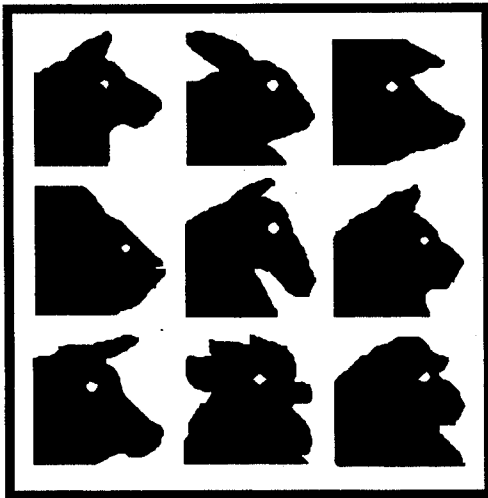


**Fifth Interdisciplinary Conference on Human Relations
with Animals and the Natural World, and**

ISAZ '99.

**“MEN, WOMEN, AND ANIMALS:
THE INFLUENCE OF GENDER ON OUR
RELATIONS WITH ANIMALS AND NATURE”**



**Friday & Saturday, June 4th & 5th, 1999
Room B101, Veterinary Hospital of the University of Pennsylvania,
3900 Delancey Street, Philadelphia, PA 19104**

Program & Summaries

Sponsored by the Center for the Interaction of Animals and Society (CIAS) at the University of Pennsylvania, and the International Society for Anthrozoology (ISAZ).

Supported by a generous grant from the Provost's Interdisciplinary Seminar Fund.

**“MEN, WOMEN, AND ANIMALS: THE INFLUENCE OF GENDER
ON OUR RELATIONS WITH ANIMALS AND NATURE”**

Program

Friday, June 4

08:50: **Welcoming remarks: James Serpell & Andrew Rowan.**

Session 1. Chair: Andrew N. Rowan.

09:00: **1st Plenary: “Women, Men, and Other Animals in Victorian America”** Katherine Grier, University of South Carolina, USA.

10:00: **“Unnecessary Savageries: Hunting, Gender, and Humane Reform in the Age of Roosevelt”** Bernard Unti, American University, USA.

10: 25: **“Social Insects and Social Animals: Socialization, Education, and Gender Roles in Twentieth-Century Children’s Books About Nature Study”** Monique Bourque, University of Pennsylvania, USA.

10:50–11:10: Tea/Coffee Break

11:10: **“The Food Question is the Soul Question’: Shaker Vegetarian Writings, 1830-1900”** Brandy Boume, University of North Carolina, USA.

11:35: **“The Meaning of Dogs in the Inner World of Emily Bronte”** Maureen Adams University of San Francisco, USA.

12:00–13:30: Lunch and ISAZ AGM.

Session 2. Chair: Lynette A. Hart.

13:30: **2nd Plenary: “Gender and Animal Protection: Why Are So Many Animal Activists Women?”** Harold Herzog, Western Carolina University, USA

14:30: **“Gender, Views of Nature, and Support for Animal Rights”** Corwin Kruse, University of Minnesota, USA.

14: 55: **“Liberating Human and Nonhuman Animals: Women, Ethical Bodily Regimes and Animal Rights Activism”** Jane Harris, University of Edinburgh, UK.

15:20–15:40: Refreshment Break

15:40: **“Distancing Ourselves: Gender, Feminism and Animals”** Lynda Birke, University of Lancaster, UK

16:05: **“Hinduism and Attitudes toward the Treatment of Animals”** Susanne Abromaitis, Cedar Crest College, USA.

16:30: **“Gender and Hybridity: The Significance of Human Animal Characters in Magic Realist Fiction”** Consuelo Rivera Fuentes, University of Lancaster, UK.

16:55–17:30: Discussion period.

17:30–19:00: Evening reception – Sponsored by Waltham.

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Saturday, June 5

Session 3. Chair: Katherine C. Grier.

09:00: **3rd Plenary: "Gender Differences in the Perpetration of Animal Cruelty"**
Randall Lockwood, HSUS, USA.

10:00: **"Gender and the Place of Pets in Some Urban Families"** Susan Cohen, The Animal
Medical Center, USA.

10: 25: **"What's in a Name: Uncovering the Connotative Meanings of Animal Names"**
Ronald Baenninger, Jessica Navarrete, Ruth Dangelmaier & Deborah Sezov, Temple
University, USA.

10:50–11:10: Tea/Coffee Break

11:10: **"Animals and Educators: A Study of Zoo Educators' Belief in Animal Mind"** Cindy
Somers, Joe Heimlich & Emmalou Norland, Ohio State University, USA.

11:35: **"Men, Women, and Animals: The Influence of Gender in the Veterinary
Profession"** Elizabeth Lawrence, Tufts University, USA.

12:00–13:00: Lunch.

Session 4. Chair: Anthony L. Podberscek.

13:00: **4th Plenary: "Unlocking Pandora's Box: A Practitioner's View of Gender
Effects in Canine Aggression"** Myrna Milani, New Hampshire, USA.

14:00: **"The Addressing of Cats: Effects of Speaker's Gender and Attitudes toward the
Animal"** Matthew Chin, Valerie Sims & Liza Beckner, USA.

14: 25: **"Health Benefits from Pets: Men and Women May Differ"** Erika Friedmann,
Brooklyn College of CUNY, USA.

14:50–15-10: Refreshment Break

15:10: **"Men, Women, and Animals: Caregivers and Care Recipients"** Cindy Wilson,
Uniformed Services University of the Health Sciences, USA.

15:35: **"Pet Therapy, and Pets Themselves, Can Be Effective at Stimulating Social
Interaction and Patient Initiation of Behavior"** P.L. Bernstein, Kent State University,
E. Friedmann and A. Malaspina, Brooklyn College, USA.

16:00–16:30: Discussion period.

End of Conference



Women, Men, and Other Animals in Victorian America

**Katherine C. Grier
Department of History
University of South Carolina
Columbia, SC 29208**

Gender identity is never a finished product; it is instead a lived experience, constantly being performed and re-formed in different circumstances. In nineteenth-century America, the conventions of gender roles -- the sets of ideal characteristics delimiting the boundaries of the "normal" in men and women -- were never thoroughly consistent because they were used to respond to and interpret shifting cultural and social situations. Victorian gender ideals, which described a set of characteristics deemed universal and biologically determined, often prescribed overtly contradictory attitudes and behaviors to men and women. For example, women were regarded as both the most profoundly "natural" of beings, whose reproductive systems shaped their human potential, and the most cultural ones as well, as the conservators of the highest achievements of civilization.

Popular perception of non-human animals and popular interpretation of the condition of animality were also characterized by dynamism and contradiction throughout the nineteenth century. Paradoxically, this discourse conveniently located the origins of middle-class virtues, such as monogamy and nuclear family life, in nature. When animals from wild birds and whales to the barnyard hen and the family dog were described as loving, intuitively moral beings dependent on the kindness of human stewards, their attributes were congruent with feminine gender ideals. At the same time, animality, particularly in the form of the "animal passions," was troublesome and required careful containment, both in terms of sexual expression and the body politic.

This paper will link discussion of some of the ascribed attributes of non-human animals and of the ideals of womanliness in nineteenth-century popular media. It will consider some of the ideological uses of "animality," particularly Victorian culture's use of the perceived qualities of "natural" beings to justify cultural norms. At the same time, the use of gender stereotypes actually created an enhanced moral claim for selected animals as dependent, feminized beings. It also contributed to the articulation of a middle-class ethic of kindness that emphasized the importance of socializing children, especially boys, to be kindly stewards in an idealized gentle hierarchy of humans and animals -- a vision of social life that would be challenged by popular interpretations of Darwin's "survival of the fittest."

