'Monkey Fright' Experiments at the National Institutes of Health: A PETA Investigation

PETA has obtained 43 hours of high-definition videos depicting ongoing psychology tests on dozens of monkeys conducted by experimenter Elisabeth Murray and her colleagues at a National Institutes of Health (NIH) laboratory in Bethesda, Maryland. The videos were recorded from February 2016 to November 2017 and were secured through a Freedom of Information Act (FOIA) request.

NIH experimenter Elisabeth Murray has received tens of millions of taxpayer dollars—more than \$36 million in the past 13 years alone¹—to damage the brains of monkeys and then terrorize them in experiments that have no relevance to the human condition.

The videos obtained by PETA pertain to an NIH project of Murray's, "<u>Neural</u> <u>Substrates of Reward Processing and Emotion</u>," which is currently being funded. Since 2007, she has received \$16,398,114 for this project.

- As explained in the <u>abstract</u> for this project and <u>associated publications</u>, Murray inflicts lesions on the brains of monkeys. To this end, she anesthetizes monkeys, places their heads in a stereotaxic device, makes an incision into the head, and carves out a section of the skull. She cuts into the dura (the protective covering of the brain) and injects toxins into the monkeys' brains to cause permanent and traumatic brain damage. In some monkeys, she suctions out or burns part of the brain.
- The videos obtained by PETA depict so-called "emotional responsiveness" tests, in which monkeys are placed alone in a small metal cage that is contained within a darkened, larger box. A guillotine-like door at the front of the cage is raised and the experimenter presents the monkey with fear-inducing items, including rubber snakes and spiders, wooden mechanical snakes, and fake jumping spiders. Monkeys, like all primates, naturally fear snakes, and some respond defensively—freezing or looking or turning away. Others respond by shaking the cage. And some show signs of submission by grimacing or smacking their lips.

Murray claims that her experiments will shed light on neuropsychiatric disorders in humans, but after 30 years, this laboratory has yet to develop a single treatment or cure for humans. Indeed, the approach taken by

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¹Murray has received project funding from NIH since 1998. From 1998 to 2008, she received "Z01" funding for intramural projects, and from 2008 to 2019, she received "ZIA" funding for "investigator-initiated intramural" projects. NIH's funding database (<u>RePORTER</u>) does not specify the level of funding for the years from 1998 to 2005, but according to RePORTER, Murray received \$3.1 million from 2007 to 2008 and \$33.2 million from 2009 to 2019.

Murray's laboratory has involved inflicting damage to one part of the monkeys' brains and then, when that failed to produce any human-relevant data, moving to another part of the brain and then another. But this is a failed and oversimplified "model." In fact, humans with neuropsychiatric illnesses that cause difficulty with emotional regulation and behavioral flexibility do not have lesions in their brains. Rather, they display subtle anatomical or functional abnormalities in the brain or alterations in neurotransmitter functioning. Lesion studies cannot simulate the type of brain dysfunction seen in human neuropsychiatric populations.

The design of Murray's experiments is catastrophically flawed.

- According to Murray's publications, monkeys used in her experiments may have been caged alone or in pairs. Either scenario is unnatural, impairs the monkeys' social functioning, and introduces confounding factors.
- For the purposes of the testing procedures, Murray and her colleagues removed monkeys from their "home cages" and placed them in very small cages. This would involve stressful handling and moving them from a familiar environment to an entirely unfamiliar one. The guillotine-like door would suggest an association with traumatizing and terrifying squeeze cages and transport boxes. The mere setup of the experiment would provoke fear—long before any spiders or snakes were introduced.
- The monkeys shown in the videos span a considerable age range. A monkey's age (and time spent in the laboratory) would affect his or her behavior during the psychological tests, confounding the results. Similarly, some monkeys have metal collars around their necks, others are chained, others have extensive alopecia (hair loss), and still others exhibit stereotypic movements indicative of extreme psychological distress. These differing backgrounds would introduce additional confounding variables, calling into question the relevance of any data collected from the monkeys.

In a 2007 paper, "<u>Genetic modulation of cognitive flexibility and socioemotional behavior in</u> <u>rhesus macaques</u>," Murray and her colleagues acknowledge flaws in the study design: "Because the monkeys we studied were purchased from domestic breeding colonies, the details of their rearing histories are unknown to us. Accordingly, we cannot rule out the possibility that environmental factors such as stress contributed to the genetic influence on cognition we report."

Researchers have been investigating the roles of specific brain regions for emotional regulation and behavioral flexibility in humans for decades. This includes studying patients with naturally occurring focal lesions, using neuroimaging to localize regions of the brain involved in these functions temporarily, using transcranial magnetic stimulation to disable regions of the brain, and studying brain structure and function in those neuropsychiatric patient groups that have difficulty with these types of behavior. Such approaches examine behavior, neuroanatomy, and brain function in naturally occurring conditions in humans and produce clinically relevant data.