PEOPLE FOR
THE ETHICAL
TREATMENT
OF ANIMALS

Washington
1536 16th St. N.W.
Washington, DC 20036
202-483-PETA

Los Angeles
2154 W. Sunset Blvd.
Los Angeles, CA 90026
323-644-PETA

Norfolk
501 Front St.
Norfolk, VA 23510
757-622-PETA

Info@peta.org
PETA.org

January 12, 2024

Jacey Skinner
Chair, Executive Committee
Board of Trustees
Utah State University

Via e-mail: skinnerj@ballardspahr.com

Dear Ms. Skinner:

Thank you in advance for your time. I am writing on behalf of People for the Ethical Treatment of Animals—PETA entities have more than 9 million members and supporters worldwide—regarding the use and apparent occasional killing of rats in the Advanced Analysis of Behavior undergraduate course (PSY 3400) at Utah State University (USU).

Based on the information presented in the enclosed supplemental brief, we request that you instruct the Psychology Department faculty at USU to replace its use of live animals in PSY 3400 with superior, non-animal teaching methods, which are the best-practice standards used at other universities.

You can contact me directly via e-mail at MaggieW@peta.org. We appreciate your consideration of this important matter, and we look forward to your response.

Sincerely,

Maggie Wiśniewska, Ph.D.
Science Policy Advisor, International Laboratory Methods Division
Laboratory Investigations Department

cc: Kacie Malouf, Chair, Research and Academic Approval Committee (kacie@malouffoundation.org)
Kent Alder, Chair, Statewide Mission and Campus Oversight Committee (kent@junipersys.com)

Enclosure: Supplemental Brief – Replacing Animal Use in Undergraduate Psychology Education

Entities:
- PETA Asia
- PETA India
- PETA France
- PETA Australia
- PETA Germany
- PETA Switzerland
- PETA Netherlands
- PETA Foundation (U.K.)

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Supplemental Brief: Replacing Animal Use in Undergraduate Psychology Education

January 12, 2024

Prepared by: PETA

American Psychological Association Supports Non-Animal Training

The American Psychological Association's (APA) "Guidelines for Ethical Conduct in the Care and Use of Nonhuman Animals in Research" states, "Consideration should be given to the possibility of using non-animal alternatives."[1] In its "Resolution on the Use of Animals in Research, Testing, and Education," the APA mandates that "the development and use of complementary or alternative research or testing methodologies, such as computer models, tissue, or cell cultures, be encouraged where applicable and efficacious."[2] Another APA document titled "The Ethical Principles of Psychologists Code of Conduct" indicates that nonanimal methods should be used for educational purposes whenever available.[3]

Experts, Students, and the Public Oppose the Use of Animals in Education

Depending on the procedure, up to 60% of psychology students oppose the use of animals in psychology education,[4] and the majority of psychologists and psychology students believe that live-animal experimentation should not be required in undergraduate psychology courses.[5] Similarly, many college-aged adults are opposed to all experiments on animals.[6,7] Employing non-animal educational tools creates an inclusive, engaging, and safe learning environment for all students, including those uncomfortable with animal experimentation.

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[1]American Psychological Association. Guidelines for ethical conduct in the care and use of nonhuman animals in research. 2022:1-5. Accessed December 5, 2023. https://www.apa.org/science/leadership/care/animal-guide.pdf

[2]American Psychological Association. Resolution on the use of animals in research, testing, and education. 1990. Accessed December 5, 2022. https://www.apa.org/science/leadership/care/animal-resolution.pdf

[3]American Psychological Association. The Ethical Principles of Psychologists Code of Conduct. Accessed December 5, 2022. https://www.apa.org/ethics/code/principles.pdf

[4]Cunningham PF, Randour ML. Animals in Psychology education: A Guide to Understanding the Issue of Student Choice Handbook. Accessed July 18, 2023. Student_Choice_in_the_Psychology_Classroom_A_Handbook_1999.pdf.

[5]Cunningham PF. Animals in psychology education and student choice. *Soc Anim.* 2000;8(2):191-212.

[6]Goodman JR, Borch CA, Cherry E. Mounting opposition to vivisection. *Contexts.* 2012;11(2): 68-69.

[7]Plous S. Attitudes toward the use of animals in psychological research and education: results from a national survey of psychology majors. *Psychol Sci*. 1996:7(6), 352-358.

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Animal-free Psychology Training Tools are Available and Effective[8]

Below are several examples of interactive approaches that allow students to design and conduct experiments, humanely observe animal behavior in simulated and real-world scenarios, and collect and analyze data—all without exploiting or killing animals.

- **Sniffy the Virtual Rat[9]:** This interactive simulation of a rat in an operant chamber allows students to explore various aspects of operant and classical conditioning through experiments. Data files and graphical outputs generated during the experimental period can be accessed for future manipulation and extraction of specific numerical and visual information.[10] Sniffy, the Virtual Rat, was used as a successful replacement for live animals in undergraduate neuroscience courses.[11] A team of researchers at the University of Houston-Victora, reported that "[c]ompared with standard study, using this virtual laboratory significantly increased students' comprehension of concepts, raising their comprehension scores from 63% to 76%."[12]
- **(AI)^2, Inc.'s CyberRat Operant Laboratory Simulations Program[13]:** CyberRat is a digital, fully interactive video of a real animal in an operant conditioning chamber. The program database contains over 1,600 behavioral video clips seamlessly played back in unique sequences using stochastic algorithms.[14] Student record keeping and data archives are maintained to give instructors easy access to student progress summaries. CyberRat "serves as a functional supplement and total replacement for various live animal laboratory exercises using rats when used in introductory psychology laboratories."[15] It is otherwise described as "as close to an actual behaving animal as you can get,"[16] offering "a near-perfect illusion of being a single animal that quite realistically demonstrates basic operant conditioning phenomena embedded in a flow of natural behaviors."[17]
- **The Learning Simulator[18]:** The Learning Simulator is an open-source software that simulates learning in humans and other animals, including the acquisition and extinction of behavior, learning of behavioral sequences, and various social-learning scenarios.[19] It is used for research in scientific publications[20,21,22] and teaching at the master's program in ethology at Stockholm

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[8]Goolkasian P, Ludwig TE, Froman R. Software Tools in the Teaching of Psychology Best Resources List. January 15, 2005. Accessed December 4, 2023. https://teachpsych.org/Resources/Documents/otrp/pedagogy/bestlists.pdf

[9]Sniffy the Virtual Rat. Accessed July 18, 2023. http://www.sniffythevirtualrat.com/.

