Discussing Animal Rights and Animal Research in the Classroom

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There is growing controversy over the ethics of using animals in biomedical and behavioral research. This article reviews two prominent philosophical justifications for animal liberation and describes an exercise that facilitates class discussion of animal research issues. Students simulate participation on an institutional animal care committee and decide whether a series of hypothetical experiments will be allowed. Students reported that the exercise sharpened their awareness of this issue and of the complexity of making ethical decisions.

Since Singer's influential book *Animal Liberation* was published in 1975, public concern over the ethical treatment of animals has increased dramatically. Animal rights groups have criticized a variety of human uses of animals, including sport hunting, rodeos, intensive agricultural practices, consumption of animal flesh, and the wearing of furs. The use of animals in behavioral and biomedical research, however, has become the primary focus of public attention in recent years. Experimental psychology has been singled out as particularly offensive by animal rights activists who consider much behavioral research frivolous and cruel. For example, Rollin (1981) called experimental psychology, "the field most consistently guilty of mindless activity that results in great suffering" (p. 124).

Although psychologists have responded to such criticisms (e.g., Feeney, 1987; N. E. Miller, 1985), the animal rights movement has had a significant effect on animal research. In addition, teachers of psychology courses are being confronted with students who question the ethics and validity of behavioral research using animals (Gallup & Beckstead, 1988). There are three reasons why discussion of animal rights is relevant to students taking psychology courses. First, students should be aware of political and social issues related to psychology that affect their lives. In this context, the animal rights controversy joins other social issues, such as the effects of day care, television violence, and pornography, as topics relevant to psychology courses. Second, the animal rights issue raises questions that are basic to psychological inquiry: What are the essential differences between humans and other animals? Can animals think? What psychological factors influence judgments about what constitutes moral behavior? Finally, the use of animals in laboratory courses has come under special criticism (e.g., Regan, 1983). Many animal liberationists believe that the routine dissection of animals in biology laboratories and the equivalent use of animals in psychology courses (e.g., physiological psychology students learning stereotaxic surgery on rats) are particularly onerous practices.

Although the animal rights movement affects research and teaching, few psychologists are informed about its intellectual underpinnings. Animal activists are often dismissed as intellectual lightweights whose arguments are based on emotional responses to pictures of kittens with electrodes in their skulls. Although this stereotype is accurate in some cases, there are also some first-rate philosophers behind the movement whose arguments are quite rigorous. This article briefly reviews two major philosophical positions used by animal activists in their arguments against the scientific use of animals and then describes a classroom exercise that stimulates discussion about this debate.

Philosophical Positions

The animal defense movement is divided into two groups. *Reformers* admit the necessity of using animals in biomedical research but want to eliminate as much suffering as possible. The more radical faction, *animal liberators*, view animal research as immoral in almost all cases and want to abolish it. It is not the purpose of this article to review all of the philosophical positions on animal rights. Interested readers should consult sources such as H. B. Miller and Williams (1983) for representative statements. Rather, I briefly summarize two of the most influential perspectives used by animal rights activists in their argument against using animals in research.

The Utilitarian Argument

The utilitarian argument is most clearly presented by the Australian philosopher, Peter Singer. In *Animal Liberation*, Singer (1975) effectively invoked emotional appeal and a consistent ethical philosophy to argue the case for abolishing animal research. The *principle of equality* (or *equal consideration of interests*) is the crux of Singer's argument. It holds that all sentient creatures (he draws the "line" at the phylogenetic level of oysters) have the same stake in their own existence ("interests"). Singer argued that this principle leads to the conclusion that there is no basis for elevating the interests of one species, *Homo sapiens*, above any other. Differences in intelligence, race, and gender are not valid criteria to exploit other humans; to Singer, a creature's species is equally irrelevant. He claimed that "From an ethical point of view, we all stand on an equal footing—whether we stand on two feet, or four, or none at all" (Singer, 1985, p.

6). The only relevant moral criterion for discrimination for or against a species is the capacity to suffer. Singer argued that, by definition, all sentient animals have the capacity to suffer and, therefore, are the subject of equal moral consideration. He claimed that to elevate the human species above all others on the basis of criteria other than suffering is arbitrary and a form of *speciesism.* Singer defined this term as "a prejudice or attitude of bias toward the interest of members of one's own species and against those of members of another species" (p. 7). He believed that speciesism is as illogical and morally repugnant as racism or sexism. Note that Singer would permit research with animals in some circumstances, but only if it is so important that we would also consider conducting the experiments using human subjects.

