

Laboratory Animal Refinement & Enrichment Forum (LAREF)

A discussion: Bonding with Animals in the Biomedical Research Laboratory

Inevitably, individuals who work with animals in the context of biomedical and behavioral research will sometimes form bonds with the animals with whom they interact.—Herzog, 2002

*Such attachments are the results of compassionate people doing their job right.
—Wolfe, 2002*

Erik Moreau, Moderator

Discussion Participants

Marcie Donnelly, Ali Moore, Joanna Cruden (Jo), Jacqueline Schwartz, Jeannine Cason Rodgers, Kaile J. Bennett, Michele Cunneen, Genevieve Andrews-Kelly (Genny), Hannah Kenward, Viktor Reinhardt

Moderator: We have discussed on several occasions how important the establishment of a mutual human-animal trust relationship is in the research laboratory setting. Not only is it a safeguard that the animal receives the best possible care by the human, but it also helps to minimize or avoid stress reactions when the animal is subjected to potentially painful or uncomfortable procedures. It has become quite clear that many of us do form such bonds quite spontaneously with non-human primates and dogs. When we work with rodents or rabbits, do we bond with them individually or as groups? Also, is it possible to gain the trust of a mouse, a rat, a hamster, a guinea pig or a rabbit?



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Marcie: In my experience with guinea pigs and hamsters, I can definitively say “yes, it is quite easy to gain the trust of individual animals.” I love these little critters; for me bonding with them happens spontaneously. I find that they are relatively at ease with study procedures and experience very little or no apprehension and fear overall! The bond with my guinea pigs and hamsters not only makes the animals happy while in research but it also enriches my life.



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Viktor: It is my personal experience that it is impossible not to develop a personal interest and compassion for rodents or rabbits, who are being taken care of by me on a daily basis. I think they are all amazing creatures in their own right. It is a touching experience for me when a little rodent sits quietly in my hand and shows no signs of fear. Without my intention, I develop a kind of interest for the well-being of these creatures; that's probably what the term *human-animal bond* implies.



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Ali: We couldn't agree more! ALL creatures in our care—not only the big ones but also the small ones—deserve our personal interest and concern for their safety and well-being.

Jo: About 20 years ago we had a C57/BL female mouse; she had a very sticky eye and the clinical veterinarian asked me to put cream on the eye 3 times a day for 7 days. After

two days, the mouse would stand on my hand and tilt her head sideways towards me so I could easily put the cream in her eye without restraining her. I was stunned that a mouse would do this; at first I thought it was by chance, but she did it every time. She made a full recovery. I did visit that little mouse pretty much every day while she was with us. I will probably never forget her.

Jacqueline: I had a similar experience with a mouse who had a chronic eye infection. It was my job to take care of this problem. At first, the little guy did not like it when I gently cleaned his eye with saline, but with lots of time, patience and very gentle handling, he would finally just sit in my hand and let me clean the eye without any restraint; he would even tilt his little head toward the Q-tip! I think he trusted me and knew that I was not going to hurt him but was doing something that was actually good for him.

Viktor: This is a very touching story and a great example of the often overlooked potential of mutual trust between human handler and animal. The absence of fear along with good intentions is probably the key to developing such a trust relationship with rodents, rabbits or with any other animals.

Erik: There is definitely a benefit in forming such a relationship. I see it first-hand in the sense that rodents don't seem to like my hands. I've tried to handle the animals like the trainers and the attending animal care staff do. In their hands, the rats relax and go limp. For some reason they are not comfortable with me. Not that one of them has ever bitten me, but they just don't go limp. Knowing that rodents are not at ease with me, I make it a point to leave the handling to the pros. I'm better with rabbits though. I do feel that I am comforting them during basic handling procedures, but I sense that they are afraid during the bleed.

Jeannine: Rabbits are so easily stressed that building up a trust relationship with them has been extremely important in my experience. The period from when new rabbits arrive to when they're ready to be handled requires a lot of patience and many, many comforting interactions with them. I work with them every morning, just using a soft voice—sometimes singing. Moving very gently, I allow them to explore me. They are usually bug-eyed and nervous at first but then come around, get curious and cautiously smell me, and finally allow me to gently touch their nose. After a couple of days, I can briefly touch their backs, but their response is initially very tense. At the end of the first week most of rabbits will allow me to pet them on their back without getting uptight. All of this is accompanied with a soothing voice; they like opera :o)

By week two, some of the new rabbits will hop up to me and put their nose invitingly down so that I pet them. I've had some rabbits who, after a couple of weeks of positive interactions with me, run up to me and lick me when I came into their room. These rabbits will remain calm through almost any treatment I have to do with them, e.g., PO meds, IM injections for sedation, eye drops and nail trimming.

It really just seems to be a matter giving the rabbits a chance to learn through experience that there is no need to be afraid -- that you always have friendly intentions when you approach them. The more positive experiences they have with you, the happier

they are to see you in general, and the more willing they are to let you handle them even in uncomfortable positions because they know that they can trust you.



North Texas Rabbit Sanctuary

Kaile: I want to get back to our stories of mice with whom we have developed a personal relationship. One particular mouse stands out in my memory who touched me deeply. She was almost three years old and had obviously been overlooked and forgotten on the bottom of the cage rack. All her cagemates had long passed when I noticed her. I began giving her extra enrichment—nestlets with envirodry, small huts and a wheel—and checked her every day.

