

Symposium

**METHODOLOGIES
IN ANTHROZOOLOGICAL
RESEARCH**

ISAZ

International Society for Anthrozoology

Tuesday, 21 July 1992

Queen Elizabeth Hotel, Montreal

Programme

Part 1: Invited Speakers

Chairperson: Lynette Hart

9.00 - 9.15:	Introduction	<i>Lynette Hart</i>
9.15 - 10.00:	Ethological methods for studying animals	<i>John Bradshaw</i>
10.00 - 10.45:	Quantity versus quality: the utility of using different approaches	<i>Andrew Rowan</i>
10.45 - 11.15:	COFFEE BREAK	
11.15 - 12.00:	Quality of life - defining the concepts	<i>Sam Ahmedzai</i>
12.00 - 12.45:	Quality of life - issues of measurement	<i>Erika Friedmann</i>
12.45 - 13.00:	Closing remarks	<i>Lynette Hart</i>
13.00 - 14.00:	LUNCH	

Part II: Free Papers

Chairperson: Dennis Turner

14.00 - 14.15:	Observational techniques used in the study of dominance relationships within two groups of Eskimo Husky dogs	<i>S M Wickens</i>
14.15 - 14.30:	Communication and dominance relationships in a dog pack	<i>William Netto</i>
14.30 - 14.45:	Attachment to cats	<i>Ruth Zasloff</i>
14.45 - 15.00:	The difficulties of evaluating psychological distress in guide dog owners at the end of a guide dog partnership	<i>Jill Nicholson</i>

15.00 - 15.30: BREAK

Chairperson: Nienke Endenburg

15.30 - 15.45:	Using the pet expectations inventory to predict pet rejection	<i>Carol George/ Aline Kidd</i>
15.45 - 16.00:	Perceived mental states of non-human species	<i>Harold Herzog</i>
16.00 - 16.15:	Methodological issues in a study of the relationship between pet ownership and the health and well-being of non-institutionalised elderly	<i>David Walter-Toews/ Brenda Bonnett/ Parminder Raina</i>
16.15 - 16.30:	Subject recruitment methods for a study of dog ownership, exercise and well-being	<i>S Grant/R Davison/ M Kelly/A Nash/ N Mutrie/L McKinnie/ H Dargie</i>
16.30:	Closing Remarks	<i>Erika Friedman</i>

PART I: Invited Speakers

Chairperson: Lynette Hart

Lynette Hart directs the Center for Animals in Society (CAS, formerly the Human-Animal Program) at the University of California, Davis. She conducts research concerning the socializing and lifestyle effects of animals for people and develops new curricula in the area of human-animal interactions. CAS pioneered a pet loss support group and the first pet loss support hotline. Hart serves as West Coast Editor for *Anthrozoos* and has authored numerous papers in the areas of human-animal interactions and animal behavior, and with Benjamin Hart co-authored "The Perfect Puppy: Selecting Your Dog by its Behavior" and "Canine and Feline Behavioral Therapy". In late 1991, Hart was also named director of the systemwide UC Center for Animal Alternatives that serves each of the UC campuses. This center promotes the use of alternatives to animals in research, teaching and testing. Two emphases are: teaching alternatives that avoid the repetitious and intrusive use of animals, and "the third R", refinement, that seeks to enhance the quality of life and comfort of animals.

Dr John Bradshaw

John Bradshaw graduated from Oxford University in 1972, and obtained his PhD at the University of Southampton in 1976. Following periods as a University Lecturer, and as a research manager at the Waltham Centre for Pet Nutrition, in 1987 he established the Companion Animal Behaviour Studies group at the University of Southampton. A founder-member of the International Society for Anthrozoology, he is currently its Secretary.

