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Chimpanzees Raised as Pets or Performers Suffer Long-Term Effects on their Behavior

New study suggests experiences during the first four years of life can shape behavioral and welfare outcomes well into adulthood

Although the immediate welfare consequences of removing infant chimpanzees from their mothers are well documented, little is known about the long-term impacts of this type of early life experience. In a year-long study, scientists from Lincoln Park Zoo observed 60 chimpanzees and concluded that those who were removed from their mothers early in life and raised by humans as pets or performers are likely to show behavioral and social deficiencies as adults.

The multi-institutional research project, published today in the open-access journal PeerJ (<http://peerj.com>), was led by Steve Ross, PhD, director of the Fisher Center for the Study and Conservation of Apes at Lincoln Park Zoo. Over the course of 14 months the researchers studied 60 chimpanzees with a range of personal histories, all of whom were living in a variety of zoos accredited by the Association of Zoos and Aquariums (AZA) and sanctuaries participating in the North American Primate Sanctuary Alliance (NAPSA). Of their study group, over 35 of the chimpanzees were former pets or performers.

The results suggest that chimpanzees raised primarily around humans with less experience around their own species during the first four years of life, tend to show reduced social competencies as adults than those with more natural early histories. Specifically, chimpanzees with high human exposure in life tended to engage in less social grooming with their groupmates, a critically important behavior for social bonding in chimpanzees. Strikingly, these effects were expressed years, sometimes decades after their lives as pets and performers were over.

“Unusually for a study on this topic, we looked at the degree of human and chimpanzee exposure on individual chimpanzees along a continuum,” explained Ross. “This showed that those chimpanzees with more atypical beginnings to their lives, spending much more time with humans than with their own species, tended to behave differently than those that stayed with their family through infancy.”

The study follows decades of research that has demonstrated the importance of maternal care for primates, but is among the first attempts at a more holistic approach to understanding not only how both human and chimpanzee exposure can affect behavioral development, but how those effects are expressed much later in life.

Zoos and sanctuaries are often the recipients of ex-pet and ex-performer chimpanzees when their owners deem them too difficult to provide care. Ross, who is also the founder of Lincoln Park Zoo’s Project Chimpanzee CARE, has helped facilitate the transfer of more than 30 chimpanzees from private homes

and entertainment complexes to more species appropriate habitats and social groups within accredited zoos and sanctuaries since 2009.

“One of the startling aspects of these findings is that these behavioral effects are so long-lasting,” said Ross. “Chimpanzees which have found new homes in accredited zoos and good sanctuaries continue to demonstrate behavioral patterns that differentiate themselves from more appropriately-reared individuals. As a result, the process of integrating them with other chimpanzees can be challenging, stressful and even dangerous at times.”

Despite the fact that chimpanzees are an endangered species, and can pose health and public safety risks, it remains legal in most of the United States to own a pet chimpanzee. Ross expresses hope that these findings will add to growing evidence against such practices.

“Chimpanzees are incredibly intelligent and sensitive animals,” he said. “Denying them access to members of their own species, during the critical infancy period, results in behavioral outcomes that last a lifetime. Even with the best possible care as adults, they often can’t fit in with the other chimpanzees.”

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IMAGES:



Title: Chimpanzee, Optimus Prime at Lincoln Park Zoo in Chicago participated in the subject. He was raised around other chimpanzees in his natal group throughout his infancy.

Photo Credit: Lincoln Park Zoo/Todd Rosenberg Photography



Title: Chimpanzees at Lincoln Park Zoo in Chicago exhibit natural foraging behaviors, fishing for termites, in an artificial termite mound using sticks as tools.

Photo credit: Lincoln Park Zoo



Title: Chimpanzee Kendall was trained as a performer as a youngster with very little exposure to others of his species. He now lives at North Carolina Zoo where staff continue to help him learn to live with other chimpanzees.

Photo Credit: North Carolina Zoo, John Ireland

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About Lincoln Park Zoo

Lincoln Park Zoo, a historic Chicago landmark founded in 1868, is dedicated to connecting people with nature by providing a free, family-oriented wildlife experience. A leader in conservation science both globally and locally, the zoo exemplifies the highest quality animal care and educational outreach. The not-for-profit zoo, managed by The Lincoln Park Zoological Society, is a member-supported organization and one of the nation's only free, privately managed zoos. For more information, call 312 -742-2000 or visit www.lpzoo.org.

About Project ChimpCARE

Lincoln Park Zoo's Project ChimpCARE is an initiative focused on understanding and helping with the issue of privately-owned chimpanzees in the United States. Since 2009, Project ChimpCARE has helped facilitate information exchange between a disparate group of stakeholders to help improve the lives of chimpanzees living in a range of conditions. Learn more at www.chimpcare.org

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Abstract (from the article):

It is widely accepted that an animal's early history, including but not limited to its rearing history, can have a profound impact on later behavior. In the case of captive animals, many studies have used categorical measures such as mother reared or human reared that do not account for both the influence of human and conspecific interaction. In order to account for the influence of both human and conspecific early exposure to later behavior, we collected 1385 h of data on 60 chimpanzees, of which 36 were former pets or performers, currently housed at accredited zoos or sanctuaries. We developed a unique metric, the Chimpanzee-Human Interaction (CHI) Index that represented a continuous measure of the proportion of human and chimpanzee exposure subjects experienced and here focused on their exposure during the first four years of life. We found that chimpanzees who experienced less exposure to other chimpanzees as infants showed a lower frequency of grooming and sexual behaviors later in life which can influence social dynamics within groups. We also found chimpanzees who experienced more exposure to other chimpanzees as infants showed a higher frequency of coprophagy, suggesting coprophagy could be a socially-learned behavior. These results help characterize some of the long-term effects borne by chimpanzees maintained as pets and performers and may help inform managers seeking to integrate these types of chimpanzees into larger social groups, as in zoos and sanctuaries. In addition, these results highlight the necessity of taking into account the time-weighted influence of human and conspecific interactions when assessing the impact that humans can have on animals living in captivity.