

HUMAN-ANIMAL INTERACTIONS : RESEARCH TRENDS AND EXAMPLES RELATION ANIMAL-HUMANS

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ABSTRACT : *The main subject of this conference is public health aspects of human's exposure to animals. In focusing on food-borne and zoonotic disease it may be easy to lose sight of the many, more positive aspects of our relationship with animals. This paper will give a brief account of the multiple ways in which humans' lives, cultures and health are affected and enriched by the presence of and relationships with other species, especially pets. Examples current research in the area of human-animal interaction will be highlighted.*

RESUME : *Le sujet essentiel de cette conférence correspond aux aspects de santé publique des contacts Homme-animal. En se concentrant sur les maladies alimentaires et les zoonoses, il est facile de perdre de vue les nombreux aspects nettement plus positifs de nos relations avec les animaux. Cet article va présenter rapidement les multiples façons par lesquelles la vie, la culture et la santé humaines s'enrichissent grâce aux relations avec les animaux, tout particulièrement les animaux de compagnie. Des exemples des domaines contemporains de la recherche sur les interactions Homme-animal seront mis en avant.*



1 - ASSOCIATIONS BETWEEN HUMANS AND ANIMALS

A recent publication, *The Waltham Book of Human-Animal Interaction: Benefits and Responsibilities of Pet Ownership*, highlights the wide range of topics that are being studied in this field and the various chapters provide a useful source of references [3, 8, 9, 10, 13, 18, 19]. This paper can only give the briefest overview of the multi-dimensional, complex influences of animals on the health and well-being of people.

Social anthropologists and historians have been fascinated with evidence that pet-keeping is not simply a recent, Western-societal phenomenon, but that it has existed for thousands of years [8, 19, 20]. Ancient societies found some benefit to interaction with animals beyond their use for food and religious rites [5]. Although keeping animals as

companions was considered unnatural in some societies, for others the inherent and beneficial link between man and nature was the driving force of their lives. Today, social anthropologists and psychologists are looking at the nature-culture gap as an explanation for many of the woes of our highly technical societies [7].

Therapists are finding that interactions with animals can be a beneficial adjunct to treatment of patients with conditions ranging from children with hyperactivity and attention deficits to adults with severe physical and mental handicaps. Pet-assisted programs and hippotherapy (therapy using horses) have been shown to produce excellent results.

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Service dogs are being used to assist not only the blind, but the deaf, and the physically disabled, including people with diseases like multiple sclerosis. Beyond the individual physical and psychological benefits of increased freedom and mobility, assessment of some service dog programs have shown them to significantly reduce health care and support costs [3].

Some very specific physiologic responses to animals have been shown, including lower systolic blood pressure and plasma triglycerides in pet owners than non-owners, among healthy subjects attending a screening service, prolonged survival in myocardial infarction patients, and reduced blood pressure in people petting an animal [9]. Psychological benefits have been explained in the context of the animal as stress reducer, companion and confidant. Animals have been described as providing social support and acting as a

social lubricant, facilitating human-human interaction [4, 8, 10].

Perhaps the multi-dimensional nature of the relationships of humans with other species is exemplified by the numerous disciplines of the people who have undertaken research and reflection on the subject. Anthropologists, sociologists, general, child and educational psychologists, gerontologists, ethologists, zoologists, nurses, doctors, veterinarians, behavioral therapists, animal trainers and many others have been active in the area. Not so long ago these different disciplines remained rather separated in their investigations. More and more the benefits to be gained from communication and collaboration are the focus of numerous international organizations and meetings which bring together multi-disciplinary groups with any interest in the very broad area of « human-animal interactions ».

II - RESEARCH ON HUMAN-ANIMAL INTERACTIONS

The title of the 7th International Conference on Human-Animal Interactions, held in Geneva in September 1995 was « Animals, health and quality of life ». A major aim of the conference organizers was to focus attention on the need for improved quality of research in the area and to promote interdisciplinary collaboration.