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Ethological Methods for Studying Animals

JWS Bradshaw

Dept of Biology, University of Southampton, Southampton, UK

Anthrozoology is a genuinely interdisciplinary science. Unfortunately, this can mean that it is fragmented along lines drawn up by its constituent disciplines, and therefore at the present time it tends to lack coherence. Before any genuine synthesis of ideas can emerge, it is necessary to take stock of those sciences, both natural and social, that can make a substantial contribution. When the focus is primarily on the animal, several approaches are possible. These include behavioural physiology, and experimental and comparative psychology, which ask mechanistic "how" questions about behaviour; "why" questions predominate in both behavioural ecology, which examines the functions of behaviour in relation to the immediate environment, and the evolutionary approach, which uses neo-Darwinian concepts to speculate on the origins of particular patterns of behaviour. In ethology, both "how" and "why" questions are considered; there is also a definitive emphasis on detailed observation of behaviour under natural conditions, often followed by experiments which involve small changes to those conditions, to test hypotheses which may have been generated from the original observations.

Within ethology, Tinbergen has defined four separate questions that can be framed about almost any piece of behaviour. These can be illustrated using the familiar occurrence of a dog that barks at an unfamiliar human.

1. In terms of **causation**. This may focus on internal factors, such as the influence of hormone levels on the tendency to bark, or external, such as the characterisation of the stimuli coming from the "stranger" that trigger barking
2. In terms of **development**. For example, the process whereby dogs learn to distinguish between their owner and stranger
3. In terms of **survival value or function**; the dog may bark in order to ward other members of its social group (which might include its owner)
4. In terms of **evolutionary history**. Since dogs in general bark much more frequently than wolves, it has been suggested that barking is a product of artificial selection by man.

Ethologists, with a few notable exceptions, have not shown any particular interest in companion animals, mainly because any answers to questions concerned with function and evolution (eg. 3 and 4 above) would inevitably refer to human behaviour, and would therefore be difficult to compare with those obtained from wild animals. Questions about causation and development are more easily dealt with; for example, the ethological concept of imprinting, originally developed from studies of waterfowl, has been modified to explain the process of socialisation of kittens and puppies to man, as well as to members of their own species.

The ethological study of the human-animal bond has tended to proceed in a piecemeal fashion. Comprehensive catalogues of discrete behaviour patterns for each species combination (eg. cat/man, dog/man), equivalent to ethograms, have not yet been published, and without these it is difficult to make comparisons between studies from different research groups. However, the stress that the ethological approach places on non-interventional observation has much to commend it. Ethologists also describe behaviour patterns in terms of the form that they take, rather than their presumed function; the very familiarity of

interactions between owner and pet increases the temptation to make instant and possibly erroneous judgements about their "purpose", and this problem can be circumvented using the ethological approach.

Other behavioural disciplines often have the appeal of generating concise data, at the expense of narrowing the questions that can be asked. However, the dangers of relying on a single experimental approach in the behavioural sciences have been graphically illustrated by the lengthy but ultimately sterile debate on animal intelligence, which occupied comparative psychology for half a century before its rescue by biological concepts. The effort involved in taking the ethological approach should not be underestimated, since observational studies usually generate vast amounts of data, requiring sophisticated statistical treatment before reliable conclusions can be drawn. However, observation of interactions in as natural a setting as possible will prove invaluable in framing the most appropriate hypotheses about human-animal interactions, whatever approach is used subsequently for providing the answers.

Andrew N Rowan

Director, Tufts Center for Animals and Public Policy, and Associate Professor, Department of Environmental Studies, Tufts School of Veterinary Medicine, N Grafton, Massachusetts. Editor of *Anthrozoos* from 1987 - present.

Received BSc (1968) from Cape Town University and an MA and DPhil (1975 - Biochemistry) from Oxford University. Worked for six months for Pergamon Press, Oxford before taking up a position with FRAME (Fund for the Replacement of Animals in Medical Experiments) in London promoting the concept of alternatives to scientists and scientific institutions. Moved to Washington, DC in 1978 to take a position with the Humane Society of the US as an Associate Director of the Institute for the Study of Animal Problems. Moved to Tufts School of Veterinary Medicine in 1983 and is responsible for teaching biochemistry and for the development of the School's programs on animals in society.

