
Anthrozoology

Research in Human-Animal Interaction

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Contents

"Forward!" The experience of a new guide dog owner	1
"Forward!" The experience of a new guide dog owner	1
"Human-animal bonds in the laboratory: how animal behavior affects the perspectives of caregivers."	1
A Bird in the House: An Anthropological Perspective on Companion Parrots	1
A Case for a Naturalistic Perspective	2
A case series of biting dogs: characteristics of the dogs, their behaviour, and their victims	2
A comparison of dog-dog and dog-human play behaviour	3
A counterbalanced version of Ainsworth's Strange Situation Procedure reveals secure-base effects in dog-human relationships.	3
A dog and a "happy person" visit nursing home residents	4
A friend or an enemy? Dogs' reaction to an unfamiliar person showing behavioural cues of threat	4
A friendly dog as potential moderator of cardiovascular response to speech in older hypertensives.	5
A game of cat and house: spatial patterns and behavior of 14 domestic cats (<i>Felis catus</i>) in the home	5
A global survey of the human-animal bond.	5
A long-term study of elderly people in nursing homes with visiting and resident dogs	6
A magical dream: a pilot project in animal-assisted therapy in pediatric oncology.	6
A pet for the children: factors related to family pet ownership	7
A pet therapy intervention with geriatric psychiatry inpatients	7
A qualitative study of the attitudes of members of a developing community towards their dogs and veterinary services	8
A quantitative study of the attitudes of members of a black developing community towards their dogs and veterinary services	8
A review of the housing requirements of domestic cats (<i>Felis silvestris catus</i>) kept in the home	9
A review of the roles of pet animals in psychotherapy and with the elderly.	9
A study of animal companionship in a day hospice	10
A survey of attitudes toward responsible pet ownership	10
A survey of public opinion on the actual condition and the requirement for animal assisted relaxation activity	10
A survey of teaching and implementation: the veterinarian's role in recognizing and reporting abuse	11
A telephone survey on attitudes of pet owners and non-owners to dogs and cats in Belgian cities	11
A view from the bridge: Subjectivity, embodiment and animal minds	11
ABC of asthma. Precipitating factors	12
About anthrozoology	12
Actions Speak Louder than Words: Close Relationships between Humans and Nonhuman Animals	12
African American women's experiences with physical activity in their daily lives	13
AIDS diagnosis and depression in the Multicenter AIDS Cohort Study: the ameliorating impact of pet ownership	13
An epidemiological study of animal bites in India: results of a WHO sponsored national multi-centric rabies survey.	13
An experimental study of the effects of play upon the dog-human relationship	14

An exploration of the potential benefits of pet-facilitated therapy.	14
An exploration of the potential risks associated with using pet therapy in healthcare settings	14
An exploratory model of dog disciplining	15
An exploratory study of the effect of animal-assisted therapy on nonverbal communication in three schizophrenic patients.	15
An investigation of human-animal interactions and empathy ... in children	16
An overview of types of aggressive behaviour in dogs and methods of treatment	16
And Then the Dog Died	17
Animal - assisted therapy enhances resident social interaction and initiation in long-term care facilities	17
Animal -assisted enhancement of speech therapy: a case study	18
Animal -assisted enhancement of speech therapy: a case study	18
Animal assisted activities and therapies in Italy: proposed guidelines.	19
Animal assisted activities for geriatric patients	19
Animal assisted therapy and the individual with spinal cord injury	20
Animal bite epidemiology and surveillance for rabies postexposure prophylaxis	20
Animal companion programs offer benefits to residents	20
Animal illness and human emotion. Cardiac disease	21
Animal problems /people skills: Emotional and interactional strategies in humane education	21
Animal status as a response to pet owner experience	21
Animal welfare: concept and related issues	21
Animal-assisted therapy - magic or medicine?	22
Animal-assisted therapy ameliorates anhedonia in schizophrenia patients. A controlled pilot study	22
Animal-assisted therapy and depression in adult college students.	22
Animal-assisted therapy and nutrition in Alzheimer's disease	23
Animal-assisted therapy for children with pervasive developmental disorders	23
Animal-assisted therapy for elderly schizophrenic patients: a one-year controlled trial:	23
Animal-assisted therapy for middle-aged schizophrenic patients living in a social institution. A pilot study	24
Animal-assisted therapy in psychiatric rehabilitation	24
Animal-assisted therapy in the intensive care unit. A staff nurse's dream comes true	25
Animal-assisted therapy with adolescents in a psychiatric facility:	25
Animal-assisted therapy with hospitalized adolescents	25
Animal-assisted therapy. "Ruby goes to school" (September 23)	25
Animal-Assisted Therapy: A Meta-Analysis	26
Animal-assisted therapy: the human-animal bond	26
Animal-related activities and appreciation of animals among children and adolescents	26
Animals & modern cultures: A sociology of human-animal relations in modernity.	27
Animals and Cardiovascular Health	27
Animals and their masters. Psychological and psychopathological aspects	27
Animals helping people -- people helping animals: interview with Kathryn Gress:	27
Animals helping people. People helping animals. Interview by Shirley A. Smoyak	28
Anthropomorphic tendencies among pet owners and non-owners	28
Anthropomorphism and anthropomorphic selection--beyond the "cute response"	28
Anthrozoophilia" as a predictor of empathy	28
Are Pets a Healthy Pleasure? The Influence of Pets on Blood Pressure	29
Assistance dog placement in the pediatric population: Benefits, risks, and recommendations for future application	29
Association with companion animals and the expression of noncognitive symptoms in Alzheimer's patients	30
Attachment of people to companion animals	30

Attachment styles impact on pet visitation effectiveness	30
Attachment to feline companions	31
Attachment to humans: a comparative study on hand-reared wolves and differently socialized dog puppies.	31
Attachment to livestock and attitudes toward large carnivores among sheep farmers in Norway	31
Attitude to Animals and Empathy: Comparing Animal Protection and General Community Samples	32
Attitudes and activities related to urban wildlife: Pet owners and non-owners	32
Attitudes of paediatric medical ward staff to a dog visitation programme	33
Attitudes toward animals among Norwegian children and adolescents: species preferences:	33
Attitudes towards animal use and belief in animal mind	34
Attitudes towards animals in a small Caribbean city: A case study from Roseau, Dominica	34
Attitudes towards assistance dogs in Japan and the UK: a comparison of college students studying animal care	34
Attitudes towards dogs and other "pets" in Roseau, Dominica.	35
Attitudes towards dogs: a study of university students in Japan and the UK	35
Behavior and cortisol levels of dogs in a public animal shelter, and an exploration of the ability of these measures to...	35
Behavioral and physiological responses of guide dogs to a situation of emotional distress	36
Behavioral effects of the presence of a dog in a classroom	36
Behavioral effects of the presence of a dog in a classroom	37
Behaviors and Attitudes towards Semi-Owned Cats	37
Behaviour test for eight-week old puppies - heritabilities of tested behaviour traits and its correspondence to later behaviour	37
Behavioural testing of dogs in animal shelters to predict problem behaviour	38
Behavioural, household, and social problems associated with companion animals: opinions of owners and non-owners	38
Behavioural, saliva cortisol and heart rate responses to different types of stimuli in dogs	38
Beneficial and adverse effects of pets	39
Beneficial effects of pet ownership on some aspects of human health and behaviour	39
Benefits and liabilities of pets for the homeless	39
Benefits derived from companion animals, and the use of the term "attachment".	40
Benefits of Interacting With Companion Animals	40
Benefits, problems, and characteristics of home aquarium owners	40
Book review: Review of pets and our mental health: the why, the what, and the how	41
Bumblefoot and lack of exercise among wild and captive-bred falcons tested in the United Arab Emirates	41
CALL FOR PAPERS: Animals & Society II	41
Can a week of therapeutic riding make a difference?--A pilot study	42
Canines in the classroom: Raising humane children through interactions with animals.	43
Cardiovascular effects of human-pet dog interactions	43
Cardiovascular reactivity and the presence of pets, friends, and spouses: the truth about cats and dogs	43
Case studies of adults receiving horse-riding therapy	44
Cat Therapy	44
Cats as a risk for transmission of antimicrobial drug-resistant Salmonella	45
Characteristics and motives of adolescent volunteers in wildlife education:	45
Characteristics and motives of volunteers in wildlife rehabilitation	46
Characteristics of nursing homes: adopting environmental transformations	46

Characteristics, treatment, and outcome of 99 cases of aggression between dogs	46
Child development and the human-companion animal bond	47
Childhood asthma at Kenyatta National Hospital, Nairobi	47
Childhood Cruelty To Animals: Assessing Cruelty Dimensions And Motivations	47
Childhood experiences and attitudes towards animal issues: A comparison of young adults in Japan and the UK	48
Childhood origins of supernurturance: the social context of early humane behaviour.	48
Children with pets do not show higher empathy: A challenge to current views	49
Children's Attitudes About The Humane Treatment Of Animals And Empathy: One-Year Follow Up Of A School-Based Intervention	49
Children's attitudes toward their pets	50
Children's drawings and attachment to pets	50
Children's representations of pets in their social networks	50
Co-operative interactions between blind persons and their dogs	51
Companion animal demographics and sterilization status: results from a survey in four Massachusetts towns	51
Companion animal illness and human emotion. Historical overview	52
Companion animal issues and the physician	52
Companion animal separation and loneliness.	52
Companion animals and adaptation in chronically ill children	53
Companion animals and human health	53
Companion animals and human health: an overview	53
Companion animals and persons with dementia of the Alzheimer's type	53
Companion animals and the elderly: a state-of-the-art summary	54
Companion animals and the psychological health of Alzheimer patients' caregivers	54
Companion animals and us: Exploring the relationships between people and pets.	54
Companion Animals in Human Health: Series	55
Companion animals: social support for orthopedic clients:	56
Companion cats and the social support systems of men with AIDS	56
Comparative survey of dog owners in Berlin and Brandenburg, Germany	56
Constraints in assessing the impact of animals in education	57
Coping skills interventions with adolescents in anger management using animals in therapy.	57
Coping with blindness: a survey of 50 blind dogs	57
Cortisol concentrations in saliva of humans and their dogs during intensive training courses in animal-assisted therapy.	58
Could Type A (coronary prone) personality explain the association between pet ownership and health?	58
Couples' Perception of Stressfulness of Death of the Family Pet	58
Cracking the secrets of aging	59
Creating a healing environment for critical care	59
Critters in the cube farm: perceived psychological and organizational effects of pets in the workplace	59
Cruelty to animals in normative, sexually abused, and outpatient psychiatric samples of 6- to 12-year-old children: Relations to	60
Cult of the cat	60
Cultural considerations in human-animal studies	61
Cute and cuddly and a whole lot more? A call for empirical investigation into the therapeutic benefits of human-animal interacti	61
Darwinism and the study of human-animal interactions	61
Defining the role of pet animals in psychotherapy	62
Demographic and aggressive characteristics of dogs in a general veterinary caseload	62
Demographics of companion animals in South Africa	63
Demographics of pet presence and attachment	63

Demographics of the owned dog population in Miacatlan, Mor. Mexico	63
Describing categories of temperament in potential guide dogs for the blind	63
Desensitization of sexual anxiety: Relaxation, play, and touch experience with a pet	64
Developing a Physiology of Inclusion: Recognizing the Health Benefits of Animal Companions,	64
Development of a discriminative questionnaire to assess non-physical aspects of quality of life of dogs.	64
Development of the Monash Dog Owner Relationship Scale (MDORS).	65
Development of the pet bereavement questionnaire.	65
Diet and exercise patterns in pet dogs	66
Differential effects of pet presence and pet-bonding on young children	66
Differential effects of pet presence and pet-bonding on young children	66
Dilemmas associated with rehousing homeless people who have companion animals	67
Dimensions of the pet population problem	67
Direct and indirect exposure to pets - risk of sensitization and asthma at 4 years in a birth cohort	67
Direct exposure to animal enteric pathogens	68
Disciplining behavior of dog owners in problematic situations: the factorial structure	68
Do Animal-Assisted Activities Effectively Treat Depression? A Meta-Analysis	69
Do animal-assisted activities effectively treat depression? A meta-analysis.	69
Do disrupted early attachments affect the relationship between guide dogs and blind owners?	69
Do disrupted early attachments affect the relationship between guide dogs and blind owners?	70
Do Pet Owners Enjoy Better Health? Results from the German Soci-Economic Panel>Associate Professor Bruce HeadeyUniversity of Melbourne, Victoria, Australia	
Animals, Community Health and Public Policy Symposium, 27th November 1998	
Results from the German Socio-Economic Panel Survey (N=13400) indicate linkages between dog and cat ownership and lower use of health services. These linkages were initially found in small-scale Australian, American and British studies, a few of which had prospective designs and thus suggested causal links rather than just statistical associations (Anderson et al, 1992; Friedman et al, 1980; Friedman, 1995; Serpell, 1991; Siegel, 1990). The first national survey to find a moderate statistical relationship was the Australian People and Pets Survey (Headey,1995). However, the methodology of some of the studies has been criticised and not all have found the hypothesised relationships (Beck & Katcher, 1984; Jorm et al, 1997; Wright & Moore, 1982). The German results show dog and cat owners making 16% fewer annual doctor visits and spending 21% fewer days in hospital than non-owners. Benefits appear particularly strong for men over 65. Results relating to doctor visits are statistically significant at the 0.01 level, controlling for sex, age and income.2<Does dog or cat ownership lead to increased gastroenteritis in young children in South Australia?	71
Does dog-human attachment affect their inter-specific cooperation?	71
Does Early Exposure to a Cat or Dog Protect Against Later Allergy Development?	72
Does getting a dog increase recreational walking?	73
Does participation in Dolphin-Human Interaction Programs affect bottlenose dolphin behaviour?	73
Dog and cat ownership among suicides and matched controls	74
Dog bite injuries in children: a preliminary survey	74
Dog bites	75
Dog keeping in Taiwan: Its contribution to the problem of free-roaming dogs.	75
Dog on a tightrope: the position of the dog in British society as influenced by press reports on dog attacks (1988 to 1992)	75
Dog owners walk their way to fitness: study>2<Dog ownership and contact during childhood and later allergy development	75

Dog Ownership and Control of Borderline Hypertension: A Controlled Randomized Trial.	76
Dog ownership, health and physical activity: A critical review of the literature	76
Dog Play	77
Dog walking and physical activity in the United States.	77
Dog-human relationship in an evolutionary perspective	78
Dog-owners 'lead healthier lives'>2<Dogkeeping practices as reported by readers of an Australian dog enthusiast magazine.	78
Dogs and cats in animal shelters in Japan	78
Dogs and photos could hold the key to unlocking memory>2<Dogs as catalysts for social interactions: robustness of the effect	79
Dogs as catalysts for social interactions: robustness of the effect	79
Dogs as Transitional Objects in the Treatment of Patients with Drug Dependency	80
Dogs in child psychotherapy: effects on state of mind.	80
Dogs in practice: beyond pet therapy."Winkle, M. (2003)	80
Dogs, cats and morale maintenance: some preliminary data	80
Dogs: a mother's best friend for fitness>2<Dyadic interactions between domestic dogs	81
Editorial: Pets and exercise in childhood asthma	82
Effect of aquariums on electroconvulsive therapy patients	82
Effect of dog-walking on autonomic nervous activity in senior citizens	82
Effect of spinal cord stimulation on myocardial blood flow assessed by positron emission tomography in patients with..	83
Effects of animal-assisted therapy on agitated behaviors and social interactions of older adults with dementia	84
Effects of animal-assisted therapy on agitated behaviors and social interactions of older adults with dementia	84
Effects of animal-assisted therapy on patients' anxiety, fear, and depression before ECT.	84
Effects of Animal-Assisted Therapy on Patients' Anxiety, Fear, and Depression before...	85
Effects of dog ownership and genotype on immune development and atopy in infancy	85
Effects of group and individual housing on the behavior of kennelled dogs in animal shelters	85
Effects of pet and/or people visits on nursing home residents	86
Effects of Pet Ownership on the Well-Being of Adolescents with Few Familial Resources	86
Effects of the interaction with dolphins on physical and mental conditions of the elderly.	87
Effects of weight, litter size and parity of mother on the behaviour of the puppy and the adult dog	87
Elimination of rabies from red foxes in eastern Ontario	87
Embracing The Eden Alternative[TM] in Long-term Care Environments	88
Emerging zoonoses and social-economic impact in India - a review.	88
Empathis response to animal suffering societal versus family influence	89
Empathy with animals and with humans: are they linked?	89
Enhancing Children's Attitudes About The Humane Treatment of Animals: Generalization to Human-Directed Empathy	90
Environmental tobacco smoke exposure during childhood is associated with increased prevalence of asthma in adults	91
Equine-facilitated psychotherapy benefits students and children	92
Estimation of animal intelligence by university students in Japan and the United States	92
Ethical implications of the human-animal bond in the laboratory	92
Ethical issues in the ownership of companion animals: an empirical and normative analysis	93

Ethnic variations in pet attachment among students at an American school of veterinary medicine	93
Ethotest: A new model to identify (shelter) dogs' skills as service animals or adoptable pets	93
Euthanasia & thanatology in small animals	94
Euthanasia of companion animals: a legal and ethical analysis.	94
Evaluating the economic and noneconomic impacts of the veterinary medical profession in Michigan	95
Evaluating the value of service dogs for children with autism	96
Evaluation of animal-assisted therapy for the elderly with senile dementia in a day care program	96
Evaluation of the efficacy of an instructional programme in the self-management of patients with asthma	96
Evaluation of treatments for separation anxiety in dogs	97
Evidence for an association between pet behavior and owner attachment levels	97
Evidence for canine olfactory detection of melanoma	98
Experiences, characteristics and treatment of women suffering from dog phobia	98
Exploring the dimensions of serious leisure: "Love me - love my dog!"	99
Exposure to animal abuse and group context: two factors affecting participation in animal abuse	99
Exposure to Dogs and Cats in the First Year of Life and Risk of Allergic Sensitization at 6 to 7 Years of Age	99
Exposure to pets and atopy-related diseases in the first 4 years of life	100
Factors affecting pica in the domestic cat	100
Factors associated with client, staff, and student satisfaction regarding small animal euthanasia procedures at a veterinary tea	101
Factors associated with dog ownership and contact with dogs in a UK	101
Factors in children's attitudes toward pets	102
Factors influencing human attitudes to animals and their welfare	102
Fatal anaphylaxis after eating wild boar meat in a patient with pork-cat syndrome	102
Fear of dogs in a community sample: Effects of age, gender and prior experience of canine aggression	103
Feline behavior guidelines from the American Association of Feline Practitioners.	103
Feline behaviour problems: the influence of declawing	103
Feline house-soiling problems	104
Feline urine spraying	104
Fostering inter-connectedness with animals and nature: The developmental benefits for children	104
From horse doctor to cow leech to veterinary manager. Regulation of the market for veterinary services in historical perspective	105
Further explorations into the Avian-human bond	105
Future directions in human-animal bond research:	105
Gastrointestinal parasites of urban dogs in Perth, Western Australia.	106
Gender differences in human-animal interactions: a review.	106
Gender differences in owners interacting with pet dogs: an observational study	106
Genetic and environmental factors associated with asthma.	107
Get a pet--doctor's orders!	107
Good dog: The stories we tell about our canine companions and what they mean for humans and other animals	108
Grief resulting from euthanasia and natural death of companion animals	108
Guard dogs: sleep, work and the behavioural responses to people and other stimuli	109
Guidelines for animal-assisted interventions in health care facilities.	109
Health benefits and health cost savings due to pets: preliminary estimates from an Australian national survey	109

Health Benefits and Health Cost Savings Due to Pets: Preliminary Estimates from an Australian National Survey	110
Health benefits and potential budget savings due to pets:	110
Health Correlates of Compatibility and Attachment in Human-Companion Animal Relationships	110
Health Cost Savings. The impact of pets on the Australian health budget.	111
Health enhancement and companion animal ownership	116
Healthy pets, healthy people	117
High school students and their pets	117
Historical perspectives on the human-animal bond	117
Horse reactions to human attitudes and behavior	117
Housing conditions and behavioural problems of indoor cats as assessed by their owners	118
How animal-assisted therapy affects discharge teaching: a pilot study	118
How dogs influence the evaluation of psychotherapists.	119
Human behaviour and the epidemiology of parasitic zoonoses.(Special: Parasitic zoonoses - emerging issues.)	119
Human companion-animal relationships in the veterinary consulting room	120
Human peak experience triggered by encounters with cetaceans	120
Human speech and blood pressure	120
Human-animal bonds in the laboratory: how animal behavior affects the perspectives of caregivers	121
Human-companion animal relationships and animal behavior problems	121
Human-dog interactions in a guide-dog training program	121
Human-mare relationships and behaviour of foals toward humans	122
Humans and pets and attachment	122
Husbandry considerations for better behavioral health in psittacine species.	122
Immunotherapy in childhood asthma	123
Impact of Keeping Pets at Home Upon the Social Development of Children	123
Impact of pet ownership on elderly Australians' use of medical services: an analysis using Medicare data	124
Implementation of a pet visitation program in critical care	124
Importance of the human-animal bond for pre-veterinary, first-year, and fourth-year veterinary students in relation to their...	125
Important zoonotic intestinal protozoan parasites in Asia.	125
In search of King Solomon's ring: Cognitive and communicative studies on Grey Parrots	126
Inappropriate behavior of potential guide dogs for the blind and coping behavior of human raisers	126
Incorporating a Centre for Human-Animal Interactions into an academic medical centre	127
Influence of companion animals on the physical and psychological health of older people: an analysis of a one-year longitudinal	127
Influence of male and female petters on plasma cortisol and behaviour: can human interaction reduce the stress of dogs in a..	128
Influence of pet ownership on opinions towards the use of animals in biomedical research	128
Influence of various early human-foal interferences on subsequent human-foal relationship.	129
Influence of visitor presence on the behaviour of captive lion-tailed macaques (Macaca silenus) housed in Indian zoos.	129
Influences of Pets on the Empty Nester Family	130
Influences of Pets on the Empty Nester Family	130
Interparental conflict and youth maladjustment: the buffering effects of pets	130