[10]Jakubow JJ. Review of the Book Sniffy the virtual rat pro version 2.0. J Exp Anal Behav. 2007 Mar;87(2):317–23.

[11]Alloway T, Wilson G, Graham J. 2005. Sniffy the virtual rat: pro version 2.0. Wadsworth Cengage Learning; 2005. Belmont, CA: Thomas West

[12]Foreman N. Virtual reality in psychology. *Themes Sci Technol Educ.* Special Issue. Pages 225-252. https://files.eric.ed.gov/fulltext/EJ1131318.pdf

[13](AI)^2 Inc. CyberRat. Accessed July 15, 2023. https://www.ai2inc.com/HomeProducts/cyberrat.html.

[14]Norecopa. CyberRat: Operant Laboratory Simulation Program. April 16, 2020. Accessed December 6,2023. https://norecopa.no/norina/cyberrat-operant-laboratory-simulations-program

[15]Ray R, Miraglia K. A sample of CyberRat and other experiments: Their pedagogical functions in a learning course. *J Neurosci Res*. 2011:9:44-61.

[16]Phelps B. How close to real can a non-real CyberRat behave? *Behav Phil*. 2011: 39/40:309-315.

[17]Iverson I. Commentary on CyberRat. *Behav Phil*. 2011;39/40:303-307.

[18]The Learning Simulator. Accessed June 15, 2023. https://www.learningsimulator.org/.

[19]The Learning Simulator. Accessed June 23, 2023. https://www.learningsimulator.org/education.

[20]Ghirlanda S, Lind, J, Enquist, M. A-learning: A new formulation of associative learning theory. *Psychon Bull Rev*. 2020;27:1166-1194.

[21]Lind J. What can associative learning do for planning? *R Soc Open Sci*. 2018;5:180778.

[22]Lind J, Ghirlanda S, Enquist M. Social learning through associative processes: A computational theory. *R Soc Open Sci*. 2019;6:181777.

University, the veterinary program at the Swedish University of Agricultural Sciences, and the psychology department at Brooklyn College, City University of New York.[23]

- **SuperLab 6**[24]**:** SuperLab is a general-purpose experiment generator for conducting various psychology experiments in perception and attention, memory, reasoning, perceptual representation, and representation of meaning. This platform supports text, picture, audio, video, and gaze-tracking components. SuperLab can be used as a teaching tool and to conduct research.[25] Yet, its user-friendly interface does not require any programming skills.
- **Neuronify**[26]**:** Neuronify is an educational simulation software used in laboratories and classrooms for interactive learning about neuronal networks. It provides a low entry point for students with no computational experience to gain intuition about a range of neuronal processes integral to memory formation and learning (e.g., integration of synaptic inputs or feedback inhibition). Neuronify can be run on smartphones, tablets, and personal computers. As a plug-and-play environment, this software allows students to build and explore neuronal circuitry by adjusting parameters from a menu, using their phone cameras as visual sensors or touch screens for manipulation.[27]
- **PsychMate**[28]: PsychMate is a "set of software tools for undergraduate psychology students to [develop], run …, and analyze [realistic] experiments … in the areas of perception, cognition, social psychology, human factors, and cognitive neuroscience."[29,30] While using this platform, students can work independently or collaborate with others. The automatic spreadsheet analysis forms allow students to analyze their data and create presentations and Web pages.[31] Associated applications such as the Brain-Tutor and BrainViewer teach brain anatomy and permit students to analyze fMRI brain imaging data from subjects who have performed … memory experiments—similar to those covered by PsychMate users."[32,33] According to one study, "PsychMate has been used in 83 classes in which 1,533 students submitted 5,464 completed experiments with few (less than 1%) requests for help and a positive rating of the research experience."[34]
- **Virtual reality (VR) tool**[35]**:** In a pilot study, faculty and staff at Southern New Hampshire University (SNHU) in Manchester, NH, tested the effectiveness of VR in an undergraduate psychology course by using Synapse VR experience—a custom tool developed in collaboration

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[23]Jonsson M, Ghirlanda S, Lind J, Vinken V, Enquist M. Learning Simulator: A simulation software for animal and human learning. *J Open Source Softw*. 2021;6(58):2891.
[24]Cedrus. Enjoy making experiments. Accessed December 8, 2023. https://cedrus.com/superlab/index.htm.
[25]Cedrus. A sample of research papers that used SuperLab. Accessed December 8, 2023. https://cedrus.com/superlab/publications.htmhttps://cedrus.com/superlab/publications.htm.
[26]Neuronify is an educational neuronal network app. Accessed July 18, 2023. https://ovilab.net/neuronify/.
[27]Dragly SA, Hobbi Mobarhan M, Våvang Solbrå A, Tennøe S, Hafreager A, Malthe-Sørenssen A, Fyhn M, Hafting T, Einevoll GT. Neuronify: An Educational Simulator for Neural Circuits. *eNeuro.* 2017:Mar 17;4(2):ENEURO.0022-17.
[28]PsychMate. Psychology Software Tools. Accessed July 18, 2023. https://pstnet.com/products/psychmate/.
[29]Eschman A, James JS, Schneider W, Zuccolotto A. PsychMate: Providing psychology majors the tools to do real experiments and learn empirical methods. *Behav Res Methods*. 2005:301–311.
[30]Experiments for Teaching Psychology. Accessed July 18, 2023. https://pstnet.com/wp-content/uploads/2017/09/PsychMateProductSheet.pdf.
[31]Eschman et al. 2005.
[32]*Ibid.*
[33]Experiments for Teaching Psychology. Accessed July 18, 2023. https://pstnet.com/wp-content/uploads/2017/09/PsychMateProductSheet.pdf.
[34]Eschman A, James JS, Schneider W, Zuccolotto A. PsychMate: Providing psychology majors the tools to do real experiments and learn empirical methods. *Behav Res Methods*. 2005: 301–311.
[35]Flynn C, Frost P. Making VR a Reality in the Classroom. April 16, 2021. Accessed December 6, 2023. https://er.educause.edu/articles/2021/4/making-vr-a-reality-in-the-classroom

