

Social Attitudes and Animals

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CHAPTER

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Introduction

Under the headline “Concentration Camp for Dogs,” *Life* magazine published in 1966 a dramatic photograph of an emaciated dog (Wayman 1966). The accompanying article, a harrowing depiction of the lives of research animals, provoked a public outcry over the use of pound animals in research. The result was a deluge of mail to Congress, which subsequently passed the Laboratory Animal Welfare Act, the first federal legislation directed at improving the lot of animals used in research.

As we enter the new millennium, our collective views on the treatment of animals continue to influence public policy. In the United States, however, public opinion regarding the status of nonhuman animals is divided. Animal activists aggressively argue that activities such as the use of animals in scientific research and the consumption of animal flesh involve considerable animal suffering and are unethical. A substantial number of Americans are just as adamant in opposing those views. While there does not yet seem to be a society-wide consensus regarding the moral status of animals, it is clear that significant shifts in public opinion have taken place during the last twenty-five years. Changing attitudes in favor of greater protection for animals have resulted in the enactment of legislation such as the Animal Welfare Act,

decreased reliance on animal testing of consumer products, a decline in acceptance of the fur trade, and a dramatic increase in the number of Americans who are members of animal protection organizations.

This chapter is an overview of the attitudes of Americans toward the treatment and moral status of nonhuman animals. We discuss problems of attitude assessment, the social psychology of attitudes toward animals, and the complex relationship between attitudes and behavior. We also review changes in attitudes toward animals over the past fifty years and current public opinion regarding a variety of issues related to animal welfare.

Measuring Attitudes

The assessment of attitudes is complex. Any attempt at assessment must deal with two fundamental issues: what to ask and whom to ask.

The Questions Asked

One of the biggest problems faced by social scientists interested in assessing public opinion on controversial issues is how to word the questions.

Ideally, questions should be phrased to minimize bias. For example, in a 1992 survey sponsored by *Reader's Digest*, more than a thousand adults were asked how they felt about the statement, “It is wrong to use animals in laboratory experiments for medical research.” The results indicated that 31 percent of the respondents opposed animal research to some degree (Roper Center 1992a). A similar survey commissioned by *Parents* magazine, however, produced quite different results (Roper Center 1989a). It asked one thousand adults, “If the only way we could find a cure for AIDS would be by using animals as research subjects, would you favor or oppose this kind of research.” When the animal research question was phrased this way, the proportion opposing the use of animals for this research dropped to 15 percent.

In some cases, particularly when a survey is commissioned by an advocacy group, questions are apparently designed to skew the responses in favor of the position held by the organization. A 1990 survey commissioned by the National Shooting Sports Foundation, a pro-hunting group, asked, “Certain animal rights groups want a total ban on all types of hunting. Do you strongly support this goal, somewhat support the goal, somewhat oppose this goal, or strongly oppose this goal.” Only 21 percent

of the one thousand respondents were either strongly or somewhat opposed to hunting; 57 percent said they approved of hunting (Roper Center 1990). In contrast, when asked in a 1991 poll by the position-neutral Princeton Survey Research Associates, "Do you think that hunting animals as a sport is morally right or wrong," a minority (33 percent) felt hunting was morally right; 56 percent felt it was morally wrong (Princeton Survey Research 1991).

The Sample Surveyed

Much of the research on attitudes toward animal welfare has been conducted using the most convenient subjects available to social scientists—college students. Many of these studies have focused on the relationship between attitudes toward animal welfare and other variables such as gender, personality, and social/political dispositions. Typically, attitudes toward animals in these studies are assessed by multi-item questionnaires such as the Animal Research Survey (Takooshian 1988), the Animal Attitudes Scale (Herzog et al. 1991) and the Scale of Attitudes toward the Treatment of Animals (Bowd 1984).

An example of this type of research is a study by Broida et al. (1993). They gave approximately a thousand college students Takooshian's 1991 Animal Research Survey, along with a personality test (the Myers-Briggs Personality Type Inventory), the Bem Sex Role Inventory, and other instruments designed to measure various social attitudes. The attitudes measured included political and religious ideologies, faith in science, assertiveness, and beliefs about abortion. The results indicated that pro-animal research attitudes were associated with conservative political ideology, religious fundamentalism, and less empathy for animals. Attitudes toward animal research were related to personality type; "intuitive" and "feeling" types were more likely to oppose animal research than were "sensing"

and "thinking" types. While these results were statistically significant, all the variables combined accounted for less than 10 percent of the total variation in views about animal welfare. The authors concluded that their study actually demonstrated that attitudes toward animal research are generally not highly related to other variables.

Some researchers have focused their attention on the attitudes of specific interest groups rather than on those of college students. They have studied hunters and birders (Kellert 1996), animal activists (Plous 1991; Richards and Krannich 1991; Jamison and Lunch 1992; Galvin and Herzog 1998) and psychologists (Plous 1996a). Plous's survey is a good example of this type of research. Plous randomly sampled five thousand members of the American Psychological Association. Eighty percent of the 3,982 psychologists who responded supported animal research; only 14 percent opposed it, but the level of support depended strongly on the type of research in question. There was, for example, greater support for research involving rats or pigeons than for that involving primates or dogs. The margin of support declined substantially if the research involved pain or death and/or the use of primates. Only 10 percent of the psychologists claimed that they used the findings of animal research in their own work frequently, whereas about 60 percent indicated that they rarely or never used the results of animal research. Male psychologists were more likely to support animal research than were female psychologists, and recently graduated Ph.D.s were less supportive of animal research than were older respondents.