Intimacy, domesticity and pet therapy with the elderly: expectation and experience among nursing home volunteers	130
Is there a relationship between canine behavior problems and spoiling activities, anthropomorphism, and obedience training:	131
ISAZ 2007, Tokyo, Japan	131
It may be a dog's life...communication in veterinary medicine.	132
Jama Asks Animal-Assisted Therapy To Prove It	132
Keeping pets (and people) healthy	132
Key References on Human-Animal Interactions for Children	133
Knowledge and attitudes of Australian veterinarians to animal abuse and human interpersonal violence	133
Knowledge, attitude and practices about animal bites and rabies in general community - a multi-centric study.	133
Linguistic deception: Effects of language use on interactions with nonhuman animals	134
Loneliness and pet ownership among single women	134
Loneliness, Stress and Human-Animal Attachment Among Older Adults	134
Loneliness: A health hazard of modern times	135
Loss of pets II	135
Love of animals and love of people	135
Maintenance and improvement of quality of life among elderly patients using a pet-type robot.	136
Male and female dogs respond differently to men and women	136
Man and Cat: The benefits of cat ownership	137
Man and Dog: The Psychology of a Relationship	137
Managing primates in zoos: lessons from animal behaviour	137
Manifestations of chronic and acute stress in dogs	137
Measuring attachment to companion animals: a dog is not a cat is not a bird	138
Metaphoric Relationship with Pets	138
More Than a Furry Companion: The Ripple Effect of Companion Animals on Neighborhood Interactions and Sense of Community	139
Motivations and characteristics of volunteer flying-fox rehabilitators in Australia	140
MRSA carriage in a pet therapy dog	140
My animals and other family: children's perspectives on their relationships with companion animals.	140
Nature-based therapy: its potential as a complimentary approach to treating communication disorders	141
Neurophysiological correlates of affiliative behaviour between humans and dogs	141
New data on communication behaviour between the young child and his pet dog	142
New evidence suggests that to be truly human is to be partly wolf: Co-Evolution	142
Nursing home staffs' empathy for a missing therapy dog, their attitudes to animal-assisted therapy programs and suitable dog bre	143
Nursing home staffs' empathy for a missing therapy dog:	143
Occupational therapists and therapeutic riding	143
Older Latinos, pets, and health	144
Older people and attachment to things, places, pets, and ideas	144
Owner and cat features influence the quality of life of the cat	145
Owner characteristics and interactions and the prevalence of canine behaviour problems	145
Owner-companion dog interactions:	146
Owners, guardians, and owner-guardians: differing relationships with pets.	146
Owning a pet is linked to health and wellbeing (November 2005)>2<Paradoxical Effect of Domestic Animals on Asthma and Allergic Sensitization	147
Patterns of pet cat behaviour at feeding occasions	147
People and animals learning: The PAL program	147

People, pets, and wills--taking care of our pets	147
Perceived importance and integration of the human-animal bond in private veterinary practice.	148
Perceived Restorative Components: A Scale for Children	148
Perioperative nursing and animal-assisted therapy	149
Personality, anal character, and attitudes toward dogs	149
Pet (dog and cat) overpopulation in the United States	149
Pet care: A vehicle for learning	150
Pet dilemmas	150
Pet dogs and chicken meat as reservoirs of <i>Campylobacter</i> spp. in Barbados.	150
Pet insurance--essential option?	151
Pet Loss and Bereavement	152
Pet loss: Issues and implications for the psychologist	152
Pet Oriented Child Psychotherapy	152
Pet owner attitudes to pets and people: a psychological study	152
Pet owner behaviors and attachment to yard versus house dogs.	153
Pet owners hail positive health findings>2<Pet ownership among persons with AIDS in three Florida counties.	153
Pet ownership and attachment as supportive factors in the health of the elderly	153
Pet ownership and children's immune function>2<Pet ownership and health in older adults: Findings from a survey of 2,551 community based Australians aged 60-64	154
Pet ownership and human health: a brief review of evidence and issues	154
Pet ownership and knowledge of zoonotic diseases in De Kalb County, Georgia	155
Pet ownership and prophylaxis of headache and chronic pain	155
Pet ownership and risk factors for cardiovascular disease	156
Pet ownership and risk factors for cardiovascular disease: another look	156
Pet ownership and self-perceptions of older people	157
Pet ownership can bring better health according to the latest research	157
Pet ownership in rural Northern California (El Dorado County)	157
Pet ownership may be a factor in improved health of the elderly	158
Pet Ownership Predicts Adherence to Cardiovascular Rehabilitation	158
Pet ownership protects against the risks and consequences of coronary heart disease	158
Pet ownership, but not ace inhibitor therapy, blunts home blood pressure responses to mental stress	159
Pet ownership, social support, and one-year survival after acute myocardial infarction in the Cardiac Arrhythmia Suppression	159
Pet ownership, social support, and one-year survival after acute myocardial infarction in the Cardiac Arrhythmia Suppression Tri	160
Pet Project Can Animals Influence Lifestyle Changes?	160
Pet project: four-legged caregivers benefit patients and staff	161
Pet projects: animal assisted therapy in nursing homes.	161
Pet Rx: implications for good health	161
Pet therapy - a new concept in human health care.	161
Pet therapy and institutionalized elderly: a study on 144 cognitively unimpaired subjects	162
Pet therapy effects on oncological day hospital patients undergoing chemotherapy treatment.	162
Pet therapy in the 19th century	162
Pet therapy: A trial for institutionalised frail elderly patients.	163
Pet therapy: therapeutic benefits of human-animal relation	163
Pets along a continuum: Response to "What is a pet?"	163
Pets and health	163
Pets and health	164
Pets and health of seniors: a Canadian perspective	164

Pets and Human Health in Germany and Australia: National Longitudinal Results	164
Pets and our mental health	165
Pets and people: The psychology of pet ownership	165
Pets and personality development	165
Pets and the development of allergic sensitization.	165
Pets go to college: the influence of pets on students perceptions of faculty and their offices	166
Pets in the Network of Family Relationships	166
Pets preferred to relatives	166
Pets' roles in parents' bereavement	166
Pets, attachment, and well-being across the life cycle	167
Pets, kids and revolution in nursing homes	167
Pets, networks and well-being	167
Pets, worms, and little people	168
Petting a pooch can lift your mood	168
Physical Activity Behavior of Dog Owners: Development and Reliability of the Dogs and Physical Activity (DAPA) Tool	168
Physiologic and behavioral responses to companion animals	168
Physiological and behavioral reactivity to stress in thunderstorm-phobic dogs and their caregivers	168
Physiological arousal for companion dogs working with their owners in animal-assisted activities and animal-assisted therapy.	169
Physiological effects of human/companion animal bonding	169
Physiological effects of petting a companion animal	170
Physiological Effects of the Use of a Companion Animal Dog as a Cue to Relaxation in Diagnosed Hypertensives	170
Physiological response of people to petting their pets	170
Physiological responses of college students to a pet	170
Play and pets: The physical and emotional impact of child-life and pet therapy on hospitalized children	171
Playing with pets and longevity among older people.	171
Population dynamics and the risk of euthanasia for dogs in an animal shelter	171
Potential benefits of pet ownership in health promotion	172
Presence of domestic pets and respiratory symptoms in asthmatic children	172
Prevalence of asthma among 12 year old children in New Zealand and South Wales: a comparative survey.	173
Prevalence of asthma and asthma symptoms among 13 and 14 year old schoolchildren	173
Prevalence of behaviour problems reported by owners of dogs purchased from an animal rescue shelter	174
Problems and benefits of bird ownership	174
Problems associated with the coexistence of man and animals in urban areas	174
Project PUP: The perceived benefits to nursing home residents	175
Promoting thriving in nursing homes: the Eden Alternative.	175
Psychological health in a population of Australian cat owners.	175
Psychosocial benefits of animal companionship	175
Psychosocial implications of service dog ownership for people who have mobility or hearing impairments	176
Puppy Love	176
Puppy socialisation programs: short and long term behavioural effects	176
Reactions of infants and toddlers to live and toy animals	177
Recent developments in ectoparasitocides	177
Recent discoveries about our relationships with the natural world	177
Reduction in exertional myoglobinemia after physical conditioning	178
Reduction of state-anxiety by petting in a controlled laboratory experiment	178

Reforging the bond--towards successful canine adoption	178
Relationship between attachment to owners and separation anxiety in pet	179
Relationship between keeping a companion animal and instrumental activity of daily living (IADL). A study of Japanese elderly li	179
Relationship between regular exercise and life style, social network, education and subjective symptoms in Japanese middle aged	180
Relationship between soil lead, dust lead, and blood lead concentrations in pets and their owners:	180
Relationships Among Dog Ownership and Leisure-Time Walking in Western Canadian Adults	181
Relationships between cat lovers and feral cats in Rome	181
Relationships Between Young People with Autism and Their Pets	182
Repeatability and validity of a combined mail and telephone questionnaire on demographics, diet, exercise and health status in..	182
Report on the potentially dangerous dog program: Multnomah County, Oregon	183
Reported cat bites in Dallas: characteristics of the cats, the victims, and the attack events	183
Responses of cats to petting by humans	184
Responses of pet cats to being held by an unfamiliar person, from weaning to three years of age	184
Responsiveness and perceived intelligence as predictors of speech addressed to cats.	184
Retirement, life satisfaction, and leisure services: the pet connection	185
Review: children and companion animals	185
Risk factors for alveolar echinococcosis in humans.	185
Risk factors for dog bites to owners in a general veterinary caseload	186
Risk factors for separation-related distress and feed-related aggression in dogs: additional findings from a survey of Australia	186
Risks of pet ownership. The family practitioner's viewpoint	186
Romantic Partners and Four-Legged Friends	187
Ruby goes to school: using therapy dogs as treatment assistants	187
Sacrificial Symbolism In Animal Experimentation: Object Or Pet?	188
Safe handling of large animals	188
Saying good-bye to the pet you love: A complete resource to help you heal	188
Screening for asthma and associated risk factors among urban school boys in Abha city:	189
Seeking a theory of the human/companion animal bond	189
Seizure-alerting and -response behaviors in dogs living with epileptic children	189
Seizure-alerting and -response behaviors in dogs living with epileptic children	190
Selective battering of the family pet	190
Self-care in adults with asthma: how they cope	190
Serum protein electrophoresis: potential test for use in geriatric companion animal health programmes	191
Service dog selection tests: Effectiveness for dogs from animal shelters	191
Seven cases of heartworm disease (dirofilariosis) in dogs in The Netherlands	192
Should people with epilepsy have untrained dogs as pets?	192
Social acknowledgments for children with disabilities: effects of service dogs	193
Social Effects of a Dog's Presence on Children with Disabilities	193
Social interaction and blood pressure. Influence of animal companions	194
Socioeconomic status and indicators of asthma in children	194
Some comments on context embodiment in zootherapy: the case of the Autidolfijn project	194
Species-specific differences and similarities in the behavior of hand-raised dog and wolf pups in social situations with humans	195
Spontaneous trait transference from dogs to owners	195

Spouses and cats and their effects on human mood	195
Stressful life events and use of physician services among the elderly: the moderating role of pet ownership	196
Submit information about an upcoming conference>Please provide some details2<Successful and unsuccessful pet adoptions	196
Support for bereaved owners of pets.	196
Temperament and personality in dogs (Canis familiaris): A review and evaluation of past research	197
The 'Furry Ceiling:' Clinical Psychology and human-animal studies.	198
The Animal-Human Boundary	198
The behavior of visitors towards dogs housed in an animal rescue shelter	198
The benefits of pet ownership - news from across the world	199
The benefits of the Assisted Animal Therapy: a bibliographic review. [Portuguese]	200
The diagnostic value of pet-facilitated therapy with dogs: an observation study of child-dog interaction in child and adolescent	200
The domestic dog: its evolution, behaviour and interactions with people	200
The educational benefits of a ten-week home-based wild bird feeding program for children	201
The effect of pet ownership on the risk of allergic sensitisation and bronchial asthma	201
The effect of signals from experienced and inexperienced dog handlers on the behaviour of dogs	201
The effect of stockpeople's personality and attitudes on dairy cow milk yield	202
The effectiveness of a citronella spray collar in reducing certain forms of barking in dogs	202
The effects of animal-assisted therapy on anxiety ratings of hospitalized psychiatric patients:	203
The effects of animal-assisted therapy on loneliness in an elderly population in long-term care facilities	203
The effects of behavioral therapy on dog phobia response patterns	204
The effects of dog obedience training and behavioural counselling upon the human-canine relationship	204
The effects of pet therapy on the social behavior of institutionalized Alzheimer's clients	205
The effects of service dogs on social acknowledgments of people in wheelchairs	205
The effects of small dogs on vital signs in elderly women	205
The effects of the presence of a companion animal on physiological arousal and behavioral distress in children	206
The efficacy of collar-mounted devices in reducing the rate of predation of wildlife by domestic cats	206
The end of a relationship: coping with pet loss	207
The epidemiology of dog bite injuries in Switzerland - characteristics of victims, biting dogs and circumstances	207
The epidemiology of dog walking: an unmet need for human and canine health	207
The epidemiology of walking for exercise: implications for promoting activity among sedentary groups	208
The epidemiology of walking for exercise: implications for promoting activity among sedentary groups	208
The evolution of domestic pets and companion animals	208
The experience of pet ownership as a meaningful occupation	208
The facilitation of social interactions by domestic dogs	209
The factor structure of horse personality	209
The frequency of Toxocara infection in mental retarded children.	209
The healing power of dogs: Cocoa's story	210
The Health Benefits of Pets	210

The human animal team approach for children with emotional disorders. Two case studies.	211
The Human Canine Bond: Closer than Family Ties?	211
The Human-Animal Bond: Increasing Depth	211
The human-companion animal bond and the veterinarian	212
The human/animal bond as a correlate of family functioning	212
The impact of a resident dog on an institution for the elderly: effects on perceptions and social interactions.	213
The impact of an abusive family context on childhood animal cruelty and adult violence	213
The impact of companion animals in later life and considerations for practice	213
The impact of paternity and early socialisation on the development of cats' behaviour to people and novel objects	214
The impact of pet ownership on health and health service use: Results from a community sample of Australians aged 40 to 44 years	214
The influence of a stuffed and live animal on communication in a female with Alzheimer's dementia	214
The influence of current relationships upon pet animal acquisition	215
The influence of environmental change on the behaviour of sheltered dogs	215
The influence of hunger on object play by adult domestic cats	216
The influence of pet ownership on non verbal communication and social competence in children	216
The Influence of Pets on the Mental and Physical Health of Human	216
The influence of urbanization on the behaviour of dogs in the Czech Republic	217
Baranyiova	217
The Investigation of the Influence of Pets (Cat & Dog) upon the development of children's pro-social behaviour	217
The life, history and magic of the cat	218
The new European zoonosis legislation - relevant aspects	218
The People, Pets and Planning Symposium	218
The pet as an anxiolytic intervention	219
The pet attitude inventory	220
The pet connection: pets as a conduit for social capital?	220
The pet connection: pets as a conduit for social capital?	220
The pet dogs ability for learning from a human demonstrator in a detour task is independent from the breed and age.	221
The Philadelphia Geriatric Center Morale Scale: a revision	221
The Philadelphia Geriatric Center Morale Scale: a revision	221
The pleasures and problems of hearing dog ownership	222
The positive influence of animals: animal-assisted therapy in acute care.	222
The Positive Influence of Dogs on Children in Divorce Crises from the Mother's Perspective	222
The Power of Pets: Health Benefits of Pet Ownership.	223
The power of play	223
The PPET study: people and pets exercising together.	224
The preadolescent/pet bond and psychosocial development	224
The proposed benefits of incorporating non-human animals into preventative efforts for Conduct Disorder	224
The Relation between Socio-Economic Status Concerns and Angry Peer Conflict Resolution Is Moderated by Pet Provisions of Support	225
The Relationship Between Attachment to Companion Animals and Self-Concept: A Developmental Perspective	225
The Role of Companion Animals in Human Development	226
The role of donkeys in the commodity supply of a central Malian town	228

The role of gonadal hormones in the occurrence of objectionable behaviours in dogs and cats	228
The role of pets in child development	229
The Role of Pets in the Support Networks of People Recovering from Breast Cancer	229
The role of police dogs as companions and working partners	229
The role of the goat in society: past, present and perspectives for the future	230
The role of therapy dogs in speed and accuracy to complete motor skills tasks for preschool children.	230
The role of veterinary epidemiology in the study of free-roaming dogs and cats	231
The socializing role of hearing dogs	231
The Steinfurt method of therapy support dogs: animal supported therapy and training [German]	231
The story of Michael and Niko	232
The Supportive Role of Pets in the Childhood of Sexual Abuse Survivors	232
The therapeutic use of companion animals.	233
The use of a behaviour test for selection of dogs for service and breeding. II. Heritability for tested parameters and effect...	233
The Use of the Family Life Space Diagram in Establishing Interconnectedness:	234
The value of cat ownership to elderly women living alone	234
The value of cat ownership to elderly women living alone	234
The value of service dogs for people with severe ambulatory disabilities. A randomized controlled trial.	235
The view from all fours: a look at an animal-assisted activity program from the animals' perspective.	235
The well-being of older women: The importance of pet and human relations	236
The Young Children's Empathy Measure: reliability, validity and effects of companion animal bonding	236
Therapeutic applications of the human-companion animal bond.	236
Therapeutic applications of the human-companion animal bond.	237
Therapeutic Aspects of the Human-Companion Animal Interaction	237
Therapeutic use of companion animals in health care	237
Therapeutic Value of Equine-Human Bonding in Recovery from Trauma	237
Therapy dogs: Training your dog to reach others	238
Title Prenatal exposure to mite and pet allergens and total serum IgE at birth in high-risk children.	238
To soothe the savage breast	239
Tourists' effects on drivers of working Asian elephants	239
Trauma in dogs and cats: an overview	239
Two personality characteristics in adult pet-owners and non-owners	240
Understanding personality by understanding companion dogs.	240
Understanding the human-companion animal relationship: A study of middle-aged women and their companion animals	241
Use of a psychiatric service dog	241
Using a therapy dog to alleviate the agitation and desocialization of people with Alzheimer's disease	241
Using complementary and alternative therapies to promote comfort at end of life	242
Vaccination against <i>Helicobacter pylori</i> - an old companion of man	242
Values and limitations of pet ownership	242
Veterinarians and successful pet adoptions	242
Veterinary practitioners in rural Australia: a national survey	243
Volunteers, animals, and butterflies equal good therapy	243
Walking for healthy hearts: dog walk program	243
Welfare in a shelter dog rehomed with Alzheimer patients	244
Whale shark tourism in Ningaloo Marine Park, Australia	244

What Australians think about their pets. A Study of Our Attitudes to Cat and Dog Ownership	244
What clients want from veterinarians following the death of their companion	244
What do children think animals need? Aesthetic and psycho-social conception	245
What Happens to Shelter Dogs? An Analysis of Data for 1 Year From Three Australian Shelters	245
What Happens to Shelter Dogs? Part 2. Comparing Three Melbourne Welfare Shelters for Nonhuman Animals	246
What's in it for the Companion Animal? Pet Attachment and College Students' Behaviors Toward Pets	246
When a pet dies: Religious issues, euthanasia and strategies for coping with bereavement	247
Whose Pet? Comment on Timothy Eddy, "What is a Pet?"	247
Why children keep pets: the influence of child and family characteristics	248
Why do people love their pets?	248
Why the wild things are: Animals in the lives of children	248
Women, children and animals last: connections between animal abuse and family violence	249
You and Your Pet. Waltham: Pets and You	249
Young Children's Recognition of Commonalities between Animals and Plants	249

"Forward!" The experience of a new guide dog owner

Edwards, R. T., 2002,

British Medical Journal, v. 325, p. 171.

It costs a staggering 35 000 to breed, train, and maintain a guide dog over its 9 year working life, all raised through charitable donations. As a health economist, I have conducted a "back of a dog-biscuit packet" cost per QALY calculation of becoming a guide dog owner.

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"Human-animal bonds in the laboratory: how animal behavior affects the perspectives of caregivers."

Chang, F. T.

Ilar Journal. 43(1): 10-8. (2002).

Experiencing the human-animal bond in the laboratory context can potentially improve the quality of life of animals as well as increase job satisfaction for animal caregivers. With today's centralized facilities, caregivers generally focus entirely on providing routine care for animals without involvement in experimental procedures. Results of responses to a detailed and open-ended survey of 16 caregivers and five campus veterinarians at seven University of California campuses are presented, in addition to six interviews of additional caregivers and veterinarians. The survey revealed that these individuals became caregivers because of their attraction to the animals. Positive interactions with the animals were highly rewarding. Approximately half of the caregivers reported feeling less attracted to mice than other species. Job satisfaction could perhaps be increased by offering seminars for the research team that would include the caregivers and providing support related to animal deaths and euthanasia.

A Bird in the House: An Anthropological Perspective on Companion Parrots

P. K. Anderson,

2003

Journal/Society and Animals Journal of Human-Animal Studies, 11,

Although companion birds are the third most-common animal companion -- after dogs and cats -- in U.S. households, few anthrozoological publications focus on them. This study examines the role of companion parrots in American households. The study combines a literature review with the results of a survey of bird owners and participant observation. The study uses the resulting qualitative and quantitative data in addressing the social dynamics of companion parrot ownership in the household.

The data support the impression that companion parrots increasingly are being considered family members, or "Fids" (Feathered Kids), thus following current trends in American society that accord companion animals in general a greater investment in time, money, and emotion. However, the general public is not well informed about the complexities of captive parrot care, and psittacine wellness is an important concern.

Parrots amaze and endear us with their "human-like" qualities (Barber, 1993) including the ability, when taught words in context, to use human language meaningfully (Pepperberg, 1999). They entrance us with their beauty, their playful antics, and their desire to interact and bond with their human flock mates. As symbols of status and the exotic, parrots may serve as luxury items and advertising icons. However, to those who love and appreciate parrots for their companionship in their homes, they become children. Despite the fact that birds are the third most common animal companions, scant attention has been paid to birds in the anthrozoological literature. This study examines the role of companion parrots in American households.

