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# The Human–Animal Bond in Veterinary Medical Education: Accessing Web-Based Information

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## ABSTRACT

Various aspects of the field known as the human–animal bond (HAB), or human–animal interactions, have expanded within veterinary medical education over the past quarter of a century. Using a variety of databases and informed search strategies, relevant information can be accessed, including recent articles, databases, journals, academic centers, societies and associations, programs, and key references. In this paper, methods for accessing resources supporting veterinary education on the HAB are organized into four subject areas: the HAB in veterinary school curricula; social work and support services for veterinary clients; the benefits of the HAB for human well-being, with applications of animal-assisted therapies, activities, and education; and companion animal behavior and welfare concerns. A related Web site can be accessed at <http://www.vetmed.ucdavis.edu/CCAB/humananimalinteractions.html>.

**Key words:** human–animal bond, human–animal interactions, animal-assisted therapy, pet loss, social work, animal welfare, literature search, Internet resources

## INTRODUCTION

Since its rapid expansion in the 1980s, the academic discipline of the human–animal bond (HAB), otherwise known as the study of human–animal interactions, has been spearheaded and nurtured by the veterinary profession. Academic centers for scholarly research and teaching on the HAB have been established at veterinary schools. Initially, veterinary journals were the primary site for research publications, prior to the establishment of specialized journals such as *Anthrozoös*. Veterinary conferences, journals, and professional societies continue to be among the major sources of new information related to the HAB.

The veterinary profession has embraced and supported society's shifting perspective toward a view of companion animals as family members. From the 1980s, veterinarians incorporated and publicized their methods of providing more sensitive care to grieving families during and following the deaths of companion animals. They also began offering options for respectful body care of deceased animals, and referring clients to sources of support after the animal had died.

Also in the 1980s, protocols for conducting euthanasia became an ongoing topic of veterinary continuing education sessions and workshops. More recently, the concept of family-centered practice has become mainstream at many veterinary schools, where courses often give students hands-on practise in pet loss support and doctoring methods.

The HAB has become a specialized, interdisciplinary field of study. The veterinary profession continues to champion activities related to the HAB, and many of these directly pertain to veterinary practice. In this paper, we offer strategies for accessing published resources about the HAB.

## WEB RESOURCES SUPPORTING VETERINARY MEDICAL EDUCATION ON THE HUMAN–ANIMAL BOND

Accessing authoritative resources pertaining to the HAB remains challenging. Good resources are often submerged by the huge number of Web sites related to dogs and cats, and are spread across many disciplines. Here, we present methods that can be used to obtain efficient access to authoritative resources that support education on the HAB in a veterinary context.

We highlight the following four topics:

- The HAB in veterinary school curricula.
- Social work and support services for veterinary clients.
- The benefits of the HAB for human well-being: animal-assisted therapies, activities, and education.
- Companion animal behavior and welfare concerns.

Search strategies for each of these topics involve the use of search key words; databases; journals; academic centers, societies and associations; programs; and references. Searching by key words provides a starting point for identifying key resources on topics of high interest, making it possible to quickly access recent published work in various databases. Among the most easily accessible and relevant databases are PubMed, AGRICOLA, and Google Scholar. These large, complimentary databases are available worldwide.

Sponsored by the US National Library of Medicine, PubMed is a powerful resource that covers the human health research literature. The use of a group of key words offers immediate access to the newest references on a specific topic, which often include abstracts or even links to full-text manuscripts, depending on the journal and the access privileges of the user. Users can then easily modify and

adapt searches to their own interests, or explore related papers or papers by the same authors.

However, PubMed by no means covers all research. For certain purposes, other databases are more relevant. For example, the National Agricultural Library's AGRICOLA database offers better coverage of research pertaining to animals. Google Scholar searches journal articles, theses, books, and abstracts from many sources, and provides free access to some publications. Careful selection of the appropriate databases enhances the likelihood of locating relevant literature.