Ironically, perhaps the best information on American public opinion concerning attitudes toward animal welfare is the least known—it is found in polls conducted by professional polling organizations. In many cases a trade group (e.g., the American Medical Association or the National Shooting Sports Foundation) or a magazine or news organization will

commission an organization such as ICR Survey Research Group, the Gallup Organization, or Louis Harris and Associates to conduct a public opinion survey. These polls are typically conducted by telephone and have the advantage of being based on large probability samples of adult Americans (usually about a thousand) rather than on potentially biased groups such as college students or hunters. On the other hand, the level of assessment of specific issues may be superficial, because items related to the treatment of animals are often limited to only a few questions imbedded in a host of political and demographic questions.

One problem with data gathered by professional polling organizations is that they are often difficult to locate or are not made available to researchers. Brief summaries usually lacking essential background information may appear in daily newspapers or trade publications, or the results may not be published at all. Fortunately, a good deal of this information is available (for a fee) via the Internet through the Roper Center for Public Opinion Research at the University of Connecticut. The Roper Center is a nonprofit, nonpartisan organization that provides access to more than ten thousand survey files covering more than 275,000 questions dating back to the 1930s. Dozens of these items deal with animal welfare issues ranging from the transplantation of animal organs into humans to the concerns of fur-coat owners about harassment by animal activists (Herzog and Dorr, in press).

Another valuable and easily accessible source of information about public opinion concerning animals is the General Social Survey (GSS). The GSS is based on a probability sample of adults in the United States and is conducted on a regular basis by the National Opinion Research Center. The GSS contains hundreds of questions assessing demography and social/political attitudes. Statistical techniques such as multiple regression can be used to analyze clusters of attitudes. In 1993 and 1994, several

animal-related questions were included in the GSS. One of these dealt with attitudes toward animal rights and another with the use of animals for medical testing. These two items have been used by researchers to examine the relationships between attitudes about animal welfare and variables such as gender, education, religiosity, and attitudes about science (Peek et al. 1996; Kruse 1999).

Consistency of Attitudes

One reason that attitudes toward animals are important is they are related to action (Eagly and Chaiken 1993). For example, Nickell and Herzog (1996) asked a sample of college students to evaluate the effectiveness of propaganda that either supported or opposed animal research. At the end of the experimental session, the students were offered the opportunity to sign postcards addressed to their federal legislators that either supported or opposed the use of public funds for animal research. The students' views of the effectiveness of the materials significantly predicted which of the postcards they would sign.

The relationships between attitudes and behavior are complex. Certainly some aspects of the behavior of the American public have changed as a result of increased awareness of animal welfare issues. Nearly half of adult supermarket shoppers in two thousand households surveyed by the Food Marketing Institute in 1994 said they had refused to buy products in which the ethical treatment of animals had been called into question (Roper Center 1994a).

However, we must be careful with generalizations about animals, attitudes, and social behavior. Polls show that Americans as a group are more sensitive toward the ethical issues raised by sport hunting than they were in the past. (This is evidenced by a steep drop in the number of sport hunters in the United States between 1965 and 1995. When asked in 1995 to list their favorite leisure activities,

fewer than 5 percent of Americans listed hunting.) But not all demographic groups have shown a decline of interest in the sport. Women, for example, are joining the ranks of hunters in surprising numbers. Indeed, women make up the fastest growing segment of the hunting community.

Perhaps the most common paradigm for understanding the dynamics of attitudes is referred to by social psychologists as the A-B-C model. It posits that attitudes are the result of three types of psychological processes: affective (or emotional), behavioral, and cognitive. These three often work together, as they do in animal activism. Ethnographic studies (Sperling 1988; Herzog 1993) have found that animal activists often go to great lengths to bring their emotions, behavior, and thoughts into a coherent package.

Take the hypothetical case of Bill. His life is proceeding quite conventionally until a friend passed him a used copy of Peter Singer's *Animal Liberation*, often referred to as the Bible of the animal rights movement. Bill reads the book and for the first time begins to think about issues related to the treatment of other species (the cognitive component). He also has a visceral reaction to some of Singer's descriptions of the treatment of animals on factory farms (the emotional component)—so much so that he sends \$50 to an animal rights organization (the behavioral component). Now that he is on that organization's mailing list, Bill is deluged with brochures and solicitations from all sorts of animal protection groups. Through them, he learns more about the treatment of animals on factory farms and in research labs (at least from an animal activist's perspective). His behavior changes further; he puts an animal rights bumper sticker on his car, changes his diet, and begins showing up at demonstrations. As one activist put it, "The more my ideas changed, the more my behavior changed. And the more my behavior changed, the more my ideas changed."

Bill's case nicely illustrates the A-B-

C model. Emotion, behavior, and cognition work together in a consistent fashion. In reality, however, things are rarely so neat. Take our collective beliefs about the moral status of animals. A 1995 poll sponsored by the Associated Press found that two-thirds of Americans agreed with the statement, "An animal's right to live free of suffering should be just as important as a person's right to live free of suffering" (Roper Center 1995a). A Princeton Survey Research Associates survey conducted in 1994 with thirty-four hundred adults found that 65 percent of respondents had very favorable or mostly favorable views of the animal rights movement (Roper Center 1994c).

