



The Rodent in the Room: Considering Sentience in Research Programs Using Mice and Rats

Ingrid Taylor, D.V.M.¹

¹People for the Ethical Treatment of Animals (PETA US)

INTRODUCTION

Animal sentience—the ability to feel emotions such as joy, pain, fear, suffering, and happiness—is an inherent reason for ethical discussion surrounding the use of animals in research, however, the topic itself is often overlooked. This occurs despite a growing body of scientific evidence—over 2,500 studies—attesting to the rich inner lives of animals commonly used in research.

Evidence of Sentience in Rodents:

Rats

- display empathy for other rats and perform altruistic acts
- engage in play and express joy
- regret poor choices
- work to free other rats who are trapped, even when it's not advantageous for them



An estimated 100 million mice and rats are killed annually in the United States in laboratory experiments.



Mice

- show empathy for others
- will work to free fellow mice from being trapped
- form significant social bonds and familial relationships



Experiments on mice and rats include:

- Parabiosis—surgically joining two living mice via long incisions in the skin
- Maternal deprivation—neonatal mice traumatized by caregivers
- Behavioral experiments—including repeated foot shocks, social isolation, and fear-inducing stimuli



While it is established that vertebrate animals feel pain and respond to pain drugs in much the same ways that humans do, their capacity for emotions such as joy, happiness, suffering, empathy, and fear have often been overlooked in discussions of the potential harms of research.

METHODOLOGY

A literature review was conducted of the current state of science on the emotional experiences of mice and rats and a vital discussion was opened about the unexamined role of animal sentience in welfare considerations and experimental design. Strategies were also provided to incorporate considerations of animal sentience into research programs to promote better science and improve animal welfare.

CONTACT INFO AND LINKS

Author email: DrTaylor@peta.org

Animal Sentience and Emotions: The Argument for Universal Acceptance.

https://www.peta.org/wp-content/uploads/2021/01/Report-on-Animal-Sentience_Ingrid-Taylor_2021_NE.pdf

RESULTS

STRATEGIES TO INCORPORATE ANIMAL SENTIENCE CONSIDERATIONS INTO RESEARCH PROGRAMS

1

Implement harm-benefit analysis and ethical discussion that incorporate an awareness of sentience prior to animal experiment oversight body approval of experimental protocols.

2

Promote and foster cultures within research programs that recognize animals' experiences of both negative and positive emotions.

3

Challenge the unspoken requirement that young researchers must conduct experiments on animals and support early-stage researchers pursuing animal-free methods.

4

Incorporate evidence-based knowledge of animal sentience into research programs, including addressing knowledge gaps among researchers, animal care staff, and oversight committee members.

5

Move away from harmful experiments in rodents and direct funding toward developing human-relevant, animal-free research methods.

Barriers to Incorporating Considerations of Animal Sentience into Research Programs

- The lack of knowledge and widespread desensitization among young researchers about animals' capacity for experiencing emotions
- The demand that animal sentience be proven beyond any shade of doubt before actions be taken on it, but...
 - this is an unrealistic standard that is not adhered to in any other scientific field, even though
 - a review found 2,562 publications that attributed sentience to animals and referenced an animal's emotional state, all for experiments intended to benefit humans
- The belief that it's not possible to truly know what an animal is feeling, however...
 - Investigations into neurobiology support that similar structures in the mammalian brain may perform similar functions when it comes to emotional expressions, and
 - even very different structures may have analogous functions

CONCLUSION

Ample evidence demonstrates that animals commonly used in laboratory experiments are sentient—they have the capacity to feel joy, pain, fear, suffering, happiness—and that their emotions are meaningful to them. As such, the ethical and moral issues that preclude the use of humans in painful and invasive experiments also hold true for animals. Nevertheless, this knowledge, though widespread and readily available, seldom translates into considerations of sentience when experiments are being designed and approved. This knowledge gap between the current science on sentience, the researchers who experiment on mice and rats, and the oversight committees that approve experiments has resulted in an overly permissive attitude toward the use of mice and rats in experiments. Because the sheer numbers of rodents in experiments represents a large capacity for suffering, sentience must be considered when designing research programs.