“UNNECESSARY SAVAGERIES”: HUNTING, GENDER, AND HUMANE REFORM IN THE AGE OF ROOSEVELT

Bernard Unti,
Dept. of History,
American University,
Washington, DC., USA

During the first two decades of the twentieth century, the American humane movement expanded its vision to include the welfare of non-domestic species. The incorporation of opposition to sport hunting and other wildlife concerns into the agenda of animal protection societies was driven by the extension of humane sympathy from the realm of domestic animals into that of the wild. But this development was also tied to an ongoing cultural struggle that centered on conflicting constructions of masculinity. Nowhere was this clearer than in public debate over the hunting practices of President Theodore Roosevelt. Roosevelt's status and celebrity, and his conspicuous embrace of hunting and other elements of “the strenuous life” created a context in which the relationship of activities like hunting and trapping to the national character could be debated. Advocates of the strenuous life were responding to an assumed feminization of American culture, which they viewed as a source of potential national enfeeblement. Contested notions of masculinity set the stage not only for the debate over hunting but for related disputes concerning nature writing, Darwinism, child development, pedagogy, the Boy Scouts, and the militarization of American society. Gender was the cultural fault line along which these related tensions unfolded.

Social Insects and Social Animals: Socialization, Education, and Gender Roles in Twentieth-Century Children's Books About Nature Study.

Monique Bourque,
Asst. Dean, Post Baccalaureate Programs,
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Children's books about nature have long been intended to offer their readers factual information in a palatable form, and at the same time to present this information in such a way that the juvenile reader will draw clear lessons from nature about appropriate social behavior, and to present clear moral models for the development of the child's character. Much work has been done on insects through history, particularly social insects, as powerful social models and political metaphors; but relatively little research has been done on how insects have been presented in popular writing as models for children. This paper attempts to address this problem by using American children's books from the turn of the century to the Second World War, to explore the ways in which these texts use narrative and metaphors to construct nature for young readers, and to connect and compare human and animal society. These texts are not field guides, but instructive books intended to introduce children to the study of nature. I will explore the ways in which books use narrative to focus children's attention on particular animals, and to encourage children to go out into nature and observe it. I will place these texts in the context of nature education around the turn of the century, and against the backdrop of these texts' reflection of very adult concerns: the professionalization of science, American ambivalence about technology, shifting notions about proper gender roles, and contemporary debates about child development.

Nature books intended both for the adult public and for children in the late nineteenth and early twentieth century explicitly disavowed the dry tone of the scientist who, "when writing about these neighbors of ours, too often tells his story in so technical a way that the average reader fails to realize what interesting creatures they are." Perhaps reflecting field biology's ongoing credibility problems, many authors saw the study of nature as having fundamentally different aims than science; one text for adults explained that science was intended to "discover new truths," but nature study's primary goal was to "put the pupil in a sympathetic attitude toward nature." In these books, nature is a community, and humans' duties as good citizens include getting to know the other animals.

The narratives in children's books develop their stories in the context of familiar social relationships--most often family life, group social activities, and "work"--and the books which most clearly reflect social and political assumptions are those dealing with insects. Authors struggled to fit their discussions of the life histories of largely female insect communities like ants, bees and termites into prevailing models of human society centered around the middle-class nuclear family; to describe female insects' behavior in terms which would not encourage unfeminine behavior in female readers; to use social insects as role models for cooperative behavior, and to employ insects generally as examples of the possibility of individual transformation. It is of course impossible to evaluate the success of this thinly-disguised prescriptive literature in actually shaping children's behavior; but the persistence of writers' attempts to employ the natural world in this way, from the nineteenth century to the present, merits closer attention.

“THE FOOD QUESTION IS THE SOUL QUESTION”:

SHAKER VEGETARIAN WRITINGS, 1830-1900

Brandy L. Bourne

The University of North Carolina at Asheville, US

This paper traces the history of vegetarianism among the Shakers as it is presented in both official and informal writings dated from 1830 through the turn of the century and places the movement in both the social world of the time and in the wider sphere of Shaker theology. The fervent debate reflected in these writings shows the animal foods controversy among society members to have been more than a pragmatic dietary matter. Rather, it involved a significant recontextualization of the human experience, a retelling of the human story and a recasting of its characters.

As vegetarianism came to the Shakers through Sylvester Graham's dietary reform lectures in Philadelphia, scholars have tended to dismiss society members' abstinence from animal foods as an aberration of Shaker social history or as a faddish outside adulteration of its life and thought. Far from a simple discussion of physiological well being, however, the debate over vegetarianism sparked discord over the trajectory of the society's history and the essence of its ideology. Through a consideration of primary texts, this paper attempts to show that Graham's ideas were palatable to society members precisely because they were seen to complement foundational Shaker principles, that it was through an elaboration of these religious tenets that a uniquely Shaker vegetarian philosophy was defined, and that altering the relationship between humans and animals-as-food served to significantly shift the society's cultural moorings.

Applying the social theory of Carol J. Adams and the historical work of Colin Spencer and Frederick J. Simoons as they relate to food symbolism and prohibition among the Shakers, this research shows that a drastic change in foodways may well require new constructions of humanity's position in relation to nature, to other animals, and to one another as men and women. Shakers involved in the debate over animal foods grappled with newly problematized issues like, What does it mean to be human? What and *who* is animal? How is animalia as well as the animal essence of humankind valued? What is the divine order? In answering these questions, Shakers retold the culturally inherited story through which they made sense of the world. The concepts of human and animal (as well as meat and vegetable, nature and civilization, male and female) took on specific meanings for Shakers of the time, and their symbolic force was variously utilized to classify and characterize types of behavior, people and societies, as well as to make politicized statements about Shaker identity as distinct from mainstream U.S. society and its attendant values.

Adams, Carol J. 1996. *The Sexual Politics of Meat: A Feminist-Vegetarian Critical Theory*. New York: Continuum.

Simoons, Frederick J. 1994. *Eat Not This Flesh: Food Avoidances from Prehistory to the Present*. Madison: The University of Wisconsin Press.

Spencer, Colin. 1995. *The Heretic's Feast: A History of Vegetarianism*. London: University Press of New England.

THE MEANING OF DOGS IN THE INNER WORLD OF EMILY BRONTE

Maureen Adams, Ed.D.

University of San Francisco, San Francisco, CA

Emily Bronte, author of a few poems and the novel Wuthering Heights, lived a reclusive life on the moors of England where she died at twenty-nine of consumption. She never left the isolated parsonage where she grew except for short periods away as a student or a governess. Early losses included her mother before she was three, and two older sisters before she was ten. When Wuthering Heights was published under a pseudonym, readers were outraged at the passionate, amoral atmosphere of the book. After Emily's death, Charlotte Bronte destroyed almost all of her early writing as well as any letters or diary entries. Only a few pages and some sketches survived. Emily's life presents a mystery of the creative process - how did such a sheltered, isolated woman come to write such powerful poems and prose? This study attempts to understand Emily Bronte's unusual inner world through dogs: her mastiff Keeper and her use of dog imagery in her writing.

Through the letters that Charlotte wrote to her friends and in biographies of the Brontes, passages reveal Emily as deeply connected to animals, including a hawk and a pair of geese but especially to her mastiff Keeper with whom she roamed the moors. Keeper was a strong-willed dog who could terrify people and Emily appeared to delight in that aspect of him. He was also her closest connection outside of her siblings. Keeper was allowed to be present in church for Emily's funeral and with her family, followed her coffin to the graveyard. He mourned her, howling outside her room, for the rest of her life.