It must be acknowledged that the study of the « human-animal bond » was a field rooted in anecdote and subjective description. There was also a tendency towards confirmatory exploration rather than hypothesis testing. However, as research has started to include formal observational and experimental studies the importance of animals in the lives of humans has been supported. Various findings have led to a broadened view of how animals impact on humans and it has become evident that the effects are not limited to those situations where there is a « bond » (a close relationship). The simple presence and/or familiarity with animals seems to be important [4]. Some researchers (and philosophers) are exploring and expanding upon the concept of biophilia and the benefits of the contact and relationship of humans with all other living things, in the broadest sense [12].

Not only has the concept of interaction (the exposure) been broadened, the outcomes of human-animal relationships are being appreciated to be more complex. In general, we have started to realize that « health » can not be quantified simply on the basis of physiologic parameters and the occurrence of disease. Even the broad WHO definition of health «the condition of total mental, physical,

psychological and social well-being» is seen to not fully encompass what has been labeled « quality of life » (QOL) [21]. Research on measures and determinants of QOL is a crucial area in human medicine, sociology and other fields. It must also be the focus of work on human-animal interactions.

Given the complex and subjective nature of these interrelationships pure quantitative research methodologies are unable to fully explore the issues. Substantive qualitative research methodologies are available and continually being refined [6, 11]. The ideal strategy will likely be to capitalize on the strengths of both approaches. This will not necessarily involve really combining them (a subject of considerable controversy) but at least using them in appropriate situations. Perhaps by subdividing research questions to component parts which can be best addressed by specific qualitative and quantitative techniques, and then merging the results will allow us to more accurately study the complexities of health [14].

At the Ontario Veterinary College we have been involved in two projects addressing human-animal interactions. One used mainly quantitative approaches to health status measurement and looked at health benefits of pet ownership in the elderly [15, 16, 17]. The other, a study of owner grieving following pet death has used both qualitative and quantitative methods [1, 2]. Both projects involved multi-disciplinary research teams but were directed by faculty and graduate students in epidemiology.

III - PET OWNERSHIP AND HEALTH OF THE ELDERLY

An investigation of the impact of pet ownership on the health and health care use of community dwelling elderly people was done in Wellington County in the province of Ontario, Canada. Using records from the government health care system, 2702 elderly (age 65-80) were surveyed. In addition to completing a short survey they were asked if they would participate in a one-year longitudinal study, and for consent to access their health care records. Eventually 1054 persons were enrolled in the follow-up study.

Each subject was interviewed twice during the study period, using a standardized telephone-administered questionnaire. The questionnaire contained scales of activities of daily living (ADL), physical impairment, psychological well-being, family social support, non-family social support, number of chronic conditions, number of contacts with health care professionals, stressful life events, life style, demographic information and pet ownership and attachment. The scales in the questionnaire showed very high test-retest reliability and good validity.

Pet ownership was associated with an improvement in ADL after adjusting for demographic, life style and other health-related variables. There was no difference between dog-

and cat-owners. These findings agree with other work which suggests that it is not just the physical acts of, for example, walking a dog that are beneficial. Living with, and caring for an animal seems to have other subtle, or perhaps more complex, influences on the activities and health of elderly people.

Several important interactions of pet ownership with other variables were seen in our study. The deleterious effect of lack of social support in crisis situations was modified by the pet variable. Also, elderly people with poor non-family social support had more visits to health care professionals than those with good support and this increase was more pronounced in the non-owners of pets. These findings emphasize the complex pathways by which human-animal interaction can affect health and well-being.

The work described represented part of the doctoral thesis of Dr. Parminder Raina. Analysis of the number and type of health care visits, drug use and health care costs in owners and non-owners of pets is ongoing. Although we may be willing to accept the anecdotal description of the personal benefits of animal companionship from pet owners, any evidence of an economic benefit will have a much greater effect on health care policy.

