

WellBeing International

WBI Studies Repository

1989

Conversations with Veterinary Students: Attitudes, Ethics, and Animals

Harold A. Herzog

Western Carolina University

Tamara L. Vore

University of Tennessee

John C. New Jr.

University of Tennessee

Follow this and additional works at: https://www.wellbeingintludiesrepository.org/acwp_sata



Part of the [Animal Studies Commons](#), [Bioethics and Medical Ethics Commons](#), and the [Other Veterinary Medicine Commons](#)

Recommended Citation

Herzog Jr, H. A., Vore, T. L., & New Jr, J. C. (1989). Conversations with veterinary students: Attitudes, ethics, and animals. *Anthrozoös*, 2(3), 181-188.

This material is brought to you for free and open access by WellBeing International. It has been accepted for inclusion by an authorized administrator of the WBI Studies Repository. For more information, please contact wbisr-info@wellbeingintl.org.



Conversations with Veterinary Students: Attitudes, Ethics, and Animals

Harold A. Herzog Jr.,¹ Tamara L. Vore² & John C. New Jr.²

¹ *Western Carolina University*

² *University of Tennessee*

Abstract

Interviews were conducted with 24 graduating veterinary students to examine (a) changes in their attitudes toward animals; (b) the types of experiences and procedures that they found personally distressing; (c) their perceptions of the most important ethical issues that they will face in private practice; and (d) their responses to euthanizing animals. Students' responses differed considerably. For example, about half of the students claimed that they were not affected by euthanasia, but another 25% still were struggling with this aspect of their professional role. Rationalization was a common mechanism by which the students attempted to deal with stressful experiences. It is argued that the moral dilemmas faced by veterinary students mirror the ethical ambiguities inherent in human-animal relationships.

Human relationships with animals are complex and often paradoxical. Witness the well-meaning undergraduate who recently approached one of the authors to discuss the conflict she was experiencing between her sincere desire to join the animal-rights movement and her love of good beef cooked medium-rare. Individuals in certain professions are particularly vulnerable to paradoxes related to the treatment of animals. Consider, for example, the biologist who must end life in order to study it or the animal-shelter worker whose job it is to dispense with unwanted pets. Veterinarians, perhaps more than any other professional group, are faced with ethical dilemmas and conflicts associated with their relations with animals and their owners. In this regard, these individuals exemplify the complexities that often characterize human-animal relationships (see also Herzog 1988; Burghardt and Herzog 1980). Students typically enter veterinary medicine because they love animals and want to care for them. But aspects of their professional education dictate that they inflict pain on animals and sometimes kill them. This study was designed to explore how veterinary students perceive and resolve the conflicts inherent in their roles as healers of animals.

The general public has grown accustomed to discussions of human medical ethics in the media, but few recognize that veterinarians, too, confront the thorny issues of euthanasia, confidentiality, and potential conflicts among the medical wellbeing of the patient, the desires of the owner, and the economic interest of the doctor. Values education, which veterinary schools are now incorporating in the curriculum (see the entire issue of the *Journal of Veterinary Medical Education*, vol. 9, no. 3, 1983), does not alleviate the personal anguish that can result when individuals must perform acts that they may find morally questionable.

In comparison to the extensive literature on the attitudes of medical students (e.g., Flaherty 1985), there is a dearth of information on the psychology of veterinary students. A computer search of citations in the *Psychological Abstracts* between January 1967 and July 1987 discovered 1,059 published articles relating to medical students in psychology journals, 148 of which concerned student attitudes. During the same period, however, there was a single article related to veterinary students, a paper on the methodology of faculty evaluations (Dickinson and Zellinger 1980). A search of *ERIC*, a data base of educational literature, revealed 208 articles on the attitudes of medical students. While 22 citations of articles pertained to veterinary students, none of these was concerned with attitudes or values. (However, several papers, described below, have been published on these topics that were not referenced in the data bases.)

Attitudes typically are studied by administering surveys to a sample of the target population for the purpose of quantification. The few studies conducted with veterinary students have used this methodology (Shurtleff, Grant, and Zeglen 1983; Crowell et al. 1987). In recent years, however, social scientists have become aware of the limitations of survey research, which sometimes provides numbers rather than insight, and some researchers have advocated nonquantitative methods as an alternative to achieve more indepth analyses of attitudes and values (e.g., Herzog and Burghardt 1988). Referred to as "qualitative research techniques," these methods use relatively unstructured interviews with smaller sample sizes. The aim of this approach is to provide a window into individual human experience, and researchers using qualitative interviews generally are more interested in describing how individuals perceive issues and events than in reporting percentages of agreement or disagreement with a set of statements. While such methods may lack the rigor of standardized survey techniques, they can provide insight unattainable by traditional methods (Patton 1980).

