

RETHINKING RESEARCH: RODENT USE IN UCSB RESEARCH LABS

BY AVERY STANLEY

"The purpose of the research to an applicable human level is to study what functions in the brain cause and promote addiction. It's helpful for rehabilitation treatment and developing new neurological ways to treat addiction."

Under harsh white lighting and with the smell of rodents and cleaning supplies lingering in the air, undergraduate students move meticulously throughout the lab, making sure to complete every task with care. The lab is a place of rigorous delicacy, of controlled chaos. Student lab assistants must abide by a strict set of rules in order to maintain their work within the research study.

Student assistants make their way into the lab by scanning their personalized cards, ensuring that no unauthorized personnel are able to enter the vicinity. They adorn themselves in their proper Personal Protective Equipment, or PPE, attire: lab coats, gloves, etc. Despite the consistency of their attire, every day is different. The type of work they do depends on the status of the study and the condition of their subjects. In other words, the lab assistants are becoming accustomed to living on the schedule of the rats.

Atop the sleek metal tables, large, glass cages sit holding the key to the experimentation process. The scraggly, furry creatures do not know how truly

important they are to the humans who work with them. Students spend their first hours in the lab cleaning the cages, replenishing food and water, and making sure the rats have a safe living environment. They are doing what some would call "the grunt work." They are tasks that are not particularly enjoyable or interesting, but are ultimately necessary to completing the work being done in the lab.

But grunt work is not all they need to do. The first step in working with the animals is essentially bonding with them. The lab assistants are required to become familiar with handling the animals. Likewise, the rodents need to feel comfortable with the people around them. The students spend hours petting and holding the rats in order to assimilate them into their environment and put the animals at ease. However, it is vital that the researchers themselves do not get too attached to the rats, pending their ultimate demise at the hands of the people who once held them.

The demise of these rats brings light to a larger issue that has plagued the scientific



Natasha Siao, a nineteen-year old undergraduate student working in the lab, holding one of the rats being used in the research lab.

Pictured: 2 rats inside of their cages before the experimentation process.

community and the tender-hearted for decades. The ethical dilemma persists on whether there is an immoral aspect to sacrificing animal species in order to further human development. Is it wrong to value human health over animal life? Does the purpose of research ever justify animal experimentation? These questions are being pondered amongst students and faculty at research universities both nationally and globally.

The particular lab being described here is a psychological research study that takes place at the University of California, Santa Barbara. UCSB is a “tier one research university globally renowned- and ranked- for [its] impact across the disciplines.” The

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idea that a research university of this stature would use animal experimentation within its labs is not one that comes as a shock to many members of its community. Likewise, animal experimentation across species is a practice that has been, and will continue to be, debated both ethically and scientifically due to its controversial practices. Participating student lab assistants, as well as members of UCSB’s animal activists group, have nuanced opinions on the efficacy and morality of animal experimentation.



UCSB’s research labs provide easily accessible information on their website regarding their use of animal experimentation. Their matter-of-fact statement reads, “The University of California, Santa Barbara (UCSB), recognizes the scientific and ethical responsibility for the humane care and use of animals involved in research and education and enjoins all individuals involved to the highest standards of animal care and consideration.” Their goal with this statement is to make the margin for criticism essentially non-existent, or in other words to “cover their behind.” With strict protocols in place, UCSB wants to mitigate the possibility for misconduct that could occur while experimenting on animals.

A similar aspect to preventing criticism from animal activists groups, is UCSB’s emphasis on their use of training and structure. Natasha Siao, a nineteen year-old undergraduate student at UCSB, describes her experience undergoing rigorous training before entering the lab. Siao, with a sense of candid exhaustion, explains that, “[Researchers] go through

intensive training when working with animals. We have to complete about 60 hours of modules and tests.” She describes that no one without proper training and certification can even step foot inside the lab, much less have access to the animals. Julie Barrios, another student working within the rat lab, supports Siao’s claim saying, “...it took [her] over a month to complete the trainings” before she was able to participate in the study. These strict procedures represent the precautions UCSB takes before allowing animals to be used in research labs.

