
Training Captive Chimpanzees for Movement in a Transfer Box

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INTRODUCTION

Many animal care facilities, such as zoos and laboratories, are beginning to view operant conditioning as a valuable management tool (Laule, 1993). Animals can be trained using positive reinforcement, a method which allows the animals to receive rewards for performing desired behaviors. Training captive chimpanzees for cooperation during routine management procedures is also gaining in popularity (Laule, 1992). This popularity stems from the fact that a trained chimpanzee is much easier to work with, ultimately takes less personnel time, causes less stress to all involved (chimpanzee and human), and saves money and possible injury by avoiding sedation.

It is often necessary to move chimpanzees utilized for biomedical research due to their infection status, study constraints, or management concerns, such as the need to have a building repaired or painted. Apes are difficult to move and moving them typically requires sedation, lifting a heavy chimpanzee which poses danger to personnel, the use of heavy equipment for movement of the animal, and monitoring of the chimpanzee during recovery from anesthesia. In order to avoid these difficulties, we trained chimpanzees to enter a transfer box for movement to new locations. The transfer box does not require sedation, lifting heavy animals, or follow-up care.

METHODS AND MATERIALS

Thirty-seven captive chimpanzees were trained using operant conditioning to enter a transfer box for movement to new locations, for routine cleaning and repairs, and as enrichment. The chimpanzees in this study ranged in age from 4 to 40 years old. Chimpanzees in individual cages, in pairs and in social groups were trained to enter the transfer box. In the cases of the pairs and groups, the chimpanzees were not separated from their companions prior to or during the training.

The transfer box consisted of a 48 x 35 x 29 inch modified stainless steel cage. The top and both ends were constructed of bars and the sides were solid. The modifications included adding chains on each corner of the cage to allow the box to be chained to the chimpanzees home cage, plexi-glass panels on top of the cage to prevent the chimpanzees from manipulating the locking mechanisms, wheels to allow for movement, height adjustments to enable use in various housing situations, and a pulley mechanism attached to the door in order to leave the door open or to gently close it.

The transfer box was placed in front of the chimpanzees home cage door and chained on with the door open. The home cage door was then opened and the time noted. The chimpanzees were coaxed into the transfer box with praise, attention such as playing games or tickling, and treats such as juice, tang, grapes, raisins, prunes, pieces of larger fruit, and an occasional candy as a special bonus. After entering the transfer box, the chimpanzee was allowed to enter and exit the box until he seemed to be at ease; i.e. playing in the box, placing the entire body including both feet and hands in the box,

laying down in the box, or taking treats in the box without constantly glancing at the door. At this point the door was shut, the rewards given in abundance, and the time lapse was noted. As an added reward, the chimpanzee was then taken for a "ride" around the area where he was able to see, hear, and smell other chimpanzees.

Following the training session, the trainer recorded the details of the session on a data sheet developed at University of Texas M. D. Anderson Cancer Center in Bastrop, Texas. The date, time of day (a.m. or p.m.), housing situation, length of session, social grouping, the chimpanzee's attitude, and the results of the session were recorded. In addition, information regarding which reinforcers were favored, which individuals were present, and the state of the female chimpanzees' perineal swelling were noted in the comment section.

RESULTS

Eighty-four percent of the chimpanzees were trained to transfer in a box, with chimpanzees being moved to new locations in 94.6% of the moves. Chimpanzees boxed in less than 30 minutes in 73% of the trials, with 44% boxing in less than 10 minutes. The remaining chimpanzees taking longer than 30 minutes to box took an average of 2.5 trials to train. No sex or age differences were found regarding ease of training or length of sessions.

Typically one person was necessary to train a chimpanzee to enter the transfer box, although an additional person was helpful to work the doors and ultimately move the animal.

DISCUSSION

The length of time spent to train an individual animal varied widely, with some chimpanzees taking less than a minute and others taking over 210 minutes. Laule (1992) has also noted great differences in response time between individual chimpanzees. Often times the chimpanzees would refuse food rewards while locked in the transfer box, but would respond to praise or touch. Reinhardt (1992) also found a general refusal of food rewards when training macaques to enter transfer cages. In groups consisting of more than two animals, training was, often most successful when at least two chimpanzees were allowed to enter the transfer box together. This allowed them to comfort each other and seemed to encourage them to relax.

As evidenced by our results, chimpanzees can be trained to enter transfer boxes for many purposes and in many situations. The training process saved veterinarian and technician time, avoided stress or even danger to the chimpanzees due to sedation, and saved the facility money. Having the chimpanzees trained to enter the transfer box allowed us to schedule moves without involving veterinary staff. When the life span of the chimpanzee is considered, which may be over 40 years in captivity, training provides substantial savings in personnel time and facility finances. Training utilizing positive reinforcement methods also helps encourage positive interactions between the chimpanzees and their caregivers, which can be seen as a form of enriching the chimpanzees lives. In addition, Bloomsmith (1992) has found that training allows for greater opportunities for the behavioral researcher and is enriching for the chimpanzee both during training sessions and following them.

Further training will focus on maintaining the "boxing" behavior, attempting to deal with regression, and transferring the training to caregivers.

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