with a global production studio, Unit9. The goal was to create an immersive exercise on neural transmission and conduction to help students understand "the interplay between neural communication, neural circuits and psychological activity and behavior"[36] and "apply biopsychology to other areas of psychology (e.g., mental health, addiction and development) and disciplines outside of psychology (e.g., economics, law, computer science artificial intelligence and education)."[37] The faculty at SNHU concluded that they were encouraged to explore the use of VR in higher education and see it as "the future of learning."[38] In another study, researchers at the University of Central Missouri studied the benefits of using VR technology in an abnormal psychology course. Specifically, they examined if participating in a VR session designed to help clients overcome the fear of flying would enhance [student] comprehension of such psychological treatments. The authors concluded that "incorporating firsthand experience with evidence-based psychological treatments,"[39] [proved useful] "in enhancing students' understanding [and appreciation] of such treatments."[40] Such immersion is essential in higher education because, according to a group of psychology educators at the Open University of the Netherlands, in Heerlen, introductory psychology courses still "lack application of knowledge in solving work-based problems."[41]

Beyond computer-based learning methods, psychology educators have developed other pedagogical tools that allow students to observe and document the behavior of humans and other animals using harm-free methods, including the following.

- **Field studies:** Harm-free field studies outside a controlled laboratory setting require a research plan at the outset. Designing a field research strategy compels students to review the existing work in a given field, form testable hypotheses, decide which data type to collect, and select relevant statistical tests. This approach to teaching psychology is comparable in its value to traditional classroom methods. For instance, students observing wild pigeons in a city park received evaluation scores similar to those of students who studied operant conditioning using rats in a traditional laboratory.[42] In addition, having students in psychology-of-learning courses work with animals in an animal shelter is an effective way to teach operant conditioning, and offers many benefits that are not available in classroom animal laboratories, for instance, networking and the ability to apply science in everyday situations, and providing valuable community service (e.g., stress alleviation and sociability training in companion animals and rehabilitated wildlife).[43,44,45]

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[36] *Ibid.*
[37] *Ibid.*
[38] *Ibid.*
[39] Stark-Wroblewski K, Kreiner DS, Boeding CM, Lopata AN, Ryan JJ, Church TM. Use of virtual reality technology to enhance undergraduate learning in abnormal psychology. *Teach Psychol.* 2008: 35: 343-348.
[40] *Ibid.*
[41] Hummel HGK, Nadolski RJ, Eshuis J, Slootmaker A, Storm J. Serious game in introductory psychology for professional awareness: Optimal learner control and authenticity. *Br J Educ Technol*. 2021:52:125-141.
[42] Cohen PS, Block M. Replacement of laboratory animals in an introductory-level psychology laboratory. *Hum Innov Altern*. 1991:5:221-225.
[43] Flaisher-Grinberg S. For the love of dogs: An academia-community partnership targeting a mutual goal. *J Center Interdiscip Teach Learn*. 2021;9(1):8-15.
[44] McDonald TW, Caso R, Fugit D. Teaching and learning operant principles in animal shelters: Perspectives from faculty, students, and shelter staff. *J Instr Psychol*. 2005;32(4):310-321.
[45] Back to Shool Operant Conditioning with Tigers. Carolina Tiger Rescue. Accessed July 18, 2023. https://carolinatigerrescue.org/newsroom/back-to-school/.

- **Non-animal classroom experiments:** The principles of operant conditioning have also been practically and clinically applied to humans, and educators have developed programs for applying these concepts to classroom laboratory activities.[46,47] As most psychology experiments using animals are designed to model human behavior, allowing students to learn basic psychological principles with virtual software and then apply them to studies involving human volunteers would be the most comprehensive way to teach basic research principles, ethics, and applications in an undergraduate psychology course. The following example can be thought of as a well-established classroom experiment.
- **The Shaping Game:**[48] This game allows students to design psychology experiments and practice with some operant conditioning principles, such as the effects of positive reinforcement, positive punishment, superstitious behavior, and operant extinction, with little additional equipment.[49] A simple application of the shaping game may be where the shaper (student A) manipulates the movement behavior of the learner (student B) via the clicker or a piece of candy as conditioning reinforcers. The learner "may start by standing away from the chairs in the room. As the learner leans, looks, or moves toward a chair, the shaper [may] provide a click as a reinforcer."[50] With time, the learner should recognize the conditioning reinforcers, which exhibit more movement towards a chair and eventually sitting in the chair (target behavior).
- **Open Access Data Analysis:** Data literacy is a critical twenty-first-century skill set.[51] By asking students to characterize open data sets through visualization and statistical inference, educators can help them explore themes in psychology and develop transferable analytical skills. For example, data types relevant to learning about emotional and motivational factors of behavior include traffic violation records, which can be used to investigate repeated offense behaviors, and credit card reward program participation records, which can be used to examine questions about compulsive buying disorder.[52] Many open-access repositories offer educators the freedom to access data on various topics in psychology[53] and design unique activities with real-world relevance.

