering an environment which will have a high impact on the relationship between companion animals and their human counterparts. In addition, behaviorists have the added obligation to educate the public on more effective ways to meet the social, behavioral and environmental needs of their beloved pets, as well as to dispel out dated thinking on behavior modification and promote newer, more effective approaches which will take into consideration animal emotions and cognition. According to Dawkins (2006) animal welfare depends on two aspects: whether the animals are healthy and whether they have what they want. Behaviorists may have the opportunity to have the greatest impact in providing for these basic needs within the animal community through the establishment of ethical, welfare based intervention models. Hiby et al. (2004) concludes that rewards based methods of behavior intervention are associated with higher levels of obedience and fewer problematic behaviors, suggesting their use in a more welfare- compatible behavioral model of intervention, and as an effective alternative to aversive

forms of punishment. This approach considers evidence of animal sentience as established by Dawkins (2006), who writes “we should have the humility to use this evidence (of animal sentience) and ask the animals rather than automatically assuming that we know from our human standpoint.”(p.9) She points out that animals are not “furry little humans” viewing the world through human eyes. It is my opinion that as behaviorists, we are compelled to promote further study of animal cognition and emotions, furthering access to new scientific evidence as detailed in this overview of animal welfare in practice. By broadening the available base of scientific knowledge, we can successfully apply the findings in education and treatment within our practices. Then we will better understand what it is like to look through their different eyes, for “real respect for animals will come only when we see them as sentient beings in their own right, with their own views and opinions, likes and dislikes.” (Dawkins, 2006, p.9) In short, the animal voice should be heard.

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