In this study, we used qualitative interview techniques to explore the attitudes and perceptions of veterinary students who were approaching graduation. Our goal was to identify ethical concerns that the students felt were of particular importance and to examine how these individuals perceived their attitudes toward animals had changed as a result of their training and experience in veterinary school. We were also interested in determining the kinds of experiences with animals that the students found to be stressful and the degree to which they felt ethical issues in veterinary medicine had been discussed in their classes.

It is important to remember that this is a qualitative rather than a quantitative investigation of attitudes toward animals. While the numbers of students giving a particular response are sometimes specified in the following sections, we were more concerned with characterizing the patterns and diversity of responses than with attempting to quantify them. In this type of study, the percentage of subjects responding in a certain manner is less important than the identification of themes and the flavor of the responses as indicated by the words of the respondents.

METHODS

Subjects

The subjects were 24 members of a graduating class of the University of Tennessee College of Veterinary Medicine (UTCVM). They were selected randomly, by means of a random-numbers table, from a list of the graduating students and represented almost half of the class (which comprised 55 students). In addition, pilot interviews, not included in the data analysis, were conducted with 3 other students.

Eight of the subjects were male, and 16 were female. Half were classed as Tennessee residents, and half were from other states. Nine of the students had been raised in rural communities or small towns, while the rest came from midsized cities or suburban areas. Fourteen of the students planned to enter small-animal practices, 3 intended to specialize in large-animal medicine, and 7 wanted to enter a mixed practice.

Each subject was telephoned and asked if he or she would be willing to be interviewed about his or her experiences in veterinary school. When we were unable to reach a randomly selected subject, we chose the next subject on the list. All subjects contacted readily agreed to participate. The students were interviewed during the last three months of their professional training.

Procedure

Students were interviewed individually when they were on clinical duty at the veterinary teaching hospital. Interviews typically lasted between 20 and 30 minutes and followed what is referred to as a "standardized open-ended interview format" (Patton 1980). Each student was asked a standard series of questions. Interesting, unusual, or unclear answers were followed up by further queries by the interviewer. The interviews were tape-recorded and subsequently transcribed. Several measures were taken to increase the likelihood that students would answer questions candidly. The interviews were conducted in a private

room, and each student was assured that his or her answers would be kept anonymous. In addition, the interviewers (the first and second authors) were not associated with the veterinary school and had not met the students prior to the interviews.

During the interviews, the students were asked preliminary questions about where they were from and what type of practice they intended to enter upon graduation. The central interview questions were related to five issues:

1. Changes in attitudes toward animals as a result of veterinary school
2. The experiences or procedures with animals that they found to be personally upsetting or stressful
3. The most significant ethical issues that, in their estimation, practicing veterinarians face
4. Their feelings about euthanasia
5. The adequacy of presentation of ethical issues in the veterinary college curriculum

Not all of the students gave clear answers to each of the questions. Thus the total number of answers to each question does not always equal 24.

RESULTS

Attitude Changes in Veterinary School+

While it might be expected that students would report that they had got used to animal suffering during their time in veterinary school and become somewhat hardened, we found that this was not the case. A majority felt that they had not become calloused to the suffering of their patients as a result of their experiences. Slightly more than half of the students (14) reported that their attitudes about animals had not changed substantially, and 6 stated that they had become more sensitive to animal suffering as a result of their increased knowledge. Only 2 of the 24 students felt they were more calloused toward suffering than when they began veterinary school. Several others, however, mentioned that they were worried that this might happen to them after they began private practice. As one student put it, "I have to fight the notion that these animals are just conditions. It is easy to look at a dog or cat as a 'renal condition.' ...I catch myself doing that a lot—looking at an animal as a condition as opposed to a whole."

Stressful Experiences

The students were asked if there were specific procedures or laboratory experiences that they initially had found to be distressing. Twenty-one of the students admitted that some procedures were personally stressful, with only 3 claiming to have found none of their experiences with animals upsetting. Responses tended to fall into two categories: experiences that might be termed "morally troublesome," where the ethical implications of the procedure were disturbing, and experiences that were not troublesome in a moral sense but were "viscerally upsetting." Some experiences, particularly student surgeries, fell into both categories.

