

Laboratory Animal Refinement & Enrichment Forum (LAREF)

A Discussion Relating to Animals in the Research Lab

*Stressed animals do not make good research subjects.—
American Medical Association, 1992*

Viktor Reinhardt, Moderator

Discussion Participants

Jeannine Cason Rodgers

Kayla Shayne

Jacqueline Schwartz

Lorraine Bell

Pau Molina Vila

Amy Kerwin

Jeannine Cason Rodgers

Polly Schultz

Genevieve Andrews-Kelly (Genny)

Marcie Donnelly

Vitale Augusto

Ali Moore

David Cawston

Moderator: When animals are classified into *lower-order* versus *higher-order* species, would you say that higher-order species—such as monkeys, dogs or pigs—experience more distress under standard housing and handling practices than lower-order species—such as rats, mice or frogs? If so, do higher-order species deserve more of your attention when designing and furnishing their living quarters and when handling them?

Kayla: To speak of higher and lower order may have a place when animals are subjected to invasive experiments and life-threatening procedures, but when it comes to housing and handling, all species deserve our same attention. Lower-order animals are giving us research data that are by no means less valuable than data obtained from higher-order animals, so in return we must appreciate all animals equally and provide them with the absolute best care possible. It's only fair!

Jacqueline: I don't think of lower or higher orders when considering different species. Independent of their species, *all* animals are at risk of experiencing distress if they are forced to endure inadequate living and stressful handling conditions. To me, one species is no more important than any other species that we work with in the research environment. A distressed rat, mouse, rabbit, dog, cat or monkey is not a happy critter and, therefore, not a suitable candidate for good scientific research.

Because any unwanted stressors will have a negative effect both on animal welfare and science, it seems logical that they be identified and eliminated whenever possible.—Richmond, 2002

Jeannine: There is no good reason for giving so-called higher-order species more attention than lower-order species. They're all making a priceless sacrifice for human benefits with no informed consent. In fact, one could argue that presumed lower-order species—such as all rodents—are making a more selfless sacrifice, as they are not likely to ever receive the benefits of the treatments/medicine developed from the research conducted with them, while other higher-order species—such as dogs, cats, macaques and pigs—might very well benefit from such research. I do believe that higher-order species are more complex creatures that have more behavioral needs that must be fulfilled so that they don't get distressed but can have a relatively comfortable life in captivity. However, this does not imply that their needs for well-being are any more important than the needs for well-being of lower-order species.

Marcie: Both, higher- and lower-order species can experience distress resulting from poor housing and inhumane handling conditions, so they deserve equal attention in order to provide them with species-appropriate conditions in the research setting.

Viktor: When these species-appropriate housing and handling conditions are not met, research data are at risk of being confounded by physiological stress and distress reactions regardless of whether the data are obtained from higher-order or lower-order animals. It is very unfortunate that many—not all!—investigators think only briefly about the care and handling of their animals and clearly have not made it an important consideration in their work (Traystman, 1987; Arluke, 1988; Baumans et al., 2007; Reinhardt, 2013). This can make it a rather complicated endeavor when you want to introduce refinement techniques that avoid stress and distress reactions that these animals experience due to inadequate housing conditions and fear-inducing handling practices.

Lorraine: From my own experience, I often find it easier to notice distress in what we typically regard as *higher*-order species than in *lower*-order species. When I worked with dogs it was always immediately obvious if a dog was uncomfortable or scared and distressed. When I was assigned to care for a large tank of turtles, that was most definitely not the case. These animals could have been very dissatisfied with their tank, but it wouldn't have been so easy for me to notice that with certainty. So, in some respects it might be even more important that we pay attention to lower-order species since their behavioral cues may be much more subtle than those of higher-order species, especially those with whom we share basic behavior patterns or are particularly familiar.

Viktor: I do wonder if the behavioral cues of discomfort, distress, frustration and boredom of so-called lower-order animals—e.g., rodents, amphibians, reptiles and birds—become less subtle, better recognizable when we have made ourselves as familiar with their species-specific needs and behavior as we are familiar with the needs of so-called higher-order animals—e.g., dogs, monkeys and pigs. "Even" little tree frogs turn

into fascinating creatures when you watch them over extended periods of time and get a feel of what it must be like to be a frog; you will automatically also cognize the behavioral and postural cues that tell you if the little frog is frustrated, uncomfortable or distressed. I am talking from my own experience, when a tree frog decided to spend the fall, winter and spring right next to my desk; needless to say, I gave the little girl—I am not sure, it could also have been a little boy—a name. In the beginning, I thought Froggy would be much better off outside at a close little pond; I brought her out several times, only to find her back at my desk the next morning. I have no clue how she managed to find her way back into the room and up on my desk. After three attempts, I gave up and let the little stubborn creature have her way. Watching Froggy as my next-door neighbor, I discovered that she had a laid-back temperament, especially when she hunted for ants during the winter season. She didn't really hunt them but patiently waited and waited until one of the ants literally walked over her nose. Only then did she swiftly gulp down the ant. Froggy got a visitor in spring; how he got in and found Froggy remains a mystery. Maxy shared Froggy's home until the end of June, and one morning both were gone. Fortunately, they left no tadpoles behind! It was rather cute to watch the two and be with them; I got a pretty good idea about the environmental tree frog-specific needs.