One might think that the United States is a nation of animal lovers—but how strong are these beliefs? Americans consume animal flesh in ever larger quantities per capita. While the consumption of red meat is down, having dropped roughly 8 percent between 1975 and 1995, the average American still eats an average of 170 pounds of beef and pork per year. The modest drop in red meat consumption has been more than made up for by a dramatic increase in the consumption of chicken—now between seven and eight billion chickens are killed each year. Only about 2 percent of Americans are "true" vegetarians (Rowan and Shapiro 1996), and many of these say that their diet is the product of their health concerns rather than a reflection of a moral stance (Amato and Partridge 1989; Rozin et al. 1997). (When asked in a 1995 Louis Harris poll what they intended to eat as a main course for Christmas dinner, only 1 percent of adults indicated a vegetarian dish—Roper Center 1995b).

A question in a 1993 poll commissioned by the *Los Angeles Times* exemplifies the contradictions characteristic of public opinion surveys about animals and ethics (Balzar 1993). When asked, 47 percent of respondents indicated that they agreed with the statement "animals are just like people in all important ways." The sample was almost exactly evenly

split, and very few people were undecided. Herzog (unpublished) recently used this question to examine consistency in beliefs about the use of animals in research among college students. One hundred and two students were given a survey that included the question, along with ten other questions related to the ethics of animal research taken from national public opinion polls. Just as in the *Los Angeles Times* sample, 47 percent agreed with the “just like humans” statement. However, half of the students who said that animals were “just like humans in all important ways” were in favor of animal research, 40 percent supported the use of animal organs to replace diseased human body parts, and half favored experimentation on pound animals. Ninety percent of all the students indicated that they regularly ate the beings that they claimed were “just like humans.”

What are we to make of these contradictions? How is it that in a nation where the overwhelming majority of individuals eat meat daily, more than two-thirds of the people claim to support the agenda of the animal rights movement?

Attitudes have several dimensions, including direction, complexity, and strength. Strong attitudes are central to who we are. They are the focus of thought and emotion. They are typically embedded in a matrix of beliefs and emotions and may be associated with profound behavior changes. In the extreme, these attitudes form a coherent package that coalesces into ideology. This coalescence can be seen in animal activists whose lives come to revolve around issues related to the treatment of other species.

In contrast, many individuals have attitudes about animals that are peripheral and superficial. These beliefs are variously called “non-attitudes” or “vacuous attitudes” (Eagly and Chaikan 1993). They typically have little coherence and emotional resonance and may be simply a collection of preferences and isolated opinions. While non-attitudes may have little real salience in a person’s

life, they can affect responses on opinion polls. Public opinion polls about the use of animals in research largely reflect these “non-attitudes.”

Take the hypothetical case of Sally who loves her cat, Millie, but who generally spends very little time actually thinking about animal welfare, moral philosophy, and public policy. One evening she is called by a telephone pollster. The pollster asks if she strongly agrees, agrees, disagrees, or strongly disagrees with the statement “animals and people should have the same basic rights.” She glances at Millie and replies, “Strongly agree.” As the pollster records her answer on his tally sheet, Sally goes back to what she was doing before the telephone rang, dismembering a chicken carcass for her family’s dinner. What allows Sally to believe in fundamental rights of animals at the same time that she eats them?

Just as Sally can profess a respect for animals even as she prepares one for dinner, the public can demonstrate an inconsistency in its opinion on animal research. We believe there are several reasons why. First, the moral status of animals is a complex issue, and many people are ambivalent about it or simply do not care. This is supported by data from the 1994 GSS. When asked how they felt about medical testing on animals, only 20 percent of the respondents had strong opinions on the issue (that is, they either strongly agreed or strongly disagreed with the item). The majority had less strong feelings (they simply agreed or disagreed) and about 15 percent had no opinion at all (Roper Center 1994b). In contrast, 80 percent of a sample of approximately two hundred animal rights demonstrators surveyed by Galvin and Herzog (unpublished) at the 1996 March for the Animals in Washington, D.C., expressed strong feelings about this issue. (In nearly all cases, they strongly opposed animal testing).

The fact is that the treatment of animals is not an issue of high priority to most people. A 1989 poll conducted by the American Medical Association

asked fourteen hundred respondents to rank the importance of twelve issues facing the country. Education was at the top of the list and finding cures for fatal diseases was ranked third. The treatment of animals came in last (American Medical Association 1989). A 1987 poll commissioned by *Rolling Stone* magazine asked 816 randomly selected Americans between the ages of eighteen and forty four to name two or three causes that they would like to work for. Only 7 percent mentioned animal rights—about the same number that indicated that they would like to work for the mandatory teaching of creationism in public schools (Roper Center 1987).

We are not arguing that the animal rights movement has not had an effect on our culture. When an opinion poll on animal research was conducted by the National Opinion Research Center in 1948, only 37 percent of approximately two thousand adults sampled had ever heard of groups opposing the use of animals in research (Roper Center 1948a). By now, everyone is familiar with the animal protection movement, and references to the animal movement are much more common in the media than they were thirty years ago. When Yale University social scientist Stephen Kellert polled American attitudes toward wildlife in 1976, he found that about 1.2 percent of American adults (2 percent of female respondents and 0.6 percent of male respondents) were members of animal protection groups. When a major consumer corporation asked a similar question in 1990, it found that 6 percent of American adults claimed to be members of animal protection groups and more than 20 percent said they had contributed money to animal protection.

It is clear that there have been changes in public opinion on animal welfare issues in the last fifty years. Perhaps the best example is provided by an analysis of public attitudes toward the use of animals in biomedical research.