Anthropologists, with their holistic perspective on human cultures, have traditionally examined the human-animal relationship, albeit from an anthropocentric perspective (Noske, 1993). Although many of these studies focus on preindustrial societies, anthropologists are increasingly considering the role of animals in industrial Western societies (Mullin, 1999). However, few of these studies concern companion animals, and none consider companion birds, a topic largely ignored by social scientists.

<http://www.psyeta.org/sa/sa11.4/anderson.shtml>

A Case for a Naturalistic Perspective

Paxton, David W

This paper continues the debate on a unifying theory of the human companion animal bond, begun in the first volume of *Anthrozoos* by Kidd and Kidd (1987:140-57). Research is cited in which the relationship between people and the dog is the case study. It is argued that the animal-animal model may not be discounted when developing theory on the relationship between human beings and the dog. An example is offered of a naturalistic perspective which implements the animal/animal model. In this perspective, the relationship between human beings and dogs is seen as a co-evolved, complex biological interdependancy. Because human beings and dogs are aspects of each other, empirical analysis of the relationship may be confounded. It is recommended that the human relationship with other animals be considered using a naturalistic perspective.

Anthrozoos

Volume 13, Number 1

A case series of biting dogs: characteristics of the dogs, their behaviour, and their victims

Guy, N. C., U. A. Luescher, S. E. Dohoo, E. Spangler, J. B. Miller, I. R. Dohoo, and L. A. Bate, 2001,

Applied Animal Behaviour Science, v. 74, p. 43-57.

The characteristics of 227 biting dogs, their homes, and their victims were gathered in a detailed telephone survey of general veterinary clientele in the Canadian provinces of New Brunswick, Nova Scotia, and Prince Edward Island in 1996. All of the dogs had bitten either someone living in the same household, or someone who was a frequent visitor and was well known to the dog. There were 117 male and 110 female dogs included in this case series. Significantly, more female dogs were neutered ($P=0.03$), 58% of the dogs were purebred, and the most commonly reported breed was the Labrador

Retriever (n=15). The mean number of people living in each home was 3.13 (S.D plus or minus 0.08). Aggression which would traditionally be defined as dominant or possessive, had been demonstrated by 75.6% of the dogs in at least one of 17 specific situations outlined in the questionnaire. Dogs with a history of this type of aggression were significantly older ($P=0.02$) and of lower body weight ($P<0.001$) when compared to the remainder of the dogs, and were more likely to be fearful of a variety of stimuli. The effect of fear in these dogs may be important in understanding the motivation and treatment of aggression problems. Of the considered worst bite incidents by the dog owners, 42.4% could be attributed to behaviour which appeared to be characteristic of dominant or possessive aggression. If the reason for the worst bite incident was related to the commonly accepted criteria for dominance aggression, then the dogs were more often male and purebred. Owners of these dogs were also more likely to rank the bite as a more serious event ($P=0.001$). Adults were the most common victims of dog bites, and most injuries were in the hands and arms (56.2%). A minority of injuries (9.3%) received medical attention, supporting previous evidence that dog bites are greatly underreported. A bite requiring medical attention was scored as a more important incident by the owner and was more likely to have caused the owner to take precautions to prevent further injuries. Although the presence of aggression related to dominance was not associated with gender or breed, the severity of this form of aggression and its importance to the owner were greater for male and purebred dogs. These factors may explain the characteristics of dogs as they are reported by behaviour specialists working in a referral setting.

A comparison of dog-dog and dog-human play behaviour

Rooney, N. J., J. W. S. Bradshaw, and I. H. Robinson, 2000,

Applied Animal Behaviour Science, v. 66, p. 235-248.

In an observational study of dogs being walked by their owners (402), dogs which were walked together, and had opportunities to play with one another, played with their owners with the same frequency as dogs being walked alone. This finding was supported by a questionnaire survey of 2585 dog owners in which dogs in multi-dog households played slightly more often with their owners than dogs in single-dog households. The performance of dog-dog play does not, therefore, seem to suppress the dogs' motivation to play with their owners as would be predicted if they were motivationally interchangeable. In an experimental comparison of dog-dog and dog-human toy-centred play, the dogs were more likely to give up on a competition, to show and present the toy to their play partner, if that partner was human. When 2 toys were available, dogs playing with other dogs spent less time showing interest in both toys and possessed one of the toys for longer, than dogs playing with people. Overall, the dogs were more interactive and less likely to possess the object when playing with a person. It is concluded that dog-dog and dog-human play are structurally different, supporting the idea that they are motivationally distinct, and that there is no reason to assume that the consequences of dog-dog play can be extrapolated to play with humans.

A counterbalanced version of Ainsworth's Strange Situation

Procedure reveals secure-base effects in dog-human relationships.

Palmer, R.; Custance, D.;

Applied Animal Behaviour Science. 2008. 109: 2/4, 306-319.

It has been proposed that the dog-human relationship constitutes an infantile-like attachment. However, previous empirical support based on Ainsworth's Strange Situation test has proved inconclusive due to order effects inherent in the original procedure. In particular, these order effects compromise the ability to establish an essential facet of attachment: whether or not owners function as a secure base for their pet dogs. Order effects were counteracted in the present study by including a second condition in which the order of owner and stranger presence was counterbalanced. Hence, 38

adult dog-owner pairs were randomly placed in two conditions, both comprised of six 3-min episodes. In condition A, dogs entered an unfamiliar room with their owner; a stranger entered; the owner left the dog with the stranger; the dog was left alone in the room; the owner returned; and finally the dog was left with the stranger again. In condition B, the order in which owner and stranger were present was reversed. Secure-base effects were indicated in that the dogs explored, remained passive, played with the stranger and engaged in individual play more when in the presence of their owner than when left with the stranger or alone. Therefore, the dogs' behaviour provides evidence consistent with the hypothesis that the dog-human bond constitutes an attachment. The possible role of attachment in canine separation anxiety is briefly discussed.

A dog and a "happy person" visit nursing home residents

Kaiser, L., L. J. Spence, L. McGavin, L. Struble, and L. Keilman, 2002,

Western Journal of Nursing Research, v. 24, p. 671-83.

Recent recognition of the importance of the human-animal bond has led to the proliferation of programs designed to improve the lives of nursing home residents through the use of animals. Because human-human interaction in the nursing home setting is often of an obligatory nature, we wondered if a visit from a nonjudgmental, outgoing, enthusiastic young adult ("a happy person") could elicit the same positive influence as a visit from a nonjudgmental dog. The purpose of this study was to determine if elderly residents of a midwestern nursing home had a preference for the type of visitor (dog vs. person) when both visits were nonobligatory and nonjudgmental. Behaviors were evaluated to determine if one visitor was more likely to influence prosocial behaviors (moving closer, patting, smiling). Six residents were visited by both the dog and the happy person: 5 of 6 completed the final interview. Residents were equally likely to smile at and move closer to both visitors. Residents were more likely to pat the dog. Three residents liked both visits equally: 1 preferred the dog, and 1 preferred the happy person. These data suggest that nonobligatory visits to nursing home residents from a happy person may be as beneficial to the resident as visits from a dog.

A friend or an enemy? Dogs' reaction to an unfamiliar person showing behavioural cues of threat

A friend or an enemy? Dogs' reaction to an unfamiliar person showing behavioural cues of threat and friendliness at different times.

Vas, J.; Topal, J.; Gacsi, M.; Miklosi, A.; Csanyi, V

Applied Animal Behaviour Science. Elsevier, Amsterdam, Netherlands: 2005. 94: 1/2, 99-115.

Responsiveness of adult pet dogs (*Canis familiaris*) to an unfamiliar human was observed in two studies. Subjects were faced with an approaching woman (Stranger) who showed definite signs of friendliness and threat during alternate approaches. Observations consisted of two episodes: the Stranger either approached the dog in normal speed of walk while talking to it and finally petted it gently (Friendly approach episode) or she moved slowly and haltingly and looked steadily into the eyes of the dog without any verbal communication (Threatening approach episode). In the first study 30 dogs of 19 different breeds were tested in the two episodes in a balanced sequential order. The dogs acted appropriately according to the different human behaviour cues. The order of the Friendly/Threatening approaches had no significant effect on the dogs' responsivity. In the second experiment 60 dogs of three breed groups (20 Belgian shepherds, 20 retrievers and 20 sled dogs) were first 'greeted friendly' and then approached 'threateningly' by the same Stranger. Results show significant breed specific differences in the responsivity when dogs faced an apparent switch of the human behaviour cues. Compared to retrievers and sled dogs, Belgian shepherds more frequently changed their response, showing passive or active avoidance or sign of aggression when approached threateningly. While sex differences were not found, breed comparisons suggest that selective

breeding (i.e. for hunting or shepherd work) influenced the dogs' sensitivity to human social cues in different ways. Results also support the hypothesis that human influence (domestication) has led to extreme flexibility of the dogs' situation-relevant behaviour while interacting with an unfamiliar human.

A friendly dog as potential moderator of cardiovascular response to speech in older hypertensives.

Friedmann, E.; Thomas, S. A.; Cook, L. K.; Tsai, C. C.; Picot, S. J.;

Anthrozoos. 2007. 20: 1, 51-63

As the population ages and obesity increases, the number of older adult hypertensives is rising dramatically. Uncontrolled hypertension (HTN) increases, and reducing blood pressure (BP), lowers cardiovascular, cerebrovascular, and renal morbidity and mortality. Cardiovascular reactivity, defined as exaggerated cardiovascular responses to various stressors, is associated with the development and progression of HTN and associated morbidity and mortality. Speaking is a social stressor, occurring frequently in daily life, that is accompanied by significant surges in BP. The current project was designed as a preliminary study to evaluate whether friendly dogs may be an effective intervention for moderating cardiovascular stress responses in older adult hypertensives. Cognitively intact, community-living older adults ($n=11$) with resting BPs in the pre- to mild hypertensive range (120-150/80-100 mmHg) participated in the study. The quiet-talk-quiet (QTQ) protocol was used to assess BP responses to speaking. The QTQ protocol, consisting of sitting silently for two minutes, talking for two minutes, and sitting silently for two minutes was repeated twice, once with an unfamiliar, friendly dog in the room, once without the dog. The dog was randomly assigned to be present either for the first or the second QTQ. An ANOVA or ANCOVA with repeated measures three-way interaction between dog presence (dog in, dog not in), activity (quiet, talk), and order (dog in first, no dog in first) was used to examine the moderating effect of the presence of the dog on cardiovascular reactivity to speaking; it was significant for diastolic BP ($F(1,9)=12.8$, $p=0.006$), and tended to be significant for systolic BP ($F(1,8)=4.4$, $p=0.12$). During speech, BP was (7/2 mmHg) lower when the dog was present than when it was not present. BP while sitting quietly did not differ according to the presence of a dog. Pets might provide a viable means of decreasing BP surges during stressful activities in older hypertensives.

A game of cat and house: spatial patterns and behavior of 14 domestic cats (*Felis catus*) in the home

Bernstein, P. L., and M. Strack, 1996,

Anthrozoos, v. 9, p. 25-39.

Patterns of interaction and the use of space were studied in 14 unrelated, non-reproductive domestic cats living together in a single-story house. The cats had overlapping but individually distinct home ranges within the house. The home ranges of males were slightly larger than those of females. Three male kittens showed significant reductions in home range at approximately one year of age. Almost all individuals had favoured spots in the room which they often shared with several individuals. Sharing of such spots was primarily the result of different individuals occupying the spots at different times. Overt aggression was rare, and there was no clear hierarchy. Tail positions could be identified and may have played an important role in helping this relatively large group occupy this relatively small home. Stable groupings were maintained although the cats were living at approximately 50 times higher densities compared with outdoor cats.

A global survey of the human-animal bond.

R. S. Nolen, 2003

Journal of the American Veterinary Medical Association., 223,

For abstract, go to <http://www.avma.org/onlnews/javma/sep03/030915k.asp>

A long-term study of elderly people in nursing homes with visiting and resident dogs

Patricia Crowley-Robinson, Douglas C. Fenwick and Judith K. Blackshaw

Department of Farm Animal Medicine and Production, The University of Queensland, St Lucia, Qld, 4072, Australia

Applied Animal Behaviour Science

Volume 47, Issues 1-2 , April 1996, Pages 137-148

Three nursing homes in the Brisbane area took part in the study. The Moreton Bay Nursing Care Unit (20 females, 11 males) had a visiting dog (each week), the Returned Services League War Veterans Home (24 females, eight males) had a resident dog and the Wheeler Garden Settlement (25 females, seven males) the visiting researcher only (control). A desexed female whippet, 11 months old was used in this study.

Tension and confusion were reduced in the nursing home with a resident dog ($x^2 = 21.18$, d.f. = 10, $P = 0.02$; $x^2 = 35.42$, d.f. = 10, $P = 0.0001$, respectively).

The resident dog group showed significant decreases in depression ($x^2 = 31.19$, d.f. = 10, $P = 0.0005$) as did the control group ($x^2 = 29.8$, d.f. = 10, $P = 0.0009$; $x^2 = 23.4$, d.f. = 10, $P = 0.009$).

Significant increases in vigour were found in all three nursing homes (visiting dog, $x^2 = 43.91$, d.f. = 10, $P = 0.0005$; resident dog, $x^2 = 42.92$, d.f. = 10, $P = 0.0005$; control, $x^2 = 38.52$, d.f. = 10, $P = 0.0005$).

Fatigue decreased significantly in the visiting and resident dog groups ($x^2 = 21.58$, d.f. = 10, $P = 0.02$; $x^2 = 19.45$, d.f. = 10, $P = 0.03$, respectively).

This long-term study indicates that there are many benefits from having a resident dog in a nursing home. However, if this is not an option, visiting dogs and/or visiting people improve the lives of nursing home residents.

A magical dream: a pilot project in animal-assisted therapy in pediatric oncology.

Bouchard, F., Landry, M., Belles-Isles, M., & Gagnon, J., 2004,

Canadian Oncology Nursing Journal, v. 14, p. 14-17.

- For children with cancer, being hospitalized represents a great source of stress. Hospitalized children are not only deprived of their familiar and comforting world, but they must also face various and often painful treatments. They must quickly adapt to new people and to an environment that is very different from that of their homes. They have greater safety needs. Thus, it is important to offer these children concrete ways to better adapt to the stresses of hospitalization. Animal-assisted therapy,

considered within this project as a novel approach to care, constitutes an interesting solution. It involves using the privileged relation between children and animals to foster the process of adaptation to illness and the hospital environment. The experience described in this article is a one-year pilot project completed on a pediatric oncology unit. A priori, an already very heavy workload, the vulnerability of the patients, and many constraints added to the concerns related to the presence of animals on a tertiary care unit. A posteriori, the rigorous design and implementation process of the pilot project, the strong involvement and engagement of volunteers and professionals, the quality of the participating "therapeutic" dogs, the originality of the entire process, and the satisfaction of the patients and nursing staff contributed to its success and to establishing the basis for a permanent implementation of this special care program for children hospitalized with cancer.

A pet for the children: factors related to family pet ownership

Fifield, S. J. and D. K. Forsyth (1999).

Anthrozoos 12(1): 24-32.

The demographic variables related to pet ownership in New Zealand families of 8-12 -year-olds were investigated. Questionnaire surveys were used to establish data from 312 families of primary school children. Family composition, reasons for pet acquisition, and the advantages and disadvantages of pets were also examined. Almost 90% of families owned at least one pet, and over half of these families included a child who was the sole owner of a pet. Parental employment level, living locality, and sibling status (number and position) were related to pet ownership. Parents acquired pets for their children mainly to teach responsibility and care, or because their child had asked for the pet, and these reasons were related to sibling status. Perceived advantages of pet ownership included teaching responsibility and care, love, respect and affection, and companionship. Over half the sample claimed no disadvantages of pet ownership. The most common disadvantages were finding holiday care, the time and work involved in pet care, and the mess caused by animals. Implications for future research include the distinction between child-owned and family-owned pets, the reasons for acquiring pets and their effect on the relationship with the pet, and comparisons of parent and child beliefs about the role of the family pet.

A pet therapy intervention with geriatric psychiatry inpatients

Zisselman, M. H., B. W. Rovner, Y. Shmueli, and P. Ferrie, 1996,

American Journal of Occupational Therapy, v. 50, p. 47-51.

OBJECTIVE. The purpose of this study was to evaluate the effects of pet therapy on geriatric psychiatry inpatients. A demonstrable impact could lead to more widespread or targeted use of animal companionship programs for hospitalized older persons.

METHOD. The study design was a randomized, parallel-group control treatment trial with pretreatment and posttreatment measures. Fifty-eight subjects with chronic age-related disabilities who were patients of the Wills Eye Hospital Geriatric Psychiatry Unit were assigned to a pet therapy intervention group or an exercise control group for 1 hr a day for 5 consecutive days. Every subject was blindly evaluated with the Multidimensional Observation Scale for Elderly Subjects (MOSES) before and after the intervention week.

RESULTS. No significant differences in MOSES scores were found between or within groups before and after the interventions. There was a nonsignificant tendency for subjects who received the pet intervention to have less irritable behavior after treatment. However, women with dementia who received either pet therapy or exercise intervention had improved irritable behavior scores after treatment.

CONCLUSION. This pilot study demonstrates the need for further research on animal-assisted interventions with hospitalized elderly persons. Differential improvement in women with dementia also requires further investigation.

2<A pilot study to evaluate an elementary school-based dog bite prevention program>Ian Brett Spiegel

Johns Hopkins School of Public Health, Baltimore, USA

The primary objective of this program evaluation was to determine if a school-based education program is an effective means of informing elementary school-aged children enrolled in second through fourth grades about dog bite safety - the awareness of proper behavior when in the company of dogs to prevent bites, injuries, or fatalities. The pilot program, featuring written materials and a video, was developed to teach dog bite safety, and questionnaires were designed to assess the program. Students (n=486) from seven schools from Montgomery and Prince George's Counties in Maryland, USA participated. Pre- and post-program questionnaires assessed students' interactions, encounters, and relationships with dogs, as well as use of program materials, and changes in understanding about dog behavior, body language, and bite avoidance. The program results appeared to be highly effective in helping children understand how to prevent or avoid potentially threatening situations involving dogs. The program was most effective at teaching children that: (1) neighborhood and family dogs are most likely to cause dog bite-related injuries, (2) they should never run away from a dog, and (3) they should never touch a dog that is sleeping or eating. For most groups, there was also an increased level of recognition of canine body language. Almost half of the participants indicated that they had been bitten in the past, and over 80% knew the attacking dog. Finally, the findings suggest that an age-appropriate dog bite safety program delivered in an elementary school setting can be effective in producing awareness about preventing dog bite-related injuries. Future investigations should concentrate on monitoring actual changes in child behavior.

Anthrozoos 13 (3) 2000

A qualitative study of the attitudes of members of a developing community towards their dogs and veterinary services

Hohn, E. W., J. H. Williams, and R. D. Kirkpatrick, 1992,

Journal of the South African Veterinary Association, v. 63, p. 121-4.

A university-based hospital serving mainly a developing community readily appreciated that its clientele was from a very different sociological and cultural background than that of the professional staff and that developed and developing communities and their pets exhibit different patterns in their health status, with most diseases being predominantly related to socio-economic predicament. The need for a community-orientated service was recognised. From 1987 to 1988, the small animal outpatient clinic was used for an informal, unstructured sociological observation and interview-based study of the clientele and their pets. During this period, an informal educational programme was implemented to teach basic pet health care, and the efficacy of this programme was empirically gauged by comparing the knowledge and attitudes of first-time clients with those of regular clients. Regular clients appeared to become increasingly concerned about the health and management of their pets and the condition of their animals appeared to improve, with a corresponding decline in the degree of parasitism. The majority of clients however, still regarded the main reason for keeping dogs as the provision of some form of security. It also appeared as if improved attitudes towards household pets paralleled improvements in socio-economic status.

A quantitative study of the attitudes of members of a black developing community towards their dogs and veterinary services

Pistorius, A. G., E. W. Hohn, and C. A. van der Merwe, 1992,

Journal of the South African Veterinary Association, v. 63, p. 166-71.

To further the study of human-companion animal interactions in black developing communities, the clients (n = 94) of a university-based animal hospital, serving primarily a developing community, were interviewed. The interviews covered demographics, socio-economic aspects, perceptions, values and attitudes of clients towards their dogs. Regular and new clients were compared. A profile of the hospital's black clientele was also constructed. The study showed that the majority of black clients value their dogs for the sake of security and protection. Attitudes towards pets paralleled improvements in socio-economic status. Most clients felt positive towards existing veterinary services. The results of this study support and highlight the value of a previous observational study and could prove to be invaluable in designing, implementing and planning socially relevant animal health services.

A review of the housing requirements of domestic cats (*Felis silvestris catus*) kept in the home

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Applied Animal Behaviour Science

Volume 93, Issues 1-2 , September 2005, Pages 97-109

Cats are a popular companion animal in the United States, the United Kingdom and most of western Europe. While a few studies on cat behaviour and interactions between cats and humans have been conducted in the home setting, most refer to cats housed in laboratories, catteries and shelters. Nevertheless, the findings from these studies can be extrapolated to the home environment. The Five Freedoms were developed as minimal standards of welfare for farm animals; it is proposed that five provisions, based on the Freedoms, can be used to assess the welfare of cats in the home. The provision of a suitable environment, with opportunities to express most normal behaviours and with protection from conditions likely to lead to fear and distress, requires the application of environmental enrichment techniques. Examples of physical, social, sensory, occupational and nutritional approaches to enrichment of the cat's home are presented. The majority of pet cats in the United Kingdom are allowed outdoors but in the United States between 50 and 60% are housed indoors. The advantages and disadvantages of allowing cats outdoor access or confining them indoors are discussed.