An explication of the dog imagery in Wuthering Heights reveals how it indicates Emily's view of human nature, reflects some of her own inner conflicts, and suggests a deeper level of meaning. For example, Heathcliff hangs a spaniel while Catherine is beloved by all dogs, including the guard dog who attacks her but whom she quickly enchants. Some of Emily's own difficulty with interpersonal relationships can be seen in her depiction of dogs as unselfconscious, instinctive beings but also as fawning creatures desperate for attention. Finally, the symbolic meaning of dogs is suggested by their appearance as companions in the wild and as guardians of the threshold and the hearth, ancient and deep meanings of the human-dog bond.

From Emily's sketches of Keeper, from the descriptions of her relationship with Keeper in letters and biographies, and from the dog imagery in Wuthering Heights, the importance of dogs in Emily's inner life can be seen. The study suggests that Emily who never experienced a close bond with her own mother, learned to be at home with nature and with her own creativity through her siblings and through animals, primarily her dog Keeper. In addition, Emily's unusual attitude towards the world, evidenced by her character Heathcliff and her own death, can be better understood in terms of the meaning of the dog imagery in her work.

GENDER AND ANIMAL PROTECTION: WHY ARE SO MANY ANIMAL ACTIVISTS WOMEN?

**Harold Herzog
Dept. of Psychology,
Western Carolina University,
Cullowhee, NC 28723 USA**

Social causes related to the treatment of animals appear to have special appeal to women. At animal rights demonstrations, women typically outnumber men by a ratio of three or four to one. Women are more likely than men to attribute mental states to other species, to believe that animal research is morally wrong, and to think that non-human animals should have rights. Indeed, gender has consistently been found to be the single most important factor in predicting attitudes toward animal welfare issues. This fact has not been lost on groups on both sides of the ideological fence. For example, women were the primary target of People for the Ethical Treatment of Animals' controversial "I'd rather go naked than wear fur" campaign. Similarly, Americans for Medical Progress, an animal research advocacy group, recently inaugurated 'The Women's Health Campaign' designed to increase awareness among women of the relevance of animal research for women's health issues.

I will examine gender differences in beliefs and behaviors concerning the treatment of other species. I will also discuss the gender structure of the leadership of animal protection organizations and compare the level of female and male contributions to The Animal's Agenda, the leading animal rights periodical in the United States. Finally, possible reasons for the differential involvement of women and men in the animal rights movement will be examined from the perspectives of psychology, sociology, and statistics.

GENDER, VIEWS OF NATURE, AND SUPPORT FOR ANIMAL RIGHTS

Corwin Kruse, Department of Sociology
University of Minnesota, Minneapolis, MN, USA.

The last 20 years have witnessed the dramatic growth of the animal rights movement. Concurrent with this growth has been an increase in social scientific scrutiny. One of the most notable and consistent findings to emerge from this body of research has been the central role of women in the movement. The purpose of this paper is to examine the influence of views of the relationship of humanity to nature on this gender difference.

Research suggests that there are substantial gender differences with respect to beliefs about nature. Men exhibit much more support than women for the exploitation and control of the natural world. Women, by contrast, consistently express greater affection toward animals and concern for ethical relations with nature (Kellert 1996). This difference in views may, therefore, explain at least a portion of the observed gender difference in animal rights advocacy.

The data for this analysis was taken from the 1994 General Social Survey (GSS), a probability survey of individuals age 18 and older residing in English-speaking households in the contiguous United States. Multiple regression analysis was utilized to assess the relative impact of various factors on support for animal rights.

Views of nature share an important association to animal rights advocacy, but are limited in their ability to explain the role of gender in such advocacy. Before any other variables are entered, gender exhibits unstandardized regression coefficients (B) of .307 with the variable gauging support for the concept of "animal rights" and .312 with the variable measuring opposition to vivisection. When the view of nature variables are entered into the analysis the fit of the models improves, however the link between gender and support for the extension of rights to animals does not change appreciably. Adding these variables does, however, produce a modest reduction in the relationship between gender and opposition to vivisection.

Despite their limited ability to explain the effect of gender, views of nature display strong links of their own to animal rights advocacy. Multiple regression analysis suggests a strong relationship between holding a Romantic view and both general support for animal rights ($B = .242$) and opposition to vivisection ($B = .166$). The influence of holding a Darwinian outlook is a bit more complicated. Multiple regression analysis indicates that such a viewpoint is not significantly associated with support for animal rights, however, holding a Darwinian view does make one much less likely to oppose vivisection ($B = -.193$).

In general, views of nature are more predictive of level of animal rights advocacy among males than females.. Substantially more of the variance in both measures of animal rights advocacy is explained for men. In addition, the view-of-nature variables display more consistent effects for men. A Darwinian view bears a significant negative relationship to both support for extending rights to animals ($B = -.165$) and opposition to vivisection ($B = -.184$) among males, but only to the latter among females ($B = -.208$). Furthermore, although both are significant for men, the second relationship is stronger. It is very possible that the concept of "survival of the fittest" is more salient with respect to medical testing on animals as this variable invokes the potential saving of human lives by using other creatures. Among men, holding a Romantic view is significantly and positively related to both measures of animal rights advocacy ($B = .346$ and $B = .262$). Romanticism also has a significant positive association with general support for animal rights for females ($B = .152$), but is unrelated to feelings about vivisection.

LIBERATING HUMAN AND NON-HUMAN ANIMALS: WOMEN, ETHICAL BODILY REGIMES AND ANIMAL RIGHTS ACTIVISM.

Harris, Jane. Edinburgh University, Edinburgh, Scotland. EH8 9LN

The animal rights movement has been one of the most visibly successful social movements in Britain over the past two decades, with public opposition to practices such as hunting, cosmetics testing, live exports and intensive farming at an all time high. An often overlooked dimension of this trend is the predominance of women within the movement, who typically constitute 70-85% of activists and over two thirds of vegetarians. In recent years, and particularly in response to the work of Carol Adams, attention to the gendered nature of animal defence has been growing. In relation to this, and starting from Adams' premise concerning the relational treatment of women and animals, my research tackled one dimension of the 'woman-animal' question; that of women's animal rights activism. One of the central objectives of the research was to address the gender blind tendencies of previous studies of both the movement and activists, most notably in relation to lifestyle politics and ethical bodily regimes (i.e. vegan and vegetarian food and lifestyle practices).

Women from all areas of the animal rights movement were interviewed about their personal motivations, beliefs, values, lifestyle and experiences. Through the interview sample the movement was represented in all its diversity, with interviewees coming from a variety of backgrounds including hunt sabotage, undercover investigation, animal rescue work, national and local level campaigning and the animal liberation front. During the interviews the women discussed the processes and dynamics of activism within the context of their lives alongside a number of related issues ranging from abortion to campaign tactics. Specific attention was paid to the women's relationship with food, experiences of vegetarianism and their attitudes to issues such as dieting and body image.