Other fee-based, proprietary databases are relevant for certain topics on the HAB. Users who are associated with universities and veterinary schools are likely to have access to many of these proprietary databases through the subscriptions of their institutions. For example, CINAHL (the Cumulative Index to Nursing and Allied Health Literature), PsycINFO, Wilson Social Sciences Abstracts, and Sociological Abstracts may yield fruitful information on topics related to social work. Web of Science is a broad scientific resource available by subscription. Anyone who has access to these additional databases can benefit from the greater coverage they offer on aspects of the HAB.

Sometimes, perusing a journal is productive. Just looking at the table of contents in a journal may turn up a useful resource. We suggest specific journals that have contributed to research in the various topic areas and that are likely to be productive; journals of general importance are *Anthrozoös*, the *Journal of Applied Animal Welfare Science*, *Society & Animals*, the *Journal of the American Veterinary Medical Association (JAVMA)*, and the *Journal of Veterinary Medical Education*. A search strategy that can be useful is to select one important paper and browse through the same journal for other papers of interest. Alternatively, Google Scholar or Web of Science can be used to locate recent papers that have cited an earlier paper that is central to the topic of interest. Effective searching of the literature is an art. It is wise to

partner with a librarian, who can point toward additional search strategies and resources.

Although books are not highly profiled in this paper, they are sometimes the best resources for quickly reviewing a subject. The Library of Congress (<http://catalog.loc.gov>) contains approximately 14 million records and can be easily searched by title, author, subject, or key word. The integrated catalogue of the British Library (<http://www.bl.uk>) may provide books with a more European perspective.

Most of the intellectual and practical work concerning the HAB in veterinary education occurs at academic centers or in specific programs. Research is often presented at society and association meetings. Reflecting increased professional interest in the HAB, new societies have been established (see Table 1). New specialized journals, including *Anthrozoös*, *Society & Animals*, and the *Journal of Applied Animal Welfare Science (JAAWS)*, now publish work pertaining specifically to studies of the HAB. Each of these journals and societies is a source of valuable information and contacts for anyone seeking to learn about the HAB. They can also facilitate the user in connecting with other institutions, facilities, and people who are doing work of interest.

### THE HUMAN-ANIMAL BOND IN VETERINARY SCHOOL CURRICULA

Some institutions have specialized in presenting aspects of the HAB in social work or veterinary school curricula, (see Table 2). In addition, veterinary schools have established programs that offer outreach and special care to clients, reflecting a growing awareness of the importance of companion animals in the mental and physical health of people. These programs have provided an excellent educational training ground for veterinary students as they take responsibility for programs as diverse as pet loss support hotlines and clinics for the well-being of animals of homeless people (see Table 2). Table 3 gives references pertaining to the HAB in veterinary schools.

**TABLE 1: Centers, societies, and associations that address the HAB**

Centers	Societies and Associations
Center for the Human-Animal Bond, Purdue University	American Association of Human-Animal Bond Veterinarians
Center for the Study of Animal Well-Being, Washington State University	American Veterinary Society of Animal Behavior
Center for Companion Animal Health, University of California, Davis	Association for Veterinary Family Practice
Center for the Interaction of Animals and Society, University of Pennsylvania	International Society for Anthrozoology
	Society for Veterinary Medical Ethics

**TABLE 2: Veterinary school centers and programs that specialize in presenting aspects of the HAB**

Centers	Programs
Argus Institute, Colorado State University	Tufts University Pet Loss Support Hotline
CENSHARE (Center to Study Human Animal Relationships and Environments), University of Minnesota	University of California, Davis, Pet Loss Support Hotline
Mercer Veterinary Clinic for the Homeless, University of California, Davis	University of Illinois CARE (Companion Animal Related Emotions) Pet Loss Helpline
Graduate School of Social Work, University of Denver	
School of Veterinary Medicine, Veterinary Social Work, University of Pennsylvania	

**Table 3: Selected bibliography—the human–animal bond in veterinary schools**

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Content regarding the HAB has gradually become mainstream within veterinary curricula. The evolving nature of these new curricula within many disciplines, including the humanities, biological basic sciences, and the health professions, explains the difficulty in finding convenient resources, and the challenges of searching the literature in this subject area. In addition to the mainstreaming of content on the HAB at veterinary schools, continuing education on the subject at veterinary conferences profiles its gathering momentum over the past 20 years.