A review of the roles of pet animals in psychotherapy and with the elderly.

Brickel, C. M.

International Journal of Aging & Human Development 12(2): 119-28, (1980).

A survey of case histories, anecdotal evidence and pilot studies shows that, as therapeutic adjuncts, pet animals facilitate rapport and otherwise enrich the treatment milieu. Similar evidence shows that pets enhance the lives of their owners in the community. Pet-facilitated psychotherapy (PFP) can increase social interaction, provide comfort and support, and reinforce feelings of independence. Replication and expansion of existing studies are recommended to further explore how pet animals may enrich the lives of members of psychiatric and geriatric populations.

A study of animal companionship in a day hospice

Phear, D. N., 1996,

Palliative Medicine, v. 10, p. 336-8.

Attitudes to companion animals were surveyed among 50 patients and staff at a day care hospice. Dog visits were welcomed by all but two. Of the 37 patients studied, only seven had a companion animal, often their closest companion. Many more would like to keep an animal, but were prevented by age, frailty or accommodation restriction.

A survey of attitudes toward responsible pet ownership

Selby, L. A., J. D. Rhoades, J. E. Hewett, and J. A. Irvin, 1979,

Public Health Reports, v. 94, p. 380-6.

The concerns of medical and community officials about responsible pet ownership have increased. Before a practical solution can be found for irresponsible ownership and community health problems associated with pet populations, the public's attitudes on issues related to responsible pet ownership must be determined. Such issues include attitudes on dog and cat overpopulation, potential public health problems associated with pet populations, and methods of controlling pet populations and stray animals. Responses to a questionnaire were used to evaluate the attitudes of 910 pet owners and nonowners toward factors comprising responsible pet ownership. The median age of the respondents was 33 years; 414 (45 percent) were men, and 496 (55 percent) were women. At the time of the study, 18 percent owned a cat and a dog, 35 percent owned only a dog, 11 percent showed only a cat, and 36 percent were nonowners. Not only the sex of the respondent but also the category of pet ownership affected opinions on overpopulation of dogs and cats, nuisance and pollution problems associated with these animals, and methods of controlling pet populations in the community. For example, owners agreed strongly on family planning for pets, but a majority of male owners stated that they would not have their dogs neutered.

A survey of public opinion on the actual condition and the requirement for animal assisted relaxation activity

A survey of public opinion on the actual condition and the requirement for animal assisted relaxation activity: the significance of future Animal Assisted Activity (AAA) and Animal Assisted Therapy (AAT).

Narita, T.; Kiyama, M.; Kawakami, T.; Choi HyoungRak; Hayasaki, M.

Yamaguchi Journal of Veterinary Medicine. Yamaguchi Prefectural Association of Veterinary Medicine, Ogori, Japan: 2003. 30, 75-86.

Questionnaires were sent out to 84 veterinary clinics and 792 public homes and services for the aged and/or the handicapped and day care centres for the elderly in Yamaguchi Prefecture, Japan [date not given], to determine the public opinion on animal-assisted activity and therapy. The responses indicated that many veterinarians, as well as administrators, managers and instructors of the homes and services, have not been well exposed to the concept of animal-assisted activity (AAA) and animal-assisted therapy (AAT). They also indicated that many homes and services wish to include AAA as a part of their daily activities for their dwellers and clients if it is safe and inexpensive. In conclusion, training veterinarians, medical doctors and instructors is necessary to lead such activities, as specialists of AAA and AAT.

A survey of teaching and implementation: the veterinarian's role in recognizing and reporting abuse

Landau, R. E.

Journal of the American Veterinary Medical Association, v. 215, p. 328-31, 1999.

Many families seeking assistance from domestic violence agencies are known to local humane societies or animal control officials because of previous incidents of animal abuse. This is because pets are often the first victims of family disputes that erupt into violence. Analysis of domestic violence statistics indicates that veterinarians potentially treat hundreds of thousands of abused pets each year. Because veterinarians may be the first or only individuals to have access to abusive family situations, it is important for veterinarians to be aware of potential signs of abuse of pets and their owners and to be familiar with the mechanisms for reporting suspected incidents of abuse. Thirty-one North American veterinary schools and a sample of large and small animal practitioners in Indiana were surveyed to understand to what degree current veterinary curricula prepare students to recognize abuse of animal patients and human clients and to what extent practitioners recognize and report their suspicions of abuse to appropriate authorities. The data indicate a discrepancy between beliefs about prevalence of abuse and the amount of time spent educating veterinary students to recognize and report that abuse. I hypothesize that: 1) practicing veterinarians are reluctant to report suspicions of domestic family violence directed against animals, children, or spouses for various reasons (e.g., lack of adequate training, fear of litigation, time constraints, fear that violence will escalate, belief that it is not their place to intervene, lack of contact information, fear of losing a client's business); 2) practicing veterinarians (in large and small animal practices) may not be aware that animal patients and human clients may have been abused and being unfamiliar with this diagnosis, are unfamiliar with the mechanism for reporting the abuse, especially when it involves human victims; and 3) veterinary school curricula could be modified so that veterinary students are trained to recognize human and animal abuse, thereby reducing risks to animal patients, other animals in the household, and human clients. I believe that recognition of animal and human abuse is in line with veterinarians' responsibilities to protect animal health, relieve animal suffering, and promote public health.

A telephone survey on attitudes of pet owners and non-owners to dogs and cats in Belgian cities

Dumont, G., 1996,

Anthrozoos, v. 9, p. 19-24.

600 volunteers (equal number of owners and non-owners) from Brussels, Ghent, and Liege, Belgium, were interviewed to determine reasons for pet ownership and problems associated with the presence of pets. Two districts from each city based on type of residence (e.g. apartments, single family homes) were included in the sample. It is suggested that dogs and cats play an important role in everyday life for many people and cause relatively little inconvenience.

A view from the bridge: Subjectivity, embodiment and animal minds

Diane Dutton and Carl Williams Department of Psychology, Liverpool Hope University College, UK

In contemporary discussions of animal mind the difficulty of studying the nature of private, subjective awareness in animals is often seen as a barrier to a fuller understanding of animal experience.

Relatively little work has focused on more recent psychological accounts of mind that emphasize its extended, embodied and social aspects. We examine some of the main conceptual difficulties in this area, and then consider a number of more embodied approaches. We suggest that a consideration of the nature of the animal-human relationship is crucial to a consideration of animal awareness.

Anthrozoos 17 (3) 2004

ABC of asthma. Precipitating factors

Rees, J., 1984,

Br Med J (Clin Res Ed), v. 288, p. 1512-4.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=6426621

About anthrozoology

Anthrozoology encompasses many fields of research; it crosses scientific boundaries and draws from a broad range of disciplines.

Psychologists, psychiatrists, political scientists, social scientists, cardiologists, medical scientists, allied health scientists, behavioural scientists and veterinarians have all contributed to the body of literature that exists in anthrozoology.

Examples of anthrozoological research include:

- * Dog ownership and human health-related physical activity
- * investigating the link between companion animals, physical health and psychological health
- * use of animals in therapy for human illness (Animal Assisted Therapy)
- * animals, allergies and zoonoses
- * the concept of "attachment"
- * companion animals and childhood immune function
- * identifying the link between pet ownership and reduction of cardiovascular risk factors
- * cruelty to animals and the link to domestic violence
- * companion animals as social facilitators

Actions Speak Louder than Words: Close Relationships between Humans and Nonhuman Animals

Sanders, C. R., 2003,

Symbolic Interaction, v. 26, p. 405-425.

Symbolic interactionism and other sociological perspectives traditionally have not attended to a significant form of close relationship--that which exists between people and the companion animals with whom they share their everyday lives. After a brief presentation of a portion of the relevant literature that deals with how humans understand and interact with their animal companions, I present the process by which caretakers come to define the unique identities of their animals and the ways in which the human-animal couple identity shapes public interaction. Since play, mutual gaze, and "speaking for" animals are key elements of friendly human-animal interaction, I discuss these activities as central to the process by which caretakers establish and express intersubjective connections with their animals. Finally, I maintain that attention to human-animal relationships holds promise for advancing an appreciative understanding of how personhood, mind, and culture are

constructed in the process of interaction. Of special significance to the broadening of the interactionist perspective is that the understandings and emotional connections that bind people and their animals are created and maintained in the absence of a shared body of linguistic symbols.

African American women's experiences with physical activity in their daily lives

Nies, M. A., M. Vollman, et al.

Public Health Nursing 16(1): 23-31. (1999)

Sedentary behavior is a major public health problem for African American women. A qualitative study used focus groups to explore African American women's experiences with physical activity in their daily lives. Women aged 35-50 were recruited to participate in the focus groups. Transcripts from the focus groups were coded and analyzed. African American women's facilitators of physical activity were daily routine, practical and convenient activities, personal safety, child care, weight loss, stress reduction, knowledge and commitment, enjoyment, pets, family and peer support, home and work facilities, and daylight and climate conditions. Barriers to physical activity were lack of child care, no person to exercise with, competing responsibilities, lack of space in the home, inability to use exercise facilities at work, lack of motivation, fatigue, and unsafe neighborhood. This information will provide the basis for generating new strategies to increase physical activity for African American women in the community.

AIDS diagnosis and depression in the Multicenter AIDS Cohort Study: the ameliorating impact of pet ownership

Siegel, J. M., F. J. Angulo, R. Detels, J. Wesch, and A. Mullen.

AIDS Care, v. 11, p. 157-70, 1999.

The impact of pet ownership on depression was tested among a sample of gay and bisexual men (n = 1,872). Multivariate analyses, controlling for demographics and baseline depressive symptomatology, showed that neither pet ownership nor the presence of HIV infection was associated with depression. Depression was influenced by the presence of AIDS and by having relatively few confidants. Analyses among HIV-infected men only showed that persons with AIDS who owned pets reported less depression than persons with AIDS who did not own pets. This beneficial effect of pet ownership occurred principally among persons who reported fewer confidants. These results suggest that by enhancing companionship for some HIV-infected persons, pets may buffer the stressful impact of AIDS.

An epidemiological study of animal bites in India: results of a WHO sponsored national multi-centric rabies survey.

Sudarshan, M. K.; Mahendra, B. J.; Madhusudana, S. N.; Narayana, D. H. A.; Abdul Rahman; Rao, N. S. N.; Meslin, F. X.; Derek Lobo; Ravikumar, K.; Gangaboraiah;

Journal of Communicable Diseases. Indian Society for Malaria and other Communicable Diseases, Delhi, India: 2006. 38: 1, 32-39.

This was a WHO sponsored national multi-centric rabies survey and one of its objectives was to find out the incidence of animal bites, anti-rabies treatment practices, pet dog populations and the state of pet care. Twenty-one medical colleges in India chosen with geospatial representation conducted the survey during February-August 2003. The survey was conducted in 18 states, covering a population of 52 731 chosen randomly from 8500 households. The annual incidence of animal bites was high,

1.7%, and it was more in rural areas (1.8%), children (2.6%) and poor/low income groups (75%). The main biting animals were dogs (91.5%; mostly strays (63%)), followed by cats (4.7%). A high proportion of bite victims did not wash their wounds with soap and water (39.5%), preferred Government hospitals (59.9%) and nerve tissue vaccine (46.9%). The use of rabies immunoglobulin was low (2.1%). A single animal bite episode led to a loss of 2.2 man-days and the cost of medicines including anti-rabies vaccine was Rs.252 (US\$6). The recourse to indigenous treatment (45.31%) and local application to wound (36.8%) was quite prevalent. About 17% of households reported having a pet/domesticated dog and the pet dog:man ratio was 1:36. Pet dog care/management practices were not satisfactory with a low veterinary consultation (35.5%) and vaccination (32.9%). The situation was slightly better in urban areas. The people also reported the presence (83%) and menace (22.8%) of stray dogs. It is recommended to initiate appropriate community awareness and dog vaccination campaigns and effective stray dog control measures.

An experimental study of the effects of play upon the dog-human relationship

Rooney, N. J., and J. W. S. Bradshaw, 2002,

Applied Animal Behaviour Science, v. 75, p. 161-176.

It has often been suggested that intraspecific dominance relationships are established through play. By analogy, it is also claimed that the outcome of competitive games can affect dog-human relationships. This paper experimentally tests the latter idea. Fourteen Golden Retrievers were each subjected to two treatments; 20 sessions of a tug-of-war game with the experimenter which they were allowed to win, and 20 sessions which they lost. Their relationship with the experimenter was assessed, via a composite behavioural test, once at the outset and once after each treatment. Principal components analysis allowed the 52 behavioural measures to be combined into nine underlying factors. Confidence (the factor most closely corresponding to conventional dominance) was unaffected by the treatments. Dogs scored higher for obedient attentiveness after play treatments, irrespective of whether they won or lost and demandingness scores increased with familiarity of the test person. The 10 most playful dogs scored significantly higher for playful attention seeking after winning than after losing. We conclude that, in this population, dominance dimensions of the dog-human relationship are unaffected by the outcome of repetitive tug-of-war games. However, we suggest that the effects of games may be modified by the presence of play signals and when these signals are absent or misinterpreted the outcome of games may have more serious consequences. Games may also assume greater significance for a minority of "potentially dominant" dogs.

An exploration of the potential benefits of pet-facilitated therapy.

Brodie, S. J. and F. C. Biley

1999

Journal of Clinical Nursing 8(4): 329-37.

There is mounting evidence to suggest that those who keep pets are likely to benefit from various improvements in health. Despite founders of nursing such as Florence Nightingale advocating the importance of animals within the care environment, their integration into hospitals and other health care settings has been slow. The literature on animal-induced health benefits is reviewed and the conclusion is drawn that the potential benefits of pet therapy are considerable. It is suggested that nurses can assume an active role in advocating ward pet or pet-visiting schemes.

An exploration of the potential risks associated with using pet therapy in healthcare settings

Brodie, S. J., F. C. Biley, et al. (2002)

Journal of Clinical Nursing. 11(4): 444-56.

The widespread inclusion of companion animals into the homes and lives of humans has prompted a considerable amount of research into the health benefits of such relationships. Findings seem to confirm that if humans interact with companion animals they are likely to experience various health benefits. Programmes that encourage and facilitate pet visiting schemes in hospitals have developed and animals can often be found in in-patient and long-term care facilities, with the aim of contributing towards a positive therapeutic milieu. Despite supportive research evidence, the adoption of such a therapeutic activity may have been restricted by the belief that client safety could be compromised by an increase in the risk of infection acquired from animals, allergic responses and bites. This paper explores the literature on these risks and concludes that, in a controlled health care environment in urban Europe or North America and with responsible human behaviour the potential benefits of sharing our lives with companion animals, either at home or hospital, far outweigh the apparently insignificant risks. Recommendations aimed at limiting the potential risk of infection and guidelines for the safe management of pet therapy are developed.

An exploratory model of dog disciplining

Judith Ben-Michael*, Hubert Korzilius Albert Felling' and Jo Vossen

PhD Centre, University of Nijmegen, Nijmegen, The Netherlands t Department of Research Methodology and Statistics, University of Nijmegen f Department of Comparative and Physiological Psychology, University of Nijmegen

This study examines the possible relationships among dog owners' perceptions of, and emotional and behavioral responses to, problematic situations involving their dogs, and investigates differences in these in different subgroups of owners. The dominant sequence of the interaction is defined as perception-cognition-emotion -behavior, with this study focusing upon perceptual, emotional and behavioral responses. Fifty-five dog owners were presented with 16 descriptions of everyday problematic situations with a dog, and were asked to record the degree to which they elicited emotions such as irritation, anger, sorrow, and anxiety. They were further asked which disciplinary actions they would use in each situation. The results form a general exploratory model of perceptual-emotional-behavioural responses, within which the two most significant sub-models were power assertion and encouragement/comfort. Some gender differences in these models were also discovered.

Anthrozoos 13 (3) 2000

An exploratory study of the effect of animal-assisted therapy on nonverbal communication in three schizophrenic patients.

Kovacs, Z.; Bulucz, J.; Kis, R.; Simon, L.;

Anthrozoos. 2006. 19: 4, 353-364.

Animal-assisted therapy has been used in the treatment and rehabilitation of several physical and mental disorders, but its effectiveness for chronic schizophrenic patients has been evaluated in only a few studies. Our purpose was to introduce animal-assisted group therapy in the rehabilitation of severely disabled chronic schizophrenic patients, in order to enhance their communication skills. Five patients diagnosed with schizophrenia (three females, two males, ages ranging from 32 to 71 years), four human members (one therapist, one co-therapist, and the owners of the dogs) and two therapy dogs (a five-year-old, female Boxer and a two-year-old, female Bichon Frise) participated in the

therapy on a weekly basis, for a six-month period. The therapy was oriented toward improving non-specific (i.e., general well-being) and specific (i.e., communication patterns) areas of the patients' daily activities. The outcome measure was the change in the patients' nonverbal communication, as measured by an analysis of standardized, video-recorded scenarios registered at the beginning of the therapy, and six months later, at the end of it. Because two patients completed less than half of the sessions, we analysed the data of only three patients. Positive changes occurred in some post-treatment nonverbal parameters compared with pre-treatment parameters. All three patients improved in the usage of space during communication, while partial improvement in other domains of nonverbal communication (anatomy of movements, dynamics of gestures, regulator gestures) was also observed. Animal-assisted therapy can improve certain aspects of nonverbal communication in schizophrenic patients. The results of our exploratory study show a need for further investigation, using controlled studies with a larger number of patients.

An investigation of human-animal interactions and empathy ... in children

An investigation of human-animal interactions and empathy as related to pet preference, ownership, attachment, and attitudes in children.

Daly, B.; Morton, L. L.

Anthrozoos. 2006. 19: 2, 113-127.

A group of elementary students (n=155) were surveyed with respect to four aspects of relationships with pets - preference, ownership, attachment, and attitude - in order to further explore the connection that appears to exist between human-animal interactions and empathy. The investigation was initiated, in part, in order to elaborate upon findings from an earlier study (Daly and Morton 2003) and focused mainly on the relationships between children and dogs and cats, although horses, birds, and fish were also included. Some of the general findings related to dogs and cats are: (1) children who preferred (Pet Preference Inventory) both dogs and cats were more empathic than those who preferred cats or dogs only; (2) those who owned both dogs and cats were more empathic than those who owned only a dog, owned only a cat, or who owned neither; (3) those who were highly attached to their pets (Lexington Attachment to Pets Scale) were more empathic than those who were less attached; and (4) empathy and positive attitude (Pet Attitude Scale) revealed a significant positive correlation. As expected, girls were significantly more empathic than boys. Moreover, while cell sizes were low with respect to pet preference and ownership, empathy was also higher for individuals who expressed a preference for birds and horses. While the earlier study (Daly and Morton 2003) indicated that higher empathy was associated with dog ownership more so than other pets, including cats, a notable finding of the present study is that empathy appears to be positively associated with individuals who prefer, and/or who own, both a dog and a cat. The implications extend to the need: (1) for continued empirical research investigating the relationship between human-animal interactions and empathy; and (2) to refine the questions that lead to a clearer explanation of this relationship.

An overview of types of aggressive behaviour in dogs and methods of treatment

Blackshaw, J. K., 1991,

Applied Animal Behaviour Science, v. 30, p. 3-4.

In 223 cases of dogs presented to a specialist behavioural clinic in Brisbane, Australia, 87 (39%) were

for severe aggression. The classes of aggression included dominance (31.6%), territorial (29%), predatory (12.3%), intermale (12.3%), sibling rivalry (7.9%), fear biting (6%) and idiopathic rage (0.9%). The breeds most represented which attacked humans were the Bull Terrier (16%), German Shepherd and crosses (15%), Cattle dog breeds (Blue Heeler and crosses, 9.2%), Terrier breeds (9.2%), Labrador (8%), Poodle and Cocker Spaniel (both 5.7%) and Rottweiler (4.6%). Hospital records in Victoria and Queensland confirm that most damage is caused to humans by Bull Terriers and German Shepherds. Treatments included obedience training only, restraint only, obedience and restraint, synthetic progestins and obedience, castration, progestins and obedience, castration and obedience, use of chlorpromazine and as a last resort, euthanasia (12.6%). Entire males formed the largest group (44%), followed by castrated males and females (both 21%) and spayed females (15%). Several breeds (Boxer, Briard, Samoyed and St. Bernard) only attacked other animals and birds.

2<Analysis of child-dog play behavior in child psychiatry.>Prothmann, A.; Albrecht, K.; Dietrich, S.; Hornfeck, U.; Stieber, S.; Ettrich, C.; Anthrozoos. 2005. 18: 1, 43-58.

Children have a natural affinity for animals and most often communicate with them nonverbally; nonverbal communication is authentic and difficult to influence deliberately. This study examines whether characteristic interaction patterns exist during pet-facilitated therapy with dogs, and whether these can be used for diagnosing psychiatric disorders in children and adolescents. Forty children and adolescents with anorexia, bulimia, anxiety disorder or autism (classified according to the International Classification of Diseases - ICD 10) were monitored while in the same room as a therapy dog; their behaviour during a 25-minute encounter was video-recorded and analysed. The patients demonstrated significant diagnosis-specific behavioral differences; the greatest differences were found when the autistic patients were compared with the anxiety and eating disorder patients. The autistic children's behaviour was characterized by many brief interaction phases, whereas anxiety disorder patients interacted less often, with longer lasting episodes. While autistic children showed greater fear of the dog, anxiety disorder patients were more afraid of inter-human contact. A discriminant analysis assigned 77.5% of the patients to the correct diagnostic group. Child-dog interaction analysis can provide a valuable contribution to the psycho-diagnosis of children and adolescents.