The Rights Argument

The rights argument is forcefully argued by Regan (1983, 1985) and Rollin (1981). Rights positions typically take the form that at least some creatures have certain fundamental rights (e.g., the right to moral consideration and the right not to be harmed). The question then becomes, Who is entitled to hold rights? Many philosophers restrict rights holders to beings that meet certain criteria, such as language, self-consciousness, or the ability to enter into reciprocal contractual obligations that they believe would eliminate nonhuman animals. There are several problems, however, that confront such philosophical positions. One problem concerns the moral status of humans who do not meet the criteria (i.e., the severely retarded, infants, and the insane). A second problem is how to deal with animals that appear to meet some of the criteria (e.g., members of large-brained species such as some primates, cetaceans, etc.)?

Animal rights theorists broaden the criteria so that animals are included as rights holders. To Regan (1983, 1985), the fundamental criterion for having rights is "inherent value." He argued that sentient creatures, including humans, have inherent value in equal measure and thus are entitled to certain fundamental rights, including the right to be treated with respect and the right not to be harmed. For Regan, there are a number of reasons for abolishing research with animals, even research that will directly benefit humans. First and foremost, science treats animals as renewable resources rather than as "subjects of a life"—creatures with inherent value—thus violating what he called the "respect principle." In addition, he argued for the "worst off principle"—that the rights view does not permit the sacrifice of an innocent few even though such sacrifice may benefit many more individuals. For Regan, there is no justification for any animal research; the fact that the experiments could benefit hundreds of thousands of human lives is morally irrelevant.

Comparisons and Comments

There are clear differences between advocates of the utilitarian and rights positions as to why animal research is immoral. Singer suggested that there are philosophical problems with arguments based on the proposition that animals have rights, and Regan insisted that the utilitarian position is fatally flawed. There are, however, commonalties in the two positions. The most important is that Regan and Singer ended at about the same place, even though they took quite different paths. The logical extension of both arguments leads to vegetarianism, and both would eliminate research with animals as it is now conducted. In addition, the two positions are based on the notion that fundamental similarities between humans and other species are ethically significant (i.e., all sentient creatures have "interests") but that differences between humans and other species (i.e., language and greater intelligence) are morally irrelevant. Finally, both positions view speciesism as deplorable and the animal liberation movement as the logical extension of other social movements, such as civil rights and women's movements.

It is not my purpose to critique these views. The interested reader will want to consult sources such as Fox (1985), Frey (1980, 1983), and Narveson (1983) for critiques of the animal liberation philosophers. It is safe to say that most Americans would disagree with one of the basic tenets of activists, that human life per se is not more important than that of other species. If it were possible to transplant an organ from a healthy sheep into a dying infant, most of us would readily approve of the operation; Singer and Regan would not.

Though one may disagree with their thinking, philosophers, such as Regan and Singer, have raised some troubling issues that can be addressed in psychology courses. The following exercise was designed to facilitate discussion of the ethics of animal research in the classroom.

Discussing the Animal Research Controversy

The exercise described here is designed to facilitate thinking on these issues by having students make decisions about whether a series of hypothetical research and educational projects should be conducted. It is appropriate in a wide variety of courses, including general psychology, experimental psychology, animal behavior, and physiological psychology. It would also be useful in biology and bioethics courses.

Method

Institutions receiving federal funds for scientific research must have a standing Animal Care and Use Committee (ACUC) to review and approve all animal research conducted at the institution. In the exercise, students role-play participation on an ACUC. I divide the class into groups of between five and seven students. If class time permits, each group must make a decision on each of four research proposals. Otherwise, each group can discuss and make a decision about one of the proposals and present their decision and rationale to the class. The proposals are based on actual experiments or situations, and they are designed to exemplify different factors related to making ethical decisions. I remind students that the purpose of the exercise is to generate discussion and critical thinking. Thus, groups should be encouraged to reach a consensus rather than simply take a straw poll on each proposal.

Instructions to Students

Your group is the Animal Care Committee for your university. It is the committee's responsibility to evaluate and either approve or reject research proposals submitted by faculty members who want to use animals for research or instructional purposes in psychology, biology, or medicine. The proposals describe the experiments, including the goals and potential benefits of the research as well as any discomfort or injury that they may cause the animal subjects. You must either approve the research or deny permission for the experiments. It is not your job to suggest improvements on technical aspects of the projects, such as the experimental design. You should make your decision based on the information given in the proposal.

Proposals

Case 1. Professor King is a psychobiologist working on the frontiers of a new and exciting research area of neuroscience, brain grafting. Research has shown that neural tissue can be removed from the brains of monkey fetuses and implanted into the brains of monkeys that have suffered brain damage. The neurons seem to make the proper connections and are sometimes effective in improving performance in brain-damaged animals. These experiments offer important animal models for human degenerative diseases such as Parkinson's and Alzheimer's. Dr. King wants to transplant tissue from fetal monkey brains into the entorhinal cortex of adult monkeys; this is the area of the human brain that is involved with Alzheimer's disease.