Author of *Of Mice, Models and Men* (1984), editor of *People and Animals Sharing the World* (1988), and of numerous articles in scholarly journals on animal research, alternatives, ethics of animal research, animal control and human-animal interactions. Member of the Boards of Directors of the Delta Society (Renton, WA), Scientists Center for Animal Welfare (Bethesda, MD), and Public Responsibility in Medicine and Research (Boston, MA). Recipient of AFS International Exchange Scholarship (1964), the Rhodes Scholarship (1968) and the Felix Wankel Prize for Animal Protection Research (Munich, 1980).

Quantity Versus Quality: the Utility of Using Different Approaches

Andrew Rowan

Tufts School of Veterinary Medicine

Research in the field of human-animal interactions is fraught with difficulties, not least being the tremendous enthusiasm for and the faith in the benefits of animals for human physical and psychological health. Such public enthusiasm usually produces a strong skeptical reaction from research scientists. The problem of skeptics versus believers is illustrated by reference to paranormal research.

Another difficulty (but also strength) is the multidisciplinary nature of the field which leads to communication problems and sometimes, as in the case of the dichotomy between qualitative and quantitative research, clashes of scientific culture. The field badly needs both qualitative and quantitative approaches and we cannot afford to overlook either.

Dr Sam Ahmedzai BSc MB ChB MRCP

Dr Ahmedzai is Medical Director of the Leicestershire Hospice, England. He graduated in Medical Sciences (Physiology) and Medicine, from the Universities of St Andrews and Manchester. He is Chairman of the Research Committee of the European^{*} Association of Palliative Care (EAPC). Dr Ahmedzai has long been involved in the practical aspects of animal-assisted therapy in the hospice setting. He is Chairman of the Society for Companion Animal Studies (SCAS). He has been elected as first President of the International Association of Human-Animal Interaction Organisations (IAHAIO).

Quality of Life - Defining the Concepts

Sam Ahmedzai

The Leicestershire Hospice, UK

In thinking of 'quality of life' (QL), we should first ask ourselves - 'Which aspects of life are we considering?'. The possibilities include -

- Health
- Economic
- Political
- Spiritual values.

Even when focusing onto 'health-related QL', we can identify many domains which are distinct (but may interact with each other) -

- Physical (including symptoms, mobility, functioning)
- Psychological (including mood states, mental disturbances)
- Social (including role functioning, occupational and economic issues)
- Spiritual (including feeling of contentment, control, self-esteem).

A common reason for studying QL is to compare 'quality' with other traditional or more objective endpoints -

- Quality versus quantity (survival) - especially the notion of 'quality-adjusted life years (QALYs)
- Quality versus costs.

The important questions to be considered in planning a QL study are -

- What to measure? (which domains; global versus specific issues; index versus profile)
- How to measure? (standardised versus personalised approach)
- What to use? (interview versus questionnaire; types of questionnaire)
- Whom to ask? (eg in health study - patients, family and lay carers, professional carers)
- When to measure? (timeframe of questions; repeat measures; changing baseline in sick populations)

Finally, in the context of anthrozoological research -

- What about QL of animals?

Erika Friedmann

Erika Friedmann is Professor of Health and Nutrition Sciences at Brooklyn College of the City University of New York. She received her PhD in biology from the University of Pennsylvania in 1978. Her research interest centers on the interactions of social, psychological, and physiological factors as determinants of health. Dr Friedmann's classic work on pet ownership and survival of coronary heart disease patients provided some of the first scientific evidence of the direct health benefit of pets. Since that time she has continued researching the role of pets as mediators of stress as well as other aspects of the roles of social and psychological factors in blood pressure, hypertension and heart disease.

Quality of Life - Issues for Measurement

Erika Friedmann

Dept of Health and Nutrition Sciences
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Within anthrozoological research the breadth of disciplines addressing problems often leads to diverse methods for assessing similar issues. When assessing both the human and animal component of the interaction between people and animals, it is crucial to utilize tools that provide useful assessments of the various characteristics or behaviours that are being studied. While I will be specifically addressing issues involved in assessing 'quality of life, these issues are equally pertinent to the assessment of the many behaviours or constructs involved in anthrozoological research.