The particular lab that Siao and Barrios work on studies the neurological addictive patterns in rats who are continually self-administering themselves cocaine. Mirette Tadros, the lead research assistant working on this research study, breaks down the step by step process of the lab explaining in the most easily understandable and least-scientific terms possible “It runs in a 10 day cycle. The rats have 2 levers they can push within these 10 days; one lever which gives them nothing, and another which gives them

cocaine.” This process is referred to as “self-administration,” since the rats are solely in charge of how much cocaine they are intaking.

The difference between the experiment being self-administering versus giving cocaine directly to rats is that researchers are able to see how quickly the rats learn and how quickly they can become addicted. Tadros continues explaining the grueling process saying “After the 10 day cycle, we ‘cold turkey’ them. Then one group is sacrificed after 3 days and the other group sacrificed after 30 days. We put them down a little bit, so they don’t feel any pain, and then we decapitate them, so we can extract their brains.” Tadros gave no visceral reaction while describing these procedures. The description of little rat necks being sliced during their last moments seemed only a mundane task in the scheme of the lab. Tadros emphasized only that the lab procedure must be followed to a T in order to be successful.

Something that Tadros feels may be even more important than the strict procedures, however, is the purpose of the research itself. As defined by Siao, the purpose of the research is “to study what functions in the brain cause and promote addiction in order to develop new neurological ways to treat addiction.”

Addiction has been, and continues to be, a growing problem nationally and globally. For college students specifically, an American Addiction Centers article referred to a study in which they “...found that nearly half of participating college students met the criteria for at least one substance use disorder...” This exuberant number is indicative of the problem being relevant to the college community, making them an excellent group to try to solve the issue at hand in a creative, new way.

While there are a plethora of ways to holistically help those who struggle with addiction, such as therapy and rehabilitation centers, the knowledge on how to neurologically cure addiction is limited. Because rats have similar neurological transmitters to humans, studying their brains after they have been cut off from ingesting cocaine could lead to

new scientific discoveries on how addiction can be healed from within the brain. The purpose of this study would address a major human problem that could alevae suffering from our species, however, the moral dilemma of sacrificing one species for the benefit of another still lingers.

The moral dilemma of animal experimentation is a highly discussed subject within the scientific community, as well as the animal rights community, for a plethora of reasons. Many pivotal scientific discoveries have been made due to the use of animal testing that can be valid evidence towards the usefulness of the practice. However, many arguments can be made against the practice due to what can be explained as unreliable scientific evidence and animal cruelty.

For example, the National Library of Medicine released an article on the negative aspects of animal experimentation saying, “The unreliability of animal experimentation across a wide range of areas undermines scientific arguments in favor of the practice.” The article goes on to explain the inaccuracies that occur when using animal studies for human discoveries, as well as the controversial nature of using animals to begin with. There are many factors that are uncontrollable when working with animals, which can ultimately negatively impact research outcomes to the detriment of humans as well.

“Humans are speciesist; take a puppy and pig for example. They are both mammals and both capable of the same loving habits, but one is loved and one is treated like shit. It is people's cultural biases about how they view those animals and how worthy they deem their lives to be.”

Gillian Inman, a passionate undergraduate studying biology at UCSB, touches on the unpredictability of animal experimentation in a similar manner saying, “The environment that they raise them in with bright lights, lots of human noise, and watching their fellow rats be stressed creates high stress conditions that affects their physiology and mental states.” Inman is an active member of the UCSB organization Advocacy for All Animals (AAA). She responded with a fiery tone when asked about the treatment of animals, and she did not hesitate to show her disdain for the way UCSB systems have handled topics regarding animal experimentation, veganism, and environmental concerns.

Inman used UCSB as only one small example of the flawed mindset that humans hold when justifying the use of animal testing. She, with an intense expression, made the bold claim that “Humans are speciesist; take a puppy and pig for example. They are both mammals and both capable of the same loving habits, but one is loved and one is treated like shit. It is people's cultural biases about how they view those animals and how worthy they deem their lives to be.” Her argument, but more importantly the care with which she spoke it, showed her true concern for all animals. No animal, rat nor puppy nor pig, should be sacrificed based on the cultural expectations of its ‘cuteness’ which somehow defines its deservedness to live.