Table 1
Public Opinion on Using Nonhuman Animals in Research

| Question | Year | % Supporting | % Opposing |
|--|------|--------------|------------|
| In general, do you favor or oppose the use of live animals in medical teaching and research? (Roper Center 1948b) | 1948 | 85 | 8 |
| Do you agree with the use of animals in experiments? (Baylor University, Center for Community Research and Development 1985) | 1985 | 58.8 | 41.2 |
| In general, do you support or oppose the use of animals in biomedical research? And do you feel strongly about that? (Roper Center 1989c) | 1989 | 64 | 29 |
| Should we continue to conduct tests on animals to aid medical research? (The University of North Carolina of Chapel Hill 1991) | 1991 | 63 | 37 |
| In general, do you support or oppose the use of animals in biomedical research? (If you support or oppose) Do you feel strongly about that? (Roper Center 1992b) | 1992 | 63 | 33 |
| In general, do you support or oppose the use of animals in biomedical research? Do you feel strongly about that? (Roper Center 1993) | 1993 | 65 | 31 |
| It is okay to perform medical tests on animals? (Survey Research Center of Maryland, College Park 1999) | 1999 | 61.4 | 36.5 |

Table 2
Public Opinion on Using Nonhuman Animals in Painful and Injurious Research

Survey Statement: Scientists should be allowed to do research that causes pain and injury to animals like dogs and chimpanzees if it produces new information about human health problems.

| Year | Supporting plus Strongly Supporting Animal Research (%) | Opposing plus Strongly Opposing Animal Research (%) |
|------|---|---|
| 1985 | 63 | 30 |
| 1988 | 53 | 42 |
| 1990 | 50 | 45 |
| 1993 | 53 | 42 |
| 1996 | 50 | 45 |

National Science Board 1985–1998

Table 3
Public Opinion on Using Nonhuman Animals
in Research for Specific Illnesses

| Question | Year | % Supporting | % Opposing |
|--|------|--------------|------------|
| As you may know, many medical findings have been made using animal experiments. But some people question the need for animal experiments in some cases. Do you think it is necessary to use animals for | | | |
| allergy testing? (Roper Center 1985a) | 1985 | 61 | 27 |
| some medical research, such as cancer, heart diseases, and diabetes? (Roper Center 1985b) | 1985 | 81 | 12 |
| There has been some controversy recently about the use of animals in medical research. If the only way we could find a cure for AIDS (Acquired Immune Deficiency Syndrome) would be by using animals as research subjects, would you favor or oppose this kind of research? (Roper Center 1989a) | 1989 | 78 | 15 |
| Do you favor or oppose animal testing on medical products used to combat serious illness? (Ward 1990) | 1990 | 76 | 20 |

Attitudes toward Animal Research

In the late 1940s, respondents were asked, “In general, do you favor or oppose the use of live animals in medical teaching and research.” Eighty-four percent of the respondents approved of and 8 percent opposed animal research (Roper Center 1948b). A poll conducted one year later by the National Society for Medical Research found that 85 percent of the respondents approved and 8 percent opposed the use of animals in medical research. As these polls show, fifty years ago, public opposition to using nonhuman animals in both medical teaching and research was extremely low. More recently, there has been a significant negative shift in attitudes toward the use of animals in research and testing (see Table 1).

Table 1 indicates that compared with 1948 there is a significant minority of the public opposing animal use in research and testing. The variation in results probably reflects differences in the wording of the question and the context of the question,

both known to affect public responses. In the last ten to fifteen years, it appears as though public opinion of nonhuman animal research has been relatively constant, with approximately 60 to 65 percent of the public approving or accepting the practice and 30 to 40 percent opposing it.

However, since 1985 the National Science Board (NSB) “Science Indicator” surveys have included the following statement: “Scientists should be allowed to do research that causes pain and injury to animals like dogs and chimpanzees if it produces new information about human health problems.” The statement pointedly identifies the use of dogs and chimpanzees (very high-profile animals) in research that causes pain or injury (a high “cost”) but is offset by benefits (information that can cure human health problems).

The results (Table 2) give us a clear indication of public attitude trends of the last fifteen years. Public support of animal research has declined—and it appears to have declined markedly since the late 1940s, when questions asking about the use of dogs in medical research garnered support from 80 percent or more of the public. In the last decade, which coincides with a much more active campaign by bio-

medical interests to promote the importance of animal research and to characterize all animal activists as, at best, emotional Luddites, support for animal research has remained stable. It could have declined further without such vigorous pro-research PR. In the United Kingdom in 1988, only 35 percent of the public supported the NSB statement, and most Europeans have a more negative attitude about the use of animals in research and testing than do Americans (see Pifer et al. 1994).

While Tables 1 and 2 show the decline in support for using nonhuman animals in general, other surveys have explored how particular variations in the question might affect the responses. Table 3 indicates that public concern appears to depend on the perceived importance of the illness being studied. For example, within the context of using nonhuman animals in biomedical research, there is about a 20-percent difference in approval ratings between research on illnesses perceived to be “life threatening” (such as cancer) and those perceived to be “non-life threatening” (such as allergies).

As Table 4 demonstrates, the public’s concern over the use of animals varies depending on the type of ani-

mal. In the first poll, responses to a general question on animal welfare show an evolutionary hierarchy of concern. Respondents were more than four times as concerned about dogs as they were about snakes. In the second poll, which specifically addressed the use of animals in research, dogs were the most favored, while mice and rats were regarded as the most expendable. Table 5 also shows this hierarchy of concern for mice and monkeys.