Request for Action

There is no legal, scientific, or ethical justification to harm animals to prepare students for careers in brain science. It is also critical that young psychologists and neuroscientists discuss the problems associated with animal use in education and are presented with a plethora of non-animal tools. Otherwise, we risk fostering a "culture of disengagement" regarding public welfare issues[54] or alienating talented and compassionate people from the field.

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[46]Shields C, Gredle M. A problem-solving approach to teaching operant conditioning. *Teach Psychol*. 2003;30:114-116.

[47]Chrisler JC. Conditioning the instructor's behavior: A class project in psychology of learning. *Teach Psychol*. 1998;15:135–137.

[48]Morgan, W. G. (1974). The shaping game: A teaching technique. *Behav Ther*. 1974:*5*: 271-272.

[49]Swisher M. Teaching Operant Conditioning Principles via Virtual reality and In-Class Demonstrations. May 31, 2023. Accessed July 18, 2023. https://science.abainternational.org/2023/05/31/teaching-operant-conditioning-principles-via-virtual-reality-and-in-class-demonstrations/.

[50]*Ibid.*

[51]Coughlan T. The use of open data as a material for learning. *Education Tech Research Dev.* 2020: 68:383–411.

[52]Cornell D. 13 Operant Conditioning Examples. Helpful Professor. May 13, 2023. Accessed July 18, 2023. https://helpfulprofessor.com/operant-conditioning-examples/.

[53]PsychArchives. Disciplinary Repository for Psychological Science. Accessed July 18, 2023. https://psycharchives.org/.

[54]Cech EA. Culture of Disengagement in Engineering Education? *Sci Technol Human Values*. 2014: 39(1): 42–72.

We request that you adopt a public policy on your website prohibiting the use of animals for psychology education. Our suggested public policy language is: *"The psychology program at Utah State University does not use animals for educational purposes and instead uses non-animal methods for curricular laboratories."*

AN INTERNATIONAL ORGANIZATION DEDICATED TO PROTECTING THE RIGHTS OF ALL ANIMALS

PETA

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PETA.org

August 7, 2023

Elizabeth (Betsy) R. Cantwell, Ph.D., MBA
President
c/o Nancy Hanks, Assistant to the President
Utah State University

Via e-mail: Elizabeth.Cantwell@usu.edu; Nancy.Hanks@usu.edu

Dear President Cantwell:

Congratulations on your recent appointment as president of Utah State University. I am writing on behalf of People for the Ethical Treatment of Animals U.S.— PETA entities have more than 9 million members and supporters worldwide—to follow-up on a July 14, 2023, letter (enclosed) that we sent to your predecessor, Noelle Cockett,[1] regarding Utah State University's use of live animals in the laboratory portion of Advanced Analysis of Behavior undergraduate course (PSY 3400).[2] **Based on the information in the enclosed letter, we urge you to replace the use of animals in PSY 3400 with effective, non-animal teaching methods that are the best-practice standard used at other universities.**

You can contact me directly by e-mail at MaggieW@peta.org. Please reply by August 14, 2023. Thank you for your consideration of this important matter.

Sincerely,

Maggie Wiśniewska, PhD
Science Policy Advisor
International Laboratory Methods Division
Laboratory Investigations Department

cc: Amy Odum, Ph.D., Professor, Department of Psychology (amy.odum@usu.edu)
Robert Wagner, Ph.D., Executive Vice President (robert.wagner@usu.edu)

Enclosure: July 14, 2023, Letter to then-president Noelle Cockett

Entities:
- PETA Asia
- PETA India
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- PETA Australia
- PETA Germany
- PETA Switzerland
- PETA Netherlands
- PETA Foundation (U.K.)

[1]Wiśniewska M. Letter to President Cockett. July 14, 2023. https://www.peta.org/wp-content/uploads/2023/08/2023-07-14-2nd-follow-up-letter-to-usu-re-psy-3400.pdf.
[2]Syllabus for Spring 2021 PSY-3400. Utah State University. Accessed July 6, 2023. https://www.peta.org/wp-content/uploads/2023/07/PSY3400Spring21SyllabusUSU.pdf.

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501 Front St.
Norfolk, VA 23510
757-622-PETA

Info@peta.org
PETA.org

July 14, 2023

Noelle E. Cockett, Ph.D.
President
Utah State University

Via e-mail: Noelle.Cockett@usu.edu

Dear President Cockett:

Thank you in advance for your time. I am writing in reference to PETA's letter to you dated September 2, 2022,[1] regarding the use of live animals in the laboratory portion of Advanced Analysis of Behavior undergraduate course (PSY 3400) at Utah State University (USU),[2] and the subsequent replies dated October 13, 2022,[3] and November 18, 2022,[4] from Amanda DeRito, USU Associate Vice President for Strategic Communications, who confirmed that the course "is no longer using pigeons" but is still exposing "rats to various experimental stimuli."

Recently, PETA obtained disturbing public records and video footage of USU's rats and pigeons used in the PSY 3400 course for operant conditioning experiments. Based on the information described below—which includes new simulation models not mentioned in our September 2, 2022, letter—we urge you to fully replace the use of animals in PSY 3400 with effective, non-animal teaching methods.

In the videos we have obtained, rats (and previously pigeons) were locked inside barren and noisy metal boxes, where they were deprived of water and blasted with random bursts of bright light while being trained to push a lever to receive food pellets.