This paper will present evidence that through ethical bodily regimes women are negotiating new, positive and empowering relationships between food, body and self. Informing this analysis is the recognition that vegetarianism has not been the only major food based trend to occur amongst women in the west over the past three decades, as the escalating incidence of eating disorders demonstrates. Partially in response to the hegemonic slender ideal, and firmly grounded in the structural location of women in Britain today, the rise in both clinical and sub clinical eating disorders and the normalisation of dieting demonstrate a pandemic amongst women concerning their relationships with food. This impulse, however, would appear to be weaker within the lives of women animal rights activists who, this research suggests, display a disproportionately low tendency towards dieting, weight pre-occupation and negative body image. It would appear that vegetarianism, within the context of an animal rights consciousness, is disrupting the dominant ideology of food in two separate though interrelated ways. Firstly vegetarian philosophy subverts the traditional hierarchy of food and challenges the received wisdom with regards to inter-species relations, nutrition and health. Secondly, ethical bodily regimes are undermining proscribed ways of thinking about food in relation to the body and self. While disordered eating is characterised by an obsessive interest in the body, pulling food into the fragile framework of the self, ethical bodily regimes push food and eating away from a focus on the body and out, into the public and political consideration of animals' lives and rights. Thus vegetarianism, the most consistent, visible and integral dimension of animal rights activism, would appear to be both a definitive political action in defence of animals and a subversive political statement by and about the lived experience of women.

DISTANCING OURSELVES: GENDER, FEMINISM AND ANIMALS

Not surprisingly, modern feminism has tended to reject ideas that suggest that women and our place in society are determined by our biology; all too often, such determinism serves the purpose of perpetuating gender discrimination. Feminism has correspondingly rejected suggestions that humans (or specifically women) are "not like animals". Here, the concept of "animals" is a negative one - they represent what we don't like in ourselves.

In this paper, I will examine discourses of gender and animality, and look at ways in which modern feminist theory has (like Western culture more generally) distanced itself from "animals" and what they might represent. In doing so, we have helped to perpetuate views of animals as inferior, even stupid, I argue. But accepting this view, even implicitly, itself can help to justify gender divisions in terms of biology. We need, I argue, to develop a more sophisticated understanding of other animals and to move beyond a concept of "the animal" as "merely" biological. In doing so, we might challenge prevailing assumptions about both women/gender and animals - as well as about biology.

Lynda Birke
Institute for Women's Studies
University of Lancaster
UK

HINDUISM AND ATTITUDES TOWARD THE TREATMENT OF ANIMALS

Susanne Abromaitis, Cedar Crest College, Allentown Pennsylvania, US

Previous research has confirmed that liberal Christian denominations tend to display more positive attitudes toward animals than do conservative sects (Bowd, 1989). However, little research has examined animal attitudes in eastern religions, such as Hinduism. Heightened awareness of animal issues and dietary restrictions practiced by Hindu devotees may differentiate their beliefs from western thought. Additionally, gender differences in affinity for animal rights may further influence views regarding animals (Peek, 1997). Despite the range of beliefs within Christianity and Hinduism, a baseline measurement of the groups' collective opinions may illuminate the relationship between religious orientation and position on animal issues, (Bowd, 1989). Hindu participants were predicted to score higher on a scale measuring attitudes towards animals than Christian respondents. Vegetarianism and female gender were also hypothesized to positively influence scores.

Fifty-nine adult participants were recruited from a suburban Hindu temple, local universities and businesses, and a suburban Protestant church. Thirty-one women and 28 men with a mean age of 40 participated.

The Scale of Attitudes Toward the Treatment of Animals (SATA), developed by researchers Bowd and Bowd, was administered to the participants. The SATA, containing 30 items employing a five-point Likert-type scale, was adapted to non-native English-speakers through parenthetical explanations. A higher total score reflects a more positive attitude. Participants also completed a demographic survey examining education level, pet ownership, occupation, and dietary behavior.

The independent samples student's *t* test yielded significant results, $t(59) = -4.92, p < .001$ such that Christians ($M = 89, SD = 17$) scored lower on the SATA than Hindu participants ($M = 111, SD = 16$). This finding supports the primary hypothesis: Hinduism elicits higher scoring on the SATA. The secondary hypothesis, vegetarianism eliciting more positive attitudes toward animals, was also supported by significant findings; $t(59) = 5.059, p < .001$ such that vegetarians ($M = 118, SD = 16$) scored higher on the SATA than did non-vegetarians ($M = 92, SD = 17$). Finally, gender significantly influenced scores, $t(59) = -1.680, p < .05$ with women ($M = 101, SD = 20$) scoring higher than men ($M = 93, SD = 19$).

The results replicate previous Christian response patterns; the highest score in the Bowd study, 84.65, is matched by this Christian sample mean of 84.73. The Hindu mean, 116.95, does clearly establish a different scoring pattern based on the participants' religious affiliation. Vegetarianism and female gender also yield higher SATA scores. The majority of vegetarian respondents were members of the Hindu tradition, with Hindu females scoring the highest on the continuum at 127, and Christian men averaging at 71.5, the lowest mean. Christian females ranked second with a mean score of 98 and Hindu men, third, with 106 as their mean SATA score. Hindu teachings of reverence towards animals are evident in formal measurement, but also in daily practice, the true application of belief. Although the Christian and Hindu samples differ significantly, SATA scoring is not intended to condemn religious beliefs or practices. These findings demonstrate the difference in attitude towards animals in relation to religious tradition and establish success of the SATA in measuring eastern religious attitudes.

Bowd, A.D. & Bowd, A.C. (1989). Attitudes toward the treatment of animals: A study of Christian groups in Australia. *Anthrozoos*, 3, 20-24.

Peek, C.W., Dunham, C.C., & Dietz, B.E. (1997). Gender, Relational Role Orientation, and Affinity for Animal Rights. *Sex Roles*, 37(11/12), 905-920.

GENDER AND HYBRIDITY: THE SIGNIFICANCE OF HUMAN/ANIMAL CHARACTERS IN MAGIC REALIST FICTION

In the wake of recent developments in biomedicine (such as xenotransplantation and cloning) there has also been reawakening of the ancient fear of human-animal hybrids. This fear is often expressed through myth and symbol.

In this paper, I explore literary and mythic forms of human-animal hybridity (rather than allegorical representations of humans through animals) from a feminist perspective. I will argue that in the magic realist stories written by Latin American authors such as Garcia Marquez, the boundaries between humans and animals are fluid and interchangeable and not always just allegorical. I will pay particular attention to animal symbolism in discourses of masculinity/femininity, animality/humanity, and good/evil as present in certain characters in these works. The main question I want to pose is: How much does fiction allow us to understand our gendered cultural responses to the literal creation of hybrids by science?

Consuelo Rivera Fuentes
Institute for Women's Studies
Lancaster University
England

Gender Differences in the Perpetration of Animal Cruelty

Randall Lockwood, Ph.D.

**The Humane Society of the United States
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Human behavior resulting in the suffering or death of animals takes many forms. One perspective is to view such mistreatment on a continuum, ranging from the collecting or hoarding of large numbers of animals, to simple neglect, to "organized" abuse (e.g. blood sports) to intentional harm and torture.

We will review the demographics of the perpetration of various forms of animal cruelty from several sources, including a large sample of press reports, cruelty investigation records from several humane organizations and court records. Such analysis shows that males tend to be greatly over-represented in the most violent and intentional forms of animal cruelty, generally equally represented in cases of neglect and significantly under-represented in cases of animal hoarding. Comparisons and contrasts will be drawn from studies of perpetrators of child abuse and domestic violence. Additional insights will be offered from the limited studies of violent female offenders.

The indications are that intentional animal cruelty, like domestic violence, can often be viewed as a gender issue related to power and control. Efforts to prevent such violence against animals should recognize this relationship and allocate appropriate attention to those at higher risk of becoming perpetrators, i.e. pre-adolescent and adolescent males.