The most common ethically upsetting experiences involved procedures that the students felt were unnecessary. Several students reported that they were distressed when an animal's suffering was prolonged because its owner did not want to accept that its disease was incurable and that death was inevitable, a situation that occurs frequently in private practice. As one student put it, "Sometimes we take cases too far and subject dogs to radiation or chemotherapy or surgery for tumors. At times this is to satisfy the client, but I think that we should take more time to explain the situation to the client better. Sometimes we take treatment too far just because we can." Another said, "The only thing I don't like that I have seen in the small-animal clinic is the owner's attachment to a pet that is in critical condition. To me it is gross. I don't think it is right for the animal. A lot of times the animal is in ICU [Intensive Care Unit] and it's just for the people."

Cosmetic surgeries represented another group of procedures that some students felt were unnecessary and therefore ethically distressing to perform. The most commonly mentioned cosmetic procedure was ear cropping, which was cited by 6 students. Tail docking of dogs and declawing of cats were also cited in this context. It should be noted that these procedures are considered elective at the UTCVM and whether or not they are performed is at the individual discretion of the college surgeons. Students also may have observed these procedures while working with private practitioners.

Finally, some students reported that they found certain lab experiences stressful because they caused animals to suffer. Specifically mentioned were a demonstration of anaphylactic shock that was carried out on guinea pigs and a physiology lab that involved pithing frogs. It should be noted that these labs were part of a physiology course that was not conducted by the veterinary school faculty. In fact, one student specifically made a distinction between the treatment of animals in the physiology labs and in the clinic, saying, "We used so many animals [as part of the lab] and the attitude toward them was that they were disposable items. When we got into the surgeries and clinic, the dogs and cats weren't treated like that at all."

A few of the students felt that some of the procedures were irrelevant to their future veterinary careers and unnecessary to practice. This attitude was exemplified by a student who said of a procedure that involved cannulating an artery to measure blood gases, "It was just messy surgery, and I didn't like it, and I didn't learn from it." This sentiment was also voiced by a student who stated that performing practice surgeries on goats seemed like a waste of time to her since she would not need the information in her practice (small animal).

Half of the students said that they found certain procedures upsetting in a more visceral sense. These experiences were not primarily intellectually or ethically distressing but did produce strong emotional reactions. The experiences that caused this type of stress were diverse, as the following list indicates:

- Surgical procedures on food animals without anesthesia
- Bone-marrow biopsies
- The smell of dog blood
- Assessment of neurological state by infliction of deep pain
- Orthopedic examinations
- Necropsies of animals that the students had worked with
- Transtracheal washes
- Eucleations (removal of a diseased eye)

The element common to most of these procedures is that they involve pain. The procedures listed most often (by 6 students) were painful livestock-management procedures that are performed without anesthesia. These include castration, the dehorning of cattle, and the docking of pigs' tails. Several students spontaneously attempted to justify surgeries without anesthesia. For example, one said, "Small pig procedures without anesthesia bothered me until it was explained that the pig was only worth six dollars so you can't afford expensive anesthesia. I don't agree with it, but I understand."

Several students mentioned that they became upset during the necropsy rotation when they had to dissect an animal that they had become attached to when it was alive. Necropsy is the equivalent to an autopsy in human medicine and is performed with client permission in order to confirm a diagnosis and better understand the condition that was being treated. One student described her experience in necropsy rotation by saying, "It was hard for me to go from knowing the animal as a living, breathing creature to seeing it stiff as a board in front of you and you know you are supposed to cut it up." Most students, however, did not find necropsies distressing, and they seemed to be able to distance themselves from the dead animals. This attitude was typified by a student who said, "The idea of doing necropsies was stressful for the first week, but one thing that most of us tried to do was view the animal as a specimen." This student also mentioned that he later was involved in the necropsy of

a pony but found dissecting a small animal such as a dog or cat to be more stressful—"It is more like looking at a child."