In our September 2, 2022, letter to you, we pointed out several examples of engaging and effective methods designed to help undergraduate[5,6,7] and

[1]Wiśniewska M. Letter to President Cockett. September 2, 2022. https://www.peta.org/wp-content/uploads/2023/06/2022-09-02-letter-to-usu-president-cockett.pdf.
[2]Syllabus for Spring 2021 PSY-3400. Utah State University. Accessed July 6, 2023. https://www.peta.org/wp-content/uploads/2023/07/PSY3400Spring21SyllabusUSU.pdf.
[3]DeRito A.NE. E-mail reply to Wiśniewska M. October 13, 2022. https://www.peta.org/wp-content/uploads/2023/07/RE-For-President-Cockett-from-PETA-%E2%80%93-request-to-end-animal-use-in-USU-PSY-3400_Redacted.pdf
[4]DeRito A. E-mail reply to Wiśniewska M. November 18, 2022. https://www.peta.org/wp-content/uploads/2023/07/2022-11-18-reply-letter-to-clarify-end-animal-use-in-psy3400_Redacted.pdf.
[5]Bish JP, Schleidt S. Effective use of computer simulations in an introductory neuroscience laboratory. *J Undergrad Neurosci Educ.* 2008;6(2):A64–A67.
[6]Evert DL, Goodwin G, Stazvener AJ. Integration of computer technology into an introductory-level neuroscience laboratory. *Teach Psychol.* 2005;2(1):69–73.
[7]Griffin JD. Technology in the teaching of neuroscience: Enhanced student learning. *Adv Physiol Educ.* 2003;27:146–155.

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graduate[8,9] students of psychology and neuroscience to conduct virtual experiments, observe animal behavior, and collect and analyze data—all without exploiting or killing animals—including, (AI)[2] Inc.'s CyberRat Operant Laboratory Simulations Program,[10] The Learning Simulator,[11] Sniffy the Virtual Rat,[12] humane field studies[13,14,15,16] and assorted other non-animal classroom experiments.[17,18] Unfortunately, in her November 18, 2022, e-mail reply to us, Ms. DeRito wrote, "USU's review of currently available non-animal behavior models failed to identify any viable alternatives. The computer simulations mentioned in your previous letter are inadequate as they are woefully out of date, and do not accurately model the response of rats to various experimental stimuli."[19]

While we strongly disagree with Ms. DeRito's assessment regarding the efficacy and up-to-date status of the simulation models we had described, we would like to address her concerns directly by providing more animal-free simulation methods for your consideration, namely:

- **The Shaping Game:**[20] This game allows students to design psychology experiments and practice with some operant conditioning principles such the effects of positive reinforcement, positive punishment, superstitious behavior and operant extinction with very little additional equipment.[21] A simple application of the shaping game may be where the shaper (student A) manipulates movement behavior of the learner (student B) via the clicker or a piece of candy as conditioning reinforcers. The learner "may start by standing away from the chairs in the room. As the learner leans, looks, or moves in the direction of a chair, the shaper [may] provide a click as a reinforcer."[22] With time, the learner should recognize the conditioning reinforcers and exhibit more moving towards a chair, and eventually sit in the chair (target behavior).

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[8]Sheen J, Sutherland-Smith W, Thompson E, et al. Evaluating the impact of simulation-based education on clinical psychology students' confidence and clinical competence. *Clin Psychol*. 2021;1923125.
[9]Naudé L, Botha A. It's a virtual child! Postgraduate students' experiences in a developmental psychology class. *Perspect Educ.* 2017;35(1):54–65.
[10](AI)[2] Inc. CyberRat. Accessed June 15, 2023. https://www.ai2inc.com/HomeProducts/cyberrat.html
[11]The Learning Simulator. Accessed June 15, 2023. https://www.learningsimulator.org/
[12]Sniffy the Virtual Rat. Accessed June 15, 2023. http://www.sniffythevirtualrat.com/
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[17]Shields C, Gredle M. A problem-solving approach to teaching operant conditioning. *Teach Psychol*. 2003;30:114–116.
[18]Chrisler JC. Conditioning the instructor's behavior: A class project in psychology of learning. *Teach Psychol*. 1998;15:135–137.
[19] DeRito A. E-mail reply to Wiśniewska M. November 18, 2022. https://www.peta.org/wp-content/uploads/2023/07/2022-11-18-reply-letter-to-clarify-end-animal-use-in-psy3400_Redacted.pdf.
[20]Morgan, W. G. (1974). The shaping game: A teaching technique. *Behavior Therapy*. 1974:5: 271-272. https://psycnet.apa.org/doi/10.1016/S0005-7894(74)80144-9
[21]Swisher M. Teaching Operant Conditioning Principles via Virtual reality and In-Class Demonstrations. May 31, 2023. Accessed July 6, 2023. https://science.abainternational.org/2023/05/31/teaching-operant-conditioning-principles-via-virtual-reality-and-in-class-demonstrations/
[22]*Ibid.*

- **PsychMate®**:[23] "PsychMate is a set of software tools for undergraduate psychology students to [develop], run…, and analyze [realistic] experiments… in the areas of perception, cognition, social psychology, human factors, and cognitive neuroscience."[24,25] While using this platform, the student can work independently or collaborate with others. "The automatic spreadsheet analysis forms allow [students to analyze their data, and create] presentations and Web pages…. Associated applications such as [t]he Brain-Tutor and BrainViewer teach brain anatomy and permit students to analyze fMRI brain imaging data from subjects who have performed… memory experiments [similar to those covered by PsychMate users]."[26] "PsychMate has been used in 83 classes in which 1,533 students submitted 5,464 completed experiments with few (less than 1%) requests for help and a very positive rating of the research experience."[27]
- **Open Access Data Analysis:** Data literacy is considered as a key twenty-first century skill set.[28] Asking students to characterize open data sets through visualization and statistical inference, can not only help them explore themes in psychology, but also develop transferable analytical skills. For instance, data types relevant to learning about emotional and motivational factors of behavior include traffic violation records vis-à-vis questions about repeated offense behaviors, and credit card reward program participation records vis-à-vis questions about compulsive buying disorder.[29] Many open access repositories offer educators the freedom to access data on a range of topics in psychology[30] and design unique activities with real-world relevance.