Viktor Reinhardt



Polly: Suppose an advanced intelligent life form from an undiscovered galaxy were to appear on earth and found us humans. I would hope that they were so far beyond us in evolution, intelligence and wisdom that the difference between us and them might be similar to the difference between a mouse and a human, and that they would not belittle or even negate our ability to feel emotions, fear and pain and our longing to find fulfillment and joy in our daily activities. I would also hope that they would observe us—as you watched the little frogs—to learn how they might understand our needs for well-being and interact with us in ways that cause little or no fear and anxiety to us. That's probably the corniest example you've ever heard. But I think it's our moral responsibility as human beings to be considerate and compassionate about the feelings of *all* creatures—great or small.

Augusto: To categorize animal species according to characteristics they share with humans—e.g., intelligence, brain size—and then treat them and care for them accordingly would not be correct in my opinion. For example, providing better animal welfare regulations for species that are presumed to be more intelligent than other species—e.g., warm-blooded versus cold-blooded species—would not only be unethical

but it would also not be scientific. We can design and provide species-appropriate living conditions for animals in research labs only after we have gained comprehensive knowledge of the etho-ecological needs of each particular species. This approach is not tainted by conceptual, hence subjective considerations but it is a guarantee that the foundation of professional animal care is the same for all species.

Viktor: The terms *higher-order* and *lower-order* animals/species have no scientific value, as they are mere concepts created by the human mind, but they can have discriminating implications for species of presumed lower order, such as rats and mice.



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Pau: As evolution is not a directed nor a linear process, classification based on *lower* and *higher* species makes no sense at all. This human mind-based categorization has tacitly legitimized the infliction of a lot of pain and distress on uncountable numbers of animals of presumed lower order. So from my point of view, we need to fight against the use of this type of discrimination in the scientific contexts.

Viktor: Also in the ethical context! Legally condoned discrimination can result in immeasurable suffering when animals are not considered to be animals—e.g., rats and mice—or when animals are not being considered at all—e.g., cold-blooded animals such as frogs and fish—in animal welfare regulations.

Lorraine: Regardless of how we categorize different animal species, we owe it to all of them equally—and to ourselves—to provide them with species-adequate enclosures and to refine our handling techniques so that the animals aren't being unduly stressed. Our

jobs are much more rewarding when we are certain that our animals are getting the best care we can provide.

The development of these relationships [human-animal bonds] is enriching to both personnel and animals inasmuch as people who care about their animals are committed to promoting and ensuring the well-being of those animals. Relationships that develop between facility personnel and laboratory animals may result in an overall reduction in stress for the animals and may serve to buffer the potential stress of certain experimental situations resulting from the novelty of the procedure area, an intellectual challenge, disease conditions, or certain experimental procedures (e.g., gavaging, tail snips, blood sampling). Administrators of animal research, testing, and teaching programs should look for opportunities to encourage the development and maintenance of bonds between personnel and laboratory animals, beginning with the initial employee interview. Staff should be trained not only in ways to optimize the performance of their jobs but also in the basics of animal behavior. The outcome will be more refined research, improved animal well-being, and personnel who gain more reward from their jobs. Bayne, (2002)

Genny: The better we know our animals—on a species-level and on an individual level—the better we can care for them. The more insight we gain into the needs of our animals, and the more we know about their species-typical behavior, the better equipped we are to champion improvements to enhance their lives.

Viktor: I believe, but I may be wrong, that the quality of care we provide to individual or groups of animals is determined by our emotional relationship with them. The better we know them, the greater the chance we get emotionally attached to them without our intention; when this happens, we spontaneously do our best to assure that these animals feel well and that they are at ease regardless of whether they are of presumed higher or lower order. The latter question becomes completely irrelevant.

Augusto: Emotional attachment does a lot! Obviously, it brings emotional costs for the caregiver, but it assures that we provide the best care possible for the animals in our charge.

Evelyn: Many years ago my mentor told me something that has stuck with me always: “When it stops hurting, it’s time to get out.” I believe we must have an emotional tie to the creatures with whom we work. It helps us to remain passionate in regard to animal care and animal welfare.