The results in Tables 4 and 5 are consistent with findings that the public weighs benefits and costs when determining whether nonhuman animals should be used in research. The more benefits perceived (in terms of the importance of the disease and the magnitude of the human suffering caused by it), the more tolerant the public is of animal research. The greater the perceived costs (in terms of animal suffering or the use of favored or familiar animals), the less tolerant the public is of animal research (Aldhous et al. 1999).

Table 5 provides direct evidence of this weighing of costs and benefits, albeit from a survey of British atti-

Table 4
Animal-Related Hierarchy of Concern

Poll #1: General Welfare of Particular Animals

| Type of Animal | % Expressing Concern |
|---------------------------|----------------------|
| Dogs | 89 |
| Seals | 85 |
| Whales/dolphins/porpoises | 84 |
| Horses | 78 |
| Birds | 76 |
| Cats | 71 |
| Farm animals | 70 |
| Rabbits | 67 |
| Fish | 64 |
| Hamsters/guinea pigs/mice | 34 |
| Frogs | 33 |
| Snakes | 21 |

Doyle, Dane, and Bernbach, Inc. 1983

Poll #2: Use of Particular Animals

| Type of Animal | % Supporting | % Opposing |
|----------------|--------------|------------|
| Monkeys | 59.5 | 34.5 |
| Dogs | 51.3 | 43.1 |
| Cats | 53.3 | 41.5 |
| Rats/Mice | 76.1 | 18.5 |

The University of North Carolina of Chapel Hill 1989

Table 5
Public Opinion (United Kingdom)
on Using Monkeys and Mice in Specific Research

| Type of Research | Monkeys are not subjected to pain, illness, or surgery (% approving) | Monkeys are subjected to pain, illness, or surgery (% approving) | Mice are not subjected to pain, illness, or surgery (% approving) | Mice are subjected to pain, illness, or surgery (% approving) |
|--|--|--|---|---|
| To ensure that a new drug to cure leukemia in children is safe and effective | 75 | 52 | 83 | 65 |
| To develop a new vaccine against the virus that causes AIDS | 69 | 44 | 77 | 57 |
| To ensure that a new painkilling drug is safe and effective | 65 | 35 | 74 | 47 |
| To enable scientists to study how the sense of hearing works | 56 | 21 | 70 | 36 |
| To test whether an ingredient for use in cosmetics will be harmful to people | 30 | 6 | 38 | 12 |

Aldhous et al. 1999

Table 6
Opinions of American Psychological Association Members and Psychology Students Concerning Use of Animals for Specific Research Procedures

| Type of Research | | APA Members % Supporting | Psychology Students % Supporting |
|--|----------|-----------------------------|-------------------------------------|
| Observational studies | Primates | 96.0 | 94.8 |
| | Dogs | 89.4 | 91.0 |
| | Pigeons | 86.1 | 89.4 |
| | Rats | 87.3 | 91.2 |
| Research involving caging or confinement | Primates | 63.0 | 57.7 |
| | Dogs | 63.4 | 57.7 |
| | Pigeons | 73.8 | 71.3 |
| | Rats | 77.2 | 79.6 |
| Research involving pain and death | Primates | 17.7 | 10.3 |
| | Dogs | 18.8 | 9.4 |
| | Pigeons | 29.6 | 21.6 |
| | Rats | 34.0 | 29.1 |

Plous 1996a,b

tudes to animal research. (Note: British attitudes to animal research are more negative than American attitudes.) The public is more supportive of painful research on mice than on monkeys. The British journal *New Scientist* published on May 22, 1999, the results of a poll that looked at

how the public views certain types of animal research when different costs are involved. The poll focused exclusively on studies using either monkeys or mice and included a specific variable: the amount of harm done to the animal. It also tested the level of support for animal research when the

question was weighted with specific benefits accruing from the research.

The poll asked half of a sample of 2,009 adults simply whether they agreed or disagreed that scientists should be allowed to experiment on animals (the “cold-start” version). The other half of the sample was

Table 7
Public Opinion on the Humane Treatment of Laboratory Animals

| Question | Year | % Agreeing (Yes) | % Opposing (No) |
|--|------|------------------|-----------------|
| When medical schools have animals that they are using in research, do you think they take as good care of them as individual owners would? (National Opinion Research Center 1949) | 1948 | 79 | 9 |
| In general, when doctors use animals in their work do you think they really try to keep from hurting the animals? (National Opinion Research Center 1949) | 1948 | 75 | 11 |
| Do medical schools take as good care of animals as individual owners would? (National Society for Medical Research 1949) | 1948 | 75 | 11 |
| Generally, do you think researchers who use animals in experiments treat them humanely, or not? (Roper Center 1985c) | 1985 | 46 | 30 |
| As far as you know, are the animals used in medical and pharmaceutical research treated humanely, or not? (Animal Industry Foundation 1989b) | 1989 | 33 | 40 |
| Are animals treated humanely? (Schaefer Center for Public Policy: University of Baltimore 1992) | 1992 | 46.9 | 35.8 |

Table 8
Public Behavior Regarding Cosmetics Testing

| Question | Year | % Refusing to Buy | % Who Do Not Refuse to Buy |
|--|------|-------------------|----------------------------|
| I'd like to know if you personally have already done any of the following... refuse to buy products where ethical treatment of animals may be called into question. (Food Marketing Institute 1991-94) | 1991 | 58 | 38 |
| | 1992 | 48 | 46 |
| | 1993 | 51 | 42 |
| | 1994 | 51 | 43 |

asked the same question but were first told, "Some scientists are developing and testing new drugs to reduce pain or developing new treatments for life-threatening diseases such as leukemia and AIDS. By conducting experiments on live animals, scientists believe they can make more rapid progress than would otherwise have been possible" (the "warm-start" version). Sixty-four percent of those presented with the cold-start version opposed the use of animals in research, compared with 41 percent of those given the warm-start version. This result shows a significant shift in attitudes and illustrates the impact a question's wording can have on the replies received.