And Then the Dog Died

Kenneth R. Kaufman a; Nathaniel D. Kaufman b

Death Studies, 30, 1 2006 , pages 61 - 76

Childhood grief and mourning of family and friends may have immediate and long-lasting consequences including depression, anxiety, social withdrawal, behavioral disturbances, and school underachievement. Childhood pet bereavement is no less important, because the pet is often considered a member of the family by the child. However, society does not always acknowledge the significance of pet bereavement, which can result in unresolved grief. This article, a case analysis with literature review, addresses childhood pet bereavement in the context of multiple prior losses (K. R. Kaufman & N. D. Kaufman, 2005). This case mirrors both old and new findings in grief research and therapy: (a) beneficial response to emotional expression of grief in context of search for meaning; (b) beneficial response to cognitive approach toward grief with ability to prevent development of complicated grief even in the face of multiple losses; (c) beneficial effects associated with supportive family and with positive self-concept; (d) intensity of grief magnified by the child's degree of attachment to the pet, the suddenness of the pet's death, the multiple prior losses, and the role of the pet in the child's life; and (e) resiliency. This case further emphasizes the need for parents not to trivialize death of pets, to appreciate the role pets have in children's lives, and to assist the child in multiple approaches toward expression (be it verbal, written, or artistic). Finally, this case reinforces the ability of the child to assist in family bereavement and to serve as teacher.

Animal - assisted therapy enhances resident social interaction and initiation in long-term care facilities

Kent State University, Stark Campus, Canton, OH, USA 'Brooklyn College, Brooklyn, USA,
Richard C. Stockton College, Pomona, USA

Social stimulation is a valuable aspect of therapeutic activities at long-term care facilities, designed to decrease social isolation, maintain or stimulate mental abilities, and increase awareness of the external environment. A study was undertaken at two such facilities to compare the effectiveness of Animal-Assisted Therapy (AAT) with Non-Animal Therapy (NAT) at providing social stimulation, that is, at providing opportunities for patients to engage in social interaction and to initiate social behaviors. While studies have indicated that AAT can improve resident outlook or affect, few have directly studied the social behaviors that might lead to such improvements, or the role the animals themselves might play. We observed 33 patients, both alert and semi- to non-alert, during regular recreational therapy sessions. Most patients were women (29 us. four men), and geriatric (in their 70's and 80's). Non-Animal Therapies included Arts and Crafts and Snack Bingo, while AAT involved animals from local animal shelters being brought by volunteers to group sessions. Social behaviors naturally divided into Brief Conversations, Long Conversations, and Touch. We determined frequencies and rates of the behaviors, who initiated the behaviors and whether the behaviors were directed at other people or at the animals.

Overall, during AAT residents were involved in as much or more conversation with others, including the animals, as residents in Non-Animal Therapy, and were more likely to initiate and participate in longer conversations. The finding that different kinds of therapies seem to encourage different kinds of conversation might be an important consideration when investigating health benefits. The most dramatic differences between therapy types were found in rates of touch: touching the animals during AAT added significantly to resident engagement in, and initiation of, this behavior. Since touch is considered an important part of social stimulation and therapy, the enhancement of this social behavior by the animals is an important, and perhaps undervalued, effect.

Anthrozoos 13 (4) 2000

Animal -assisted enhancement of speech therapy: a case study

Deborah L. Adams

SUMMARY

This report assesses the impact of Animal-Assisted Therapy (AAT) as it applies to speech/language pathology. It is a case study of a 72-year-old female who had experienced multiple strokes and other related medical complications. Treatment utilizing two canine therapists, Charlie and Josh, increased one-word answers and object identification tasks, as well as verbalization behaviors in the subject.

INTRODUCTION Animal-Assisted Therapy (AAT) involves the use of animals as an adjunct to other therapies (Gammonley & Yates 1991), and has been reported as helping with speech therapy. Questions posed to a psychiatric patient yielded an increase in words per answer when utilizing a canine co-therapist (Corson & Corson 1980). With Alzheimer's patients, the use of AAT has been reported to have positive effects on such communicative variables as smiles, laughs, touches, and verbalizations (Kongable et al. 1989). The use of dolphins has also been reported with autistic and attention-deficit-hyperactivity-disordered (ADHD) children, increasing verbalizations, speech intelligibility, and motor co-ordination (Trace 1994). This paper reports a case study of the use of AAT applied to speech/language pathology.

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Animal assisted activities and therapies in Italy: proposed guidelines.

Cirulli, F.; Alleva, E.;

Rapporti ISTISAN - Istituto Superiore di Sanita. Istituto Superiore di Sanita, Roma, Italy: 2007. 07/35, 38 pp.

The use of animals as therapists dates back to ancient times and is gaining more and more importance. The modern term "Pet Therapy" refers to the use of pet animals in the cure of specific disorders. These activities are highly heterogeneous, both in terms of the professional careers of the operators, of the typology of patients and the modalities of intervention used. The increasing interest in Pet Therapy, and the lack of an ad hoc legislation, that might formally regulate the therapies performed with animals, has raised the need to document the activities that are being undertaken in Italy under this label. We present in this report some data concerning activities and therapies performed in Italy with the assistance of animals. Ethical issues are discussed and guidelines suggested to ensure health and welfare of all subjects participating in these programs.

Animal assisted activities for geriatric patients

Steed, H. N. and B. S. Smith.

Activities, Adaptation & Aging. 27(1): 49-61. (2002).

Older individuals may experience decreased quality of life and increased stress related to life transitions. These include change of residences, the loss of a spouse and/or personal possessions. With these transitions, a decline in physical and emotional health may occur due to social isolation, loss of independence, institutionalization, and family breakdown. Studies that use animal assisted activities were evaluated for the effectiveness of improving various parameters in the geriatric population undergoing these transitions. Interactions with animals decreased blood pressure and heart rate, decreased depression, and increased life satisfaction. Animal assisted activities appear to improve the quality of life of aging individuals. Future research should focus on outcomes of using different types

of animals and the amount of time spent with the animals.

Animal assisted therapy and the individual with spinal cord injury

Counsell, C. M., J. Abram, and M. Gilbert, 1997,

Sci Nursing, v. 14, p. 52-5.

Spinal cord injury (SCI) is a devastating event that results in significant adjustments during the acute and rehabilitation phase. During this period, it is imperative to maintain the patient's self-esteem, reduce stress levels, encourage the expression of feelings, and provide sensory stimulation. Animal Assisted Therapy (AAT) involves the use of animals as a complement to more traditional forms of therapy. The program is based on the knowledge that animals have a positive influence on people who are ill in the healthcare setting. The Animals Heal Hearts Program (TM) has two components, pet visitation and pet therapy. Pet visitation consists of allowing a patient to have his/her own personal dog for a visit, provided there are no medical contraindications. Pet therapy is a structured program using a dog that has completed behavioral and health screening. Dogs are used in the hospital to reduce patients' stress, increase their self-esteem, and help them express feelings. The dogs provide sensory stimulation as patients view and handle the animals and learn about animals and pets. A carefully planned and evaluated program ensures that it is safe and effective.

Animal bite epidemiology and surveillance for rabies postexposure prophylaxis

Moore, D. A., W. M. Sischo, A. Hunter, and T. Miles, 2000,

Journal of the American Veterinary Medical Association, v. 217, p. 190-4.

OBJECTIVES: To understand the epidemiology of animal bites and exposure, evaluate the animal exposure reporting system for surveillance of rabies postexposure prophylaxis (PEP), and identify opportunities to reduce PEP. **DESIGN:** Period prevalence survey.

STUDY POPULATION: Pennsylvania residents in 1995.

PROCEDURE: Data from animal bite reports from Pennsylvania county health offices were summarized for 1995. Animal bite incidences for the state, counties, various age groups, and various population densities were calculated. Animal species, treatment, location of wounds, and PEP recommendations were evaluated for exposures.

RESULTS: More than 16,000 animal-related potential rabies exposures were reported from 65 of 67 counties in Pennsylvania. The highest incidence was in children less than 5 years old (324/100,000). Of the 75% of victims requiring wound treatment, 50% received antimicrobials, 29% received a tetanus toxoid, and 19% had wounds sutured, were admitted to hospitals, or were referred for plastic surgery. Although 75% of exposures were to dogs, victims exposed to cats were 6 times as likely to receive PEP (relative risk, 6.1; 95% confidence interval, 5.1 to 7.4). Thirty percent of 556 PEP were given for exposures to dogs, 44% for cats, 7% for raccoons, 4% for bats, 2.5% for squirrels, 2.1% for groundhogs, 2% for foxes, and 8% for exposures to other species. Fifty-nine percent of owned dogs were up-to-date on rabies vaccinations compared with 41% of owned cats.

CONCLUSION: Interventions, such as dog bite prevention education, vaccination of pets against rabies, appropriate use of PEP, and reduction of feral cat populations, should be instituted, enhanced, or better enforced in communities.

Animal companion programs offer benefits to residents

Olsen, J. M., and D. Olsen, 1989,

Provider, v. 15, p. 33.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=10296604

Animal illness and human emotion. Cardiac disease

Bond, B. R., 1991,

Problems in Veterinary Medicine, v. 3, p. 39-49.

Cardiac disease in companion animals constitutes a significant part of veterinary medicine. Because of the nature of the problems encountered, emotional problems in the owners can be expected to arise. The major difficulty in dealing with cardiac problems in small animals arises from the uncertainty of prognosis and the frequency of sudden death. This chapter reviews the most prevalent heart diseases seen in companion animals and offers ways of explaining to clients the disease process, different treatments available (and their side effects), and more importantly, prognosis. Many problems can be avoided if good client communications are established early in the course of therapy.

Animal problems /people skills: Emotional and interactional strategies in humane education

Irvine, L., 2002,

Society & Animals, v. 10, p. 63-91.

Recent changes in the organizational culture of nonhuman animal sheltering, coupled with attitudes that are more progressive toward companion animals, have made shelters into resources rather than last resorts. Consequently, shelter workers need the "people skills" to communicate to a public that urgently needs accurate information about animal behavior and training. This poses a difficulty for workers drawn to working with animals but who find themselves working with people. Based on participant observation and informed by social psychology and the sociology of emotions, this article articulates 3 primary dimensions of shelter workers' interactions with clients: 1) Narrative Knowing, 2) Emotion Management, and 3) Deference. From the analysis of these dimensions, the paper then draws conclusions about the individual costs of shelter work and suggests practical steps that workers and animal care organizations could take to recognize and reduce these costs.

Animal status as a response to pet owner experience

Margaret Fidler Department of Psychology, University of Southampton, UK

It has been reported that pet ownership has positive effects on people's attitudes to other animals. It was, however, hypothesized in this study that it is the good experiences which bring this about and that bad ones would have negative effects. Two sections in a 21-section questionnaire investigated whether this is the case. Respondents described their experiences with pets. They reported their level of agreement on seven philosophica/theological quotations reflecting contrasting views of animal status, and on five specific uses to which non-pet animals are put. The hypothesis was partly supported, in that while good experiences did make a statistically significant difference, bad or sad ones did not.

Anthrozoos 16 (1) 2003

Animal welfare: concept and related issues

D. M. M. Broom, C. F. M., 2005

Journal/Archives of Veterinary Science, 9,

Welfare is a word widely used by the public in many situations and its meaning is often not precise. However, an objective definition is needed if the concept is to be used scientifically and professionally. Moreover, welfare has to be defined in such a way that it can be readily related to other concepts such as: needs, freedoms, happiness, coping, control, predictability, feelings, suffering, pain, anxiety, fear, boredom, stress and health. This review presents a definition of animal welfare which satisfies these criteria, as well as explaining how to assess welfare. Its main objective is to offer the reader a basis for an understanding of this new science, which is essential to those whose work centres on the human-animal interaction.

Animal-assisted therapy - magic or medicine?

Odendaal, J. S., 2000,

Journal of Psychosomatic Research, v. 49, p. 275-80.

A sound theoretical basis supported by scientifically measured physiological parameters is needed to gain medical support for animal-assisted therapy. Six neurochemicals associated with a decrease in blood pressure were measured in humans (n=18) and dogs (n=18) before and after positive interaction. Results ($P<.05$) indicated that in both species the neurochemicals involved with attention-seeking or attentionis egens behavior have increased. This information can be used as a rationale for animal-assisted therapy.

Animal-assisted therapy ameliorates anhedonia in schizophrenia patients. A controlled pilot study

I. Nathans-Barel, 2005

Psychotherapy and Psychosomatics, 74,

BACKGROUND: Anhedonia, a component of the negative symptom dimension and a core phenomenon in schizophrenia, is associated with poor social functioning and is resistant to treatment. We tested the hypothesis that animal-assisted therapy (AAT) may improve anhedonia. **OBJECTIVE:** To compare the effect of psychosocial treatment sessions in which a dog was an active participant (AAT) with comparable sessions without a dog, using a controlled protocol. **METHOD:** The hedonic tone of 10 chronic schizophrenia patients who participated in 10 weekly interactive sessions of AAT was compared to a control group treated without animal assistance. The hedonic tone was measured with the Snaith-Hamilton Pleasure Scale. Subjective quality of life variables and clinical symptoms were also assessed. **RESULTS:** The AAT group showed a significant improvement in the hedonic tone compared to controls. They also showed an improvement in the use of leisure time and a trend towards improvement in motivation. **CONCLUSION:** AAT may contribute to the psychosocial rehabilitation and quality of life of chronic schizophrenia patients.

Animal-assisted therapy and depression in adult college students.

Folse, Eileen B.: Northeast Louisiana U, Dept of Psychology, Monroe, US

Anthrozoos. Vol 7(3) 1994, 188-194.

Investigated the effects of animal-assisted therapy (A-AT) on self-reported depression in 44 college undergraduates. Ss were selected on the basis of scores on the Beck Depression Inventory (BDI). Ss

were assigned to 1 of 3 groups: A-AT in conjunction with psychotherapy (directive group), A-AT only (nondirective group), and controls. Standardized regressed BDI posttest scores were used as dependent variables in one-way ANOVA with treatment as the independent variable. Results revealed significant differences among groups. Results confirmed the positive influence of A-AT in this cohort.

Animal-assisted therapy and nutrition in Alzheimer's disease

Edwards, N. E. and A. M. Beck (2002).

Western Journal of Nursing Research. 24(6): 697-712.

This study examined the influence of animal-assisted therapy, specifically fish aquariums, on nutritional intake in individuals with Alzheimer's disease (AD). Sixty-two individuals with AD who lived in specialized units were studied. Baseline nutritional data were obtained followed by a 2-week treatment period when the aquariums were introduced. The treatment data were collected daily for 2 weeks then weekly for 6 weeks. Nutritional intake increased significantly (21.1%; $p < .001$) when the aquariums were introduced and continued to increase during the 6-week weekly follow-up. Weight increased significantly (1.65 lbs; $p < .001$) over the 16-week period. In addition, participants required less nutritional supplementation, resulting in health care cost savings.

Animal-assisted therapy for children with pervasive developmental disorders

Martin, F. and J. Farnum (2002)

Western Journal of Nursing Research. 24(6): 657-70.

The present study quantitatively evaluated the effects of interaction with dogs on children with pervasive developmental disorders (PDD), disorders characterized by lack of social communications and abilities. While interacting with a therapist, children were exposed to three different conditions: (a) a nonsocial toy (ball), (b) a stuffed dog, and (c) a live dog. Prosocial and nonsocial interactions were evaluated in terms of both behavioral and verbal dimensions. Results show that children exhibited a more playful mood, were more focused, and were more aware of their social environments when in the presence of a therapy dog. These findings indicate that interaction with dogs may have specific benefits for this population and suggest that animal-assisted therapy (AAT) may be an appropriate form of therapy.

Animal-assisted therapy for elderly schizophrenic patients: a one-year controlled trial:

Barak, Y., O. Savorai, S. Mavashev, and A. Beni.

American Journal of Geriatric Psychiatry, v. 9, p. 439-42. 2001.

Animal-assisted therapy (AAT) has been used as a therapeutic tool in various psychiatric populations, but there have been no published studies with elderly schizophrenic patients. The authors evaluated, in a blinded, controlled manner, the effects of AAT in a closed psychogeriatric ward over 12 months. Subjects were 10 elderly schizophrenic patients and 10 matched patients (mean age: 79.1+/-6.7 years). The outcome measure was the Scale for Social Adaptive Functioning Evaluation (SAFE). AAT was conducted in weekly 4-hour sessions. Treatment encouraged mobility, interpersonal contact, and communication and reinforced activities of daily living (ADLs), including personal hygiene and independent self-care, through the use of cats and dogs as "modeling companions." The SAFE scores at termination showed significant improvement compared with baseline scores and were significantly more positive for the AAT group on both Total SAFE score and on the Social Functions subscale. AAT proved a successful tool for enhancing socialization, ADLs, and general well-being.

Animal-assisted therapy for middle-aged schizophrenic patients living in a social institution. A pilot study

Z. Kovacs, 2004

Clinical Rehabilitation, 18,

OBJECTIVES: To determine whether animal-assisted therapy is effective in the rehabilitation of middle-aged schizophrenic patients living in a social institution. **DESIGN:** A before and after study with nine-month treatment period. **SETTING:** Social institute for psychiatric patients.

SUBJECTS: Seven schizophrenic patients living in the social institute.

INTERVENTIONS: Weekly sessions of animal-assisted therapy for a nine-month period, each therapeutic session lasting for 50 minutes.

MEASURES USED: The Independent Living Skills Survey assessed by an independent rater.

RESULTS: After the completion of the therapy significant improvement in the domestic and health activities occurred. **CONCLUSIONS:** Animal-assisted therapy seems to be helpful in the rehabilitation of schizophrenic patients living in a social institution.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=15293482&dopt=Citation

Animal-assisted therapy in psychiatric rehabilitation

Carolyn A. Marr, Linda French, Donna Thompson, Larry Drum, Gloria Greening, Jill Mormon, Irie Henderson and Carroll W. Hughes

Terrell State Hospital, Terrell, Texas, USA

Reviews of animal-assisted therapy (AAT) research suggest the need for better controlled and designed research studies to supplement the many case studies and anecdotal reports. This study reports the results of such an investigation where sixty-nine male and female psychiatric inpatients were randomized to either an AAT psychiatric rehabilitation group or a similarly conducted control group without AAT to test if AAT can improve prosocial behaviors. The Social Behavior Scale was scored daily by an independent rater and patients were monitored for four weeks. A two-group by weeks repeated measure analysis of variance was conducted for each outcome measure. There were no baseline differences between the two groups on demographics or any of the measures, but by week four, patients in the AAT group were significantly more interactive with other patients, scored higher on measures of smiles and pleasure, were more sociable and helpful with others, and were more active and responsive to surroundings. These data suggest that AAT plays an important role in enhancing the benefits of conventional therapy, and demonstrates the benefit of including a non-AAT group for comparison. The study also demonstrates the importance of using longitudinal, repeated measure designs. Previous studies may have failed to find significant effects because they were restricted to shorter intervals for measuring outcomes.

Anthrozoos 13 (1) 2000

Animal-assisted therapy in the intensive care unit. A staff nurse's dream comes true

Cole, K. M., and A. Gawlinski, 1995,

Nursing Clinics of North America, v. 30, p. 529-37.

This article presents an example of how one staff nurse was able to implement change in clinical practice on the basis of research. After reviewing the literature on AAT, I was able to implement this therapy for critically ill patients and families. Patient satisfaction surveys indicate that patients have benefited from this change. Patients report feelings of increased happiness, calmness, more feelings of love, and less loneliness. This example shows how staff nurses, a highly motivated and knowledgeable group, provide a fertile arena for bridging the research-practice gap.

Animal-assisted therapy with adolescents in a psychiatric facility:

Banman, J. K., 1995,

Journal of Pastoral Care, v. 49, p. 274-8.

Reports personal experiences and research findings which suggest that pets may serve various therapeutic functions in working with children and adolescents in a psychiatric environment. Outlines research data on animal-assisted therapy and urges caregivers to include it in their armamentarium of therapeutic aids.

Animal-assisted therapy with hospitalized adolescents

Bardill, N., and S. Hutchinson, 1997,

Journal of Child & Adolescent Psychiatric Nursing, v. 10, p. 17-24.

PROBLEM: To ascertain the effects of animal-assisted therapy on hospitalized adolescents.
METHODS: Thirty adolescents hospitalized in a 16-bed psychiatric unit. Data collection included patient journals, interviews with 15 patients, and anecdotal notes from observations and staff reports. The ethnographic method was used for data analysis.

FINDINGS: Categories identified from the data include the dog as a component of the milieu, as friend, and as therapist. The dog served as a catalyst for interactions, and often had human qualities ascribed to him by the adolescents.

CONCLUSION: This study provides new information that can enhance patient care.

Animal-assisted therapy. "Ruby goes to school" (September 23)

H. J. Kahn, 2003

ASHA Leader., 8,

I entered my third decade as a speech-language pathologist at the turn of the new millennium. Although my professional skills may steadily improve as a function of experience, the ability to "get the job done" in a public school setting seems increasingly difficult. Caseloads that are too big, budgets that are too small and endless administrative demands limit our efficacy. Both the lives of many of the children that we serve and the range of speech-language impairments are growing in complexity. In spite of my professional experience, I am too often left with a feeling of inefficacy and

consequently, I am always searching for ways to remedy this situation. When an out-of town colleague mentioned to me that an audiologist in her office used a "therapy-assistance dog", I recognized this as an opportunity to effect a winning outcome for all involved: increase the communication skills in my clients, improve my feelings of job satisfaction, and train a smart dog to accomplish a worthwhile task.

<http://www.speechandlanguage.com/article/oct2003.asp>

Animal-Assisted Therapy: A Meta-Analysis

Nimer, Janelle; Lundahl, Brad

Anthrozoos: Volume 20, 3, September 2007 ,

Animal-assisted therapy (AAT) has been practiced for many years and there is now increasing interest in demonstrating its efficacy through research. To date, no known quantitative review of AAT studies has been published; our study sought to fill this gap. We conducted a comprehensive search of articles reporting on AAT in which we reviewed 250 studies, 49 of which met our inclusion criteria and were submitted to meta-analytic procedures. Overall, AAT was associated with moderate effect sizes in improving outcomes in four areas: Autism-spectrum symptoms, medical difficulties, behavioral problems, and emotional well-being. Contrary to expectations, characteristics of participants and studies did not produce differential outcomes. AAT shows promise as an additive to established interventions and future research should investigate the conditions under which AAT can be most helpful.