### **SOCIAL WORK AND SUPPORT SERVICES FOR VETERINARY CLIENTS**

The concept that veterinary clients should be given caring support when grieving the loss, or impending loss, of a companion animal was a perspective brought to veterinary medicine by human health professionals who were working in a veterinary context. Early contributors to this activity were Susan Cohen, MSW, at the Animal Medical Center in New York and Jamie Quackenbush, MSW, at the School of Veterinary Medicine, University of Pennsylvania. Betty Carmack, RN, EdD, was retained to provide confidential support regarding animal death to laboratory animal workers at the University of California at San Francisco, and to lead a pet loss support group at the San Francisco Society for the Prevention of Cruelty to Animals.

At the University of California, Davis, Cecilia Soares, DVM, and Bonnie Mader brought their therapeutic skills as marriage and family counselors to the growing emphasis in California on providing pet loss support to veterinary clients through group meetings or hotlines. Currently, the University of Denver offers social work students courses related to the HAB and animal-assisted therapy.

A literature search for “social work in veterinary education” and for “veterinary client counseling” in PubMed using key word search terms will access many of the current research papers. Other databases that are useful for accessing research on social work are CAB International (CABI), CINAHL, ERIC (Education Resources Information Center), PsycINFO, Wilson Social Sciences Abstracts, and Sociological Abstracts. The journal *Social Work in Health Care* is particularly useful. The Argus Institute at Colorado State University and the Animal Medical Center in New York are two leaders in integrating social work and counseling into the veterinary hospital context.

### **THE BENEFITS OF THE HUMAN-ANIMAL BOND FOR HUMAN WELL-BEING: ANIMAL-ASSISTED THERAPIES, ACTIVITIES, AND EDUCATION**

Positive interactions with a companion animal can enhance a person’s quality of life, and this effect is being increasingly emphasized in veterinary medical education. Companion animals enrich daily experiences by adding humor, providing comforting social companionship and a motivation for exercise and participation, and enhancing cardiovascular health. The benefits of an improved quality of life can be felt by anyone; and the compensatory role of animals in enhancing the lives of vulnerable people has been documented at the various stages of the human life cycle from infancy through old age.<sup>1</sup> Searching PubMed using targeted

key words allows for efficient searching about the effects of pets on human well-being. Some useful phrases for searching on human well-being are benefits of human-pet bonding, child development and pets, health and pets, human-animal interactions, and human-animal interactions and aging. A refined search using MeSH terms is more sophisticated than these simple phrases, allowing the researcher to combine search terms so as to arrive at more relevant results.

Much of the research pertaining to the health benefits of having a companion animal focuses on people in vulnerable situations (e.g., those with a serious physical disability or Alzheimer’s disease). For these people, research has documented a compensatory role of the animal in substituting for aspects of life that may be lacking as the person’s life becomes more limited in terms of physical and social activities and in buffering the impact of adversity.<sup>2,3</sup> Reflecting the benefits of animals for vulnerable people, animals are frequently used on a visiting basis in nursing and assisted-care facilities. Some dogs are trained for animal-assisted therapy and are essentially used “full-time” in this regard. Service dogs, such as hearing dogs and seizure dogs, offer full-time assistance; psychiatric service dogs are often privately trained with assistance from the self-help Psychiatric Service Dog Society. Some search terms that are useful in a targeted PubMed search are AIDS, Alzheimer’s, animal assistance, autism, dogs and disabled persons, hippotherapy, psychotherapy, service dogs, and seizures. Additional databases that are relevant include AGRICOLA, CABI, ERIC, Google Scholar, PsycINFO, and Web of Science. Some journals of special relevance are *Anthrozoös*, *JAAWS*, *JAVMA*, *Nursing Research*, *Psychological Reports*, *Society & Animals*, and *Western Journal of Nursing Research*.