Measurement is crucial to the successful completion of all studies. No matter how well conceptualized a study is from a theoretical or practical perspective, if the factors or variables of interest are not measured in an appropriate manner, the results will not be meaningful and therefore can not provide a basis for future research, practice, or theory development.

Quality of life inherently includes a broad range of perspectives including physiological, behavioral, social, and psychological. Therefore measuring quality of life includes assessment of a variety of components drawn from a variety of disciplines each with its own traditions of measurement.

As in measuring any construct, the first and most important step in measuring quality of life is defining it. Dr. Ahmedzai addressed defining QOL within the context of the study. Without agreement on the definition of QOL you cannot proceed to measuring QOL.

There are often many ways of measuring a given construct. It is important to choose a method of assessing quality of life that is congruent with the definitions that have been chosen. For example measures of quality of life range from measurements of activities of daily living to patients' perceptions of the degree of compromise they experience in their social functioning.

Measurement issues that are important in choosing tools for assessing quality of life include:

- 1) Appropriateness of the tool for use with the population being studied. This must be addressed from both theoretical and practical standpoints. Is the method of administration appropriate for your study and population?
- 2) Scale of measurement. Will the measurement have enough of a range and allow for sufficient variability within the population to yield useful and meaningful results?
- 3) Reliability or Reproduceability of scores. Will the measurement method provide consistent results over a long term and/or within the instruments itself?
- 4) Validity. How completely does the measurement cover the agreed-upon definition?

These issues are important considerations no matter what physical form the measurement takes - questionnaire, interview, or field research.

For quality of life, and other multifaceted constructs, often there is not one simple tool available to assess all aspects covered. It may be necessary to use several tools to address various aspects of the definition and/or to develop new tools.

In order to use a new or modified measurement it is necessary to go through the credentialing process. Even simple manipulations such as altering the order of the questions or method of administration can have significant impact on the responses and thus on the usefulness of the results. Pre-testing any revised, condensed, reworded, or reformatted instrument is crucial. Without establishing the reliability the tool could produce meaningless data.

Even after the specific tools and methods of measurement are decided upon, additional issues related to measurement need to be addressed. It is important to train the researchers to standardize their approaches and methods.

While these approaches may seem overly rigorous or structured, they are the only way of assuring that the research conducted will be generalisable and replicable.

Within the context of anthrozoological research, many interesting questions about the interactions between people and animals center around quality of life issues.

A broad variety of the issues of interest in the value of pets for people can be addressed by examining the contribution of animals to individuals' quality of life. Researchers are addressing whether interaction with animals has value for quality of life in a variety of populations and at many life stages. Assessment of quality of life within each context requires careful consideration of the subject population. Quality of life in compromised populations can be particularly difficult to assess. Chronic disease and aging processes often involve deterioration in quality of life over the long term. Contact with animals would be expected to be associated with slowed deterioration of quality of life. Serial assessments of quality of life should provide much sought-after evidence for the benefits of pet ownership or animal assisted therapy programs.

PART II: Free Papers

Chairpersons:

Dr Dennis Turner

- President of the Konrad Lorenz Kuratorium, IEMT-Switzerland
- Head of the Pet Ethology Group, Zoology Institute, University of Zurich
- Director of the Private Institute for Applied Ethology and Animal Psychology in Switzerland
- Chief Counsellor, Animal Behaviour Therapy Office, Veterinary Clinic of the University of Zurich

Dr Nienke Endenburg

Nienke Endenburg was born in Rotterdam in 1962. She completed her university training in child psychology at the University of Utrecht in 1987. She received her PhD for the thesis "Animals as companions. Demographic, motivational and ethical aspects of companion animal ownership", in 1991, from the Department of Clinical Sciences of Companion Animals, at the University of Utrecht. Since 1991 she has been doing research on the influence of dogs on the development of children. She works together with a multidisciplinary research team consisting of veterinarians, psychologists, a methodologist and an ethicist. Nienke Endenburg is a Waltham Post Doctoral Fellow.

