AMERICAN PSYCHOLOGICAL ASSOCIATION

GUIDELINES FOR ETHICAL CONDUCT **in the Care and Use of Nonhuman Animals in Research**[1]

FEBRUARY 2022

A foundational aspect of the discipline of psychology is teaching about and research on the behavior of nonhuman animals. Studying other animals is critical to understanding basic principles underlying behavior and to advancing the welfare of both human and nonhuman animals. While psychologists must conduct their teaching and research in a manner consonant with relevant laws and regulations, ethical concerns further mandate that psychologists consider the costs and benefits of procedures involving nonhuman animals before proceeding with these activities.

The following guidelines were developed by the American Psychological Association (APA) for use by psychologists working with nonhuman animals. The guidelines are informed by relevant sections of the *Ethical Principles of Psychologists and Code of Conduct* (APA, 2017).The acquisition, care, housing, use, and disposition of nonhuman animals in research must comply with applicable federal, state, and local laws and regulations, institutional policies, and with international conventions to which the United States is a party. APA members working outside the United States must also follow all applicable laws and regulations of the country in which they conduct research.

It is important to recognize that this document constitutes "guidelines," which serve a different purpose than "standards." Standards, unlike guidelines, require mandatory compliance, and may be accompanied by an enforcement mechanism. This document is meant to be aspirational and thereby provides recommendations for the professional conduct of specified activities. These guidelines are not intended to be mandatory, exhaustive, or definitive and should not take precedence over the professional judgment of individuals who have competence in the subject addressed.

Questions about these guidelines should be referred to the APA Committee on Animal Research and Ethics (CARE) via email at science@apa.org, by phone at 202-336-6000, or in writing to the American Psychological Association, Science Directorate, Office of Research Ethics, 750 First St., NE, Washington, DC 20002-4242.

1 These guidelines are scheduled to expire 10 years from (the date of adoption by the APA Council of Representatives). After this date users are encouraged to contact the APA Science Directorate to determine whether this document remains in effect.

JUSTIFICATION OF THE RESEARCH

A. Research should be undertaken with a clear scientific purpose. There should be a reasonable expectation that the research will a) increase knowledge of the process underlying the evolution, development, maintenance, alteration, control, or biological significance of behavior; b) determine the replicability and generality of prior research; c) increase understanding of the species under study; or d) provide results that benefit the health or welfare of humans or other animals.

B. The scientific purpose of the research should be of sufficient potential significance to justify the use of nonhuman animals. In general, psychologists should act on the assumption that procedures that are likely to produce pain in humans may also do so in other animals, unless there is species-specific evidence of pain or stress to the contrary.

C. In proposing a research project, the psychologist should be familiar with the appropriate literature, consider the possibility of nonanimal alternatives, and use procedures that minimize the number of nonhuman animals in research. If nonhuman animals are to be used, the species chosen for the study should be the best suited to answer the question(s) posed.

D. Research on nonhuman animals may not be conducted until the protocol has been reviewed and approved by an appropriate animal care committee; typically, an Institutional Animal Care and Use Committee (IACUC), to ensure that the procedures are appropriate and abide by the principles for humane experimental techniques embodied by the 3Rs – Replacement, Reduction, and Refinement (Russell & Burch, 1959).

E. The researcher(s) should monitor the research and the subjects' welfare throughout the course of an investigation to ensure continued justification for the research.

PERSONNEL

A. Psychologists should ensure that personnel involved in their research with nonhuman animals be familiar with these guidelines.

B. Investigators and personnel should complete all required institutional research trainings for the ethical conduct of such research.

C. Research procedures with nonhuman animals should conform to the Animal Welfare Act (7 U.S.C. §2131 et. seq.) and when applicable, the Public Health Service Policy on Humane Care and Use of Laboratory Animals (PHS, 2015) and the Guide for the Care and Use of Laboratory Animals (National Resource Council, 2011), as well as other applicable federal regulations, policies, and guidelines, regarding personnel, supervision, record keeping, and veterinary care.

D. As behavior is not only the focus of study of many experiments but also a primary source of information about an animal's health and well-being, investigators should watch for and recognize deviations from normal, species-typical behaviors as indicators of potential health problems.

E. Psychologists should assume it is their responsibility that all individuals who work with nonhuman animals under their supervision receive explicit instruction in experimental methods and in the care, maintenance, and handling of the species being studied. The activities that any individuals may engage in must not exceed their respective competencies, training, and experience in either the laboratory or the field setting.

CARE AND HOUSING OF LABORATORY ANIMALS

As a scientific and professional organization, APA recognizes the complexities of defining psychological well-being for both human and nonhuman animals. APA does not provide specific guidelines for the maintenance of psychological well-being of research animals, as procedures that are appropriate for a particular species may not be for others. Psychologists who are familiar with the species, relevant literature, federal guidelines, and their institution's research facility should consider the appropriateness of measures such as social housing and enrichment to maintain or improve psychological well-being of those species.