The use of healthy animals for practice surgery is currently one of the most controversial issues in veterinary medical education, and 13 of the students we interviewed cited practice surgeries in the context of procedures that they found viscerally bothersome or ethically difficult. At the UTCVM, students perform practice surgeries in their second year. During the recovery period between procedures, each animal is cared for by the team of students who conducted the surgery. Students thus have the opportunity to become attached to the animals in the days and weeks between procedures. As one student put it, "Invariably, these animals are wonderful. It [practice surgery] bothered me a lot." Two things specifically bothered this student about practice surgeries. One was that the animals had to die. The other, paradoxically, was that students only were allowed to perform two surgeries on each animal. He felt that, as long as animals were to be "sacrificed," greater good would be served by conducting more surgeries on fewer animals.

Several students were quite dogmatic in their attitudes toward student surgeries. According to one, "Student surgeries at first are always bothersome, and I think that if they don't bother you that you had better reevaluate your situation as a veterinarian." One student was angered when fellow students had not prepared adequately for labs by doing prerequisite homework. Though he felt that student labs were a necessary evil, he believed that it was unethical for students not to get maximum benefit from the suffering of the animals that were being used for their education.

Some students felt compelled to justify this aspect of their training. Several mentioned that the animals were well cared for while they were at the veterinary school. Others stressed that the animals were unwanted and would be killed anyway. As one student said, "We've got to learn, and it's better to use a dog that is going to be put to sleep anyway than to do things [surgical procedures] for the first time out in practice." In these cases, students seemed to feel that using the animals for student surgeries was more meaningful than simply euthanizing them at an animal-control center. Several students shifted the blame for the necessity to kill the animals to irresponsible owners who let their animals produce unwanted litters that eventually find their way into animal shelters and pounds.

Ethical Issues

In the words of one of our respondents, "Every day, the practicing veterinarian is confronted with something dealing with ethics. They have to think and wonder if what they are doing is ethical or not." As part of each interview, we asked the students what they thought would be the most significant ethical issues that they would have to face when they began practice. By far, the most commonly mentioned ethical dilemma related to being asked to euthanize a healthy animal for the convenience of the client. This issue was brought up by 17 of the students. Of these, 8 said that they would refuse to kill an animal in this situation. Four of the students said that they would accede to the wishes of the client, and 5 said they were uncertain as to what they would do. The majority said they would try to talk the client out of the decision and suggest alternative ways to dispose of the animal.

The second most frequently mentioned ethical issue involved the economics of veterinary medicine. Five of the students were concerned about what they should do in situations where an animal needs treatment but the owner is unable or unwilling to pay for the cost of care. This was referred to as the "sick dog, no money dilemma." A related issue was the temptation to overcharge clients or to perform unnecessary or excessive treatments on animals.

Another concern associated with the economics of the profession regarded ethical issues involving show and racing animals, usually horses. Some students were worried about being pressured by owners or trainers to treat animals with analgesics and other drugs to enhance performance or hide defects temporarily. A student who intends to go into a practice treating primarily large animals said, "I am going to be faced with a lot of owners who want me to give steroid shots or pain killers." An additional concern, mentioned by 2 students, pertained to honesty in prepurchase examinations of horses, where the veterinarian is caught between the interests of the seller and those of a potential buyer.

Several students were concerned about their responsibilities in situations where animals appear to be mistreated by owners. Specifically mentioned were cases in which they might be asked to treat animals used in organized dogfights and occasions when they suspected that an animal was being mistreated or abused but had no proof. Ethical conflicts over the use of unapproved drugs, intensive animal-husbandry practices on “factory farms,” confidentiality, and the veterinarian’s responsibility to control unwanted animals each were mentioned by one or two students.

Euthanasia

Euthanasia can be a difficult issue for both veterinarian and client (Hopkins 1984; DeGroot 1984). Individuals enter veterinary medicine because they want to care for animals, not kill them. However, euthanasia is a tool with which the veterinarian can relieve suffering. Deciding whether or not euthanasia is justified is complicated further by economic considerations—how much is the owner willing to pay to keep an animal alive? Again, the veterinarian is faced with striking a balance between what is best for the client and what is best for the animal.

We asked the students how many animals they had euthanized as well as what their general reactions were to euthanasia. The number of animals that the students had euthanized varied greatly. One student claimed never to have euthanized an animal, although she had witnessed euthanasia as part of student surgery. On the other hand, two students who had worked in animal-control facilities prior to entering veterinary school had euthanized up to 70 animals per day. Almost all of the students said that they had been involved in the euthanasia of between 5 and 10 animals during their veterinary training, and 8 said that they had been involved in a significant number of euthanasias before entering veterinary school.