Observational Techniques Used in the Study of Dominance Relationships Within Two Groups of Eskimo Husky Dogs

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Southampton UK

Interactions that occurred within two groups of Eskimo Husky dogs were recorded in an ad-hoc manner, using a hand-held video recorder. As many of the group, as was possible, were included in the field of filming at any one time.

Using the video tapes each individual dogs interactions with every other member of the group were noted down. Each dog in turn was nominated the focal animal and its behavioural interactions were recorded. By using video this focal sampling was simultaneous, as distinct from the more common sequential sampling used in pen and paper field observations. Several different measures of interactivity were recorded. These included:

- a) Displacements given out to, and received by, an individual with the other members of the group;
- b) Scans every five minutes recording the activity/inactivity of each of the group members and the dogs who were their closest neighbours;
- c) The frequency with which each dog showed a range of behaviours, drawn from a simple ethogram, towards others within the group;
- d) The recording of the initiators and terminators of any interactive behavioural sequence

Using these measures the presence or absence of coalitions, the exact nature of individuals dyadic relationships with the other group members, and the quality and quantity of the behaviour individuals show can be determined. Some of these measures produce contrasting results for some of the group members. Individual differences in the quality of interaction have been detected within both Husky groups. Observations of this kind can also be used to determine the position of the human owner, and strange humans, in the social structure of the group.

Communication and Dominance Relationships in a Dog Pack

William J Netto, Joanne van der Borg and Jurriaan Slegers
Dept of Comparative Physiology
Sub-Dept of Ethology and Socio-ecology
University of Utrecht, Netherlands

Behaviour, especially agonistic and play behaviour were observed in a pack of 16 dogs in an outdoor enclosure of 270 square meters. The "posture" aspects (body, tail and ear position) were scored separately from the other aspects of behaviour. Seven postures and 75 behaviour elements were analysed. To study the rank positions the data were split up in three periods. We investigated the role of 7 different postures (including "neutral"). In one third of the actions the dogs show "neutral position"; the extreme postures, "low", "lock-on-back", "high", are shown in only 3.5% of the actions. In 16.1% of the interactions both partners show the "neutral posture". These results indicate that in most interactions, postures containing potential dominance information, are shown. To answer the question: are behaviour elements associated with specific postures, the frequencies of associations between all behaviours and all postures have been analysed. The results show that although most behavioural elements are shown in combination with different postures, most postures are significantly associated with only one or two postures.

Different grouping methods were used to analyse the motivational associations between behaviour patterns.

Average linkage cluster analysis of 75 behaviours related to rank positions showed 4 main clusters with 13 "sub-clusters". For grouping behaviour elements also principal component analysis was used. Analysis resulted in 6 meaningful factors: (1) dominance/aggression, (2) submission/fear/fear-aggression, (3) solitary behaviour, (4) active submission, (5) dominance and (6) fear in "complex interactions".

To determine dominance relationships several methods were compared. For "postures" and "winner-scores" unidirectionality, bidirectionality (direction consistency) and blank relationships were determined to analyse the usefulness of different parameters for the determination of dominance relationships. The results of the unidirectionality-index (U-index) and dominance-index (D-index) are compared for different parameters.

Apart from the themes mentioned above we studied several other aspects: we used c.g. principal component analysis to characterize different types of dogs on basis of behavioural test, heartrate and the opinion of the owners of the dogs.

Attachment to Cats

Ruth L Zasloff, Ph.D.

Center for Animals in Society
School of Veterinary Medicine
University of California, Davis

This presentation will focus on methodological issues in the development of an instrument for measuring attachment to cats. With the growing interest in the study of relationships between people and companion animals, much attention has been given to the phenomenon of attachment. Many studies of human-animal interaction have suggested that the potential physical, psychological and social benefits of relationships with companion animals may depend upon the degree of attachment to the animal rather than upon pet ownership per se. As a result, a number of instruments have been developed in recent years that attempt to measure the strength of attachment to a companion animal. However, the instruments that exist to date have focused either on behaviour and interaction that pertain primarily to dogs or that are of a very global nature. At the present time there are no measures that address the particular attributes of cat behaviour that are likely to have an impact on human-cat attachment. Because cats are now the most commonly owned companion animal in the United States, it is important better to understand the unique nature of those factors that contribute to the human-cat bond.

