

Meeting 11 Summary

11/3/04

Thanks to those that attended the last meeting. We had a low turnout and a pretty short agenda this time, but we still managed to accomplish a few things.

Updates:

Amy did some investigating and it turns out that Primates Inc should be able to get independent study credit for students, but Primates Inc and the student will have to work together to achieve success. Two types of project descriptions (for the student to present to the faculty member) will be written before the spring; they will consist of writing an extensive lit-review on a topic or preparing a grant for submission. Primates Inc and the interested students need to find willing faculty members to approve such a project. Amy was told that it is easy for faculty members to approve credits and anyone that is involved in research, science, or business would probably be up for it. The faculty does not have to be an instructor of a class a student is enrolled in, but must be at least teaching a course at the University. Although Primates Inc will promote itself to the UW and Edgewood College, if anyone would like to try to receive credit from another University, something could probably be arranged.

Does anyone know someone in Architecture or Art? Perhaps a student could re-draw the Primates Inc plans to scale as an independent study project.

Activities for kids:

Jehan teaches many middle-school children and suggested that we get them to write or draw something. We could build a collection of their arts & crafts and possibly include them as thank you gifts when appropriate. Please let me know if you have any volunteering ideas for children.

Article Review/Discussion:

Amy reviewed the article:

Fernandez, E., Dorey, Nicole., Rosales-Ruiz, Jesus (2004). A Two-Choice Preference Assessment with Five Cotton-Top Tamarins (*Sanguinus Oedipus*). *Journal of Applied Animal Welfare Science*. 7(3), 163-169.

Abstract: A study selected 5 cotton-top tamarins located at the Frank Buck Zoo in Gainesville, Texas, for a food preference assessment. The study used a paired-choice procedure across 7 different food items for all 5 tamarins. Preferences for the food items across all the tamarins varied, although general trends were noted as well. This article discusses the benefits of using a paired-choice preference assessment in zoo settings.

First, various combinations of treats were presented and the researchers “ranked the stimuli on the percentage of times an individual selected that stimulus”. The varied responses suggest that every animal is different and would most likely require a choice preference test prior to training. The researchers point out that this is important to keep the animal motivated for training.

Discussion (Amy):

This article, although performed in a zoo, has some good messages for the research community since the same type of species is used for research and these principles could be expanded onto other nonhuman primates as well. Although

generalization should not occur across species unless there is empirical data, the notion of treat variation and positive reinforcement training has been shown to be successful across many different types of species (See Animal Behavior Management Alliance).

Although the settings may be different in a zoo and research facility, the common ground is the type of animal. Further investigation into the zoo community should happen on behalf of the research community since the zoos are discovering many different methods for training nonhuman primates to cooperate with clinical procedures. This study (and others) shows that even animals in the same species have individual preferences and should be assessed as individuals.

Assessing large colonies of animals in a research facility would be a challenging if not impossible task given the limited personnel. However, when we look at the affects of treating a large number of monkeys the same when using negative reinforcement for transport removal (and other husbandry procedures) we see that not all of the monkeys react the same to the negative stimuli. Some monkeys readily go into a transport, whereas other monkeys need a significant amount of coaxing-this takes up 10-15 minutes for 1 'stubborn' animal. When I worked with monkeys, I noticed that each individual was different when receiving an injection or blood draw. Some would calmly cooperate, and some would need to be completely immobilized in order to receive these. This variation in responses could mean a variation in physiological responses.

This variation is not good when trying to interpret research results. For example, if you have to treat a monkey with a drug in a restraint apparatus for a certain disease-one monkey appears calm and doesn't struggle for the injection while another one struggles consistently. Which animal is more stressed (one of them or both of them)? Stress is known to compromise the immune system, so the monkey that struggles and fear-grimaces every time for the injection would most likely have the illness longer than the monkey that does not appear to be stressed (I say appear, because in the wild, monkeys must hide their fear, pain, and stress to avoid predation, so the one that appears calm could actually be stressed as well).

If each animal facility hired an animal trainer and positive reinforcement training were implemented as the monkeys were born into captivity and subsequently throughout their life, then the monkeys would show a predictable, standardized reaction to a husbandry or research procedure. This would result in a more standardized behavior across all monkeys which would lead to less variation when interpreting research results. Also, the willingness to do something eliminates the stress due to restraint. The animal care personnel could be re-trained in positive reinforcement so that they could take over for the animal trainer. This time investment would result in a time-savings for the monkeys that might otherwise be difficult to remove using negative reinforcement.

Also, I am convinced that animal training is already occurring in some research facilities (b/c of anecdotal discussions). I would like to quantify these incidences through a questionnaire and then provide a recommendation to the USDA to standardize the most innovative, less-stressful methods across all research facilities. Standardizing methods would also make it easier to interpret a paper that was written at one institution when trying to apply those findings to a future study occurring at a different institution. This is a part of my Master's thesis, so if anyone has positive reinforcement experiences to share, please email me!

In the future, Primates Inc, a noninvasive behavioral research facility, will provide more empirical evidence in the area of positive reinforcement training and relief of abnormal behavior in order to keep the innovation alive in research facilities.