While euthanasia in veterinary practice is not a moral issue comparable to mercy killing in human medicine, we found that it raised strong but divided emotions among the students. One student was positive about euthanasia of animals, saying, “I really view euthanasia as one of the marvelous things we have over human medicine. We can end animal suffering. When used properly, it is a great, great thing.” Nine students shared these feelings and claimed that they were never bothered by euthanasia. Almost as many (8), however, said that they were upset by their first experience euthanizing an animal and that they continued to be upset by the procedure. One student who had assisted in the euthanasia of about 15 animals said, “I cried the first and fifteenth time. It hasn’t gotten any easier over time but I have learned to mask my feelings in front of the client to be strong for them.” A typical response was given by a student who described her first experience with euthanasia by saying, “I really had a sense of there being a life force or soul in the animal. One minute there was a dog lying there alive and the next minute it looked the same but there was something gone. And I really had the feeling of a life stopping, and I guess that’s an eerie feeling.” Another said, “It affects you every time you do it. I get a little teary-eyed every time.”

Several students said that their first experience euthanizing an animal was particularly traumatic because it occurred at the end of a terminal student surgery on an animal to which they had become attached during the recovery period between surgeries. One student pointed out that the surgery dogs were really the first animals with which the students had much contact in veterinary school, as they spend most of their time in classes during the first year. As she put it, “The scary thing is that those dogs got to know us [in the weeks between surgeries] and put so much trust in us and here you go and you put them under anesthesia and you kill them but you try not to think about that.” In contrast, other students claimed that they found it easier to euthanize the “skate animals” (the term used for student-surgery animals) because they were already under anesthesia and had just undergone a major surgical procedure.

It was clear that many of the students had given considerable thought to euthanasia and had developed well-reasoned justifications for its use. Students repeatedly claimed that they were not bothered as much by euthanizing a suffering animal, and many mentioned that they were particularly upset at the prospect of euthanizing healthy but unwanted animals.

Not all of the respondents found euthanasias stressful. For example, one student who estimated that he had been involved in the euthanasia of about 50 animals said, “It doesn’t affect me. I wonder about

myself sometimes but I honestly don't feel bothered by it." The same student noted that there was a lot of discussion concerning this issue among his fellow classmates and that many of them had unrealistic attitudes about it. He said, "I don't know what gives us the right to do euthanasia, but it is something we are going to do. I really feel that if you allow it to get to you it can drive you crazy."

In summary, we found a surprising diversity of reactions to euthanizing animals. Roughly half seemed to have come to grips with the issue. In some cases, they appeared to have done this by denial—not thinking about it. In other cases, students had developed rationalizations that seemed to help them cope with their emotions. We were impressed with the number of instances where it seemed that the students were still struggling with the responsibility of being active participants in the death of animals.

Adequacy of Ethical Training in Veterinary School

Veterinary school faculty members are becoming increasingly sensitive to ethical issues in their profession and are now incorporating courses in "bioveterinary ethics" as well as experiences such as "ethical grand rounds" in the curricula (Erde and Pollock 1987, Graber 1983, Kitchen 1983). The UTCVM is no exception. The great majority (20) of the students felt that their training provided ample exposure to ethical issues in the profession. Three students felt that the faculty had made an adequate attempt to sensitize students to ethical issues but, as one student said, "you can never get enough." Several mentioned that ethical decision making was not something that could be taught. This view was epitomized in the statement, "There is only so much about being ethical that can be taught. It has to come from the heart."

DISCUSSION

We were struck by several facets of our conversations with veterinary students. Almost all of them were sensitive to the values issues of their profession and could articulate their concerns, although the degree to which they had resolved the issues differed greatly. Further, we found that the primary coping strategy used to handle value conflicts was to rationalize the necessity of the procedures. That the students used logic and intellect to deal with ethical issues is not surprising, given that veterinary students are, on the whole, intelligent and articulate and tend to have a scientific orientation.

In many interviews, students would justify spontaneously a procedure that they found troublesome. Knowing that the economics of pig production demanded that tail docking and castrations be performed without anesthesia seemed to reduce the ambivalence students felt about the procedure. Performing euthanasia was a task many of the students found unpleasant, and some agonized over the experience. However, the students repeatedly claimed that the context made the difference in their moral evaluation of the procedure. The killing of healthy but unwanted animals was viewed as unethical by many of the students, whereas the termination of student surgery animals was perceived as morally justified, and the merciful killing of an incurably ill animal in pain was considered to be humane.