When the hypothetical situation indicated that the animal would be subjected to pain, illness, or surgery (factors associated with suffering), the approval percentage decreased by 16 to 35 percent for both mice and monkeys. The percentage of the public objecting to the research did not increase, however, when the research involved the likely death of some of the mice or monkeys. As the perceived importance of the research increases, public support rises but as the costs increase, public support declines.

Scott Plous, of Wesleyan University, found similar results in two surveys of selected American populations (Table 6). The first survey (mentioned previously) involved five thousand randomly selected members of the American Psychological Association (APA). The parallel survey questioned 2,022 psy-

chology students randomly sampled from fifty colleges and universities within the United States (Plous 1996 a,b). Plous presented both sample groups with twelve different types of psychological research and asked them to indicate which types of research are justified and which are unjustified, assuming "all research has been institutionally approved and deemed of scientific merit." The results from both surveys were similar to those found by the *New Scientist*. As Table 6 shows, the majority of respondents from both surveys expressed much greater concern for animal research when it caused pain or death (even though the population surveyed was broadly supportive of animal research in theory).

Similar attitude trends are evident when the public is questioned about whether laboratory animals are treated humanely in research settings. In 1947 the public's view of the research community was one of trust and respect. By 1985 that trust had been sharply eroded, and there was evidence of much more public concern about the treatment of laboratory animals (Table 7). This increase in concern occurred despite the improvement in standards of care, husbandry, and use that had occurred in the intervening thirty-eight years.

One research-related issue has been particularly contentious, especially during the past decade (Table 8). In 1989 *Parents* magazine found that 58 percent of the respondents felt that testing of cosmetics on animals was wrong and should be illegal.

Another 23 percent felt it was wrong but should not be illegal; only 13 percent felt that the practice was acceptable. In 1991 *Self* magazine polled the public and found that 72 percent agreed to the statement, "If the cosmetics are the same quality, I would prefer to buy cosmetics that aren't tested on animals" (Significance, Inc. 1991). However, when the public was asked in 1990 by the Gallup Organization, "Would you purchase cosmetics that had not been tested on animals?" 89 percent of the public said "no." In 1990 the National Consumer's League asked the public, "If a health and beauty-aid product indicates that it has not been tested on animals, how does this affect your decision to buy it?" (Ward 1990). In direct contrast with the Gallup results, 39 percent of the subjects said the lack of animal testing would have no effect on their buying the product; 29 percent said it would make them more likely to buy the product.

Wearing Fur

The wearing of garments made from animal fur has long been a particular target of animal protection organizations. Table 9 provides data from a number of polls about public attitudes toward wearing fur. The wording of the questions in Table 9 is so variable that it is not really possible to make any reliable trend analysis. However, it is generally believed that public opposition to the wearing of animal fur has increased over the past fifty years. The fur industry in the United States has been struggling for

Table 9
Public Opinion on Wearing Fur

| Question | Year | % Accepting Fur | % Opposing Fur |
|---|------|-----------------|----------------|
| Is it okay to wear (ranch) fur coats? (Sieber 1986)* | 1986 | 45 | 47 |
| Thinking about specific ways that humans assert their dominance over animals, please tell me if you think each of the following practices is wrong and should be prohibited by law, if you personally disapprove but don't feel it should be illegal, or if it is acceptable to you: Killing animals to use their skins for fur coats. (Roper Center 1989b) | 1989 | 13 | 85 |
| Do you think there are some circumstances where it's perfectly okay to kill an animal for its fur or do you think it's wrong to kill an animal for its fur? (Roper Center 1989d) | 1989 | 50** | 46*** |
| Do you generally favor or oppose the wearing of clothes made of animal furs? (Balzar 1993) | 1993 | 35 | 50 |
| The use of animal fur in clothing should be banned in the United States. (Survey Research Center, University of Maryland, College Park 1999) | 1999 | 43.8 | 51.4 |

*Survey of 802 Toronto adults

**Responding that under some circumstances it would be all right to kill an animal for its fur.

***Responding that it would always be wrong to kill an animal for its fur.

the past decade, and retail fur sales, after peaking in the late 1980s, are lower (in inflation adjusted dollars) than they have been in the past thirty years. In 1999, when respondents were asked whether they believe the use of animal fur in clothing should be banned, the results revealed that the public is slightly more opposed (51.4 percent) to the practice than supportive (43.8 percent). This is significant because the public is, in general, reluctant to proscribe activities that do not directly affect the health or safety of other humans.

Hunting

Hunting is another controversial issue that has been looked at closely. Surveys have mainly consisted of asking for opinions on hunting or asking about the degree to which respondents participate in hunting.

The National Opinion Research Center conducted GSS surveys from 1972 to 1994 on the prevalence of hunting. The percentage of people who reported that they, their spouse, or both hunt decreased from 26.8 percent in 1972 to 20.3 percent in

1994. However, it must be noted that because hunting is predominantly a male sport and because past surveys have focused on married males, most of the information on hunting practices comes from married males. In 1975 33 percent of married males had participated in hunting, compared to 20 percent in 1995. Other surveys have produced similar results. On October 26, 1999, the *Wall Street Journal* reported that, according to Mediamark Research, the number of adults who hunt had fallen 17 percent from 1990 to 1998 (O'Connell and Barrett 1999).

