

GORILLAS, TOUCHSCREENS AND TOOL-USE: THE BEHAVIORAL BENEFIT OF SPECIES-ATYPICAL ACTIVITIES

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Of the great apes, gorillas are perhaps the least studied in cognitive research. At the Fisher Center (Lincoln Park Zoo, Chicago, IL USA), we take a comparative approach to behavioral and cognitive re-search, including chimpanzee and gorilla subjects in virtually every study. One measure of the value of cognitive tasks is the degree to which apes voluntarily choose to participate. Gorilla subjects tested with the touchscreen computer (n=5) demonstrated a mean participation score of 98% during four years of testing. Likewise, when provided access to an artificial termite mound as part of a tool-use study, every subject (n=10) was seen to manipulate the device. The generalized behavioral effects of these cognitive testing programs are more difficult to determine, given the brief exposure to the tasks (< 5% of their day). Nonetheless, we found that gorillas (n=5) demonstrated significantly lower rates of scratching behavior, a possible indicator of anxiety, while active subjects in computerized touchscreen studies compared to a matched control period predating their participation (F=7.44, p=0.026). There was no such effect associated with participation in the tool-use studies, in which subjects were tested in a group setting. It is possible that the gorillas' need for increased social spacing counteracted any positive effects of the tool-use task itself, emphasizing the importance of considering species-typical characteristics in designing cognitive studies. In sum, gorillas are not only willing participants in cognitive tasks, but participation in some tasks may have positive behavioral effects that are generalized through the rest of their day.

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