It is not an overstatement to say that the right technician instills qualities in the animals that make them better and more reliable research subjects. Stress, on the other hand, leads to profound physiological and behavioral changes that increase the variability of the data and decrease the reliability of the results. The caretaker or technician is at the pinnacle of a cascading series of environmental and social influences that determine the well-being of the animals. He or she must strive to develop a social bond with all

[emphasis added] animals. The bond with the caregiver conveys to an animal a quiet sense of assurance upon which coping strategies can be developed. —Wolfe, 1996

Researchers must continue to question the barriers that have traditionally been erected against forming HABs [human-animal bonds] in the name of objectivity and to investigate seriously the ways in which fostering the formation of HABs can promote animal welfare without compromising the scientific respectability of research. —Russow, 2002

The bond between people and animals in the laboratory, if understood and used consistently, can minimize certain variables related to stress in the animals. Kindness and concern for animals are desirable characteristics of anyone involved in animal research.—American Association for Laboratory Animal Science, 2001

There is every reason to believe that individuals who care about their wards on a personal level actually treat the animals better.— Herzog, 2002

Jeannine: Yes, it's our emotional investment in the animals we care for that propels us to advocate and work for their well-being. I'm trying to figure out if there's a place where I can be emotionally invested enough to do just that, but not so attached that I fall apart each time animals I have gotten attached to are being euthanized at the termination of the study. I worry about burnout for myself. I am losing one of my charges in June, and I already know that it will be particularly hard for me to cope with this. I am VERY emotionally



Bob Dodsworth

invested in this guy. On the other hand, if I wasn't emotionally invested in him, I don't know that I would have had the motivation and energy to make this PRT program happen at my facility. So, I'm asking myself—without yet having found a good answer—if I should accept that emotional pain is part of my job and develop a thicker skin about it, or if I need to accept it and resign myself to the eventual burnout?

Jacqueline: That's a hard situation to deal with, and I don't know if there is or ever will be an emotional *sweet spot*. In the course of my almost 30 years working in an animal care facility I had plenty of time to think about this! I would prefer animals were not used in research but know this is not yet possible, hopefully in the future but probably not in my life-time. What keeps me here is my commitment to make the animals' stay at our animal care facility more comfortable and stress free. I want to make sure that they are being treated with compassion. The only way I can guarantee that is to be in the middle of it, to see and experience it and do my very best for the animals! Even with all this rationalization, burnout can happen. I have been very close to it myself and can say that the best advice is to recognize the early symptoms—e.g., frustration, irritation, sadness—and try to deal with the situation.

Jeannine: Thank you! What you write helps me to remind myself why I'm doing this work. Yes, I do hope, actually I am confident that I made life better for this guy during the short time he was with us. The pain I will feel about the loss of this monkey is more about me than him but I'm just going to miss him so much. It helps to have a forum like this where I can share my emotional pain and know that I am not really alone with it. That is priceless :o)

Jacqueline: I also like the fact that I have a place where I can open up if need be and say how I feel. It certainly helps to know that we are not alone! :)

Polly: Regardless of whether the animals we care for are in a research setting or a sanctuary setting, the pang of heartbreak is no different when we lose, or anticipate losing those we have formed such a strong connection with. We've grown to love the animals in our charge, and many times in such a deep way that losing one of them feels no less painful emotionally than when we lose a family member or a dear friend. It's okay to cry ... and sometimes a lot! It really does wreak havoc on my heart when I lose an animal. Yes, it does help to have a good friend standing by with a box of Kleenex.

Jeannine: Being able talk about our sadness and frustration and having these feelings acknowledged without judgment, is critical in my opinion and likely plays a huge role in staving off burnout.

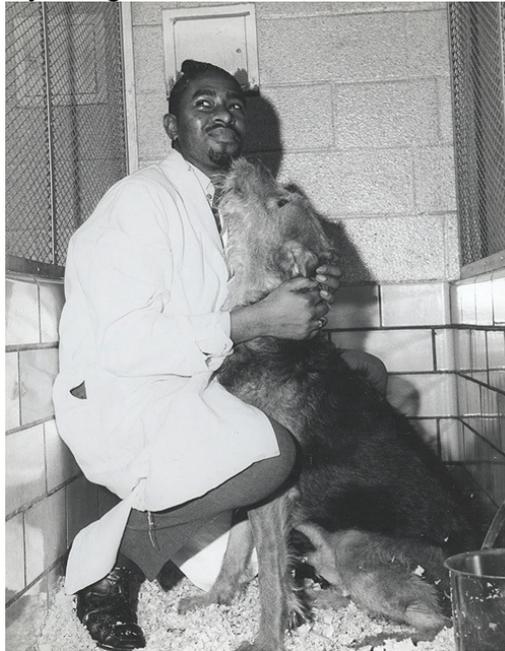
Polly: After a few losses of monkeys I had saved and gotten very attached to, I wondered how I could continue this line of work. Why would I put myself in such an emotionally painful position; especially caring for an individual who is not expected to survive from the get-go, and knowing that the very weak, frail creature will no doubt find his or her way into my heart and then ... break it like glass? There is no way to avoid the pain. I cry through it, feel it, and know that I am only crying for me—my friend is no longer in pain;