GENDER AND THE PLACE OF PETS IN SOME URBAN FAMILIES

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ABSTRACT

While many surveys have shown that a majority of Americans describe their pets as “members of the family,” little work has been done to explore what that means. In this study 201 randomly selected clients of a major urban veterinary hospital completed questionnaires measuring intimacy, psychological kinship, bond with pets, and other characteristics of family life. Where possible, respondents answered identical questions about the closest person and the closest pet in their families. Gender proved to be one of the two greatest influences on feelings of intimacy and kinship. Women expressed more positive feelings about all their relationships than men. Women felt significantly more intimacy with the closest pet than with the closest person in their lives ($p < .01$). They had fewer problems with pets than men did ($p < .000$). Sixteen of the original group of 201, eight men and eight women, were interviewed, using a semi-structured instrument designed to clarify the concept of family and the place of pets within the family circle. Gender had a moderate effect on answers to some questions. Men were more inclined to describe the difference between pets and human family as stemming from the animal nature of pets. Women talked more about pets’ differences as advantages. Women were also less willing to distribute a scarce drug based on family status or species preference. Other research has suggested gender differences in relationships with pets, and this study supports the idea of difference. Nevertheless, statistically significant differences in feelings as measured by pen-and-paper instruments may be less important than real-life behavior.

WHAT'S IN A NAME: UNCOVERING THE CONNOTATIVE MEANINGS OF ANIMAL NAMES

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Names of objects or concepts may help to provide clues about the ways in which people understand and react to them. One time-tested way to discover such connotative meanings is to see what associations people have to names. If someone responds that the word "crow" suggests "dirty" rather than "clean", "ugly" rather than "beautiful", and "agitated" rather than "calm", then we have learned something more than the denotative, dictionary meaning of the word "crow". We have learned quite a lot of what crows mean to the respondent. This was the logic used by Charles Osgood when he devised the Semantic Differential as a way of measuring meaning (1956). In this study we examined the connotative meanings that the names of 12 animals have for people.

METHOD

Using Osgood's Semantic Differential, we surveyed 100 university students, faculty, and sales trainees. Our respondents were shown 19 adjective pairs (e.g. "beautiful-ugly", "ferocious-peaceful") and placed their responses in one of 7 spaces that separated the adjective pairs. This procedure was repeated for each of 12 animals: Bullfrog, Canary, Crocodile, Deer, Eagle, Fox, Goldfish, Hamster, Lion, Lizard, Shark and Turtle. These animals were chosen for their diversity and represent amphibians, reptiles, birds, fish and mammals. All may be found in captivity as pets or in zoos, and the names used were those commonly used by the lay public rather than by zoologists. Respondents were volunteers fulfilling a research participation requirement (in the case of students). Faculty and sales trainees were asked to "help with an interesting survey". They first responded to several demographic questions: their mean age was 22.3, range from 18-41, and they identified themselves as suburban (27), rural (17), or urban (56). None took less than 20 minutes, nor more than 30 minutes, to complete the test booklet.

RESULTS

Osgood's original research on the Semantic Differential identified 3 basic dimensions that the adjective pairs described: Evaluation, Activity, and Potency. The means and standard deviations of responses for each adjective pair for each animal were calculated, and plotted in such a way that low evaluations (e.g. unpleasant, dislike), low activity (e.g. passive, slow), and low potency (e.g. weak, small) were always to the left. The other extremes fell to the right (e.g. pleasant, active, strong), and the resulting profiles of animals could be compared directly. There were no significant differences between suburban, rural or urban respondents, nor between males and females. Marital status and whether children lived in the household did not affect responses in any significant way. Neither age, zoo attendance, nor watching wildlife or animal programs on television affected response patterns. The patterns were remarkably consistent for some animals, meaning that respondents showed substantial agreement about which adjective loadings applied to them. Clear pictures emerged, with some striking comparisons. Canaries and Crocodiles, for example, were virtually mirror images of each other. Responses for other species were more diverse. Lizards, for example, were variable compared to Lions, suggesting that people have a greater range of reactions to them. Some animals, like Eagles, were almost exclusively on the "Good, Active, Potent" side of the pattern.

CONCLUSIONS

The Semantic Differential appears to be a useful quantitative technique for assessing animal "reputations" among ordinary members of the public, something that may be important for conservation campaigns in future years.

**ANIMALS AND EDUCATORS:
A STUDY OF ZOO EDUCATORS' BELIEF IN ANIMAL MIND**
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Introduction

Compared to the general public, zoo educators have unparalleled exposure and experience with a wide variety of animals, including both 'domestic' and 'wild' species. Animals are clearly a focus of many, if not most, of the public education efforts that take place at or through zoos and aquariums, and many of these efforts directly involve the utilization of animals in some form. It seems reasonable to assume that the regular presentation of animals and information about animals to the public would require these educators to have fairly well formed opinions and beliefs about the animals that they present. Till now, however, this group had never been studied in regards to their attitudes toward or beliefs about animals. This research studied zoo and aquarium educators' beliefs about animals by obtaining a measure of their 'belief in animal mind', (i.e., the willingness to attribute thinking and feeling mental capacities to other animals).

Research Subjects

The research population consisted of educators (paid education staff, docents, and animal care staff) who regularly have education-related duties at the following seven American Zoo and Aquarium Association accredited institutions in Ohio: Akron Zoo, Cincinnati Zoo, Cleveland Metroparks Zoo, Columbus Zoo, Sea World of Ohio, Toledo Zoo, and The Wilds.

Methods

A quantitative questionnaire was distributed to 260 educators during group meetings at the above mentioned institutions. In addition to a variety of demographic variables, the questionnaire contained an instrument designed to obtain a measure of educators' 'belief in animal mind', i.e., the willingness of zoo and aquarium educators to attribute thinking and feeling mental capacities to other species. Using Likert-type scales (1=not at all capable and 7=very capable), educators were asked to rate 24 species on their capability to experience 20 different mental states. The 10 'thinking' or cognitive processes examined include pain, consciousness, deception, imagination, self-recognition, memory (a sense of the past), ability to reason, ability to plan (a sense of the future), ability to recognize intentional action in another animal, and the ability to dream. The 10 'feeling' or affective processes examined include boredom, contentment, affection, fear, loneliness, jealousy, guilt, anger, pride, and the ability to suffer.

Findings

This research is currently a work in progress (data have been collected but have not been analyzed). Analysis is scheduled to be complete by the end of April. The data will be examined in a variety of ways. 'Belief in animal mind' will be described in the following six manners: a) belief in the ability of each species to "think"; b) belief in the ability of each species to "feel emotions"; c) belief in the overall mental capabilities of each species; d) belief in the cognitive mind of animals; e) belief in the emotional mind of animals; and f) overall belief in animal mind. In addition to a description of the population's beliefs on the above mentioned variables, the researcher will also explore the relationship of these variables to each other and to the demographic variables of gender, age, level of education, subject area of advanced degrees, years in zoo/aquarium education, experience and education in animal training, amount of contact with zoo/aquarium animals, zoo/aquarium position, and pet ownership. Finally, an exploratory factor analysis (Principle Components Factor Analysis) will be conducted to see if any underlying constructs or relationships are revealed that may shed light on the way respondents rated each species.