IV - OWNER GRIEVING FOLLOWING PET DEATH

Another doctoral student in our veterinary epidemiology program is Cindy Adams. She has a background in social work. Her thesis will demonstrate the use of qualitative and quantitative methodologies to address a multi-faceted research problem. She has used Grounded Theory to develop a theory of owner grieving following pet death and then quantitative health status measurement strategies to generate and standardize an instrument to measure owner reaction (« grief ») and other factors following pet death. The findings of this work do not support the use of theories of human/human reactions to death as an adequate explanation for experience at the time of pet death.

Forty-five subjects were randomly selected from nine veterinary practices in Wellington County, Ontario, Canada. A repeated follow-up design was used. Subjects were interviewed between 1-21 days post-pet death, and again at 3,6 and 12 months. The methods of Grounded Theory were used to design the study and analyse the data. The results indicated that subjects used contextual cues (eg. how the veterinarian dealt with the death), societal and personal perception of the importance of animals, and personal and societal tolerance for reaction to develop an understanding of their experiences following the death of their pet. Subjects « search for meaning » in the experience was provoked not only by their personal views but also by perceived societal expectations and values. Many seemed

to struggle with the absence of well-accepted rituals relative to pet death, compared to those for human death. The intensity of grief was related, not only to degree of attachment to the pet, but also by other critical life events.

The research has identified a theoretical framework for us to better conceptualize and understand people's response to pet death. The information generated will help veterinarians to better understand some of the factors that affect people experiencing a pet's death. However, the variation of individual responses has highlighted the need to do formal, quantitative assessment of responses in a broader sample. This will be necessary to provide practical help to veterinarians and their clients, including identification and prediction of people at risk of a severe grief response. To address these issues, the standardized instrument has been developed and tested, and will be used in a larger study.

The qualitative study was crucial to identify the contextual, social/psychological, animal specific and other factors that are related to owner reactions to pet death. This assisted in item development for the quantitative instrument. Assessment of internal consistency and test-retest reliability of the questionnaire has further supported and refined the information from the qualitative portion.

Too often researchers leap to quantitative instruments in an effort to gather « hard » data and produce results. However, in so many health related situations we are seeing that « soft » factors, like attitudes and feelings may have an important bearing on the situation. Qualitative research

methodologies, appropriately and rigorously performed, may be necessary adjuncts to our traditional quantitative approaches if we want to successfully understand such complex human phenomena.

V - CONCLUSION

The two studies I have described are examples of research in the field of human-animal interactions. However, these are only two limited areas of study. The true and potential impact of animals in different societies, health care arenas, therapeutic interventions, and so on is a very broad topic. Through expanded multi-disciplinary collaboration we will continue to learn about the intricate webs of relationships among humans and animals and health and disease.

From the subtle and inherent benefit to humans of the existence of exotic animals in the wild to the very individual attachment of owner and pet, the relationships between humans and animals are diverse and multi-dimensional. It is important not to lose sight of the many and varied positive aspects of human-animal interactions when we are dealing with things like « hazards » and « risks » and « zoonotic potential ».