Animal-assisted therapy: the human-animal bond

Cole, K. M., and A. Gawlinski, 2000,

AACN Clinical Issues, v. 11, p. 139-49.

Advanced practice nurses are met with the ongoing challenge of using interventions and practices that are evidence based in the care of their patients. Such practices include traditional as well as complementary and alternative therapies. Animal-assisted therapy is an alternative therapeutic modality that can be used to promote quality of life and positive health benefits. This article reviews the theoretical and scientific basis for the use of animal-assisted therapy in patient care. A pilot study in which the effect of fish aquarium animal-assisted therapy on patients' stress levels was examined is summarized.

Animal-related activities and appreciation of animals among children and adolescents

Tore Bjerke,* Bjorn P Kaltenbom* and Toril S. QSDegardstuent

Five hundred and sixty-two children and adolescents, aged between nine and 15 years, from one urban and three rural areas in Southern Norway, completed a questionnaire in which they expressed their degree of preference for various animal species, participation in animal-related activities, and the presence of pets at home. The results showed that a majority of the respondents had an animal at home (71%), and participated in animal-related activities such as fishing (72%), feeding birds (74%), and reading about animals (66%). Participation in most animal-related activities decreased with increasing age. Pet owners liked farm and wild animals more than did respondents without pets. Positive associations were found between the liking of animal species and participation in animal-related activities. Gender differences were largest for horseback riding (girls most) and for fishing and hunting (boys most). Those who reported allergic reactions to animals, or had been injured by an

animal, liked animals as much as, or more than, did the other respondents.

Anthrozoos 14 (2) 2001

Animals & modern cultures: A sociology of human-animal relations in modernity.

Franklin, A.

London, Sage Publications. (1999)

Animals and modern cultures investigates the dramatic transformation of relationships between humans and animals in the twentieth century. In the early part of the century these were based on a categorical distinction between humans and animals. At the close of the century that distinction, and the subordination of animals is being seriously questioned.

The book demonstrates that changing relations with animals can only make sense by relating them to key aspects of social and cultural change. It is not focused on how humans should act towards animals; rather, it is concerned with how humans relate to animals and how this has changed and why. Key changes are related to the moral crisis of humanity resulting from a breakdown of the modern world order. Moreover, it highlights, through chapters on companion animals, hunting and fishing, animal leasures such as bird watching and wildlife parks, meat and livestock industries, how attitudes and practices towards animals vary widely according to social class, ethnicity, gender, region and nation. Written in a lively and accesible style, the book will be of interest to upper level undergraduates and postgraduates in sociology, cultural studies, anthropology, history, zoological, biological, life and veterinary studies.

Animals and Cardiovascular Health

Delta and Society, 2002

2002, Delta Society

For abstract, go to <http://www.deltasociety.org/AnimalsHealthAdultsCardiovascular.htm>

Animals and their masters. Psychological and psychopathological aspects

Mouren, M. C., M. Ohayon, et al. (1980)

Ann Med Psychol (Paris) 138(5): 543-57.

Animals have always occupied a privileged place beside man and with him form a couple, a duality. In the first part the authors study the psychology of the adopted animal. Then they look at greater length into the personality of his owner, with particular insistence on the reasons for acquiring it, on the choice of animal (dog, cat, horses), on the part it plays in the life of its master, and on the latter's reaction at his companion's death. They also tackle the problem of man's abnormal behaviour in relation to animals, especially bestiality.

Animals helping people -- people helping animals: interview with Kathryn Gress:

Journal of Psychosocial Nursing & Mental Health Services., v. 41, p. 18-25.

Counseling in the Country at the Gress Mountain Ranch provides both educational programs (i.e.,

animal-assisted activities) and counseling sessions (i.e., animal-assisted therapy). Animals who participate in the educational and counseling sessions include Great Pyrenees, cats, goats, horses, and mules. Animals help people develop trust and overcome shyness. Sometimes the process is reciprocal. Animals develop "specialist" roles, such as greeter or calming agent, and help people cope with their illnesses. Interacting with animals builds individuals' confidence and enhances their social skills.

Animals helping people. People helping animals. Interview by Shirley A. Smoyak

Gress, K., 2003,

Journal of Psychosocial Nursing & Mental Health Services., v. 41, p. 18-25.

1. Counseling in the Country at the Gress Mountain Ranch provides both educational programs (i.e., animal-assisted activities) and counseling sessions (i.e., animal-assisted therapy).

2. Animals who participate in the educational and counseling sessions include Great Pyrenees, cats, goats, horses, and mules.

3. Animals help people develop trust and overcome shyness. Sometimes the process is reciprocal. 4. Animals develop "specialist" roles, such as greeter or calming agent, and help people cope with their illnesses. Interacting with animals builds individuals' confidence and enhances their social skills.

Anthropomorphic tendencies among pet owners and non-owners

M. G. Chin, Sims, V. K. et al, 2005

ISAZ 14th Annual Conference,

For abstract go to <http://www.vetmed.ucdavis.edu/CCAB/isaz2005.pdf> and see page 10

Anthropomorphism and anthropomorphic selection--beyond the "cute response"

Serpell, J. A.

Society & Animals, v. 11, p. 83-100, 2003.

This article explores the origin and evolutionary implications of anthropomorphism in the context of our relationships with animal companions. On the human side, anthropomorphic thinking enables animal companions' social behavior to be construed in human terms, thereby allowing these nonhuman animals to function for their human owners or guardians as providers of nonhuman social support. Absence of social support is known to be detrimental to human health and well being. Therefore, anthropomorphism and its corollary, pet keeping, have obvious biological fitness implications. On the animal side, anthropomorphism constitutes a unique evolutionary selection pressure, analogous to sexual selection, which has molded the appearance, anatomy, and behavior of companion animal species so as to adapt them to their unusual ecological niche as social support providers. Although such species undoubtedly have benefited numerically from the effects of this process, the consequences of anthropomorphism are less benign when viewed from the perspective of individual animals. Indeed, anthropomorphic selection probably is responsible for some of the more severe welfare problems currently found in companion animals.

"Anthrozoophilia" as a predictor of empathy

B. Daly, 2005

Are Pets a Healthy Pleasure? The Influence of Pets on Blood Pressure

K. Allen,

Current Directions in Psychological Science, 12, 2003

Pet owners often describe their pets as important and cherished family members who offer solace in times of stress. This article considers evidence suggesting that pets influence human blood pressure. Studies on this topic extend current research testing the hypothesis that having other people around in stressful times can buffer the negative consequences of stress. The existing data suggest that people perceive pets as important, supportive parts of their lives and that the presence of a pet is associated with significant cardiovascular benefits, among both people with normal blood pressure and those with high blood pressure. Studies about pets and blood pressure have examined both naturally occurring and randomly assigned pet ownership but are limited by their focus on responses to short-term, acute stress. Future prospective studies should explore the influence of pets on people at risk for cardiovascular disease and also consider explanatory mechanisms for the pet effect.

<http://www.ingentaconnect.com/content/bpl/cdir/2003/00000012/00000006/art00009>

*Blood Pressure

*Cardiovascular Disorders

*Pets

*Stress

Cardiovascular Disorders [3295].

Human.

Assistance dog placement in the pediatric population: Benefits, risks, and recommendations for future application

B. W. Davis* K Nattrass,* S. O'Brien; G. Patronek* and M. MacCollin* *Center for Animals and Public Policy, Tufts University School of Veterinary Medicine, USA Tufts University Center for Children, USA National Education for Assistance Dogs Services, USA

Assistance animals have long been recognized for their value in enhancing the lives of adults with disabilities by increasing the physical independence, confidence, and social lives of their handlers. Recently, this concept has been applied to the growing population of children with physical disabilities and developmental impairments, though the benefits and risks of these placements have not been thoroughly assessed. Our study used interviews to evaluate the outcome of placing assistance dogs in the pediatric population, looking specifically at the unique advantages and disadvantages of this application of the human-animal bond. We administered a structured interview assessing risks and benefits of assistance dog relationships to 17 families with a child under 18 years who graduated from a single provider (NEADS) over a five-year time period. Benefits were found in 88% of families, and were overwhelmingly social and cognitive, with additional physical and medical

benefits for the pediatric client. However, risks, including behavioral, financial, and time/cost issues were significant, becoming a burden in 53% of families. Perhaps more than with adult placements, we found that it was of prime importance to understand the assistance animal in the context of the family; rather than just in relation to the individual with a disability. It is hoped that results of this and future studies will enhance the welfare of both client and assistance animal, as well as the overall success of this unique human-animal relationship.

Anthrozoos 17 (2) 2004

Association with companion animals and the expression of noncognitive symptoms in Alzheimer's patients

Fritz, C. L., T. B. Farver, et al.

Journal of Nervous & Mental Disease 183(7): 459-63. (1995).

Interactions with companion animals have been shown to have socializing and calming effects for Alzheimer's patients in an institutional setting. Sixty-four Alzheimer's patients living in the private home were studied, through medical records and information provided by caregivers, to determine what effect association with a companion animal had on the progression of cognitive decline and the manifestation of concomitant noncognitive symptoms. Prevalence of episodes of verbal aggression and anxiety was reported less frequently in 34 patients who were exposed to companion animals compared with patients who were not exposed. Significantly fewer mood disorders were reported in patients who were attached to their pets compared with patients who were not attached. There was no significant difference in the rate of cognitive decline between pet-exposed and nonexposed patients as measured by three standard indices. This study lends preliminary support to the belief that interaction with pets can aid in tempering feelings of agitation and aggression in Alzheimer's patients.

Attachment of people to companion animals

Voith, V. L., 1985,

Veterinary Clinics of North America - Small Animal Practice, v. 15, p. 289-295.

Cat and dog owners appear to be equally attached to their pets, engage in similar behaviors, and hold similar opinions regarding their pets. The universality and strength of this attachment may be because household pets fit into the biological attachment system that exists to bond parents and children. Additionally, pets may convey a feeling of security or a sense of well-being that is rooted in our evolutionary past.

Attachment styles impact on pet visitation effectiveness

Patricia M. Colby* and Angela Sherman

Skidmore College, NY, USA T Pacific Graduate School of Psychology, CA, USA

This paper describes a field study on the effects of attachment styles on the subjective well-being of institutionalized older persons after participating in a pet visitation program. We compared how attachment style (i.e., secure, anxious ambivalent, dismissive avoidant, and fearful avoidant) moderated the impact of a dog visitation program in 52 elderly residents of an assisted-living facility. Controlling for pre-visitation mood, the results revealed that the secure style related to increases in positive mood after interacting with the dogs. The anxious ambivalent style related to increases in positive mood and decreases in ratings of depression. Most importantly, the fearful avoidant style

related to increases in depression after interacting with the dogs. The results highlight the notion that not all participants benefit from taking part in pet visitation programs. Theoretically, this study presents preliminary evidence for the relevance of attachment styles in understanding human pet interactions.

Anthrozoos 15 (2) 2002

Attachment to feline companions

Zasloff, R. L., and A. H. Kidd, 1994,

Psychological Reports, v. 74, p. 747-752.

Surveyed 100 adult cat owners to investigate various aspects of attachment to feline companions. 54 Ss were members of a nationwide computer cat club and 46 were attenders at a cat show in Anaheim, California. 92% of the Ss reported preferring cats to all other pets citing ease of care, affection and companionship, and personality as the main reasons. A mean self-rated attachment score of 9.3 on a 10-point scale was obtained. Positive characteristics of the cat were associated with attachment, and the presence of certain problem behaviors did not affect that attachment. Comparisons of the benefits of feline and human companionship showed that affection and unconditional love were the primary benefits of the human-cat relationship, and verbal communication was the primary benefit of the human-human relationship.

Attachment to humans: a comparative study on hand-reared wolves and differently socialized dog puppies.

Topal, J.; Gacsi, M.; Miklosi, A.; Viranyi, Z.; Kubinyi, E.; Csanyi, V.;

Animal Behaviour: 2005. 70: 6, 1367-1375.

Using the Strange Situation Test originally developed for testing the mother-infant relationship in humans, we compared the attachment behaviour of extensively socialized (hand-reared) dog, *Canis familiaris*, and wolf, *Canis lupus*, puppies towards their human caregiver with that of pet dog puppies of the same age. The experiment was designed to study whether (1) dog puppies as young as 16 weeks show attachment to a human caregiver, (2) extensive socialization by human caregivers affects attachment behaviour of dog puppies and (3) evolutionary changes (in the form of species-specific differences between wolf and dog pups) affect the emergence of dog-human attachment. We found a characteristic selective responsiveness to the owner in young dogs, similar to that observed in adults. This finding supports the view that puppies show patterns of attachment towards their owners. Extensive socialization had only a minor effect on the attachment behaviour in dog puppies, as the behaviour of pet dogs and hand-reared dogs was basically similar. However, we found a significant species-specific difference between wolves and dogs: both extensively socialized and pet dog puppies were more responsive to the owner than to an unfamiliar human participant, whereas extensively socialized wolves were not. Behavioural differences could be best explained by assuming that selective processes took place in the course of domestication (genetic changes) that are related to the attachment system of the dog.

Attachment to livestock and attitudes toward large carnivores among sheep farmers in Norway

Vitterso, J., B. P. Kaltenborn, and T. Bjerke, 1998,

Anthrozoos, v. 11, p. 210-217.

The relationship between emotional investment and attachment to livestock among Norwegian sheep

farmers, and their perception of large predators such as the wolf, bear, lynx and wolverine was investigated. It was hypothesized that attachment to livestock would affect the attitudes towards large carnivores. Based on questionnaires returned from 491 respondents, a structural equation model (SEM) was set up to test this assumption. Results showed that attachment to livestock significantly predicted attitudes towards carnivores. In particular, negative attitudes were strongly related to attachment in such a way that the deeper the attachment farmers had for livestock, the more negative were their attitudes towards the predators. The need for a differentiation among attachment to various kinds of animals to understand attitudinal relationships with carnivores is discussed.

Attitude to Animals and Empathy: Comparing Animal Protection and General Community Samples

Signal, Tania D.; Taylor, Nicola

Anthrozoos:20, 2, June 2007 , pp. 125-130(6)

Although a number of studies have examined a range of demographic and personality variables that may impact upon attitudes towards the treatment of non-human species, little consensus has been reached within the literature. The aim of the current study was to evaluate and assess levels of human-directed empathy and attitudes towards the treatment of animals in two diverse populations, namely the general community (n = 543) and those within the animal protection field (n = 389). Both groups of participants completed the Attitude Towards the Treatment of Animals Scale (AAS) and the Davis Interpersonal Reactivity Index (IRI), a measure of human-directed empathy. Comparisons between the two samples indicated that those within the animal protection community scored more highly on both the animal attitude and human-directed empathy measures. Correlational analyses revealed a positive relation between AAS and IRI scores for both samples, whilst the strength of the correlation was greater for those within the animal protection sample. These findings are discussed.

Attitudes and activities related to urban wildlife: Pet owners and non-owners

Tore Bjerke ; Torbjorn Ost Dahl and Jo Kleiven 'Norwegian Institute for Nature Research, Division for Man-Environment Studies, Lillehammer, Norway tLillehammer College, Lillehammer, Norway

A survey on attitudes toward common urban animal species was conducted in Trondheim, Norway. Owners of pet animals liked most of the 24 species included more than did non pet owners. Only for less popular species (mosquitoes, rats, snails, and insects) were no differences found between the two groups. Pet owners also fed wildlife more often, and they participated more often in animal-related activities, compared with non pet owners. Experiences of problems with animals did not seem to influence attitudes toward other species than those causing problems.

Anthrozoos 16 (3) 2003

2<Attitudes and care practices of cat caretakers in Hawaii>Zasloff, R. L., and L. A. Hart.

Anthrozoos, v. 11, p. 242-248, 1998.

Persons maintaining colonies of homeless, stray cats on the island of Oahu were surveyed for attitudes and care practices associated with colony maintenance. The 75 respondents were primarily female pet owners, middle-aged, living with spouses, well-educated, and employed full time, dispelling the image of caretakers as elderly, socially-isolated individuals. Most believed that outdoor cat colonies should continue and that colony maintenance is a way of curbing pet overpopulation so long as the cats are sterilized. Most respondents had been maintaining cat colonies for 2 to 4 years. All caretakers reported having attempted to socialize the cats and nearly half had been successful in homing cats.

Most were caring for one colony of fewer than 10 animals which were fed once or twice daily. All caretakers tried to trap the cats and take them for sterilization and veterinary care. Although many took advantage of the Hawaiian Humane Society's free sterilization programme for colony cats, some caretakers paid for sterilization and more than half reported paying for all veterinary care. Love of cats, opportunity for nurturing, and improved feelings of self-esteem appear to be some of the factors underlying the remarkable commitment of the caretakers. Colony management may not be practical in some areas due to risks to wildlife and human health. However, where feasible, the availability of individuals willing to provide responsible care to these animals may be a significant resource for animal welfare and control organizations

Attitudes of paediatric medical ward staff to a dog visitation programme

Moody, W. J., R. King, and S. O'Rourke, 2002,

Journal of Clinical Nursing., v. 11, p. 537-44.

No previous studies regarding either structured, strictly controlled pet visitation programmes in paediatric hospital wards or hospital staff attitudes towards them have been conducted in Australia. Information regarding these is essential in order to minimize problems during implementation of such programmes. The aim of the study was to analyse hospital staff perceptions regarding the introduction of a pet visitation programme in an acute paediatric medical ward prior to and following implementation of the programme and to compare attitudes between the various professional groups. The study consisted of two cross-sectional surveys. A total of 224 anonymous questionnaires were distributed to administrators, doctors, nursing staff and therapists 6 weeks before and 195 were distributed 12 weeks after the introduction of a pet visitation programme. Responses were received from 115 respondents (before the programme introduction) and 45 respondents (after the programme introduction). Prior to the introduction of the dog visitation programme, there were high staff expectations that the programme would distract children from their illness, relax children and that it was a worthwhile project for the hospital to undertake. Following implementation of the programme these expectations were strongly endorsed, in addition to the perception that the ward was a happier place, the work environment was more interesting and that nurses accepted the dogs. After implementation staff were less concerned about the possibility of dog bites and dogs doing damage to equipment. Allied health staff and non-clinical staff were more positive about the programme with respect to ward climate and acceptance than were doctors and nurses. We conclude that well-planned dog visitation programmes result in positive anticipation among staff and high levels of satisfaction following programme impact.

Attitudes toward animals among Norwegian children and adolescents: species preferences:

Bjerke, T., T. S. Odegardstuen, and B. P. Kaltenborn.

Anthrozoos, v. 11, p. 227-235, 1998.

562 children and adolescents (9 and 15 years), from one urban and 3 rural areas in southern Norway, completed a questionnaire on their degree of preference for various animal species. The dog, cat, horse, and rabbit were the favourite species, while the crow, worm, bee, and spider were the least liked. Girls were more positive toward horses, and were more pet-orientated than boys, while more boys than girls preferred wild animals. Younger respondents liked animals more than did 15-year-olds, with a few exceptions: the wolf, bear, and whale. Urban respondents liked animals more than rural respondents, a finding which applied to the large carnivores in particular. Interests in wildlife decreased with age, and few respondents wished to save ecologically-significant species (ants, bees, ladybirds) from extinction

Attitudes towards animal use and belief in animal mind

Sarah Knight, Aldert Vrij, Julie Cherryman and Karl Nunkoosing Department of Psychology, University of Portsmouth, UK

Animals are used by humans in many ways, yet science has paid little attention to the study of human-animal relationships (Melson 2002). In the present study, participants (n= 96) completed a questionnaire on attitudes towards animal use, and individual differences were examined to determine which characteristics might underlie these attitudes ("belief in animal mind," age, gender, experience of animals, vegetarianism, political stance, and living area). It emerged that participants held different views for different types of animal use, and that belief in animal mind (BAM) was a powerful and consistent predictor of these attitudes, with BAM together with gender and vegetarianism predicting up to 37% of the variance in attitudes towards animal use. Thus, future research should acknowledge the importance of BAM as a major underlying factor of attitudes towards animal use, and should also distinguish between different types of animal use when measuring attitudes. We propose that the large effect of BAM might be due to increasing interest in animal mind over the past decade.

Anthrozoos 17 (1) 2004

Attitudes towards animals in a small Caribbean city: A case study from Roseau, Dominica

K. Alie, Witkind Davis, B. et al,

2005

ISAZ 14th Annual Conference,

For abstract go to <http://www.vetmed.ucdavis.edu/CCAB/isaz2005.pdf> and see page 8

animal overpopulation, animal welfare, stray animals

Attitudes towards assistance dogs in Japan and the UK: a comparison of college students studying animal care

Ayaka Miura, John W S. Bradshaw; and Hajime Tanida

Previous studies have indicated that the primary problems associated with ownership of assistance dogs lie not with the dogs themselves, but with people's attitudes and behavior towards them, including interference with the dog while it is working, and denial of access to public facilities. However, there has been little systematic study of the attitudes of the general public towards assistance dogs. Our study was carried out to compare the knowledge and attitudes of young people in Japan and the UK towards assistance dogs, in order to provide a basis for the future development of assistance dog provision in Japan.

Forty-four Japanese and 42 British college students completed questionnaires in which they were asked about their knowledge of, and attitudes towards, assistance dogs. A similar percentage (about 20%) of the British and Japanese students reported that they were unhappy about allowing the dogs access to places where food is sold. However, the British participants were more likely to be positive about the idea of using dogs to assist people with disabilities than were the Japanese. Attitudes towards assistance dogs varied among the Japanese students. Some considered assistance dogs happier than pet dogs, because pet dogs are sometimes neglected, while others expressed sympathy

for assistance dogs because they are strictly trained and exploited by humans. When asked their opinions about the idea of using dogs as assistance dogs, 98% of the British students, but only 41 % of the Japanese students, agreed with the idea.

Anthrozoos 15 (3) 2002

Attitudes towards dogs and other "pets" in Roseau, Dominica.

Alie, K.; Davis, B. W.; Fielding, W. J.; Galindo Maldonado, F.;

Anthrozoos. 2007. 20: 2, 143-154.