Conclusions

It is expected that analysis will reveal that zoo educators' species ratings will follow somewhat consistently with similar existing studies. For example, it is expected that species will be rated along a phylogenetic scale with 'more advanced' species (birds and mammals) rated the highest; women will rate species more highly than men, 'pest' species (cockroaches, mice, etc.) will be rated lower than their phylogenetic counterparts; pet species (dog and cat) will be rated higher than their phylogenetic counterparts, etc. An exploratory analysis of the pilot test data has already revealed that culturally negative species (snake and cockroach) are rated distinctly differently than other species. It is also expected that zoo educators' 'belief in animal mind' will fall between ranchers and animal rights activists (two previously studied groups).

MEN, WOMEN, AND ANIMALS: THE INFLUENCE OF GENDER IN THE VETERINARY PROFESSION

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Until fairly recently, the veterinary profession was considered to be strictly a male domain. There was deep and widespread hostility toward the idea of women becoming veterinarians. Exclusion of women from veterinary medicine was based upon certain assumptions about masculinity and femininity and the ways in which those traits were believed to be related to the role of gender in society, to interactions with animals that were deemed appropriate to men and women, and to the practice of veterinary medicine. Perceptions about women, men, companion animals, horses, cattle, and other forms of livestock resulted in the gendering of animals in the profession. Within organized veterinary medicine, species were evaluated as to their relative importance, and this ranking affected the process of gendering various classes of animals.

In the past, admissions officials felt that candidates for veterinary school, especially women, who professed love for animals as their motivation should not be admitted. Vestiges of this attitude remain today, and the idea that the scientific study and medical treatment of nonhumans is antithetical to affective involvement with animals persists. The quality of "femininity" was once considered antagonistic to a career in veterinary medicine. Since interacting with animals is central to veterinary medicine, analysis of how societally defined feminine traits, as opposed to masculine traits, influence human-animal relationships is central to the dilemma as to why gender has been so important in the profession. This issue brings into focus an idea that historically has pervaded the world view of many societies -- namely that women are closer to nature than men, and thus are allied with nature, whereas men are more separated from nature and thus allied with culture. The recurring idea of women as closer to nature than men is associated with a schism within current feminist ideology regarding women and animals. Those who advocate severing any alleged woman-animal connection argue that historically the justification for viewing women as inferior has been related to associating them with animals. Those who argue against rejecting the woman-nature connection assert that the male ideology of cultural transcendence with denial of the human-animal connection is a cause of both the oppression of women and the exploitation of nature, including animals. Consequently, since feminism embraces the well-being of all forms of life and all oppressions are interconnected, women should be engaged with the treatment of animals as well as humans.

The issue of women, nature, and culture has relevance for veterinary medicine. If there are gender differences in the way people think of and relate to animals and particularly if there are gender-specific variations in perceptions of human-animal boundaries, then the influx of women into the profession will profoundly influence the way veterinarians regard and treat animals -- both wild and domesticated -- and will help determine the status of animals in current society.

UNLOCKING PANDORA'S BOX: A PRACTITIONER'S VIEW OF GENDER EFFECTS IN CANINE AGGRESSION

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The aim of this presentation is to familiarize participants with the types of gender issues those who deal with aggressive dogs routinely confront in clinical practice, specifically as these relate to the dog, the client, and the clinician. Participants may then use this information to augment studies and treatments that do not take gender influences into account, thereby enhancing their ability to work with problem animals and/or to select stable therapy animals.

Gender and the dog: When considering the effects of gender, it's wise to keep in mind that the goal of life is successful reproduction, and that evolution rewards those individuals and species whose behavioral and physical traits allow them to accomplish this with the least expenditure of energy. In keeping with this basic premise, much of social behavior between members of the same and different species arises from the differences between males and females. Like females of many species, female dogs are born with a finite number of very energy-expensive eggs, compared to males who generate a renewable supply of energy-cheap sperm. This makes the females a valuable, nonrenewable resource for which the males, most of whom won't mate in the wild, compete.

Dogs use a basic repertoire of bite behaviors to signal their authority, with the most gentle being the hold of a bitch moving her pups and the most energetic being that reserved for prey. Successful members of both sexes develop what some ethologists refer to as the "tender-macho" balance. Males whose genes wind up in the gene pool tend to be those macho/aggressive enough to drive off competitors, impress females, and kill enough prey to survive and feed any young without getting maimed or killed themselves, but tender enough not to frighten or harm the female with which they hope to mate or the young which carries their genes. Evolution favors discriminating females tender enough not to attack their mates or young, but macho enough to repulse threats to their young and to kill enough prey to support themselves and their offspring. Evolution also favors those who can communicate their sex, reproductive, and social status with the most subtle, energy-conserving behavioral and biochemical cues.

Also bear in mind that establishing and protecting the territory is *the* strongest animal drive and that a stable pack structure represents the mental territory. Not only that, from day one dogs are part of a pack structure that begins with teat selection and becomes more dynamic and complex as they mature.

Domestic dogs automatically incorporate us into their pack structures according to their species rules which deem that every pack must have a leader. Thus, if the owners don't accept this

responsibility, even the wimpiest dog will feel forced to assume it. Aggressive dogs commonly respond in a manner that supports one of two basic human-canine pack structures, depending on the animal's personality, past experience, and any physiological and behavioral cues it receives from the owner(s). The first human-canine pack arrangement consists of reproductively capable boys and men at the top, the dog in the second position, any reproductively capable girls and women in third place, and children at the bottom, with boys moving up in position as they become sexually mature. In such situations, biting dogs of both sexes more readily obey their male than female owners, react more aggressively toward strange men than women, and more negatively toward adolescent boys than girls. Moreover, these animals may show minimal or no signs of aggression when the adult man is present, but they'll respond very aggressively to perceived threats toward other family/pack members in his absence.

In the second pack structure, the dog also views any adult males in the household as its subordinates/territory. In this situation, the dog will insinuate itself between embracing couples, try to sit in the man's lap or constantly badger him for attention while more or less ignoring any women or young children in the household. Because these animals take a proprietary view of all members of the family, they will respond aggressively to anyone they consider a threat to its territory/owners.

Who a dog bites when is a function of the dog's level of confidence and any environmental cues. In general, though, we can say that any time a dog holds a position above the owner, that person is as apt to get bitten as any stranger, albeit for far different reasons. The stranger will be bitten because that person represents a threat to the dog's territory/owner. The owner will be bitten for interfering with the dog's attempts to fulfill its leadership functions.

Finally, we must always bear in mind that behavior drives physiology as much as physiology drives behavior. Thus, because the majority of cases of canine aggression occur when the owner knowingly or inadvertently cedes leadership of the human-canine pack to the dog, even the wimpiest spayed female may display characteristics, such as leg-lifting, more commonly associated with intact males. Moreover, dogs lacking the physical and behavioral traits to confidently lead may skip the preliminary ritualistic displays designed to head off aggression and immediately go into the attack mode. Consequently, a wimpy, aged, neutered, female Pomeranian in a dog-centered pack will attack more quickly and viciously than a young, confident, sexually intact male pit bull in a human-centered pack.

Gender and the client: In addition to routinely either coinciding with or violating what the aggressive dog perceives as the "right" pack structure, client gender influences may cause periodic flare-ups of canine aggression. Female owners of aggressive male dogs report that their pets appear more aggressive toward them during the period preceding their menses and during the menses itself, an effect that has been noticed with other species. Other women note that previously benign pets of both sexes become more "protective" when their owners became pregnant. Previously benign pets also may become more aggressive when a new baby enters the household, an infant begins walking, or a child goes through puberty.