VI - BIBLIOGRAPHIE

1. ADAMS C.L., MEEK A.H., BONNETT B. ~ Social/psychological construction of meaning and self-governed grief. In: *Animals, Health and Quality of Life*, proceedings of the 7th International Conference on Human-Animal Interactions, Geneva. *Abstracts*, 1995, p 33.
2. ADAMS C.L., MEEK A.H., BONNETT B. ~ Development and pretest of a questionnaire to measure owner response following companion animal death. In: *Animals, Health and Quality of Life*, proceedings of the 7th International Conference on Human-Animal Interactions, Geneva. *Abstracts*, 1995, p 34.
3. BURCH M.R., BUSTAD L.K., DUNCAN S.L., FREDRICKSON M., TEBAY J. ~ The role of pets in therapeutic programs. In: *The Waltham Book of Human-Animal Interaction: Benefits and Responsibilities of Pet Ownership*, I. Robinson, ed. Elsevier, Oxford, UK, 1995, pp. 55-69.
4. COLLIS G.M. ~ Health benefits of pet ownership: attachment vs psychological support. In: *Animals, Health and Quality of Life*, proceedings of the 7th International Conference on Human-Animal Interactions, Geneva. *Abstracts*, 1995, pp 7-10.
5. DAVIS J.M., VALLA F.R. ~ Evidence for domestication of the dog 12,000 years ago in the Natufian of Israel. *Nature*, 1978, 276, 608-610.
6. DENZIN N.K., LINCOLN Y.S. ~ *Handbook of Qualitative Research*. Sage Publications, London, 1994.
7. DOKA K.J. ~ *Disenfranchised Grief: Recognizing Hidden Sorrow*. Lexington Books, Lexington, 1989.
8. ENDENBURG N., BAARDA B. ~ The role of pets in enhancing human well-being: effects on child development. In: *The Waltham Book of Human-Animal Interaction: Benefits and Responsibilities of Pet Ownership*, I. Robinson, ed. Elsevier, Oxford, UK, 1995, pp. 7-17.
9. FRIEDMANN E. ~ The role of pets in enhancing human well-being: physiological effects. In: *The Waltham Book of Human-Animal Interaction: Benefits and Responsibilities of Pet Ownership*, I. Robinson, ed. Elsevier, Oxford, UK, 1995, pp. 33-53.
10. HART L.A. ~ The role of pets in enhancing human well-being: effects for older people. In: *The Waltham Book of Human-Animal Interaction: Benefits and Responsibilities of Pet Ownership*, I. Robinson, ed. Elsevier, Oxford, UK, 1995, pp. 19-31.
11. JICK T.D. ~ Qualitative methodology. *Administrative Science Quarterly*, 1979, 24 (4), 602-611.
12. KATCHER A.H. ~ Tools for resolving contradictions in our knowledge about companion animals: space, context, behavior and biophilia. In: *Animals, Health and Quality of Life*, proceedings of the 7th International Conference on Human-Animal Interactions, Geneva. *Abstracts*, 1995, pp. 16-17.
13. MCNICHOLAS J., COLLIS G.M. ~ The end of a relationship: coping with pet loss. In: *The Waltham Book of Human-Animal Interaction: Benefits and Responsibilities of Pet Ownership*, I. Robinson, ed. Elsevier, Oxford, UK, 1995, pp.127-143.

14. MORSE J.M. ~ Approaches to qualitative -quantitative methodological triangulation. *Nursing Research*, 1991, 40 (1), 120-3.
15. RAINA P., WALTNER-TOEWS D, BONNETT B. ~ The impact of pet ownership on the functional transitions among elderly. In: *Animals, Health and Quality of Life*, proceedings of the 7th International Conference on Human-Animal Interactions, Geneva. Abstracts, 1995, p 84.
16. RAINA P., WALTNER-TOEWS D, BONNETT B. ~ Using administrative data bases to select a random sample of elderly to study human-animal interaction. In: *Animals, Health and Quality of Life*, proceedings of the 7th International Conference on Human-Animal Interactions, Geneva. Abstracts, 1995, p 85.
17. RAINA P., BONNETT B., WALTNER-TOEWS D. ~ Assessment of Reliability and Validity of a Multidimensional Health Status Questionnaire. In: *Animals, Health and Quality of Life*, proceedings of the 7th International Conference on Human-Animal Interactions, Geneva. Abstracts, 1995, p 86.
18. ROBINSON I. (Ed.) ~ *The Waltham Book of Human-Animal Interaction: Benefits and Responsibilities of Pet Ownership*. Elsevier, Oxford, UK, 1995.
19. ROBINSON I. ~ Associations between man and animals. In: *The Waltham Book of Human-Animal Interaction: Benefits and Responsibilities of Pet Ownership*, I. Robinson, ed. Elsevier, Oxford, UK, 1995, pp 1-6.
20. SERPELL J. ~ Pet-keeping in non-western societies: some popular misconceptions. *Anthrozoos*, 1987, 1 (3), 166-174.
21. WARE J.E., BROOK R.H., DAVIE, A.R., LOHR K.N. ~ Choosing measures of health status for individuals in general populations. *Am. J. of Public Health*, 1981, 71 (6), 620.