Vertical Poles With Cow Bells: An Enrichment Device for Chimpanzees (Pan troglodytes)

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INTRODUCTION

Cage furnishings have considerable potential as environmental enrichment for captive chimpanzees (Pan troglodytes) and can be used to promote species-typical behavior patterns (Brent et al. 1991; Chamove 1989; Howell et al. 1997; Schwandt 1996; Suarez and Forter 1995; Traylor-Holzer and Fritz 1985; Wolper 1995). The purpose of current study was to test a new type of cage furnishing designed to encourage locomotor activity in captive chimpanzees.

The Primate Foundation of Arizona (PFA) is a chimpanzee behavioral research center that houses chimpanzees in social groups and provides them access to large, enriched, outdoor enclosures that include a variety of cage furnishings. In this study, we added two types of devices: free-hanging poles, and free-hanging poles with attached cow bells, to the outdoor enclosures. Observational data were collected to determine the use of these new devices and whether chimpanzees preferred vertical poles with, or without, cow bells attached to the end.

METHODS

Apparatus. The vertical poles were 42" galvanized metal poles covered with 3/4" PVC pipe and suspended in the enclosure by a 1/3" galvanized metal cable. For the vertical poles with cow bells, a cow bell was attached to one end via a u-bolt joint. Figure 1 provides a diagram of how to connect the vertical pole to the top of the cage, and Figure 2 provides a diagram to illustrate how to connect the cow bell to the vertical pole.

Subjects. Subjects included 36 chimpanzees housed in five different outdoor enclosures. The sample included 17 adults (4:13) and 19 sub-adults (juveniles and adolescents) (9:10). It included all available subjects, and as a result was not balanced for age or sex. Social groups included both peer groups and mixed age groups.

Analysis. A one-zero sampling method was used to record each subject's use of each type of furnishing. A 30- minute focal-animal sample was collected for each subject. Data were also summarized to consider age and sex differences in use of the two types of furnishings and to determine if individuals housed in peer and mixed-age social groups exhibited differential use of these furnishings.

RESULTS

Both the vertical poles, and the vertical poles with bells were used by the chimpanzees. However, the poles with bells were used more often and by a greater number of individuals. The vertical poles with bells were used by 36% of subjects while the vertical poles without bells were only used by 19% of total subjects. Table 1 provides a breakdown of the percentage of total subjects that used vertical poles versus vertical poles with bells for sex (male, female), age (adult or subadult), and social grouping (peer or mixed age groups).

Results indicate that both males and females preferred the vertical poles with bells to the vertical poles without bells. Across age groups, more subadults used both kinds of cage furnishing but both adults and subadults preferred the vertical poles with bells to the vertical poles without bells. Among social groupings, results were less clear. Subjects in peer groups preferred vertical poles with bells, while subjects in mixed- age groups showed no particular preference.

DISCUSSION

Adding a simple cow bell can increase use of vertical climbing poles and may have resulted in increased locomotor activity for captive chimpanzees. These data were collected in 1996/1997 and the cow bells are still "ringing" two years later. We left both the vertical poles and the vertical poles with bells in the enclosures overtime and found they are both used. Shorter vertical poles (18") were hung near the top of the enclosure. They are used to hang from the ceiling and view the surrounding social groups and landscape. The poles with the bells have been incorporated into the display repertoire of adult males, and younger animals incorporate them into play and enjoy just making some noise.

We tried hanging poles with bells in the indoor enclosures, but this was a little too noisy for some of the adults. As an alternative, we attached a traffic cone to the end of the pole. Males continue to use them in display, and all use them in play -- but the soft traffic cone does not make a lot of noise or damage the walls like the metal bells can indoors. For one chimpanzee in our colony we attached a large stuffed bear to the end of the pole -- she loved it and (to our surprise) did not destroy the stuffed animal. If you decide to add a stuffed animal, be sure it is filled with cotton batting and not Styrofoam filling -- and the plastic eyes are removed to prevent swallowing. Outdoors, the poles should be hung near the middle of the enclosure and the pole should not be so long that it hits the cage mesh. Otherwise, the enrichment device may damage walls or mesh. All in all, we found the apparatus to be a successful enrichment device.

REFERENCES

Brent, L.; Lee, D.R.; Eichberg, J.W. (1991) Evaluation of a chimpanzee enrichment enclosure. Journal of Medical Primatology, 20:29-34.

Chamove, A.S. (1989) Enrichment in chimpanzees: Unpredictable ropes and tools. Journal of the Association of Britigh Wild Animal Keepers, 16(5): 139-141.

Howell, S.; Mittra, E.; Fritz, J.; Baron, J. (1997) The Provision of cage furnishings as environmental enrichment at the Primate Foundation of Arizona. The Newsletter 9(2): (November 1).

Schwandt, M. (1996) Positional behavior of captive chimpanzees Pan troglodytes in the indoor and outdoor enclosures at the Primate Foundation of Arizona. M.A. Thesis, Arizona State University.

Suarez, S.; Forter, L. (1995) Chimp platforms in outdoor enclosures. The Shape of Enrichment 4(4): 5-6.

Traylor-Holzer, K.; Fritz, P. (1985) Utilization of space by adult and juvenile groups of captive chimpanzees Pan troglodytes Zoo Biology 4: 115-127.

Wolper, C. (1995) A hammock in the rain forest for chimpanzees. The Shape of Enrichment 4(3): 1-2.

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