I was emotionally more upset than I had anticipated when someone else finally realized she was there, and I came in one day and the little mouse was gone—probably euthanized.

Viktor: Most of us are probably not immune to becoming sad, perhaps even frustrated, when we come into a room unprepared and find the cages of rodents we have cared for and worked with are gone. Does this spontaneous sadness not reflect that you had unconsciously bonded with these animals and hence were especially concerned about their well-being?

Jo: There is nothing that makes me feel more sad than knowing that animals I have cared for will be killed for no good reason.

Ali: One of my favorite rats was more than 2 years old and was part of an alcohol intake study. Understandably, he was sometimes quite difficult to deal with, so on one occasion he struggled so vigorously that one of his toenails was ripped off, causing a lot of

bleeding. I had become quite fond of him after spending a good hour trying successfully to stop the bleeding! He didn't like me messing with him but he gradually relaxed. After our time together he would let me reach in and pick up his back feet and look at them and/or apply ointment as needed. I think he sensed that I really wanted to help him, so he trusted me—as I trusted him.

It so happens that today, early in the morning, I noticed that this rat with whom I had developed a bond is no longer in the rat room. It makes me very sad.

Michele: It is a spontaneous process for me to connect with a rat, a hamster, a rabbit or any other animal on a personal basis, not necessarily because I have been involved with them a lot but simply because I love animals. This does make the euthanasia more difficult when the time comes; it can be very hard.

Marcie: I totally agree. I worked with rats and mice for many years and took a particular liking for quite a number of rats; they are very personable! We would run PK/PD studies with them and euthanize them after the study. Every week we euthanized close to 100 rats. I actually began to be so depressed doing this all the time that I left the group for the large animals. I have also become extremely attached to those but we keep them for years, so it isn't as bad. We have started an adoption program for as many dogs as we can re-home, but of course you can only re-home so many dogs. Emotionally, our work is not easy!

Ali: I sometimes think that many PIs forget that a mouse or a rat is a living creature with feelings, not just an object for testing. I am not saying that there aren't researchers out there who care deeply for the animals assigned to their research, but the majority I have worked with are sometimes so removed from the animals but so focused on their research agenda that they seem to forget the basic animal care part of their research which, in my opinion, is extremely important -- not only for ethical but also for scientific reasons.

Viktor: My experience with researchers has made me a bit suspicious that many of them pretend to be so busy with more important matters that they don't find the time to check the well-being of their research subjects. For them the animal is nothing but a standardized research tool. This attitude allows them to create an emotional barrier between them and the animals who, after all, provide them research data upon which a professional career can be built. Many PIs may know subconsciously that getting too close to mice, rats, hamsters or guinea pigs assigned to their research can be a trap for their emotional heart; for the presumed *objective* researcher, this would not be acceptable.

The majority of scientists seem to make great efforts to become open to allegations of being somehow 'scientifically soft'. However, awareness of actual and potential stress and distress among animals in whatever situation should not be regarded as subjective but as a sound scientific base for the study of animals. Whether an observer maintains a high personal respect of the well-being of the individual animal or holds classic concepts of animals as being experimental 'models', it should be more widely recognized that there is typically a scientific necessity to have animals at ease with their environments if studies are to remain objective.—Warwick, 1990

Genny: I work in a mostly tox/GLP lab. We are taught the GLP-lingo, which refers to the animals as *test systems*. It is difficult to get someone to appreciate the behavioral and emotional needs of a *test system*. While our animal care and technical staff definitely do bond with the animals in their charge, it can be challenging to convince study directors that all animals—including mice and rats—have species-typical needs that have to be addressed so that extraneous variables affecting research data can be minimized or avoided.

Erik: Even though documentation refers to the *test systems* at our facility, in conversation in-house, these test systems are *animals*.

Genny: We have a similar culture at our lab, but there are always the more *die hard* individuals who will not see the animals as *animals*. For them, I tailor the arguments and make sure that they see the scientific impact of species-adequate animal care.

Viktor: If PIs had to feed their animals and check their health on a daily basis, clean their cages on a routine schedule, prepare them for procedures, handle them during procedures and check them after procedures—including weekends and holidays—they would no longer be *removed* from the animals they do research with. I would assume that in such a scenario, most researchers would recognize the research subject not only as an ID number on a computer printout, but would gradually open up to living creature and develop an active interest in his or her well-being.

Kaile: I work for a lab where the PI is involved in training and is very concerned with being an *up and coming* lab for primate research in terms of housing the animals properly and in social settings. This is the first PI I've met who is truly concerned about the welfare of her animals, probably because her direct, daily involvement in the research with these animals does not allow for much emotional distancing. Additionally, she must be aware of the fact that the well-being of these creatures directly affects her behavioral research with them.

Hannah: I am a PI, and there are many of us out there who do care about animal welfare and husbandry. The animal technicians help me with the training and data collection when possible and I help them with husbandry and cleaning chores when necessary. It is my feeling as principal investigator that I am just as responsible for the welfare of the animals of my research as anyone in the husbandry team.

Viktor: I am very happy that you speak out for the principal investigator we all want to see in biomedical research labs. Your comments are so encouraging that I am now planning to summarize this discussion for possible publication.

References

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