A. The facilities housing laboratory animals should meet or exceed current regulations and guidelines (USDA, 1990, 1991; NIH, 2015) and are required to be inspected twice a year (USDA, 1989; NIH, 2015).

B. All procedures carried out on nonhuman animals are to be reviewed by an IACUC to ensure that the procedures are appropriate and humane. The committee must have representation from within the institution and from the local community. In the event that it is not possible to constitute an appropriate IACUC in the psychologist's own institution, psychologists should seek advice and obtain review from a corresponding committee of a cooperative institution.

C. Laboratory animals are to be provided with humane care and healthful conditions during their stay in any facilities of the institution. Responsibilities for the conditions under which animals are kept, both within and outside of the context of active experimentation or teaching, rests with the psychologist under the supervision of the IACUC (where required by federal regulations) and with individuals appointed by the institution to oversee laboratory animal care.

ACQUISITION OF LABORATORY ANIMALS

A. Laboratory animals not bred in the psychologist's facility are to be acquired lawfully. The USDA and local ordinances should be determined and followed prior to IACUC protocol submission.

B. Psychologists should make every effort to ensure that those responsible for transporting the nonhuman animals to the facility provide adequate food, water, ventilation, and space, and impose no unnecessary stress on the animals (NRC, 2006).

C. Nonhuman animals taken from the wild should be trapped in a humane manner and in accordance with applicable federal, state, and local regulations.

D. Use of endangered, threatened, or imported nonhuman animals must only be conducted with full attention to required permits and ethical concerns. Information and permit applications may be obtained from the Fish and Wildlife Service website at www.fws.gov.

EXPERIMENTAL PROCEDURES

Consideration for the humane treatment and well-being of the laboratory animal should be incorporated into the design and conduct of all procedures involving such animals, while keeping in mind the primary goal of undertaking the specific procedures of the research project—the acquisition of sound, replicable data. The conduct of all procedures is governed by Guideline I (Justification of Research) above.

A. Observational and other noninvasive forms of behavioral studies that involve no aversive stimulation to, or elicit no sign of distress from, the nonhuman animal are acceptable.

B. Whenever possible behavioral procedures should be used that minimize discomfort to the nonhuman animal. Psychologists should adjust the parameters of aversive stimulation to the minimal levels compatible with the aims of the research. Consideration should be given to providing the research animals control over the potential aversive stimulation whenever it is consistent with the goals of the research. Whenever reasonable, psychologists are encouraged to first test on themselves the painful stimuli to be used on nonhuman animal subjects.

C. Procedures in which the research animal is anesthetized and insensitive to pain throughout the procedure, and is euthanized (AVMA, 2020) before regaining consciousness are generally acceptable.

D. Procedures involving more than momentary or slight aversive stimulation, which is not relieved by medication or other acceptable methods, should be undertaken only when the objectives of the research cannot be achieved by other methods.

E. Experimental procedures that require prolonged aversive conditions or produce tissue damage or metabolic disturbances require greater justification and surveillance by the psychologist and IACUC. A research animal observed to be in a state of severe distress or chronic pain that cannot be alleviated and is not essential to the purposes of the research should be euthanized immediately (AVMA, 2020).

F. Procedures that employ restraint must conform to federal regulations and guidelines.

G. Procedures involving the use of paralytic agents without reduction in pain sensation require prudence and humane concern. Use of muscle relaxants or paralytics alone during surgery, without anesthesia, is unacceptable.

H. Surgical procedures, because of their invasive nature, require close supervision and attention to humane considerations by the psychologist. Aseptic (methods that minimize risks of infection) techniques must be used on laboratory animals whenever possible.

   1. All surgical procedures and anesthetization should be conducted under the direct supervision of a person who is trained and competent in the use of the procedures.

   2. Unless there is specific justification for acting otherwise, research animals should remain under anesthesia until all surgical procedures are ended.

   3. Postoperative monitoring and care, which may include the use of analgesics and antibiotics, should be provided to minimize discomfort, prevent infection, and promote recovery from the procedure.

   4. In general, laboratory animals should not be subjected to successive survival surgical procedures, except as required by the nature of the research, the nature of the specific surgery, or for the well-being of the animal. Multiple surgeries on the same animal must be justified and receive approval from the IACUC.

I. To minimize the number of nonhuman animals used, investigators should maximize the amount of data collected from each subject in a manner that is compatible with the goals of the research, sound scientific practice, and the welfare of the animal.