At the male end of the spectrum, the emergence of the kinder, gentler male owner who prefers to be his dog's best friend rather than leader in the human-canine pack can throw a major monkey wrench in the treatment of canine aggression because the dog *expects* the man to be leader. While educating all owners of aggressive dogs about the differences between dominance and leadership is always important, it becomes an absolutely crucial first step when dealing with these kinder, gentle men. Although erroneously equating dominance (as in winning the fight) with leadership is rampant in western society, it lies at the very heart of competitive sports and politics. Consequently boys and men often more readily accept this as a basic reality, albeit one they themselves may have decided to reject--at least in their relationship with their dogs--because they see it as too brutal or heavy-handed. Unfortunately, however, if any men in the household don't consistently communicate leadership to the aggressive dog, this will undermine the most committed responses from any women or children.

On the other hand, men who want to believe that dominance equals leadership and take a heavy-handed approach to the treatment of canine aggression might be able to teach the dog not to bite in their presence, but the dog most likely will continue biting in the man's absence.

However, while strictly hormonal/pheromonal owner signals undoubtedly can trigger aggressive canine behavior toward the owners or others, more commonly aggression results when owners give the animal mixed signals. For example, when Silky's owner croons to the dog lying on her chest, "I wuv my widdle baby and I'll take care of you forever," she may truly believe that she's telling her dog she would die to protect him. However, her sing-songy whimpery tone of voice and feminine status combined with the placement of the animal above her communicates just the opposite: That body language tells Silky that he's responsible for *her* well-being. Because canine comprehension of sound, pheromones, and body language exceeds their understanding of English, Silky takes the latter rather than the former message to heart. Depending on how stable he is, that might mean he only bites strangers, or just men, or just little kids he views as threat to his owner. However, under these circumstances, he could just as easily bite his owner if she tries to interfere with his protection of her.

If Silky receives such a mandate from a male owner, this blatant violation of natural law may cause the dog to become even more aggressive, and sometimes aberrantly so.

Going back to the fact that behavior can drive physiology as well as vice versa, it seems safe to say that owners who harbor strong beliefs about who their dogs will and won't bite most likely supply their pets with the necessary biochemical cues to fulfill this belief. Thus female owners who sense their male dog's antagonism during their menses or excessive attention during pregnancy may inadvertently cringe or shrink back in the dog's presence or use babytalk in an attempt to placate the animal. Because these human behaviors signal submission, they reaffirm the relationship as a dog-centered pack. On the other hand, were the woman to attempt to portray a leadership status, she would need to do it with sufficient presence that it would counteract the biochemical message her hormones/pheromones were conveying. And while it would seem much easier to ask a man to "act like a man" relative to his dog, this may require that the owner

make changes in his beliefs regarding love and leadership that will effect every level of his life.

Gender and the clinician: Because aggressive dogs typically don't recognize human leadership, they'll respond differently to male and female clinicians, too. Dogs who completely ignore or even positively interact with a female clinician may act defensively toward a male one. On the other hand, dogs who act nervous with a female clinician may completely relax in the presence of a male. Because of this, techniques that work well for a behaviorist or trainer of one sex may fail miserably in the hands of another. Because of this, clinicians must guard against equating how the animal acts with them to how it acts with its owners. Similarly, if clients of only one sex or those representing only one age group bring the dog in, we must remember to ask how the dog acts with people of both sexes and all ages. Observing the dog's and owner(s)' response to the Gentle Leader collar in different settings (office, owner's home) also can serve as an excellent indicator of how the dog perceives family and nonfamily members, and of how the owners relate to the dog. Above all, we shouldn't view any treatment regime as a fixed entity, but rather see it as a guide we can adapt to meet the specific needs of that particular dog and that particular owner in their particular environment.

Within the realm of service and therapy dogs, we must also use extreme caution when fostering a view of these animals as "protectors" of those they're meant to serve. Subtle but critical differences exist between the behaviors of those who view their therapy or service animals as valued assistants and those who view themselves as dependent on those animals. The former favors the creation of a human-centered pack and the latter a dog-centered one. Compromised owners who cede leadership of the human-canine pack with others' blessings may find that the resultant aggressive canine behavior undermines rather than enhances the quality of their lives.

Gender or Something Else? The reason no hard and fast male/female rules seem to apply to human-canine interactions most likely results because we're dealing with something far more subtle than sexual chemistry, namely pheromonal chemistry. Observations of the pack structures formed by aggressive dogs and their homosexual owners strongly suggest that any male/female hormone correlations are probably grossly simplistic. For all our talk of gender, the fact remains that no good biochemical definition of either maleness or femaleness exists. Both males and females need male and female sex hormones: At what point does a male become a female or vice versa? Certainly observations of leader dogs and studies of successful men strongly suggest that testosterone or, more likely, some pheromonal component of it, communicates leadership.

Consequently, until we disengage "testosterone" from "male" and "estrogen" from "female," political correctness will probably rule out studies that don't support a fixed gender stereotype. However, once pheromone studies in humans begin to catch up with those in animals, these much more potent biochemicals could prove to be far greater behavioral mediators for canine and human alike.

THE ADDRESSING OF CATS: EFFECTS OF SPEAKER'S GENDER AND ATTITUDES TOWARD THE ANIMAL

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Anecdotal evidence suggests that humans address animals similar to the way they address young children, yet little empirical research has examined this phenomenon. Published research appears to be limited to one study (Hirsh-Pasek & Treiman, 1982) demonstrating that speech used by four female dog owners to their own pets during a training session resembles speech used with small children. The present study examines how males and females interact with an unfamiliar companion animal (cat). Further, it examines verbal and nonverbal behaviors and their relationship to attitudes about animals.

Twenty-six male and 25 female undergraduates (mean age = 18.91) participated. Fifteen males and 21 females were pet owners. Eight males and 15 females owned cats. One gray tortoiseshell female cat also participated.

Participants were brought into a small sparsely furnished room that was divided into two similarly sized parts. The "Interaction Area" contained a chair and a large cat toy. A camcorder was on a tripod in the other section of the room. Participants were told the cat's name was "Whiskers" and they would have three minutes to "entertain the cat using the toy." No directions were given as to whether they should speak to the cat. Participants could not touch or pick up the cat, and they had to remain in the interaction area at all times. The cat was free to roam about the room. Participants completed a post-interaction questionnaire where they rated the cat on: intelligence, attractiveness, warmth, independence, affectionateness, happiness, cuteness, maturity, and attentiveness. Participants also answered demographic questions.

Attitudinal analyses showed that females ($M=6.6$) liked animals more than males ($M=6.0$), $t(43)=2.19$, $p<.05$, and participants liked cats ($M=5.1$) less than animals in general ($M=6.3$), $t(44)=5.34$, $p<.001$. However, speech and nonverbal behavior (time spent using the toy and number of movements by the participant) analyses indicated no significant overall sex differences. A further analysis using only pet owners indicated that females ($M = 39.6$) made more utterances than males ($M = 21.1$), $t(34)=2.12$, $p<.05$.

Intelligence ratings were correlated with different behaviors for the females and males. Female participants' intelligence ratings correlated positively with attribution of cat's thoughts ($r(22) = .48$, $p < .05$), self expression ($r(22) = .42$, $p < .05$), and number of greetings used ($r(22) = .44$, $p < .05$). Males' intelligence ratings were correlated only with fewer participant movements during the interaction ($r(19) = -.44$, $p < .05$).

The amount of time the cat spent in the interaction area was also related to participants' gender. For females, the percentage of time that the cat spent in the interaction area was positively correlated with ratings of how much they liked cats ($r(22) = .41$, $p < .05$). For males, cat's time in the interaction area was negatively correlated with the percentage of imperatives used during the interaction ($r(19) = -.45$, $p < .05$).

