

SHORT TERM EFFECTS OF PHYSICAL AND FORAGING ENRICHMENT ON THE BEHAVIOURS OF CAPTIVE CHIMPANZEES (PAN TROGLODYTES)

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We aimed to examine the effects on the activity budget and frequency of stereotyped behaviours in three captive chimpanzees (*Pan troglodytes*) by introducing physical and foraging environmental enrichments. The goal was to determine which kind of enrichment affects on their behaviours by quantitative method. In this study, we divided study period into three phases of each 8-days long. On the 1st phase, baseline levels of behaviours were measured. On the 2nd phase, Phase1, we introduced horizontal and vertical fire hoses into indoor-room as physical environmental enrichment promoting their use of 3-D space. On the 3rd phase, Phase2, we provided straws to cover indoor-room's floor and scattered foods as foraging enrichment. On Phase2, we implemented two conditions for food supply to examine effective models for food availability; (1) Distribution of cereals, grass and natural branch, (2) Distribution of cereals, grass, natural branch and vegetables. Comparing to Baseline, chimpanzees significantly spent less time for stereotyped behaviours (Bonferroni/Dunn $P < 0.01$) and more time for moving ($P < 0.05$) on Phase1, and significantly devoted more time for foraging ($P < 0.01$) and less time resting ($P < 0.01$) on Phase2. However, no significant differences were found in behavioural pattern between the two food conditions in Phase2. Chimpanzees showed novel behavioural repertoires; nesting, exploring and social playing with straw. Overall, these findings suggest that having opportunity to access to complex space and appropriate foraging enrichment positively affect to express normal behaviours and enhances well-being in captive chimpanzees. We plan in near the future to analyze the long-term effects of this enrichment.

Keywords: chimpanzee, animal welfare, environmental enrichment, stereotyped behaviour