This paper reports on the findings of interviews on attitudes towards pet care with 241 heads of households in Roseau, the capital of The Commonwealth of Dominica. Parrots and dogs were the two most preferred animals, and snakes were least liked; however, few respondents (0.8%) kept parrots as pets. Dogs were kept in 39% of households and cats in 28%. Over 90% of respondents thought that Roseau had a "roaming dog problem," and 71% reported roaming dogs, amongst other roaming animals, in their neighborhoods. Almost a third of cats and dogs were untrained and almost 58% of dog carers only took their pets to the veterinarian when they thought they were sick. It is proposed that most dog carers are "passive" - have little interaction with their dogs. Most respondents were ignorant of the laws concerning dog ownership and animal welfare. Respondents only wanted to adopt dogs with certain characteristics and most were unwilling to pay for an adopted dog. The findings from this study indicate that the community needs to be better educated in animal welfare.

Attitudes towards dogs: a study of university students in Japan and the UK

Ayaka Miura ; John W. S. Bradshaw* and Hajime Tanida

The attitudes of 229 (142 females, 87 males) Japanese and 212 (131 females, 81 males) British students towards dogs were measured using a questionnaire comprising 46, seven-point Likert scale items, taking the cultures of both Japan and the UK into consideration. Their responses were separately subjected to Principal Factor Analysis with Varimax Rotation, which suggested seven and five independent sub-scales from the Japanese and British data, respectively. Two of these sub-scales, describing willingness to train and acceptance of dogs as equals, were essentially identical between the two countries. Concern over hygiene, and freedom of access for dogs, were grouped as a single sub-scale in Japan, but split into two sub-scales in the UK. Euthanasia and intolerance of aggression were addressed by two separate sub-scales in Japan but one subscale in the UK. Sub-scales relating to stray dogs, and usefulness of dogs, were detectable in the Japanese data but not in the UK. Both Japanese and British women were more likely to consider dogs as their equals, and were less accepting of euthanasia, than men in the same country. The greatest difference between the two countries was in attitudes towards euthanasia, which the British found more acceptable than did the Japanese.

Anthrozoos 13 (2) 2000

Behavior and cortisol levels of dogs in a public animal shelter, and an exploration of the ability of these measures to...

Behavior and cortisol levels of dogs in a public animal shelter, and an exploration of the ability of these measures to predict problem behavior after adoption:

Hennessy, M. B., V. L. Voith, S. J. Mazzei, J. Buttram, D. D. Miller, and F. Linden, 2001,

Behaviour and plasma cortisol levels were examined in puppies and juvenile/adult dogs admitted to a public animal shelter. A behavioural test was developed to assess the responses of the dogs to novel or threatening conditions. Factor analysis of the behavioural responses of 166 dogs on day 3 in the shelter yielded six factors (locomotor activity, flight, sociability, timidity, solicitation, and wariness) that accounted for 68% of the total variance. Among those dogs remaining in the shelter for 9 days, plasma cortisol levels declined from day 2 to 9. Cortisol levels were weakly related to factor scores. In order to explore the relation of measures in the shelter to later behaviour, questionnaires assessing problem behaviours were mailed to new owners of dogs 2 weeks and 6 months following adoption. Among puppies, wariness scores were negatively correlated with behaviour problems at 2 weeks and cortisol levels were negatively correlated with behaviour problems at 6 months. These results suggest how measures of behaviour and endocrine activity obtained in shelters might prove useful for screening dogs for adoption or targeting dogs for behavioural intervention.

Behavioral and physiological responses of guide dogs to a situation of emotional distress

Fallani, G.; Previde, E. P.; Valsecchi, P.

Physiology & Behavior. 2007. 90: 4, 648-655.

The aim of this study was to analyze the behavioral and physiological reactions of guide dogs in a distressing situation which promotes attachment behaviors towards their blind owners, and to compare such reactions with those of untrained or trainee dogs. The subjects were 57 adult Labrador and Golden retriever dogs (14 males, 43 females) belonging to four different groups: 19 Custody dogs, 13 Apprentice dogs, 10 Guide dogs and 15 Pet dogs. Dogs were tested using the Strange Situation Test, consisting in seven 3-minute episodes in which the dogs were placed in an unfamiliar environment, introduced to an unfamiliar woman and subjected to separation from their human companion. Tests were video-recorded and behaviors were scored using a 5-second point sampling method. Polar Vantage telemetric system was used to record cardiac activity. ANOVAs for repeated measures with groups and breeds as independent variables, showed a more anxious reaction in pet dogs, which revealed a high degree of proximity seeking behaviour. Cardiac activity increased during episodes characterized by the exclusive presence of the stranger, but this increase was more conspicuous in guide dogs than in custody and apprentice dogs. Golden retrievers showed more behaviors suggesting distress compared to Labrador retrievers. This study showed that guide dogs, when separated from their blind owner, reveal a controlled behavioral reaction that is however accompanied by a stronger cardiac activation.

Behavioral effects of the presence of a dog in a classroom

Kotrschal, K., and B. Ortbauer

Anthrozoos, v. 16, p. 147-159. 2003

To test the idea that dogs have a positive influence on the social behavior of school children, one of three dogs was introduced alternately into a class at an elementary school in Vienna (Austria) attended by 24 children. Most of the 14 boys and ten girls came from first-generation immigrant families. With parental consent, their behavior was videotaped for two hours every week, during "open teaching situations," first during a one-month control period in the absence of dogs, followed by an experimental period of similar duration, when a dog was present in the classroom. Frequency and duration of all observable behaviors of individuals and their interactions were coded from these tapes. Although major individual differences were found in the children's interest in the dog and their behavioral responses, the group became socially more homogenous due to decreased behavioral extremes, such as aggressiveness and hyperactivity. Also, formerly withdrawn individuals became

socially more integrated. Effects were more pronounced among the boys. It is concluded that the presence of a dog in a classroom could positively stimulate social cohesion in children and provide a relatively cheap and easy means of improving teaching conditions.

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Behaviors and Attitudes towards Semi-Owned Cats

Toukhsati, Samia R.; Bennett, Pauleen C.; Coleman, Grahame J.

Anthrozoos: 20, 2, June 2007 , pp. 131-142(12)

The intentional provision of food, medical treatment and shelter by humans for a cat that is not considered to be owned by the individual is defined as "semi-ownership." The aim of this study was to explore the prevalence of such behaviors and the attitudes held by individuals who engage in them. The sample, comprising 424 residents from rural and non-rural Victoria, Australia, were surveyed in relation to their ownership status, practices, and attitudes towards companion animals. The findings revealed that 22% of the sample engaged in one or more cat semi-ownership behaviors; primarily feeding. Cat semi-ownership was associated with positive feelings towards cats, and the belief that cats are independent. Opportunities to engage cat semi-owners in education programs that promote responsible companion animal ownership behaviors were evident.

Behaviour test for eight-week old puppies - heritabilities of tested behaviour traits and its correspondence to later behaviour

Wilsson, E., and P. E. Sundgren, 1998,

Applied Animal Behaviour Science, v. 58, p. 151-162.

Play and exploratory behaviour, and behaviour when isolated (total of 10 tests) was tested in 630 German Shepherd puppies at 8 weeks of age. All dogs were also tested at 450-600 days of age using to regimen for selection of service dogs. Significant sex differences were found in 4 of the 10 puppy tests. Generally, female puppies showed significantly shorter fetch times, were more active and showed more exploratory behaviour than male puppies. There were also significant correlations between scores for different puppy tests. Correspondence of puppy test results to adult performance was negligible and the puppy test was not useful in predicting adult suitability for service dog work. Heritability for scores in the puppy tests ranged from 0.20 for retrieving behaviour to 0.53 for activity.

Maternal effects on the puppy test results were found when estimations based on sire and dam variances were compared.

Behavioural testing of dogs in animal shelters to predict problem behaviour

Borg, J. A. M. v. d., W. J. Netto, and D. J. U. Planta, 1991,

Applied Animal Behaviour Science, v. 32, p. 2-3.

Although new homes can be found for dogs in animal shelters, many returned. This is due partly to a poor 'match' between dog and new owner. A better prediction of problem behaviour could improve the matching procedure. A set of tests was developed to test four problem-related behavioural characteristics, namely aggression, fear, obedience and separation anxiety, as well as a category of miscellaneous problem-related behaviours. A range of stimuli were used, including man, animals and visual and acoustic stimuli from objects. Results from the 81 dogs tested and the opinions of the staff of the animal shelters about these dogs, were compared with the experiences of the new owners. This showed that behavioural testing gave better prediction of problem behaviour than opinions of the staff.

Behavioural, household, and social problems associated with companion animals: opinions of owners and non-owners

Endenburg, N. and B. W. Knol (1994).

Veterinary Quarterly 16(2): 130-4.

The goal of this investigation was to determine the extent to which owners of companion animals experienced problems with their animals, such as behaviour problems, and to discover their opinion about household problems such as the shedding of hairs and/or feathers. Furthermore, an attempt was made to discover the opinions of owners and non-owners about social problems such as 'companion animals make noise'. The findings are the result of a survey among 871 Dutch respondents. It was found that 43% of all companion animal owners had one or more problems with their animals. Dog and cat owners experienced many problems with the illness and the behaviour of their animals. The higher the income of the owner, the more likely he/she is to have problems with his/her animal's behaviour. Because animals with behaviour problems are a risk group, more should be done to prevent these problems. Owners of companion animals found shedding of hair or feathers the biggest disadvantage of keeping an animal. People in paid employment found cleaning the cage of the animal a bigger nuisance than did people not in paid employment. There were no differences in owner characteristics with regard to the household problems. The opinions of owners of certain species of animals, owners of other species, and non-owners about behavioural traits and the nuisance caused by that species of companion animal differed, which could lead to misunderstandings between these groups.

Behavioural, saliva cortisol and heart rate responses to different types of stimuli in dogs

Beerda, B., M. B. H. Schilder, J. A. R. A. M. v. Hooff, H. W. d. Vries, and J. A. Mol, 1998,

Applied Animal Behaviour Science, v. 58, p. 365-381.

Ten dogs of both sexes, different ages and various breeds were each subjected to 6 different stimuli: sound blasts, short electric shocks, a falling bag, an opening umbrella and 2 forms of restraint. Each type of stimulus had been selected for its assumed aversive properties and was administered intermittently for 1 min. Behavioural responses were recorded and saliva cortisol and heart rate were

measured. The stimuli that could not be anticipated by the dogs, sound blasts, shocks and a falling bag, tended to induce saliva cortisol responses and a very low posture. The remainder of the stimuli, which were administered by the experimenter visibly to the dog, did not change the cortisol levels but did induce restlessness, a moderate lowering of the posture, body shaking, oral behaviours, and to a lesser extent, yawning and open mouth. Pronounced increases in the heart rate were non-specifically induced by each type of stimulus. Heart rate levels normalized within 8 min after stressor administration had stopped. Saliva cortisol levels decreased to normal within the hour. Correlations between behavioural and physiological stress parameters were not significant. It is concluded that in dogs a very low posture may indicate intense acute stress since dogs show a very low posture concomitant with saliva cortisol responses. Dogs may typically show increased restlessness, oral behaviours, yawning, open mouth and a moderate lowering of the posture when they experienced moderate stress in a social setting. The non-specific character of canine heart rate responses complicates its interpretation with regard to acute stress.

Beneficial and adverse effects of pets

Brasic, J. R., 2002,

Psychological Reports., v. 91, p. 444.

The beneficial and adverse effects of pets on people with special mental and physical conditions merit inclusion in psychological evaluations and treatments.

Beneficial effects of pet ownership on some aspects of human health and behaviour

Serpell, J.

Journal of the Royal Society of Medicine, v. 84, p. 717-20. 1991.

A 10-month prospective study was carried out which examined changes in behaviour and health status in 71 adult subjects following the acquisition of a new pet (either dogs or cats). A group of 26 subjects without pets served as a comparison over the same period. Both pet-owning groups reported a highly significant reduction in minor health problems during the first month following pet acquisition, and this effect was sustained in dog owners through to 10 months. The pet-acquiring groups also showed improvements in their scores on the 30-item General Health Questionnaire over the first 6 months and, in dog owners, this improvement was maintained until 10 months. In addition, dog owners took considerably more physical exercise while walking their dogs than the other two groups, and this effect continued throughout the period of study. The group without pets exhibited no statistically significant changes in health or behaviour, apart from a small increase in recreational walking. The results provide evidence that pet acquisition may have positive effects on human health and behaviour, and that in some cases these effects are relatively long term.

Benefits and liabilities of pets for the homeless

Kidd, A. H., and R. M. Kidd, 1994,

Psychological Reports, v. 74, p. 715-22.

Observations in the streets and parks of San Francisco East Bay cities and suburbs suggested that many of the homeless people own and maintain pet animals in spite of circumstances and environmental conditions. Accordingly, 105 homeless adult men and women, half of whom owned pets, were interviewed for this pilot study. Responses indicated that homeless pet-owners were extremely attached to their pets and had owned significantly more pets during childhood and adolescence than nonowners although there were no significant differences in attachment to pets

between parents and nonparents or between married and single persons. Providing food and veterinary care for pets, however, was a very significant problem for the majority of the homeless pet-owners. It was clear that many homeless adults did have pets which were important for their mental and physical health and that pet care was associated with unique problems.

Benefits derived from companion animals, and the use of the term "attachment".

Crawford, E. K.; Worsham, N. L.; Swinehart, E. R.;
Anthrozoos. 2006. 19: 2, 98-112.

Researchers have discovered that companion animals can physically and psychologically benefit their owners, and some argue that one's attachment to a companion animal influences those benefits. However, those studying the human-companion animal bond have used measures of attachment that may not be congruent with the school of attachment theory as it is applied to human-human relationships. We propose that the term "attachment" applied to human-companion animal relationships in research to date may share aspects of traditional attachment theory, but does not necessarily parallel attachment theory accurately. This paper provides a discussion of the similarities and differences between traditional attachment theory and measurements of human-companion animal attachment, and a review of the literature on physical and psychological benefits derived from companion animals. We conclude with a brief discussion of new research and future directions.

Benefits of Interacting With Companion Animals

A bibliography of Articles Published in Refereed Journals during the past 5 years.

Sandra B Barker , Medical College of Virginia at Virginia Commonwealth University
Christopher Rogers , Virginia-Maryland Regional College of Veterinary Medicine, Virginia Tech
John W Turner, Ariane S Karpf, Medical College of Virginia at Virginia Commonwealth University
H. Marie Suhters-McCabe Virginia-Mary land Regional College of Veterinary Medicine, Virginia Pelt

The current bibliography of 84 citations resulted from a literature search of Medline, CINAHL, and PsychLit databases of journal articles published between 1996 and 2001 (as of November 1, 2001), focusing on the benefits of interacting with companion animals, including animal- and/or pet-assisted therapy. Articles on the human-animal bond and animal behavior were not a focus of this search. Only articles published in English and in journals verified as referred in Ulrich's Periodicals Directory 2001 (39th ed.) are included.

Benefits, problems, and characteristics of home aquarium owners

Kidd, A. H., and R. M. Kidd, 1999,

Psychological Reports, v. 84(3, p. 998-1004.

Although tank fish are currently the most popular "pets" in the US, literature reporting studies on the benefits, problems, and characteristics of home aquarium ownership is extremely limited. Because it seemed important to learn more about people who enjoy owning and caring for home aquaria, 50 men and 50 women were interviewed in several area stores which provide and sell living fish and adjunct products necessary for maintaining good home aquarium environments. Major problems reported by home aquarium owners were the expensive equipment, especially the tanks and controls for water temperature, circulation, and chemical balances, the tank maintenance, and tank cleanliness. Major benefits mentioned by such owners were the calming, relaxation, and stress-reduction effects of just watching fish which lessened anxieties and created a sense of serenity. These findings help to explain

the current popularity of the live inhabitants of home aquaria.

2<Bereavement Counseling: Using a Social Work Model for Pet Loss> Journal of Family Social Work Volume: 7 Issue: 1 : 69 - 81

Approximately half of American households include at least one companion animal. These animals quickly become members of the family. When the animal dies, the human grieves the loss much as they would grieve the death of any family member. This article presents a social work model for assisting clients with pet loss. This model blends traditional grief therapy with the ecosystems perspective of social work practice, and applies that to loss specific to the death of a companion animal. Social workers must increase their competence in addressing issues of pet loss with clients. This model can provide a foundation for the development of the competence.

Book review: Review of pets and our mental health: the why, the what, and the how

Sachs-Ericsson, N. (2004).

Journal of Psychosomatic Research 56(3): 381-382.

This book attempts to document scientific support for a strongly held belief among most pet owners that animals can have a profound positive impact on the lives of humans. The author tries to describe how physiological indicators are influenced when people interact with their pets, the "why and what" as well as the "how" of implementing an animal-assisted therapy program. The author argues that a multidisciplinary approach is necessary in the understanding of the benefits of animals to humans. One challenge of such an approach is that it is difficult for a single researcher to have sufficient knowledge across several different domains to adequately apply theories and methodologies to the study of human-animal interactions in a scientifically rigorous manner.

Bumblefoot and lack of exercise among wild and captive-bred falcons tested in the United Arab Emirates

Muller, M. G., U. Wernery, et al. (2000).

Avian Dis 44(3): 676-80.

In the 1990s, bumblefoot posed a major health problem to the falcons in the United Arab Emirates. This retrospective study based on statistical field research showed that in captivity wild falcons need a training frequency of twice a day to reduce the bumblefoot morbidity rate. In this context, they responded very well to free flight in aviaries during the molting season. In contrast, captive-bred falcons did not show a highly significant difference regarding training frequencies. Wild falcons tested fed with pigeons, bustards, and ducks suffered significantly less from bumblefoot compared with those fed a diet of quail. Apart from the disease-reducing impact of beef and mice, captive-bred falcons tested did not show any significant difference regarding the influence of diet on the bumblefoot occurrence.

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Animals and Society II: Considering Animals

3-6 July 2007

Hobart, Tasmania, Australia

<http://www.cdesign.com.au/AS2007>

Following on the success of the inaugural Animals and Society Conference held at the University of Western Australia in 2005, the Animals and Society Study Group (Australia) and the University of

Tasmania are pleased to be hosting Animals and Society II:
Considering Animals.

The conference aims to bring together researchers from a broad range of academic disciplines spanning the humanities, social sciences and physical sciences, as well as representatives from non-government organisations, industry and government, to examine the relationships between animals and humans from social, cultural, historical, geographical, environmental, moral, legal and political perspectives.

The burgeoning academic field of human-animal studies is rapidly gaining international prominence. Considering Animals provides an important opportunity for researchers to share knowledge and experience in this exciting field and will encourage a critical approach to our relations with non-human animals. We see this conference as consolidating the field of human-animal studies in Australia and particularly welcome contributions from new disciplinary areas.

Keynote speakers: Steve Baker, Helen Tiffin, Adrian Franklin, Tim Low Papers are invited on topics addressing human-animal relations, particularly those relating to one or more of the areas listed below:

- animals in human histories, humans in animal histories
- animal agency and performativity
- animals out of place, wildlife in the city
- wild, domesticated, native, introduced, companion animals
- animals at work, animals in sport
- animals and ethics, religion, politics, law
- human health, animal health, veterinary and medical science
- zoos, circuses and rodeos
- extinction, experimentation, modification, management of animals
- representations of animals in popular culture, media, literature, science and technology

Presentations will be 15 minutes long, with 5 minutes for discussion. Abstracts of up to 250 words should be submitted electronically by accessing the website <http://www.cdesign.com.au/AS2007> and following the links to the Speakers Zone. Abstracts are due by 16 February 2007. The organising committee is exploring publication options stemming from the conference and will provide further information closer to the time.

Can a week of therapeutic riding make a difference?--A pilot study

Lana Kaiser, Linda]. Spence, Annique G. Lavergne and Kerrie L Vanden Bosch Human-Animal Bond Initiative, College of Nursing, Michigan State University, East Lansing, USA

The objective of this research was to determine the effect of a five-day therapeutic riding day camp on children's anger, quality of life and perceived self-competence. Our study sample involved 16 able-bodied individuals (11 4.4 years) with no known physical or psychological disability, and no known history of psychotropic medications. The Children's Anger Inventory Peds Quality of Life, and Self Perception Profile for Children were administered prior to riding on day one and after riding on day five. Results show that after five days of therapeutic riding camp, the total score of the anger inventory and scores for all sub-scales except frustration decreased significantly. No other differences were noted. Data analysis suggests that five days of therapeutic riding day camp can significantly impact on anger. These changes may be related to the child's relationship with the horse, the social environment of camp, the horse and riding, increased contact with nature, or a combination of these factors.

Anthrozoos 17 (1) 2004

Canines in the classroom: Raising humane children through interactions with animals.

M. A. Rivera, 2004

Lantern Books

Humane education teaches respect for all living things to people of all ages. Michelle Rivera, author of *Hospice Hounds: Animals and Healing at the Borders of Death*, shows how raising awareness of the needs of animals and society's responsibility to them can help stop not only violence against animals but also violence against humans. Out of her research and interviews with experts in psychology, education and sociology, Rivera has created a guide for all who want to begin teaching humane education in their homes, classrooms, communities, churches and organizations.

<http://print.google.com.au/print?q=Canines+in+the+classroom:+Raising+humane+children+through+interactions+with+animals.&oi=print>

Cardiovascular effects of human-pet dog interactions

Vormbrock, J. K. and J. M. Grossberg

Journal of Behavioral Medicine 11(5): 509-17. (1988)

Recent research on human-dog interactions showed that talking to and petting a dog are accompanied by lower blood pressure (BP) in the person than human conversation. To clarify whether cognition, conditioning, or tactual contact exerted the major influence in this so-called "pet effect," 60 male and female undergraduates with either positive or neutral attitudes toward dogs interacted with a dog tactually, verbally, and visually while BP and heart rate were recorded automatically. Results revealed that (a) subjects' BP levels were lowest during dog petting, higher while talking to the dog, and highest while talking to the experimenter and (b) subjects' heart rates were lower while talking or touching the dog and higher while both touching and talking to the dog. Touch appeared to be major component of the pet effect, while cognitive factors contributed to a lesser degree. Implications for coping with hypertension are discussed, and suggestions for further research are stated.