The data provide a baseline description of the verbal and nonverbal behaviors that occur when humans interact with an unfamiliar companion animal. Although males and females differ in their attitudes toward animals, there are not strong gender differences in speech directed toward animals. Instead, participant behaviors were associated with attitudes toward the particular animal. Additionally, the research suggests that animals may react to particular behavioral or speech cues.

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HEALTH BENEFITS FROM PETS: MEN AND WOMEN MAY DIFFER

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Evidence for the positive impact of animals on human health is derived from studies of long term health benefits and experimental and quasi experimental studies of short term health benefits (Friedmann, Thomas, and Eddy, In Press). Most of the studies have addressed cardiovascular health, while a few have examined other aspects of health and related behavior. Many of the short-term studies were conducted to elucidate possible mechanisms for the long-term benefits already found and to extend the scope of the investigation to other types of health benefits. Studies of contributors to cardiovascular health provide evidence that some psychosocial variables affect the health of men and women differently. It is also possible that the support provided by animals impacts human physiology directly, or as a stress-buffering agent, or both and in different ways in men and women. Examination of published research reveals that there are differences in documented health benefits from pets for men and women. The physiological benefits of animals demonstrated in the epidemiological studies occur largely for men. In contrast pre-menopausal women dominate the vast majority of the studies examining short-term effects of the presence of or interaction with animals on people's health. Implications of these findings and future research directions will be discussed.

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MEN, WOMEN, AND ANIMALS: CAREGIVERS AND CARE RECIPIENTS

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As the nation ages and efforts escalate to keep elderly, dependent relatives and friends in their own homes as long as possible, geographic separation and constraints of career and work increase strain on caregivers. More young-adult and middle-aged caregivers find themselves caught between demands from their parents, in-laws, children, and job responsibilities. Titled the "sandwich" generation and the "crowded nest" syndrome (Financial Health, 1997), they stagger under the burden of growing children as well as chronically ill or disabled older parents. Nearly 7 million people, predominantly family members, help care for ~22.3 million individuals who live at least one hour away, devote more than 35 hours a month to caregiving tasks, and provide at least 80 % of the home health care received by community-dwelling elderly persons (AMA Council on Scientific Affairs, 1993). This combination of factors creates a physical, emotional and social toll that ultimately impacting the caregiver's quality of life.

A large, multi-stage nonprobability, pilot study was conducted between September 1997 and May 1999, to determine major factors affecting the health, quality of life, and work performance of military and civilian caregivers. Specifically the physical, emotional, and social responses of families to caregiving strain and its resulting impact on various aspects of well-being. This paper reports the outcomes of the role of companion animals (CA) among caregivers, job retention, and health related quality of life. As part of this assessment, the potential usefulness of a companion animal as a social support to maintain or improve caregiver health and quality of life was evaluated. In doing so, data were compared by principal component analysis to determine whether the underlying dimensionality of the samples were consistent with the dimensions found in the development of LAPS.

Subjects enrolled in this arm of the study were drawn from self-selecting patients or family members from either (1) The Uniformed Services University of the Health Sciences [USU and three affiliated teaching sites; (n = 293)] involving uniformed service and civilian faculty/staff responding to an intramural mail questionnaire; and (2) a comparable sample drawn from a civilian site (n = 410). Data indicate that the sample is comparable to national demographics with respect to age, gender, and marital status. Subjects completed the Caregiver Strain and Social Support Inventory (CSSI), a 205 item, self-administered questionnaire which gathers data on demographic and job-related variables; Elder Concerns and Responsibilities; Caregiver Feelings (Center for Epidemiological Studies-Depression Scale [CES-D]; Caregiver Strain Index (CSI); Family Dynamics; and the role companion animals play in families. The Lexington Attachment to Pets Scale (LAPS) was utilized to determine emotional attachment of caregivers to their companion animal. Principal component analysis revealed two factors (general emotional attachment and people substitution) for the civilian cohort ($\alpha = .96$); the third factor from the LAPS study (rights and welfare of animals) did not emerge. In the military cohort, four factors were identified ($\alpha = .954$). Emotional attachment and people substitution along with two additional factors were found in the military sample. Factors three and four have been identified as "love and respect" and "pet photographs". The third factor "love and respect" is consistent with the homogenous lifestyle of commitment and traditional values of the military and we theorize that the fourth factor on "pet photographs" depicts an unwillingness to anthropomorphize the pet through companion animal photos outside the home. When the two samples were combined ($\alpha = .956$) the latter two factors were no longer evident.

PET THERAPY, AND PETS THEMSELVES, CAN BE EFFECTIVE AT STIMULATING SOCIAL INTERACTION AND PATIENT INITIATION OF BEHAVIOR

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Two of the goals of activities at long-term care facilities are to stimulate patients by involving them in social interaction, and to provide opportunities for patients to initiate behavior themselves, which reflects a patient's ability to maintain awareness of the environment around them and have some control over it.

In this study we compared the effectiveness of non-pet therapies (NPT: arts-and-crafts and snack bingo) with pet therapy (PT: interacting during open group sessions with a pet brought to the facility by volunteers from local shelters) at accomplishing both goals. We were particularly interested in whether one or the other type of therapy encouraged staff and others (such as the volunteers) to engage patients in social interaction, or was more conducive to patient's initiating social behavior. We also asked what role pets in pet therapy might play in stimulating social behavior as objects of interaction themselves (patients talking with and touching pets).

A total of 29 patients at 2 long-term care facilities in New Jersey provided data on rates of interaction and initiation of social behavior. The sample population was mostly female, and 25 of these subjects were women. Subjects were analyzed as 3 separate patient populations: alert patients who participated in both types of therapy (N = 10, analyzed with ANOVA with repeated measures), alert patients who participated in one or the other therapy type (N = 12, simple factorial ANOVA) and semi-alert patients who participated in one or the other therapy type (N = 7, simple factorial ANOVA). Subjects were observed continuously during 5-minute intervals, and only those subjects having at least 20 minutes of data per therapy session were included in the final analysis. Data were scored as frequencies and converted to rates per hour to facilitate comparisons across groups. The social behaviors that were scored were Brief Conversation, Long Conversation, and Touch.

Brief Conversations directed at people were more common during NPT than during PT, among all 3 patient populations. Staff/other and patients initiated at similar rates, both initiating more during NPT. However, when Brief Conversations directed at pets were included in analysis, both sets of alert patients during PT initiated brief conversations at significantly higher rates than did staff/others; including pets as an "other" to talk to made a difference. In the semi-alert group, both staff/other and patients initiated at similar rates.

Long Conversations were only directed at people, and there were significantly higher rates of this behavior during PT than NPT for the 2 alert populations. Staff/others were initiating at higher rates for one alert group (those who did both) but not for the other – there were similar rates of initiation by staff/others and by patients. There were no significant differences between therapies or initiators in the semi-alert group – there were similar rates of this interaction and of initiation.

Rates of Touch directed at people were uniformly low – less than 1 per hour – in both NPT and PT, across all 3 patient groups, whether initiated by staff/other or patients. However, when initiation of Touch directed at pets was included in the total rate, patient initiation during PT became significantly greater in all 3 patient populations, ranging from 4-6 touches per hour.

Pet therapy was as effective as or better than non-pet therapy at stimulating social interaction. In addition, having a pet available as a target of interaction increased the rate of social interaction and patient initiation, even among semi-alert patients. These findings provide evidence that pet therapy, helped by the pets themselves, can be an important addition to the activity roster at long-term care facilities, providing patients with opportunities for social interaction and initiation of behavior.

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