One of the most telling signs of the decrease in hunting is the drop in the number of hunting licenses issued, a measure of actual behavior as opposed to attitudes. As reported in the same *Wall Street Journal* piece, the U.S. Fish and Wildlife Service revealed that the number of hunting-license holders had dropped to 14.9 million people, an 11 percent decline from 1982 to 1997.

Surveys have also questioned the public on its attitudes toward particular types of hunting. The *Parents* magazine survey of 1989 asked specifically about the hunting and killing of

animals for sport. Thirty-three percent of the respondents thought it should be made illegal, 27 percent disapproved but did not think it should be illegal, and 36 percent felt the practice was acceptable. The Gallup Organization polled the public on behalf of the National Shooting Sports Foundation in 1990 with the following question: "Animal rights groups and their activities have received considerable publicity in recent months. I'd like your opinion of the following actions and goals of animal activities. Certain animal rights groups want a total ban on all types of hunting. Do you strongly support this goal, somewhat support this goal, somewhat oppose this goal, or strongly oppose this goal?" Only 21 percent supported this goal (8 percent strongly) compared with 77 percent who opposed it (50 percent strongly).

Both of the above polls used phrases that might be expected to influence the subject. The question from the first poll adds the phrases "humans assert their dominance over animals" and "hunting and killing animals for sport," while the second question uses the phrase "certain ani-

Table 10
Public Opinion on the Humane Treatment of Specific Farm Animals

| Question | Type of Animal | % Believing the Animal Treated Humanely | % Believing the Animal Not Treated Humanely |
|--|------------------|---|---|
| Turning to your understanding of the way specific kinds of animals are generally treated in this country, is it your feeling that the following animals are treated humanely, or not? (Animal Industry Foundation 1989a) | Egg-laying hens | 56 | 19 |
| | Beef cattle | 69 | 12 |
| | Broiler chickens | 51 | 19 |
| | Turkeys | 57 | 17 |
| | Hogs | 63 | 13 |
| | Dairy cows | 79 | 6 |
| | Veal calves | 49 | 23 |

mal rights groups want a total ban” (feeding into public concerns about infringement of their own liberties). These phrases influence the subjects to respond more strongly in one way or another and presumably explain the contrasting results from the two polls. Public opposition to sport or trophy hunting is much higher than opposition to subsistence hunting (Rutberg 1997).

Farm Animal Issues

Farm animal welfare and treatment is an issue that has recently begun to appear in public polling results. The Animal Industry Foundation (AIF)

conducted the first national public opinion survey on animal agriculture and animal rights in 1989 (AIF 1989a). The findings from the survey show that 79 percent of consumers believed that farmers and producers treat their animals humanely, and that 40 percent believed modern animal husbandry practices are focused primarily on the animal’s health and safety. Even so, 25 percent believed that farm animal husbandry practices were cruel. The 1989 survey also questioned the public on its opinions about the treatment of specific farm animals (Table 10). The results suggest that, overall, the public feels farm animals are treated humanely. Table 11 displays opposing views.

In 1992 the *Star Tribune*/WCCO-TV

in Minnesota conducted a survey on the same issue, but the sample frame was smaller, 1,009 Minnesotans. The results were similar; the public believed that farm animals are raised without unnecessary cruel treatment. The Minnesota poll found that 69 percent of the public either disagreed strongly or disagreed with the statement, “In general, the way animals are raised for food in this country is unnecessarily cruel.” The public did agree that humane treatment is an important ingredient in animal agriculture and felt that it was worth spending more money to make sure humane treatment was provided for the farm animals. Sixty-four percent of the respondents responded positively to the question: “In order to

Table 11
Public Opinion on Farm Animal Treatment

| Statement | % Who Strongly/Somewhat Disapprove of the Practice |
|---|--|
| Confining veal calves for their entire lives in narrow wooden stalls where they are unable to ever turn around. | 92 |
| Confining pigs for their entire lives in narrow metal stalls where they are unable ever to turn around. | 91 |
| Keeping hens in cages so small that they are never able to stretch their wings. | 90 |

Caravan Opinion Research Corporation 1995

improve the conditions under which animals and poultry are raised, the cost of meat would increase. Would you be willing to pay more for the meat from these specially treated animals?" (Schmickle 1993).

Shortly after the Minnesota survey, an animal rights group commissioned another poll on the same subject (Caravan Opinion Research Corporation 1995). The survey focused on specific farm practices and how the public viewed farm animals (Table 11). The results demonstrate again the importance of how a question is worded, but they do reflect a public concern about closely confined animals. (Close confinement is standard practice in modern intensive systems.)

When the sample was asked which of the following statements reflected their concerns most closely, the sample responded as follows: "Animal pain and suffering should be reduced as much as possible, even though the animals are going to be slaughtered" (93 percent); "Since animals raised for food are going to be slaughtered anyway, it really doesn't matter all that much how they are treated" (5 percent) (Caravan Opinion Research Corporation 1995).