Again, there is no legal, scientific or ethical justification to continue to harm animals to prepare students for careers in brain science. It is also critical that young psychologists and neuroscientists have the opportunity to discuss the problems associated with animal use in education, and are presented with the plethora of non-animal tools. Otherwise, we risk fostering a "culture of disengagement" regarding issues of public welfare[31] or alienating talented and compassionate people from the field.

You can contact me directly at MaggieW@peta.org. Please reply by August 4, 2023. Thank you.

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[26]*Ibid.*

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[28]Coughlan T. The use of open data as a material for learning. *Education Tech Research Dev.* 2030:68, 383–411.

[29]Cornell D. 13 Operant Conditioning Examples. Helpful Professor. May 13, 2023. Accessed June 15, 2023. https://helpfulprofessor.com/operant-conditioning-examples/.

[30]PsychArchives. Disciplinary Repository for Psychological Science. Accessed June 15, 2023. https://psycharchives.org/

[31]Cech EA. Culture of Disengagement in Engineering Education? *Sci Technol Human Values*. 2014;39(1);42–72.

Sincerely,

Maggie Wiśniewska, PhD
Science Policy Advisor
International Laboratory Methods Division
Laboratory Investigations Department

cc: Amy Odum, Ph.D., Professor, Department of Psychology (amy.odum@usu.edu)
Robert Wagner, Ph.D., Executive Vice President (robert.wagner@usu.edu)

AN INTERNATIONAL ORGANIZATION DEDICATED TO PROTECTING THE RIGHTS OF ALL ANIMALS

PETA

PEOPLE FOR THE ETHICAL TREATMENT OF ANIMALS

Washington
1536 16th St. N.W.
Washington, DC 20036
202-483-PETA

Los Angeles
2154 W. Sunset Blvd.
Los Angeles, CA 90026
323-644-PETA

Norfolk
501 Front St.
Norfolk, VA 23510
757-622-PETA

Info@peta.org
PETA.org

July 14, 2023

Noelle E. Cockett, Ph.D.
President
Utah State University

Via e-mail: Noelle.Cockett@usu.edu

Dear President Cockett:

Thank you in advance for your time. I am writing in reference to PETA's letter to you dated September 2, 2022,[1] regarding the use of live animals in the laboratory portion of Advanced Analysis of Behavior undergraduate course (PSY 3400) at Utah State University (USU),[2] and the subsequent replies dated October 13, 2022,[3] and November 18, 2022,[4] from Amanda DeRito, USU Associate Vice President for Strategic Communications, who confirmed that the course "is no longer using pigeons" but is still exposing "rats to various experimental stimuli."

Recently, PETA obtained disturbing public records and video footage of USU's rats and pigeons used in the PSY 3400 course for operant conditioning experiments. Based on the information described below—which includes new simulation models not mentioned in our September 2, 2022, letter—we urge you to fully replace the use of animals in PSY 3400 with effective, non-animal teaching methods.

In the videos we have obtained, rats (and previously pigeons) were locked inside barren and noisy metal boxes, where they were deprived of water and blasted with random bursts of bright light while being trained to push a lever to receive food pellets.

In our September 2, 2022, letter to you, we pointed out several examples of engaging and effective methods designed to help undergraduate[5,6,7] and

[1]Wiśniewska M. Letter to President Cockett. September 2, 2022. https://www.peta.org/wp-content/uploads/2023/06/2022-09-02-letter-to-usu-president-cockett.pdf.
[2]Syllabus for Spring 2021 PSY-3400. Utah State University. Accessed July 6, 2023. https://www.peta.org/wp-content/uploads/2023/07/PSY3400Spring21SyllabusUSU.pdf.
[3]DeRito A.NE. E-mail reply to Wiśniewska M. October 13, 2022. https://www.peta.org/wp-content/uploads/2023/07/RE-For-President-Cockett-from-PETA-%E2%80%93-request-to-end-animal-use-in-USU-PSY-3400_Redacted.pdf
[4]DeRito A. E-mail reply to Wiśniewska M. November 18, 2022. https://www.peta.org/wp-content/uploads/2023/07/2022-11-18-reply-letter-to-clarify-end-animal-use-in-psy3400_Redacted.pdf.
[5]Bish JP, Schleidt S. Effective use of computer simulations in an introductory neuroscience laboratory. *J Undergrad Neurosci Educ.* 2008;6(2):A64–A67.
[6]Evert DL, Goodwin G, Stazvener AJ. Integration of computer technology into an introductory-level neuroscience laboratory. *Teach Psychol.* 2005;2(1):69–73.
[7]Griffin JD. Technology in the teaching of neuroscience: Enhanced student learning. *Adv Physiol Educ.* 2003;27:146–155.

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graduate[8,9] students of psychology and neuroscience to conduct virtual experiments, observe animal behavior, and collect and analyze data—all without exploiting or killing animals—including, (AI)[2] Inc.'s CyberRat Operant Laboratory Simulations Program,[10] The Learning Simulator,[11] Sniffy the Virtual Rat,[12] humane field studies[13,14,15,16] and assorted other non-animal classroom experiments.[17,18] Unfortunately, in her November 18, 2022, e-mail reply to us, Ms. DeRito wrote, "USU's review of currently available non-animal behavior models failed to identify any viable alternatives. The computer simulations mentioned in your previous letter are inadequate as they are woefully out of date, and do not accurately model the response of rats to various experimental stimuli."[19]

While we strongly disagree with Ms. DeRito's assessment regarding the efficacy and up-to-date status of the simulation models we had described, we would like to address her concerns directly by providing more animal-free simulation methods for your consideration, namely:

- **The Shaping Game:**[20] This game allows students to design psychology experiments and practice with some operant conditioning principles such the effects of positive reinforcement, positive punishment, superstitious behavior and operant extinction with very little additional equipment.[21] A simple application of the shaping game may be where the shaper (student A) manipulates movement behavior of the learner (student B) via the clicker or a piece of candy as conditioning reinforcers. The learner "may start by standing away from the chairs in the room. As the learner leans, looks, or moves in the direction of a chair, the shaper [may] provide a click as a reinforcer."[22] With time, the learner should recognize the conditioning reinforcers and exhibit more moving towards a chair, and eventually sit in the chair (target behavior).