my friend had no sense of yesterday or tomorrow and did not anticipate or fear death; and I know that while he or she was alive I made life better for him or her; I cherish every moment we have shared together! If I stopped working with my friends out of fear of feeling pain when I lose them, I would miss out on so much, and not being able to help them have the greatest life possible in captivity. For those I've loved and lost ... I continue working, to help all of their little cousins :0)

Amy: Having a program in place to help deal with the loss of animals would be so helpful! When I lost an animal and cried at work, my lab manager said: “You are too sensitive and need to watch yourself.” This rather judgmental statement added to other reasons I decided to resign after five years of dedication to that lab.

Ali: I too was basically pushed out of my last job because it was implicitly conveyed to me that I was too sensitive and cared too much for the animals in my care.

Jeannine: I find it extremely irritating when technicians' feelings are dismissed during difficult losses. We had a coworker who was sort of scoffing at how emotionally the whole group of techs reacted when a particular animal we all loved was euthanized at the termination of a study. I remember one of the techs wondering if the scoffing simply showed that the coworker wasn't really at peace with the situation, which may have stirred feelings of insecurity and guilt.



Anonymous | AWI Archive

David: The caring-killing paradox is often not acknowledged and probably not understood by those who have the authority to make decisions about the fate of animals, yet have no or only very limited direct contact with them. Far too often I hear "it is part of your job" when a long-term animal is being scheduled for euthanasia and the discussion of the staff's emotions/well-being are involved; I find this very frustrating and disappointing.

Jacqueline: Most managers don't work with the animals as closely as we—the techs—do. They are not at a high risk of getting emotionally attached to the animals, so it is really easy for them to tell us that it's not professional to get sad or upset when one of our charges suffers or when one of them is killed.

Genny: This is definitely an issue that I have struggled with for my entire career. I cannot even count how many times I was told "You are in the wrong job." I used to be ashamed of my sensitivity, but I won't apologize for it any more; I know without a doubt that I am exactly in the right position. It is people like all of us here that bring about the changes that the animals need—and deserve—and that scientific methodology needs. We are the ones who advance animal welfare because we care so much about our animals.

Kaile: In my opinion, a *humane* staff and a supportive network among colleagues are key to dealing with and overcoming compassion fatigue. When I am asked to put a dog down with whom colleagues and I have worked closely for years, everyone is extremely emotional, including our PI. The last time this happened, we all had a *moment* with him beforehand and there wasn't a dry eye in the lab. Being the lab manager and trainer, I was probably the closest to him. I didn't even have to ask before I was offered the chance to go home early and take the next day off.

Polly: I was cautioned by a veterinarian not to get attached to our little Jala, the cyno who was nearly starved to death. The physical trauma caused by so many grueling years of neglect was extreme, including severe damage to her heart and kidneys. As she reached out from her crate with a trembling hand and held onto my finger, she looked into my eyes with her soul, and with so much trust. Barely able to hold up her own head, she quietly lip smacked so that I would groom her. My heart was overwhelmed and there was simply no possible way I could not get emotionally attached. I really didn't think she would survive more than a few days or possibly weeks, but during that time I wanted to be there if nothing more than to bring her comfort, a warm blanket, to give her good food, alleviate her physical pain, and to be her friend. Knowing that I could bring her comfort during whatever time she may have overrode my angst that at some point my heart would more than likely be broken. She is still alive months later now, and experiencing real quality of life. What a great friendship we are both gifted with at the moment! :0)

Kaile: When I get a little down after one of my animals has been euthanized, I like to research and catch up on my favorite animal sanctuaries and rescues to see the bigger, more positive animal welfare picture. Nothing beats spoiling the critters still around, too. Fridays are novel enrichment day, and it tends to lift spirits after a hard week!

Genny: Much like you, I have found that it takes the edge off to see what is going on in the sanctuaries, or I find some solace in our dog adoption program. I am also grateful to know that there is a huge community of caring individuals through LAREF. It brings me some sense of peace to know that I am not alone, and to know that there are so many animals benefiting from all of us caring about their well-being.



Shadowrat Rat Sanctuary

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