The Difficulties of Evaluating Psychological Distress in Guide Dog Owners at the End of a Guide Dog Partnership

Jill Nicholson
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With the support of Guide Dogs for the Blind (GDBA), a survey was undertaken as part of an MSc course in Research Methods in Psychology at Reading University (UK), to study the reactions of Guide Dog Owners (GDOs) to the end of a working partnership with a Guide Dog.

All GDOs attending Regional Training Centres for replacement training during the first three months of 1991 were invited to take part in questionnaire interviews. Reactions were assessed on two rating scales: the Goldberg General Health Questionnaire (GHQ-28) and a specially developed Grief Rating Scale. Both scales discriminated effectively between GDOs experiencing mild and intensive reactions to the end of a partnership. Discriminating factors were the different reasons for which a partnership may end (dog died, retired, or was withdrawn from the partnership), and the arrangements for the dog when it finished work (kept as pet, re-homed by GDO, returned to GDO, returned to GDBA).

Preliminary enquiries had revealed how very upsetting the end of a partnership could be. One of the major challenges of the study design was to construct a questionnaire which would elicit quantifiable information, yet allow for the expression of the associated personal feelings within a controlled and supportive framework. The Questionnaire had to meet three requirements: it had to have theoretical validity in terms of the MSc. requirements, practical validity in terms of GDBA policy and procedures, and personal validity in terms of its relevance to how GDOs feel at the end of a partnership. There were additional problems in designing this type of questionnaire for unsighted respondents.

Using the Pet Expectations Inventory to Predict Pet Rejection

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California CA 94613

Although two years is now the average length of stay of a pet in an American home and spaying and neutering programmes have helped reduce the number of unwanted dogs and cats, 17% of all pets will be taken to a shelter and millions will still be euthanized each year. To help alleviate this problem, and as a method for determining which pet-adopting adults will retain and which will reject a pet, Kidd, Kidd & George (1992) collected demographic data from and administered the Pet Expectations Inventory (PEI) to 120 male and 223 female pet adopters in the San Francisco Bay area. Telephone follow-ups six months after adoption ascertained whether the adopted pet had been retained or rejected.

The the 2-part PEI, Part I measures the adults' expectations for roles pets will play in their own lives, and Part II measures the parents' expectations for roles pets will play in their children's lives.

A factor analysis showed an emotional factor, accounting for 52.5% of the variance, and a physical factor, accounting for 13.5% of the variance, in adults' self-expectations. Analysis of parents' expectations for their children showed a single global factor accounting for 61.4% of the variance.

A stepwise method discriminant analysis showed a Wilks Lambda of .833, and the Chi squared was 21.42, $p = .003$. The analysis demonstrated that the most important adult predictors for retention among the quantified variables were the adopter's Age, and expectations that the pet would be a Playmate, Companion, Source of Laughter, and a Provider of Emotional Support and that the most important predictors for rejection among parents' expectations for their children were Keep Children Busy and Teach Children Love. A comparison of predicted membership in the retainer or rejecter group showed that 72.6% of Ss predicted to be retainers did retain and 71.4% of predicted rejecters did reject; 72.4% of the Ss were correctly classified.

Although the PEI does make a significant contribution to the prediction of pet rejecters, certain demographic variables must be added: Adopter's Age, Gender, Marital Status, and Parenting Status. Older adults, females, unmarried adults, and non-parents tend to retain pets more than do younger adults, males, married adults, and parents. Too, more dogs than cats are rejected.