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[8]Sheen J, Sutherland-Smith W, Thompson E, et al. Evaluating the impact of simulation-based education on clinical psychology students' confidence and clinical competence. *Clin Psychol*. 2021;1923125.
[9]Naudé L, Botha A. It's a virtual child! Postgraduate students' experiences in a developmental psychology class. *Perspect Educ.* 2017;35(1):54–65.
[10](AI)[2] Inc. CyberRat. Accessed June 15, 2023. https://www.ai2inc.com/HomeProducts/cyberrat.html
[11]The Learning Simulator. Accessed June 15, 2023. https://www.learningsimulator.org/
[12]Sniffy the Virtual Rat. Accessed June 15, 2023. http://www.sniffythevirtualrat.com/
[13]Cohen PS, Block M. Replacement of laboratory animals in an introductory-level psychology laboratory. *Humane Innovations and Alternatives*. 1991;5:221–225.
[14]Flaisher-Grinberg S. For the love of dogs: An academia-community partnership targeting a mutual goal. *The Journal of the Center of Interdisciplinary Teaching and Learning*. 2021;9(1):8–15.
[15]McDonald TW, Caso R, Fugit D. Teaching and learning operant principles in animal shelters: Perspectives from faculty, students, and shelter staff. *J Instr Psychol*. 2005;32(4):310–321.
[16]Back to Shool Operant Conditioning with Tigers. Carolina Tiger Rescue. Accessed June 19, 2023. https://carolinatigerrescue.org/newsroom/back-to-school/
[17]Shields C, Gredle M. A problem-solving approach to teaching operant conditioning. *Teach Psychol*. 2003;30:114–116.
[18]Chrisler JC. Conditioning the instructor's behavior: A class project in psychology of learning. *Teach Psychol*. 1998;15:135–137.
[19] DeRito A. E-mail reply to Wiśniewska M. November 18, 2022. https://www.peta.org/wp-content/uploads/2023/07/2022-11-18-reply-letter-to-clarify-end-animal-use-in-psy3400_Redacted.pdf.
[20]Morgan, W. G. (1974). The shaping game: A teaching technique. *Behavior Therapy*. 1974:5: 271-272. https://psycnet.apa.org/doi/10.1016/S0005-7894(74)80144-9
[21]Swisher M. Teaching Operant Conditioning Principles via Virtual reality and In-Class Demonstrations. May 31, 2023. Accessed July 6, 2023. https://science.abainternational.org/2023/05/31/teaching-operant-conditioning-principles-via-virtual-reality-and-in-class-demonstrations/
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- **Open Access Data Analysis:** Data literacy is considered as a key twenty-first century skill set.[28] Asking students to characterize open data sets through visualization and statistical inference, can not only help them explore themes in psychology, but also develop transferable analytical skills. For instance, data types relevant to learning about emotional and motivational factors of behavior include traffic violation records vis-à-vis questions about repeated offense behaviors, and credit card reward program participation records vis-à-vis questions about compulsive buying disorder.[29] Many open access repositories offer educators the freedom to access data on a range of topics in psychology[30] and design unique activities with real-world relevance.

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You can contact me directly at MaggieW@peta.org. Please reply by August 4, 2023. Thank you.

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Washington
1536 16th St. N.W.
Washington, DC 20036
202-483-PETA

Los Angeles
2154 W. Sunset Blvd.
Los Angeles, CA 90026
323-644-PETA

Norfolk
501 Front St.
Norfolk, VA 23510
757-622-PETA

Info@peta.org
PETA.org

September 2, 2022

Noelle E. Cockett, Ph.D.
President
Utah State University

Via e-mail: Noelle.Cockett@usu.edu

Dear President Cockett:

Thank you in advance for your time. I am writing on behalf of People for the Ethical Treatment of Animals U.S.—PETA entities have more than 9 million members and supporters worldwide—regarding the Advanced Analysis of Behavior undergraduate course (PSY 3400) at Utah State University (USU) that traditionally uses live pigeons during the lab portion of the course.[1] **Based on the information presented below, we urge you to replace the use of animals in PSY 3400 with effective, non-animal teaching methods that are the best-practice standard used at other universities.**

Animal-Free Psychology Training Methods Are Effective

There are several engaging, effective, and cost-efficient non-animal methods available to teach students the course objectives of PSY 3400. Furthermore, USU already uses an "online rat simulator" and recently—during the COVID-19 pandemic—had students "participate in real live research by coding video for an ongoing study."[2]

The interactive software programs described below allow students to design and conduct virtual experiments, observe animal behavior, and collect and analyze data—all without using or killing animals. Studies show that simulation programs are effective for teaching undergraduate[3,4,5] and graduate[6,7] students of psychology and neuroscience.

[1]Department of Psychology, Utah State University. (n.d.). USU psychology community shares successes during COVID-19. Accessed August 30, 2022. https://psychology.usu.edu/news/psychology-successes-COVID-19

[2]Department of Psychology, Utah State University. (n.d.). USU psychology community shares successes during COVID-19. Accessed August 30, 2022. https://psychology.usu.edu/news/psychology-successes-COVID-19

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Comparative studies have found that students taught with these and other[8] non-animal methods learned as well as or better than their peers who used animals.[9]

Experts and Students Oppose the Use of Animals in Experiments

Studies show that, depending on the procedure, as many as 42% of psychologists and 60% of psychology students oppose the use of animals in psychology education,[10] and the majority of psychologists and psychology students believe that live-animal experimentation should not be required in undergraduate psychology courses.[11] Similarly, the growing majority of college-aged adults are opposed to all experiments on animals.[12] Employing non-animal educational tools creates an inclusive, engaging, and safe learning environment for all students, including those uncomfortable with animal experimentation.