The HAB gained much of its early momentum from the participation of volunteers who took their companion animals into nursing homes for animal-assisted activities. Over time, more health professionals became involved in using animals as an aspect of treatment. At Green Chimneys, an organization that works with children with emotional, behavioral, and learning challenges in Brewster, New York, animals are the cornerstone of treatment throughout the facility, and internships provide opportunities for practical experience. The volunteer-led activities were initially termed “animal-assisted therapy,” but, over time, the terminology has become more specific, using the term “therapy” only when referring specifically to the use of animals as a prescribed aspect of treatment. Uses initiated by volunteers, or that are associated with recreation, are termed animal-assisted “activities.”

A primary resource on animal-assisted activities and therapies is the *Handbook on Animal-Assisted Therapy*, 2nd ed, edited by Aubrey Fine. As can be seen in the book, animal-assisted therapy and activities generally refer to the use of dogs, and sometimes other small mammals. The use of therapeutic animals often arises in the context of treating patients with a specific diagnosis, such as autism, Alzheimer’s disease, or epilepsy. People with some of these conditions acquire full-time help from assistance dogs.

Equine-assisted therapy, equine-assisted activities, and hippotherapy (equine therapy focused specifically on musculoskeletal challenges) have developed primarily as



separate endeavors from the therapeutic uses of dogs and cats, despite having a similar objective of helping people through the use of animals. People who work with horses require specialized skills, as well as specialized equine facilities and a somewhat targeted application of therapy for those with physical disabilities. Information on equine therapy is available from the American Hippotherapy Association and the North American Riding for the Handicapped Association.

Efforts in the United States have emphasized animal-assisted activities, but little educational material has been available concerning animal-assisted therapy led by health professionals. Few professional educational options have been available for gaining additional knowledge, training, and experience. Institutions developing curricula on animal-assisted therapy for health professionals can now apply for certification from the International Society for Animal-Assisted Therapy. Some professional specialization is occurring at institutions without veterinary schools, such as the University of Denver, where students in social work can focus their specialization on the HAB. Some institutions in Europe already offer such curricula. With the development of these curricula, the conceptual framework for treatment using animals will become more integrated with an overall approach to preparing health professionals and selecting appropriate treatments for people with specific conditions.

### COMPANION ANIMAL BEHAVIOR AND WELFARE CONCERNS

Seeking beneficial outcomes of relationships with companion animals is based on a presumption that the animal is well cared for, and that there are no serious behavior problems or conflicts with the animal. Optimizing the compatibility of the relationship and providing good care for the animal are the starting points of enjoying the relationship. PubMed, AGRICOLA, and Google Scholar are three complimentary databases that can be searched for animal behavior and welfare using terms such as: animal welfare and veterinary education, dog or cat relinquishment, dog or cat welfare, and ownership and pet behavior. Some useful journals are: *Animal Behaviour*, *Animal Sheltering*, *Applied Animal Behaviour Science*, *JAAWS*, *JAVMA*, and *The Veterinary Record*.

Veterinary curricula and continuing education have included instruction on companion animal behavior and problems for decades. Emphasis on welfare is currently growing, especially in the context of shelter medicine, and is being spearheaded by veterinary schools. Humane societies

have historically been advocates for welfare. Their efforts now are enhanced by research-based veterinary leadership.

### CONCLUSION

A broad knowledge base pertaining to the HAB is available to prepare veterinary students and practitioners to be more effective in working with their clients and their families to optimize relationships with companion animals, prevent or address problems early, provide support in special assistance uses of animals, and deal with an animal's death. The search approaches profiled here offer access to current research literature on these topics, and can facilitate making contact with others who have similar interests.

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