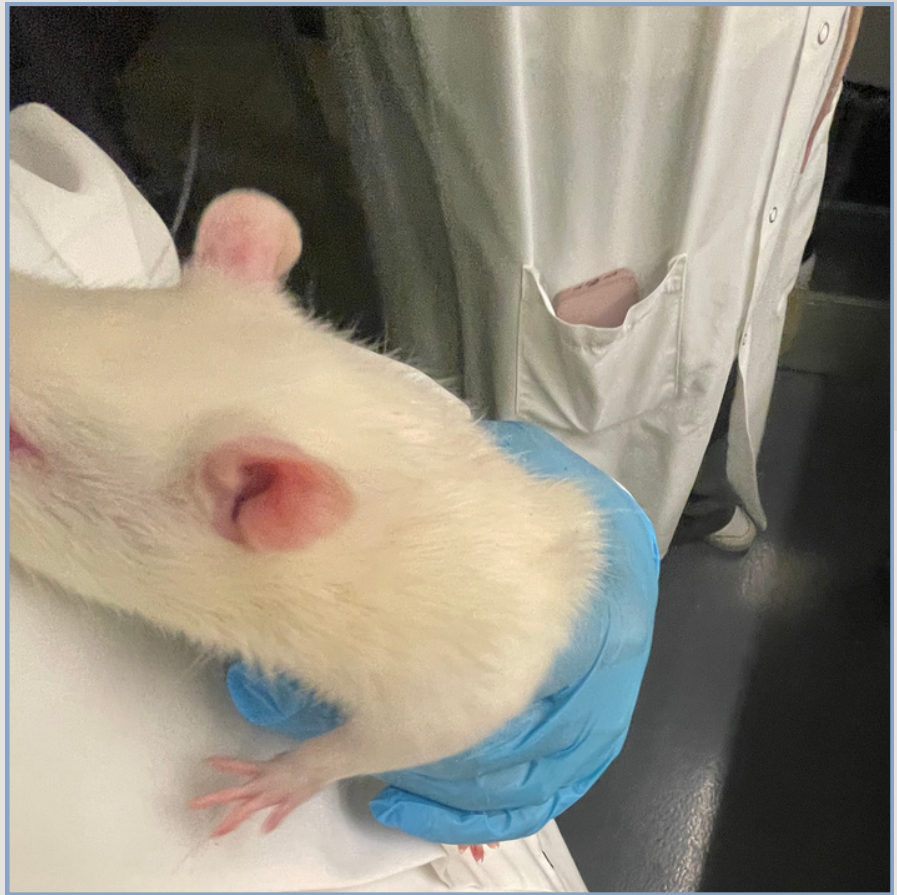
This concept is something Advocacy for All Animals emphasizes heavily, as they are not a group that takes issues regarding animals lightly. You must be plant-based or vegan to join the group, and they aspire to raise animal awareness to alter the UC system as a whole. One of the leaders of the organization, Amanda Immer, expressed her own moral difficulty with being a steadfast vegan and advocating for animals, while also working in a lab that conducts animal testing. Immer’s eyebrows wrinkled with stress as she revealed that “...knowing consciously that [she] was hurting an animal even for the benefit of humankind made [her] feel awful.”

Immer, however, is not the only one that feels this way. Tadros, the lead research

assistant from the cocaine rat lab, also expressed her feelings of uncomfortability while working in the lab. Tadros explains feeling riddled with guilt after her first experience having to complete the euthanasia process. She tucked herself into the corner of the room, plugging her fingers into her ears so she would not have to hear the rodent's last noises. Tadros made a gagging face as she explained how, "the muscles of the organism are still moving as it is detached from the head," shuddering with disgust at her own statement. She understands the apprehension that comes from the idea of animal experimentation as she exclaims, "It is not for the faint of heart."

Animal experimentation, as explained by both lab assistants and animal activists is not a black and white concept. The nuanced aspects of this specific type of research causes the debate on whether or not it is ethical to continue on.

The French revolution-esque image of a miniature guillotine falling on a rodents neck is not an easy visual to digest. Nor, is watching humans struggle with addiction, which often results in homelessness or death. There is not a quick, easy remedy to the issue of animal testing. Each individual must examine for themselves the variables which can be attributed to the practice and decide what they find justifiable or not depending on their own moral findings.



Pictured: An up-close photo of one of the rats being held during the acclimating process.