The experiment will use 20 adult rhesus monkeys. First, the monkeys will be subjected to ablation surgery in the entorhinal cortex. This procedure will involve anesthetizing the animals, opening their skulls, and making lesions using a surgical instrument. After they recover, the monkeys will be tested on a learning task to make sure their memory is impaired. Three months later, half of the animals will be given transplant surgery. Tissue taken from the cortex of monkey fetuses will be implanted into the area of the brain damage. Control animals will be subjected to sham surgery, and all animals will be allowed to recover for 2 months. They will then learn a task to test the hypothesis that the animals having brain grafts will show better memory than the control group.

Dr. King argues that this research is in the exploratory stages and can only be done using animals. She further states that by the year 2000 about 2 million Americans will have Alzheimer's disease and that her research could lead to a treatment for the devastating memory loss that Alzheimer's victims suffer.

Case 2. Dr. Fine is a developmental psychobiologist. His research concerns the genetic control of complex behaviors. One of the major debates in his field concerns how behavior develops when an animal has no opportunity to learn a response. He hypothesizes that the complex grooming sequence of mice might be a behavior pattern that is built into the brain at birth, even though it is not expressed until weeks later. To investigate whether the motor patterns involved in grooming are acquired or innate, he wants to raise animals with no opportunity to learn the response. Rearing animals in social isolation is insufficient because the mice could teach themselves the response. Certain random movements could accidentally result in the removal of debris. These would then be repeated and could be coordinated into the complex sequence that would appear to be instinctive but would actually be learned. To show that the behaviors are truly innate, he needs to demonstrate that animals raised with no opportunity to perform any grooming-like movements make the proper movements when they are old enough to exhibit the behavior.

Dr. Fine proposes to conduct the experiment on 10 newborn mice. As soon at the animals are born, they will be anesthestized and their front limbs amputated. This procedure will ensure that they will not be reinforced for making random grooming movements that remove debris from their bodies. The mice will then be returned to their mothers. The animals will be observed on a regular schedule using standard observation techniques. Limb movements will be filmed and analyzed. If grooming is a learned behavior, then the mice should not make grooming movements with their stumps as the movements will not remove dirt. If, however, grooming movements are innately organized in the brain, then the animals should eventually show grooming-like movement with the stumps.

In his proposal, Dr. Fine notes that experimental results cannot be directly applied to human behavior. He argues, however, that the experiment will shed light on an important theoretical debate in the field of developmental psychobiology. He also stresses that the amputations are painless and the animals will be well treated after the operation.

Case 3. Your university includes a college of veterinary medicine. In the past, the veterinary students have practiced surgical techniques on dogs procured from a local animal shelter. However, there have been some objections to this practice, and the veterinary school wants the approval of your committee to continue this practice. They make the following points.

1. Almost all of these animals will eventually be killed at the animal shelter. It is wasteful of life to breed animals for the vet school when there is an ample supply of animals that are going to be killed anyway, either because their owners do not want them or they are homeless.
2. It costs at least 10 times as much to raise purebred animals for research purposes; this money could be better used to fund research that would benefit many animals.
3. Research with dogs from animal shelters and the practice surgeries will, in the long run, aid the lives of animals by training veterinarians and producing treatments for diseases that afflict animals.

A local group of animal welfare activists has urged your committee to deny the veterinary school's request. They argue that the majority of these animals are lost or stolen pets, and it is tragic to think that the dog you have grown to love will wind up on a surgical table or in an experiment. Furthermore, they claim that as people become aware that animals taken to shelters may end up in research laboratories, they will stop using the shelters. Finally, the activists point out that in countries such as England, veterinary stu-

dents do not perform practice surgery; they learn surgical techniques in an extensive apprenticeship.

Case 4. The Psychology Department is requesting permission from your committee to use 10 rats per semester for demonstration experiments in a physiological psychology course. The students will work in groups of three; each group will be given a rat. The students will first perform surgery on the rats. Each animal will be anethestized. Following standard surgical procedures, an incision will be made in the scalp and two holes drilled in the animal's skull. Electrodes will be lowered into the brain to create lesions on each side. The animals will then be allowed to recover. Several weeks later, the effects of destroying this part of the animal's brain will be tested in a shuttle avoidance task in which the animals will learn when to cross over an electrified grid.

The instructor acknowledges that the procedure is a common demonstration and that no new scientific information will be gained from the experiment. He argues, however, that students taking a course in physiological psychology must have the opportunity to engage in small animal surgery and to see firsthand the effects of brain lesions.