We were impressed by the range of individual differences in the student responses. For example, while the majority of students felt that their general attitudes toward animals had not changed as a result of attending veterinary school, 25% felt that they had become more sensitive to animals, and a few said they had become somewhat calloused. Similarly, some of the students reported that they were upset at a gut level by some of the procedures that were required of them, whereas others denied that they found any experiences disturbing.

Our interviews were conducted with students in a graduating class of one veterinary school, and, while we suspect that they were representative of veterinary students in general, we cannot be certain of this. Indeed, a recent conversation with a graduating student attending a different school revealed that she found some procedures at her school upsetting. These procedures, such as techniques of killing piglets and chickens, are not conducted at the University of Tennessee. Likewise, the UTCVM students may have been more attuned to ethical issues in the profession by the relatively strong emphasis on such questions in the curriculum.

The validity of our results is predicated on the supposition that the students answered our questions honestly. There are two potential sources of misleading information in studies like ours: conscious lying and self-deception. We tried to minimize the former by assuring the students that their responses would remain confidential and that their participation was voluntary. We cannot eliminate the possibility of response bias through self-deception. It is a problem inherent in any research in which people are asked to discuss their values, attitudes, and perceptions.

Finally, we would like to note that additional investigation in this area is needed. Of particular interest would be studies in which students are interviewed periodically from the beginning of their veterinary studies. In addition, the techniques found useful in this study could be applied fruitfully to the investigation of attitudinal changes after individuals go into practice.

Despite their limitations, we feel that these interviews shed light on the paradoxes and moral questions that confront this group of individuals vitally concerned with animal welfare. Psychologically, it is not easy to kill a dog that you have tended for three weeks or to castrate a pig without anesthesia or to remove the eyeball from a cow or to resist a trainer who wants you to inject a show horse with steroids. Yet these are the types of issues that veterinarians and veterinary students face daily. The way they resolve the paradoxes of their profession may help us unravel the complexities of our attitudes toward other species.

REFERENCES

- Burghardt, G.M., and H.A.Herzog, Jr. 1980. Beyond conspecifics: Is Brer Rabbit our brother? *BioScience* 30:905–19.
- Crowell, W.A., F.N.Smith, J.S.Oliver, R.D.Simpson, and D.Adams. 1987. An instrument to measure attitudes towards animal uses. *Journal of Veterinary Medical Education* 14:21–23.
- DeGroot, A. 1984. Preparing the veterinarian for dealing with the emotions of pet loss. In *The pet connection*, ed. R.K.Anderson, B.L.Hart, and L.A.Hart, pp. 283–91. Minneapolis: Center to Study Human-Animal Relationships and Environments, University of Minnesota.
- Dickinson, T.L., and P.M.Zellinger. 1980. A comparison of the behaviorally anchored ratings and mixed standard scale formats. *Journal of Applied Psychology* 65:147–54.
- Erde, E.L., and R.V.H.Pollock. 1987. A course in ethics for veterinarians. *Journal of Veterinary Medical Education* 14:26–29.
- Flaherty, J.A. 1985. Attitudinal development in medical education. In *The interpersonal dimension in medical education*, ed. A.G.Rezler and J.A.Flaherty, pp. 147–82. New York: Springer.
- Graber, G.C. 1983. What is an ethics grand rounds? *Journal of Veterinary Medical Education* 9:118.
- Herzog, H.A., Jr. 1988. The moral status of mice. *American Psychologist* 43:473–74.
- Herzog, H.A., Jr., and G.M.Burghardt. 1988. Attitudes toward animals: Origins and diversity. *Anthrozoös* 1:214–22.
- Hopkins, A.F. 1984. Pet death: Effects on the client and the veterinarian. In *The pet connection, Its influence on our health and quality of life*, ed. R.K.Anderson, B. L.Hart, and L.A.Hart, pp. ? ? ?. Minneapolis: Center to Study Human-Animal Relationships and Environments, University of Minnesota.
- Kitchen, H. 1983. Renegotiating the significance of ethics in veterinary medical education. *Journal of Veterinary Medical Education* 9:75–77.
- Patton, M.Q. 1980. *Qualitative evaluation methods*. New York: Sage Publications.
- Shurtleff, R.S., P.Grant, M.E.Zeglen, W.F.McCulloch, and L.K.Bustad. 1983. A nationwide survey of veterinary students' values and attitudes on ethical issues. *Journal of Veterinary Medical Education* 9:93–96.