



Contents lists available at ScienceDirect

Journal of Veterinary Behavior

journal homepage: www.journalvetbehavior.com

Editorial

Outcome data informs use of interventions: Shock as an example



The first paper in this issue, [Masson et al. \(2018a\)](#) should be mandatory reading for everyone who trains or interacts with dogs since it contains some of the only data on the incidence of use of shock/electronic/e-stim collars, including bark activated shock/electric collars. It would surprise many owners, but not specialists in veterinary behavioral medicine, that bark activated collars—which punish dogs with shock for what is more often than not a normal behavior - do more behavioral and welfare damage than any other collar type. Such interference with normal, species typical behaviors is not in the best interest of the dog and represents a significant welfare concern. In light of the recent spate of papers and policy statements integrating data from learning theory into recommendations for a reconsideration for the use of aversives and punishment in the training of dogs and other living things ([Ziv, 2017](#); [Masson et al., 2018b](#); [Overall, 2018](#); [Todd, 2018](#)), such data should be welcome. This paper by Masson et al. should spur efforts to document evidence based outcomes, and to collect comparable data for all training modalities.

We lack good epidemiological data in veterinary behavioral medicine. This absence is a serious problem for the field and interferes with collaborative efforts, studies of underlying causality and treatment advances. Accordingly, the paper by [Mood et al. \(2018\)](#) on estimates of occurrence of cognitive dysfunction in pet dogs in Tehran is most welcome. Using the CCDR scale developed by [Salvin et al. \(2011\)](#), 234 family, companion dogs were assessed, with 21 one of them having a high score (>50) on the CCDR, with 9 of the affected dogs aged 7–9 years, 9 aged 10–13 years and 3 aged 14–17 years. While the average age (9.89 years) in this study was lower than for other studies on cognitive decline in older dogs, this may not completely account for a the low incidence rate (8.9%), suggesting that we need studies examining the effects of how we live with dogs on age-dependent cognitive change.

Functional analysis (FA), an empirical applied behavior analysis technique, is increasingly being used as an intervention for undesirable canine behaviors. One of the difficulties of this field for novices involves the terminology, where terms are redefined within the constructs of the principles of the field. While increasingly tested in shelter dogs, as the paper by [Winslow et al. \(2018\)](#) demonstrates, the mapping of behaviors onto functions is not always as tight as expected, reminding us that we should leave space in any theoretical construct to understand and intervene to relieve the pain distress and behaviors that are becoming increasingly pathological.

[Hermiston et al. \(2018\)](#) sought to evaluate whether a pheromonal analogue product could alleviate the stress of a routine shelter event - an unfamiliar dog passing the kennel. These types of studies are notoriously difficult to do because of confounding factors, as demonstrated here. This non-blinded, non-placebo controlled study

found no effect of the pheromonal analogue product on traditional stress measures. A slight but statistically significant decrease in bark loudness (dB) level was found, but it is unlikely to be biologically meaningful, as the authors note, and is impossible to interpret within the design constraints of this study. The authors' discussion of design concerns and complications in real world settings is sufficiently good that it should inform any similar future studies.

[Moons et al. \(2018\)](#) provide much needed follow-up data ([Porters et al., 2014](#)) for kittens that underwent neutering at the traditional age (6–8 months) or prepubertally (8–12 weeks). One hundred and sixty-two cats from the original study were evaluated for behavioral concerns 5–7 years post adoption. The finding should lay to rest one putative concern for prepubertal neutering: there were no statistically significant differences in behavioral patterns or problems reported by the owners between cats in either neutering group years later. Such data can improve outcomes for shelters, shelter cats, and free-ranging cats world-wide.

[Dyson et al. \(2018\)](#) continue to the efforts to validate an ethogram of behavioral signs of pain and distress associated with lameness in the ridden horse. In this paper, behavioral responses before and after analgesic interventions are evaluated. Once the horses were no longer lame, the total sum score of behaviors, the sum of facial scores and the sum of gait scores were all decreased, suggesting that such ethograms can play a real role in how we can evaluate pain in horses.

[Medica et al. \(2018\)](#) continue to contribute data on normal development to the equine database. This is an essential, and often skipped step, if we are to collect substantive, interpretable data on behavioral abnormalities and welfare concerns. Here, the authors provide data on APGAR scores in newborn foals, and accompanying hormonal and physiological data. In a similar approach, [Chung et al. \(2018\)](#) establish the normal range of sleeping times and behaviors for a series of stabled horses in Malaysia. These types of data are never sexy but they provide the foundation for being able to discern abnormal, and, as for the [Mood et al. \(2018\)](#) paper, provide a foundation for epidemiological comparisons.

The ways we handle livestock are all stressful for the stock. [Fazio et al. \(2018\)](#) compared two potentially stressful procedures for sheep—shearing and transport—with respect to parameters that reflect oxidative stress. Road transport, while recoverable, is a major stress, as has been reported for all species examined. This paper reviews the methodology for examining such parameters, which should allow comparative studies to be done and published.

In an excellent review, [Warwick et al. \(2018\)](#) undertake assessment of exotic animal suitability as pets. The appeal of possessing non-domesticated animals appears to cross cultures and centuries. The lure of the different, the unique, the raw is common, but acting

on such impulses may not be wise. Warwick et al. understand that this lure is unlikely to diminish simply as a matter of regulation, and even if it does, the animals' needs are often lost in the discussion. This pragmatic approach that addresses ease of keeping such animals should both inform people before they make disastrous decisions and help them to best meet the needs of these wild animals in their care.

All of the papers in this issue present data on outcomes of things that are done to non-human animals or about circumstances to which they are exposed. Such data should inform how we interact with the animals in our care, and suggest which needs are to be met.

There are upcoming meetings that the readers of the Journal may wish to plan to attend. In July of 2019, the 12th International Veterinary Behavior Meeting will occur in Washington, DC, and in September of 2019 the International Working Dog Conference will meet in Stockholm, Sweden (www.iwdba.org). Announcements for abstract submission and further meeting details should be forthcoming.

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