Notes to the Instructor

Case 1 forces consideration of whether injury to another species, which is fairly closely related to humans, is justified if the results will be applicable to human beings. Case 2 asks students to think about the use of animals in pure research in which there is no direct connection to future human application. Based on a study of Fentress (1973), this case offers an excellent opportunity for the instructor to discuss the importance of pure research in the progress of science. Incidentally, in the Fentress experiment, amputated mice exhibited "remarkably normal" grooming movements with their stumps, demonstrating that the movements were innate. Case 3 involves the use of pound animals in research and is one of the more controversial issues in biomedical and veterinary research. Several state legislatures have passed laws banning the use of pound-seizure animals for biomedical research or student surgeries in veterinary schools. (See Giannelli, 1988, for a discussion of this issue from an activist viewpoint.) The use of animals in student laboratories (Case 4) has been singled out by animal welfare groups as being particularly unnecessary. They argue that videotapes and computer simulations are adequate substitutes for live animals in classroom behavioral studies and dissections.

Numerous modifications can be made with these scenarios to tailor them to the needs of particular topics or courses. For example, Case 1 could be changed so that some groups are given the case using monkeys as subjects and some are given the same case using rats. This would lead to a discussion of factors that come into play in making ethical decisions (e.g., why might it be acceptable to use rodents in the study but not primates?). Other cases could be added for different courses. Thus, a proposal in which an ethologist wants to confront mice with snakes to study antipredator behavior (Herzog, 1988) could be included for a course in animal behavior.

Student Responses

I have used this exercise with 150 students in five classes. After the exercise, each student was asked to write an anonymous evaluation of the exercise and indicate whether it should be used in the future. The responses were extremely positive; except for two of the students, the remainder recommended that I continue using the exercise. The following statements were typical: "I feel that this was a valuable experience as part of my psychology class, and it was beneficial in developing my thoughts on this topic. I had never really considered such issues," and "I believe this exercise was valuable to the students in the class because it made us think about which is more important—an animal's life or a human life."

Discussion

The Christian writer C. S. Lewis (1988) stated, "It is the rarest thing in the world to hear a rational discussion of vivisection" (p. 160). These exercises are designed to elevate discussion of one of the most controversial topics in science to a rational forum. However, attitudes about the appropriate use of animals in research are not only a function of logic. Judgments about animals are influenced by many factors, such as their physiognomic similarity to humans, their "cuteness" and perceived intelligence, and the labels we assign them (Burghardt & Herzog, 1980; Herzog, 1988). In addition to raising sensitivity about an important ethical issue, these exercises promote discussions of how moral judgments are made.

The animal rights movement will continue to grow in numbers and visibility. The goal of many animal rights activists is the abolition of animal research. As Regan (1988) proclaimed, "It is not bigger cages we want, but empty cages. Anything less than total victory will not satisfy us!" (p. 12). Psychologists must be prepared to confront this challenge in their roles as scientists and teachers. Inevitably, there will be disagreements within the profession. Some will side with the animal rights faction and become active in organizations like Psychologists for the Ethical Treatment of Animals; others will support the rights of researchers to use animal subjects. Increasingly, psychology teachers will be confronted by activist students who demand justification for research practices they find disagreeable. (I can also envision pressures on authors and publishers of introductory psychology textbooks to reduce or eliminate coverage of controversial experiments, such as Harlow's studies of social deprivation in monkeys and Seligman's learned helplessness research.) The issue of animal rights is philosophically and psychologically complex. It is mired in a milieu of rationality, emotion, convention, ethical intuition, and self-interest. We owe it to ourselves and our students to become familiar with both sides of this issue so that more light than heat will emerge from the debate.

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Notes

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What Would You Tell Professor Wundt?

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There is great recent concern with the "value added" concept in assessing quality of instruction. Although it is relatively easy to measure some aspects of learning, more general skills and attitudes are harder to assess. In order to measure some of these less accessible changes, students in three history of psychology classes were given a "semiprojective" pretest and posttest. Over the term, student responses increased in level of abstraction, concentrating more on philosophical and general methodological issues and less on specific methodology and empirical findings. Our results suggest that students change their attitudes about what course material is important without being taught specifically to attend to broader issues and that these changes can be measured.

People have always disagreed about what higher education should emphasize; one persistent debate concerns the issue of breadth and generality versus depth and specificity. On one side are those who argue that students either learn specifics or they learn nothing (Keller, 1968; Skinner, 1968). On the other side are those who believe that if students learn only specifics, then they have learned essentially nothing, because events are sure to outstrip specific knowledge (Meek, 1977; Zachry, 1985). In addition, research often shows that little specific information is retained after a few months (Rickard, Rogers, Ellis, & Beidleman, 1988). Questions about what is and should be learned are sure to become more urgent as increasing emphasis is put on accountability, and it becomes necessary to evaluate systematically the value of a higher education to students and society.

Halpern (1988), in her discussion of accountability, sug-