The American Psychological Association Encourages the Use of Non-Animal Training Methods

The American Psychological Association's (APA) "Guidelines for Ethical Conduct in the Care and Use of Nonhuman Animals in Research" states, "Consideration should be given to the possibility of using non-animal alternatives. Some procedures that can be justified for research purposes may not be justified for educational purposes."[13] In its "Resolution on the Use of Animals in Research, Testing, and Education," the APA mandates that "the development and use of complementary or alternative research or testing methodologies, such as computer models, tissue, or cell cultures, be encouraged where applicable and efficacious."[14]

Numerous Non-Animal Training Methods Are Available

For the specific experiments conducted in PSY 3400, a number of non-animal methods would allow instructors to meet course objectives. Here are a few examples.

- **Sniffy the Virtual Rat:**[15] This engaging, interactive software provides students with a virtual laboratory in which they can explore operant and classical conditioning through experiments that demonstrate most of the major conditioning phenomena discussed in textbooks on the psychology of learning. It has been field-tested at several colleges and universities for use in learning and animal-behavior courses and

[8]Patronek GJ, Rauch A. Systematic review of comparative studies examining alternatives to the harmful use of animals in biomedical education. *J Am Vet Med Assoc*. 2007;230(1):37–43.
[9]Patronek GJ, Rauch A. Systematic review of comparative studies examining alternatives to the harmful use of animals in biomedical education. *J Am Vet Med Assoc*. 2007;230(1):37–43.
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[14]American Psychological Association. (n.d.) Resolution on the use of animals in research, testing, and education. 1990. https://www.apa.org/science/leadership/care/animal-resolution.pdf
[15]Sniffy the Virtual Rat. Accessed August 30, 2022. http://www.sniffythevirtualrat.com/

was used as a practical, successful replacement for live animals in an undergraduate neuroscience course.[16]

- **(AI)^2 Inc.'s CyberRat Operant Laboratory Simulations Program:**[17] CyberRat is a digital, fully interactive video of a real animal in a laboratory. Its database contains more than 1,600 behavioral video clips, all seamlessly played back in unique sequences using stochastic algorithms. Student recordkeeping and data archives are maintained in order to give instructors easy access to student progress summaries. When used in introductory psychology laboratories, CyberRat "serves as a functional supplement and/or total replacement for various live animal laboratory exercises using rats."[18] It is otherwise described "as close to an actual behaving animal as you can get,"[19] offering "a near perfect illusion of being a single animal that quite realistically demonstrates basic operant conditioning phenomena embedded in a flow of natural behaviors."[20]
- **The Learning Simulator:**[21] The Learning Simulator is an open-source software program that simulates learning in humans and other animals, including the acquisition and extinction of behavior, learning of behavioral sequences, and various social-learning scenarios.[22] It is used for research in scientific publications[23,24,25] as well as in teaching at the master's program in ethology at Stockholm University, the veterinary program at the Swedish University of Agricultural Sciences, and the psychology department at Brooklyn College of the City University of New York.[26]

Beyond computer-based learning methods, psychology educators have developed other pedagogical tools that allow students to observe and document the behavior of humans and other animals using harm-free methods, including the following.

- **Field studies:** Students who studied wild pigeons in a city park received evaluation scores equal to those of students who studied operant conditioning using rats in a traditional lab.[27] Other studies have found that having students in psychology-of-learning courses work with animals in an institutional setting—such as an animal

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[16]Alloway T, Wilson G, Graham J. *Sniffy the Virtual Rat Pro, Version 2.0*. Wadsworth Cengage Learning; 2005.
[17](AI)^2 Inc. CyberRat. Accessed August 30, 2022. http://www.ai2inc.com/HomeProducts/cyberrat.html
[18]Ray R, Miraglia K. A sample of CyberRat and other experiments: Their pedagogical functions in a learning course. *J Neurosci Res*. 2011;9:44–61.
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[23]Ghirlanda S, Lind, J, Enquist, M. A-learning: A new formulation of associative learning theory. *Psychon Bull Rev*. 2020;27:1166–1194.
[24]Lind J. What can associative learning do for planning? *R Soc Open Sci*. 2018;5:180778.
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[26]Jonsson M, Ghirlanda S, Lind J, Vinken V, Enquist M. Learning Simulator: A simulation software for animal and human learning. *J Open Source Softw*. 2021;6(58):2891.
[27]Cohen PS, Block M. Replacement of laboratory animals in an introductory-level psychology laboratory. *Humane Innovations and Alternatives*. 1991;5:221–225.

shelter—is an effective way to teach operant conditioning, and this method offers many benefits that are not available in classroom animal laboratories.[28,29]

- **Non-animal classroom experiments:** The principles of operant conditioning have also been practically and clinically applied to humans, and educators have developed programs for applying these concepts to classroom laboratory activities.[30,31] As most psychology experiments using animals are designed to model human behavior, allowing students to learn basic psychological principles with virtual software and then apply them to studies involving human volunteers would be the most comprehensive way to teach basic research principles, ethics, and applications in an undergraduate psychology course.

There is simply no need to harm animals in order to prepare students for careers in brain science, and it is critical that young psychologists and neuroscientists know this—otherwise, we risk alienating talented and compassionate people from the field.

We hope to work with your psychology department to replace its classroom experiments on animals with more effective, humane, non-animal educational tools. Such a transition would align with current best-practice standards used by other universities that have already switched to animal-free methods.

You can contact me at MaggieW@Peta.org. Thank you for your consideration of this important matter. We look forward to your response.

Sincerely,

Maggie Wiśniewska, PhD
Science Policy Advisor
International Laboratory Methods Division
Laboratory Investigations Department
People for the Ethical Treatment of Animals

cc: Amy Odum, Ph.D., Professor, Department of Psychology (amy.odum@usu.edu)
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