Perceived Mental States of Non-Human Species

Harold A Herzog

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The moral status of a species depends, in part, on the degree that it is seen as being "sentient" (ie, capable of experiencing mental states), and it is the perceptions of a species capabilities rather than scientific information on its abilities that influences attitudes towards the ethics of its use. A scale was developed to measure perceptions of the following characteristics of 18 animal species: ability to experience pain, consciousness, emotions, ability to reason, suffer, be self-aware, and show affection toward humans. Items were also included to assess perceived attractiveness of each species, how much moral consideration it deserved and how much it was "liked". The scale, along with a questionnaire designed to measure attitudes toward animal welfare issues, was given to 170 college students. Factor analysis indicated that the items fell into three factors; a factor pertaining to the perceived cognitive abilities of the species, a factor related to "affective" characteristics, and a factor related to the ability to feel pain and be deserving of moral consideration. The perceived abilities of the different species will be presented along with data relating attributed mental characteristics to attitudes toward animal welfare.

Methodological Issues in a Study of the Relationship Between Pet Ownership and the Health and Well-Being of Non-Institutionalised Elderly

David Walter-Toews, Brenda Bonnett, Parminder Raina
Dept of Population Medicine, Ontario Veterinary College, University of
Guelph, Guelph, Ontario

We are doing a study of the relationship between pet ownership and the health and well-being of non-institutionalized people over 65 years. The two main areas of concern methodologically are:

- 1) at the design stage we are concerned about the confounding effects of factors such as health status prior to the study, nutrition and lifestyle factors and temporal relationships (which came first, the health or the pet); we are also struggling with the appropriate measures of health in this population;
- 2) at the implementation stage, our concerns have to do with the problems of linking existing databases from hospitals and government health and drug insurance plans, as well as determining the most effective ways to elicit different kinds of information from the participants directly.

Over the past year, we have very carefully and patiently built up good will between ourselves, the User Support Services and the computer systems people in the provincial government health insurance plan (OHIP), which includes all nine million residents of the province of Ontario. As a result of this goodwill, OHIP has made the unprecedented offer to us to do an age- and sex-stratified random selection of people over 65 in our country, mail our questionnaire and consent form to 4000 people and provide seven years worth of computerized data on people who agree to participate. This will involve linking of drug plan, hospital and physician-based databases, and will provide us with both retrospective and prospective data on the participants.

Over a period of one year, we will also be visiting a subset of the larger study population to obtain more detailed information on nutrition, health and health perceptions, and, for pet owners, pet attachment. This study will not only be valuable in and of itself, but, even more importantly, will provide the basis for more co-operative research in the years to come. This research is being supported by a Waltham Fellowship.

Subject Recruitment Methods for a Study of Dog Ownership, Exercise and Well-Being

SJY Grant, RCR Davison, MPT Kelly, AS Nash, N Mutire, L
McKinnie & HJ Dargie

Depts of Physical Education & Sports Science,
Public Health & Veterinary Medicine,
University of Glasgow & Cardiology,
Glasgow Western Infirmary

This study was designed to assess the effects of a walking programme on dog owners and non-dog owners using selected physiological and psychological variables. Target numbers for the study were 40 dog owners, 40 non-dog owners and 20 controls. Subjects were male, aged 40 - 60 years, and sedentary, i.e. did not walk briskly for more than 60 minutes per week.

Initially, subject recruitment was attempted by letter to 1218 randomly selected subjects, via the Electoral Register, in the 21 polling districts nearest to the University. This yielded only 39 subjects of whom very few were dog owners. Other strategies were tried: letters to a random sample of clients in the University Veterinary School database and also to subjects previously recruited to a completed health promotion study; advertisements and features in the University Newsletter, local and national newspapers and on radio; posters in veterinary surgeries, libraries, Regional Council offices; and personal contact at supermarket dog food counters and dog clubs. By these methods, the target numbers were eventually attained over an 8 month period.

The percentage contribution of the various recruitment methods to the subject numbers is shown in Figure 1. One hundred and five subjects were rejected for a variety of reasons and of these, 57.7% of dog owners and 37.7% of non-dog owners were rejected as being "too active".

The results show that recruitment of subjects for a study involving dog owners and non-dog owners is difficult. Some recruitment methods are more cost effective in terms of time and money than others. The dog owners were apparently more active than the non-dog owners.

The generous support of this project by the Waltham Centre for Pet Nutrition is gratefully acknowledged.