J. To ensure their humane treatment and well-being, nonhuman animals reared in the laboratory must not be released into the wild because, in most cases, they cannot survive, or they may survive by disrupting the natural ecology.

K. When euthanasia is appropriate, either as a requirement of the research or because it constitutes the most humane form of disposition of a nonhuman animal at the conclusion of the research:

   1. Euthanasia must be accomplished in a humane manner, appropriate for the species and age, and in such a way as to ensure immediate death, and in accordance with procedures outlined in the latest version of the AVMA (American

Veterinary Medical Association) Guidelines on Euthanasia of Animals (2020).

2. Disposal of euthanized laboratory animals must be conducted in accordance with all relevant laws, consistent with health, environmental, and aesthetic concerns, and as approved by the IACUC. No animal shall be discarded until its death is verified.

FIELD RESEARCH

Field research that carries a risk of materially altering the behavior of nonhuman animals and/or producing damage to sensitive ecosystems is subject to IACUC approval. Field research, if strictly observational, may not require animal care committee approval (USDA, 2000).

A. Psychologists conducting field research should disturb their populations as little as possible, while acting consistent with the goals of the research. Every effort should be made to minimize potential harmful effects of the study on the population and on other plant and animal species in the area.

B. Research conducted in populated areas must be done with respect for the property and privacy of the area's inhabitants.

C. Such research on endangered species should not be conducted unless IACUC approval has been obtained and all requisite permits are obtained (see section IV.D of this document). Included in this review should be a risk assessment and guidelines for prevention of zoonotic disease transmission (i.e., disease transmission between species, including human to nonhuman and vice versa).

RESEARCH IN OTHER SETTINGS

Research on captive wildlife or domesticated animals outside the laboratory setting that materially alters the environment or behavior of the nonhuman animals should be subject to IACUC approval (Ng et al., 2019). This includes settings where the principal subjects of the research are humans, but nonhuman animals are used as part of the study, such as research on the efficacy of animal-assisted interventions (AAI) and research conducted in zoos, animal shelters, and so on. If it is not possible to establish an IACUC at the psychologists' own institution, investigators should seek advice and obtain review from an IACUC of a cooperative institution.

A. Researchers should minimize and mitigate any distress on the nonhuman animal subject caused by its involvement in the study. Qualifications for appropriate handling of animal subjects in AAI settings have been well described by the AVMA (2008). Psychologists studying the use of AAIs should have the expertise to recognize behavioral and/or physiological signs of stress and distress in the species involved in the study. However, when psychologists lack such expertise, they should ensure that the research team includes individuals with the necessary expertise to recognize and intervene to reduce the nonhuman animal subject's distress. Any study that carries risk of experiencing, or being exposed to the experience of, another organism's pain, fear, or distress requires greater justification and should be addressed in the IACUC protocol.

B. When research is conducted in applied settings, such as hospitals, health clinics, and offices of doctors and mental health professionals, the investigator should understand the risk of, and declare mitigating strategies for, disease transmission between human and nonhuman participants. For example, studies of AAIs in health-care facilities offering mental health services may introduce risks for bi-directional zoonotic transmission of infectious diseases such as Methicillin-resistant *Staphylococcus aureus* (MRSA) (Lefebvre, et al., 2008). Investigators studying AAIs in health-care settings should therefore adhere to the guidelines for AAI management offered by the AVMA (2008).

C. In all experimental circumstances, investigators should structure into the schedule the basic needs of the nonhuman animals such as food, water, and rest breaks.

EDUCATIONAL USE OF NONHUMAN ANIMALS

Laboratory exercises as well as classroom demonstrations involving live animals are of great value as instructional aids. Psychologists are encouraged to include instruction and discussion of the ethics and values of nonhuman animal research in relevant courses.

A. Nonhuman animals may be used for educational purposes only after review by an IACUC or other appropriate institutional committee.

B. Consideration should be given to the possibility of using nonanimal alternatives. Procedures that may be justified for research purposes may not be so for educational purposes (e.g., animal models of pain that are used to develop safer analgesics would be in excess of what is needed to merely demonstrate the use of animal models in the study of behavior and cognition).

C. All handlers of nonhuman animals in educational settings should adhere to the recommendations outlined above for personnel, housing, and acquisition of subjects.

APA has adopted separate guidelines for the use of nonhuman animals in research and teaching at the pre-college level. A copy of the APA *Guidelines for the Use of Nonhuman Animals in Behavioral Projects in Schools (K-12)* can be obtained via email at science@apa.org, by phone at 202-336-6000, or in writing to the American Psychological Association, Science Directorate, Office of Research Ethics, 750 First St., NE, Washington, DC 20002-4242 or downloaded at apa.org/science/leadership/care/animal-guide.pdf.

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Additional Resources

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