The 1989 AIF survey found that 67 percent of consumers would vote for additional government regulation of farm animal production; of those, 35 percent would vote for additional regulation because of their opposition to inhumane husbandry practices. In 1995 the Caravan survey found that 82 percent of the public believed the "meat and egg industry should be held legally responsible in making sure that the farm animals are protected from cruelty" and 58 percent of the public felt the "companies that buy animal parts and profit by selling them for food, like fast-food restaurants and supermarkets, should be held legally responsible in making sure that farm animals are protected from cruelty" (Caravan Opinion Research Corporation 1995). However, 68 percent of the public felt the "meat and egg industry can be relied on to regulate itself," and 91 percent believed "government agencies, like

**Table 12
Public Opinion
on Eating Specific Food Items**

| Type of Food Never Eaten | 1994 (%) | 1997 (%) |
|--------------------------|----------|----------|
| Meat | 6 | 5 |
| Poultry | 3 | 2 |
| Fish/Seafood | 4 | 4 |
| All of the Above | 1 | 1 |

Stahler 1994

the Department of Agriculture, should be involved in making sure that farm animals are protected from cruelty" (Caravan Opinion Research Corporation 1995). In Europe the public is much more negative about factory farming practices and more supportive of organic farming.

Diet Choice: Animal Agriculture and Consumer Behavior

In 1977-1978 the U.S. Department of Agriculture asked 37,135 people if they refer to themselves as vegetarians (Schmickle 1993). The survey found that only 1.2 percent of the respondents referred to themselves as vegetarians. In 1994 *Vegetarian Times* magazine conducted a survey asking a comparable question; 7 percent of the respondents said they considered themselves vegetarians (Stahler 1994).

In 1994 and 1997, the Vegetarian Resource Group, sponsored by the Roper Center, conducted a more careful survey on this issue. However, as one can see in Table 12, the format of the question was different in important ways. The respondents had to answer that they *never* eat certain foods in order to be included in the results, and the polling was conduct-

ed via a personal interview. This survey illustrates how people may interpret questions differently. Some people who eat meat infrequently and others who eat only seafood call themselves vegetarians.

Despite the apparent growth in the number of self-reported vegetarians, from 1.2 percent to 7 percent between 1975 and 1994, animal welfare does not appear to be a factor in making this diet choice. Forty-six percent of all people who consider themselves vegetarians and 49 percent of *Vegetarian Times* subscribers reportedly made the decision to be vegetarian largely for health-related reasons (Yankelovich et al. 1992). About 20 percent of all vegetarians and 40 percent of *Vegetarian Times* subscribers chose to be vegetarian for animal welfare and/or ethical reasons. The National Opinion Research Center found in the 1994 GSS that 30 percent of the sample sometimes refused to eat meat for moral or environmental reasons.

Several polls have also asked the public about what they look for when eating in restaurants. In 1991 the Gallup Poll Organization found that 20 percent of the public responded that "they look for restaurants that have vegetarian items," and 35 percent suggested that they "would order nonmeat items if listed on the menu" (Richter 1997). The survey found that 20 to 30 percent of the business community voiced an interest in having vegetarian items on their

own restaurant menu list (Richter 1997). In 1994 a study commissioned by Land O'Lakes reported that more than half of all American households had two or more meatless suppers each week and that 20 percent of U.S. households ate four or more meatless dinners per week (Richter 1997). Also in 1994 the National Restaurant Association reported that, on any given day, nearly 15 percent of the nation's college students selected a vegetarian option at their dining halls (Richter 1997). However, to place this in perspective, American annual per-capita consumption of meat (beef, pork, poultry) has increased from about 155 to 170 pounds during the last thirty years. Soy "meat" sales have increased five-fold since 1985.

Public Support of Animal Protection Philosophy

Survey questions that ask individuals about using non-human animals for human benefit (i.e., animal research, animal testing, and food) shed light on the attitudes of the public on these particular topics. Yet it is often difficult to ascertain where the public stands on broad philosophical aspects of animal protection. Surveys have produced contradictory data about what the public believes and where the public draws its lines. One way of assessing broad changes in public attitudes is to investigate how many people claim to be members of animal protection groups or to donate money to them.

During the 1980s and 90s, membership in animal protection groups exploded. (The membership of The HSUS expanded by over five-fold, to about four hundred thousand members, from 1980 to 1990.) In 1976 Steven Kellert conducted a survey of more than three thousand American adults to determine their attitudes about wildlife. He asked questions about membership in various organi-

Table 13
Membership of U.S. Adults in Animal and Environmental Organizations; 1976

| Organization | Males (%) | Females (%) |
|--------------------------|-----------|-------------|
| Animal Protection | 0.6 | 2.0 |
| Wildlife Preservation | 3.4 | 2.5 |
| Environmental Protection | 1.5 | 0.8 |

Kellert and Berry 1981

zations (Rowan et al. 1995). Table 13 gives the results, illustrating 1) low levels of membership and 2) a gender gap in the support provided to different types of groups. In 1982 Louis Harris and Associates asked broadly, "Have you or has anyone in your immediate family contributed money to any conservation, wildlife, or environmental organizations in the past twelve months, or not." Twenty-four percent responded that they had. When the question was narrowed down, the expansion of support for animal-related groups became clearer. In 1999 a national poll asked specifically, "Did you donate money to animal rights protection groups in 1998?" (Survey Research Center 1999); 16 percent claimed to have contributed. The 1990 survey mentioned earlier found that 6 percent of the public were members of animal protection groups.

Summary

Despite the complexities and limitations of the survey process, a general picture of how the public views animal protection from 1950 to the present can be drawn. It indicates that public opinion has become more supportive of animal protection issues, although there are still many contradictions. On most issues, the public has a higher degree of concern for the welfare of nonhuman animals than it did in 1950 or even 1975.

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