Cardiovascular reactivity and the presence of pets, friends, and spouses: the truth about cats and dogs

Allen, K., Blascovich, J., & Mendes, W. B.,

Psychosomatic Medicine., v. 64, p. 727-39. 2002.

OBJECTIVE: The purpose of this study was to examine the effects of the presence of friends, spouses, and pets on cardiovascular reactivity to psychological and physical stress. **METHODS:** Cardiovascular reactivity was examined among 240 married couples, half of whom owned a pet. Mental arithmetic and cold pressor were performed in one of four randomly assigned social support conditions: alone, with pet or friend (friend present for non-pet owners), with spouse, with spouse and pet/friend.

RESULTS: Relative to people without pets, people with pets had significantly lower heart rate and blood pressure levels during a resting baseline, significantly smaller increases (ie, reactivity) from baseline levels during the mental arithmetic and cold pressor, and faster recovery. Among pet owners, the lowest reactivity and quickest recovery was observed in the pet-present conditions.

CONCLUSIONS: People perceive pets as important, supportive parts of their lives, and significant cardiovascular and behavioral benefits are associated with those perceptions.

Case studies of adults receiving horse-riding therapy

Hannah Burgon

Department of Social Work, University of Exeter, UK

The purpose of this study was to examine the psychotherapeutic effect of riding therapy (RT) on a group of adult users of a social services mental health team in South Devon. The benefits of animal-assisted therapy (AAT) and pet ownership on human health and well-being are well documented. However, whilst research has been conducted on the benefits of hippotherapy (the employment of horse riding as a physiotherapeutic aid) little has been undertaken on the psychotherapeutic benefits of riding therapy. Through case studies, the current study sought to explore whether the participants benefited in terms of confidence, increased self-esteem and social/interaction skills. A further objective was to find out whether these benefits, if identified, were transferable to other areas of the riders' lives. The study was conducted utilizing a case study, participant observational methodology following the progress of six women with various mental health problems receiving RT on a weekly basis. The sessions comprised of learning to look after the horses and carrying out stable management tasks, in addition to the riding; the chief instructor was aware that an important factor of the RT was building up a relationship and trust with the horses on the ground. Methods employed to record the sessions, apart from participant observation, included interviews and questionnaires. The prime objective of the study was for the riders' experience of the therapy to be expressed in their own words. It was found that the participants benefited in areas ranging from increased confidence and self-concept, and that the therapy aided social stimulation and led to transferable skills being acquired.

Anthrozoos 16 (3) 2003

Cat Therapy

Periodically, a paper appears in the scientific literature describing the relationship of some research scientist or health professional with an animal. The September, 1992, issue of the New York State Journal of Medicine (92:38586) contains an article by psychiatrist Naomi Bluestone and her "assistant" Mini, a bluepoint Siamese. Initially, Mini was merely a companion animal but she found her way into the garden and began to serve as a "doorman" for the patients before and after their sessions. Soon patients began to ask that Mini be admitted to the therapy sessions themselves because it was so "mean" to leave her outside. Dr. Bluestone began to catalogue the reactions to the cat. Mostly, Mini was "an instant activator of parental transferences, a potent trigger for early childhood memories." However, each patient related to the cat in a way that reflected his or her own personality and problems. For example, one woman who had her leukemic cat euthanized during a pregnancy in an effort to protect her fetus used the cat to work through her grief and guilt feelings. Another found the presence of the cat a sign that the therapist could be trusted. A patient with obsessive characteristics worried about the cat's filthy paws on food preparation surfaces, and classic type A males usually did not notice her at all.

However, after three years, Mini contracted feline leukemia (they had incorrectly assumed her first owner had had her vaccinated) and became so ill that she had to be euthanized. Dr. Bluestone noted that, on that day, she was so grief-stricken that she was unable to do her work properly-the only day in six years of private practice that she was unable to maintain her professional composure. The patients varied in their reactions (only those who had developed a relationship were told). One accused Dr. Bluestone of neglect and screamed that the cat was easier to talk to. Another cried for 45 minutes

without stopping. Dr. Bluestone noted that Mini had done her work well, serving "as simile and metaphor, as object lesson and object relation," and she wondered how "anyone could run a psychiatric office without a resident feline as reality tester, foil and play object."

Cats as a risk for transmission of antimicrobial drug-resistant *Salmonella*

F. Van Immerseel, Pasmans, F., De Buck, J., Rychlik, I., Hradecka, H., Collard, J., Wildemauwe, C.M. Heyndrick, M., Ducatelle, R., & Haesebrouck, F., 2004

Emerging Infectious Diseases., 10,

To determine whether cats were a risk for transmission of *Salmonella* to humans, we evaluated the excretion of *Salmonella* by pet cats. Rectal-swab specimens were taken from 278 healthy house cats, from 58 cats that died of disease, and from 35 group-housed cats. Group-housed cats were kept in one room with three cat trays and a common water and feed tray. Eighteen (51.4%) of 35 group-housed cats, 5 (8.6%) of 58 diseased cats (5/58), and 1 (0.36%) of 278 healthy house cats excreted *Salmonella*. *Salmonella* isolates were of serotypes Typhimurium, Enteritidis, Bovismorbificans and 4:i:-. Acquired antimicrobial resistance was found in serotype Typhimurium (resistance to ampicillin, chloramphenicol, and tetracycline; to ampicillin; and to chloramphenicol) and 4:i:- strains (resistance to ampicillin, chloramphenicol, sulfonamides, trimethoprim, and sulfamethoxazole/trimethoprim). Cats that excrete *Salmonella* can pose a public health hazard to people who are highly susceptible to *Salmonella*, such as children, the elderly, and immunocompromised persons.

<http://www.cdc.gov/ncidod/eid/vol10no12/04-0904.htm>

2<Challenges in Designing Human-Animal Interaction Research>Cindy C Wilson

Uniformed Services University of the Health Sciences

Sandra B Barker

Virginia Commonwealth University

This article addresses challenges in designing Human -Animal Interaction (HAI) research. A summary of previous reviews of HAI research is presented, followed by a discussion of areas that present particular challenges to research in this field, specifically design issues, control of extraneous variables, sample selection, intervention development, and outcome measurement. Suggestions for addressing these areas also are presented,

Characteristics and motives of adolescent volunteers in wildlife education:

Kidd, A. H., and R. M. Kidd.

Psychological Reports, v. 80, p. 747-53, 1997.

The characteristics and motives of 63 suburban adolescents (20 boys, 43 girls) who are concerned with learning how to care for and make significant contributions to wildlife and the environment were assessed by telephone interviews. The data confirm studies of adults in that significantly more girls than boys became volunteers, significantly more volunteers' families than average families experienced caring interactions with animal life through pet ownership, and significantly more volunteers reported that concern for wildlife arose during early childhood rather than later. The data also indicate that early childhood experiences with pets, with adults acting as role models and providing social approval, and having instruction in wildlife care with peers all contributed to their positive attitudes toward wildlife and the pursuit of their volunteer work. Over-all, the results suggest that adolescents, wildlife, and the environment might benefit if wildlife care programs could be established for other youth such as inner city teenagers.

Characteristics and motives of volunteers in wildlife rehabilitation

Kidd, A. H., R. M. Kidd, and R. L. Zasloff.

Psychological Reports, v. 79, p. 227-34, 1996.

Although wildlife rehabilitation relies heavily on volunteers, the characteristics and motivations of such volunteer workers have not been studied. 80 volunteers from three San Francisco Bay Area Rehabilitation Centers, were interviewed about their preferences in working with animals and people, their methods of dealing with grief and failure over animals' deaths, and the onset of their interest in and motives for working in a difficult field. A significant number had owned pets in childhood as well as currently. 40% preferred working only with animals to working with both animals and people. 34% stayed in rehabilitation because they loved and wanted to help animals; 23% enjoyed hands-on nurturing; and the remainder primarily felt they were giving back to Nature a part of what people have taken from it.

Characteristics of nursing homes: adopting environmental transformations

Tesh, A. S., K. McNutt, et al. (2002)

Journal of Gerontological Nursing. 28(3): 28-34.

Environmental transformations in nursing homes are modifications aimed at enriching the environment to increase variety and spontaneity in residents' lives., Three fourths of nursing homes in North Carolina were either planning an environmental transformation or had already implemented one. The EDEN ALTERNATIVE or a variant of the EDEN ALTERNATIVE was the most common type of implementation., Nursing homes planning or adopting environmental transformations differed from those not planning any change on staffing level, Rogers' model of Diffusion of Innovations would suggest that the social systems within a nursing home would have a major influence on decisions regarding adopting an environmental transformation.

Characteristics, treatment, and outcome of 99 cases of aggression between dogs

Sherman, C. K., I. R. Reisner, L. A. Taliaferro, and K. A. Houpt, 1996,

Applied Animal Behaviour Science, v. 47, p. 91-108.

99 cases of aggression between dogs treated at the Animal Behaviour Clinic at Cornell University between 1983 and 1993 were analysed. In 73 cases the aggression was a conflict between dogs in the same household, whereas in 26 cases the aggression was directed at non-household dogs. 71% of the dogs that started fights were purebred and German Shepherd dogs were most numerous of the 38 breeds represented. Compared with American Kennel Club registrations, household aggression was less frequent among toy and sporting breeds, and more numerous among herding and non-sporting breeds. Terrier breeds were more prevalent among cases of non-household aggression. Overall, more females initiated household aggression, whereas more males attacked non-household dogs. For household aggression, same-sex pairs, especially females, were far more numerous than opposite-sex pairs. Of dogs that started household fights, 58% were younger and 59% arrived in the home more recently than the target dog. Household fights were more serious than fights with outsiders; fights between female house-mates tended to be more severe than other gender combinations. Excitement was the most frequent trigger of household fighting. Treatments recommended for household aggression were desensitization with counter-conditioning and obedience training; neutering and a

head halter were most often suggested for non-household aggression. In the owners' opinion, treatment improved 59% of household cases and 52% of non-household cases. After treatment, 56% of dogs exhibiting household aggression could be together when supervised, whereas 76% of those exhibiting non-household aggression could be around outsiders under leash control. Cases of household aggression in which the attacking dog was younger than its target, a person had been bitten, or the owner could not predict aggressive episodes were less likely to be improved than cases in which these situations did not occur.

Child development and the human-companion animal bond

Melson, G. F.

The American Behavioral Scientist, v. 47, p. 31, 2003.

Companion animals are more common in households with minor children than in any other household type. More than 70% of US households with children also have pets, with most parents reporting acquisition of animal "for the children." Yet, studies of children's development largely have been limited to children's relationships with other humans. This article argues for a biocentric approach to development, in which children's contacts with the non-human world - animals, plants, and natural ecologies - come under scientific scrutiny. To understand the developmental significance of this ubiquitous aspect of children's environments, theory and research on companion animals in relation to perceptual, cognitive, social, and emotional development are reviewed and evaluated. The significance of children's encounters with animals, especially in the context of a human-companion animal bond is emphasized. Biocentric research directions are described.

Childhood asthma at Kenyatta National Hospital, Nairobi

Macharia, W. M., N. M. Mirza, et al.

East Afr Med J 67(12): 837-41. (1990).

Between January 1986 and July 1988, 356 children with bronchial asthma below 14 years of age were evaluated at the Kenyatta National Hospital. 21.3% experienced initial asthmatic attacks before the age of six months and 55.1% before 2 years. Only 8% of the study patients were below the age of 2 years at recruitment. The male:female ratio was 1:1. Physical exercise led to precipitation or worsening of attacks in 43.4% while 71.6% of the patients experienced attacks in the evening or at night. 18.5% and 42.9% had personal history of atopic dermatitis and allergic rhinitis respectively. The study shows that a substantial number of patients experience initial asthmatic attacks before the age of 6 months contrary to what has been previously believed.

Childhood Cruelty To Animals: Assessing Cruelty Dimensions And Motivations

Frank R. Ascione, Teresa M. Thompson and Tracy Black

ABSTRACT

Preventing and treating childhood cruelty to animals will require a) qualitative, as well as quantitative, assessment methods and b) specification of the varied motivations for such behavior. Although some information is available about the prevalence and frequency of animal maltreatment in samples of children and adolescents, especially those diagnosed with Conduct Disorder, other dimensions of such maltreatment (e.g., severity, chronicity) are only beginning to be explored.

We describe the research and development process leading to construction of a semi-structured

interview, the Children and Animals (Cruelty to Animals) Assessment Instrument (CAAI), for use with children over four years of age and their parents, to obtain information on animal maltreatment. The CAA1 was field-tested with a community and clinical sample of twenty children and included children in day treatment and residential programs for emotionally disturbed youth, incarcerated adolescents, and children accompanying their mothers to shelters for battered women.

The dimensions of cruelty to animals scorable using the CAA1 include: SEVERITY (degree of intentional pain/injury caused), FREQUENCY (number of separate acts), DURATION (period of time over which cruelty occurred), RECENCY (most current acts), DIVERSITY ACROSS AND WITHIN CATEGORIES (number of types and number of animals within a type that were abused), ANIMAL SENTIENCE LEVEL, COVERT (related to child's attempts to conceal cruelty), ISOLATE (individual versus group cruelty), and EMPATHY (indications of remorse or concern for the injured animal). A method is described for converting these ratings to numerical scores in which higher scores indicate more severe, problematic cruelty. Varied motivations for children's cruelty to animals are discussed including curiosity and peer reinforcement, modification of mood state, imitation of adult cruelty, and using animals as an "implement" of self-injury. The need for the CAAI is especially critical for assessment since we often found discrepancies between parent reports on one-item cruelty-to-animals assessments (e.g., Child Behavior Checklist) and CAAI results.

Childhood experiences and attitudes towards animal issues: A comparison of young adults in Japan and the UK

Miura, A., J. W. S. Bradshaw, and H. Tanida, 2002,

SO - Animal Welfare. 11(4). November 2002. 437-448.

Childhood experiences of animals and current attitudes towards animals were assessed using a questionnaire, which was completed by 227 Japanese students and 174 British students. Pet ownership in childhood, as well as contact with other animals and negative experiences of pets, were used as the independent variables; current attitudes towards pets and other animals were the dependent variables. There were some differences between Japan and the UK: in childhood, the British students had had significantly more pets and more animal-related experiences, such as visiting animal shelters and livestock farms, than had the Japanese students. Their current attitudes were also more positive, and they showed a greater interest in animal welfare issues than did the Japanese students. In both countries there was a positive association between childhood pet-keeping and current favourable attitudes to pets, as measured by the Pet Attitude Scale. Open-ended responses also suggested that the roles of pets for children are perceived in similar ways in Japan and the UK. Adult attitudes to pets and interest in animal welfare seem to be greatly influenced in both countries by childhood experiences of animals, including pets, and may therefore be a general phenomenon.

Childhood origins of supernurturance: the social context of early humane behaviour.

Arluke, A.

Anthrozoos. 2003. 16: 1, 3-27.

The present study examined how strong humane inclinations in children are shaped and encouraged through interactions with human and non-human animals. Ethnographic interviews were conducted with 30 supernurturing children and 30 parents attending a pre-veterinary summer camp operated by

an American university. Themes associated with supernurturance included validating the importance of animals, teaching nurturance, identifying as an animal person, seeing animals as helpers, and assuming responsibility. Results suggest that a single magic bullet cannot be tweaked to instill or heighten compassion for animals. Rather, an array of social psychological factors together contribute to animal supernurturing by children.

Children with pets do not show higher empathy: A challenge to current views

Beth Daly and L L Morton

The University of Windsor, Ontario, Canada

A group of children (n=137) were surveyed with respect to pet ownership and pet preferences to explore the link between the human-animal bond and empathy. The most notable findings-and contrary to our predictions-were: (1) there was no difference in empathy (Bryan Empathy Index) between pet owners and non-owners; (2) there was no correlation between empathy and attachment to pets (Companion Animal Bonding Scale); and (3) higher empathy scores were not related to pet preference indicators. A more fine-grained examination of the pet-owning group only revealed differences with respect to type of animal owned. Higher empathy was evident with dog ownership as opposed to other pet types. However, this needs to be tempered by the equally interesting observation that lower empathy was related to cat ownership. Regardless of how ownership groups are configured, there is consistent evidence that differentiates cat owners (lower empathy) from dog owners (higher empathy). When pet ownership and pet preference are combined to form new groupings, again, the cat effects and dog effects are evident. Implications extend to the need: (1) for future research on the nature of the human-animal bond; (2) to explore the relationship between personality and animal bonding; and (3) to refine the questions surrounding the animal-based links to empathy, as well as other related constructs such as prosocial behaviour, compassion, self-esteem, self-control, autonomy, affection, stress, responsibility, and perhaps even emotional intelligence, career paths and community service.

Anthrozoos 16 (4) 2003

Children's Attitudes About The Humane Treatment Of Animals And Empathy: One-Year Follow Up Of A School-Based Intervention

Frank R. Ascione, Ph.D. and Claudia V Weber, M.S.

ABSTRACT

This study assessed the maintenance of the effect of a year-long school-based humane education program on fourth grade children's attitudes toward animals. Generalization to human-directed empathy was also measured. Using a pretestposttest (Year 1) follow-up (Year 2) design and ANCOVA, we found that the experimental group (children who experienced the program) humane attitudes mean was greater than the control group mean at initial posttesting and at the Year 2 follow up. At both Year 1 and Year 2 posttesting, the enhancement of attitudes toward animals generalized to human-directed empathy, especially when the quality of the children's relations with their pets was considered as a covariate.

The results contribute to the growing literature on the significance of the relations between children and animals, and serve to encourage humane education efforts.

Children's attitudes toward their pets

Kidd, A. H., and R. M. Kidd, 1985,

Psychological Reports, v. 57, p. 15-31.

150 boys and 150 girls between the ages of 3 and 13 yrs were individually interviewed using a series of open-ended questions to analyze the Ss' attitudes toward their pets. It was hypothesized that (1) the cognitive elements would progress from preoperational to concrete operations at 7 yrs of age and to formal operations at 13 yrs of age, (2) the affective elements would progress from egocentricity to empathy and perspective taking, and (3) behavioral elements would progress from dependence on situational cues to caring behavior based on realistically assessed characteristics of pets. Although data support the 2nd and 3rd hypotheses, the cognitive elements progressed only from preoperational to concrete operations. There was no evidence that the 13-yr-olds had entered the formal operations stage. Other data indicate that 90% owned pets but 99.3% wanted pets, a significant indication of children's overall positive attitude toward pets.

Children's drawings and attachment to pets

Kidd, A. H., and R. M. Kidd, 1995,

Psychological Reports, v. 77, p. 235-41.

To help confirm the concept that distances placed between the self and other figures in children's drawings represent emotional distances, 242 pet-owning and 35 nonpet-owning kindergartners through eighth graders drew pictures of themselves, a pet, and/or a family member. Owners drew pets significantly closer than family-figures although the younger the child, the greater the distance between self and pet. Older children drew themselves holding pets significantly more often, but younger children placed the family-figure between the self and the pet significantly more often. There were no significant gender differences in self-figure/pet-figure distances, but cats, dogs, caged animals, and farm animals were placed significantly closer to self-figures than were fish. Over-all, owners were clearly emotionally closer to pets than to family members, but nonowners were as close emotionally to family members as were owners.

Children's representations of pets in their social networks

McNicholas, J., and G. M. Collis.

Child Care Health Dev, v. 27, p. 279-94. 2001.

OBJECTIVES: To develop a child-friendly methodology to study children's representations of social support available from their personal relationships; and to examine children's representations of support from their pets compared to support from human relationships. **DESIGN:** Participants were 22 year-3 primary school children aged 7-8 years. They were asked to list all the people and animals important to them and then to select a 'top 10' of most special relationships. Using a story-based methodology, children were asked who from their 'top 10' they would turn to if they were the child in the story. **RESULTS:** Consistency in the data indicated that the children could reliably discriminate between different relationships in terms of the support functions they serve. Pets were often ranked higher than certain kinds of human relationship, and they featured prominently as providers of comfort, esteem support and confidants for a secret. Confidence in these findings is gained through pets not being nominated for functions they could not realistically perform.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=11350455

Co-operative interactions between blind persons and their dogs

Naderi, S., A. Miklosi, A. Doka, and V. Csanyi, 2001,

Applied Animal Behaviour Science, v. 74, p. 59-80.

Two studies were conducted to investigate the co-operative behaviour between dogs and their owners. We supposed that co-operativeness behaviour is an inherited trait in dogs, and is a major contributing factor in the development of successful guide dog performance. According to our view, leading a blind person involves a complex behaviour where success depends on the ability of the participants to synchronize their actions. In Study I, we observed both British (n=20) and Hungarian (n=14) blind owners taking a half-hour walk in their neighbourhood. The first study took place in Budapest, Hungary between May 1994 and June 1995 and in suburban areas of England between September and October 1996. In Study II, both guide dogs with their blind and pet dogs with their blind-folded owners had to master an obstacle course. A total of 18 Hungarian dog owners participated in the second study. Measuring the frequency of initiations of various actions during leading their owners, dogs did not keep the role of the initiator to themselves. However, both dogs and humans were found to initiate more often in some types of actions, for example, guide dogs initialized avoidance or stepping up more often than their owners. Furthermore, the role of the initiator was kept only for short durations and longer sequences of initializing were rare. Despite many differences among the groups studied, we observed some qualitative similarities in the co-operative behaviour of dogs. We assume that during domestication, dogs have been selected for the ability to change to-and-fro the role of the initiator that seems to be fundamental in this type of co-operation. In the case of leading the blind, information should not only be provided but also accepted by both parties in the course of the joint actions. Therefore, the leadership (the role of the initiator) may vary from one action to the next

Companion animal demographics and sterilization status: results from a survey in four Massachusetts towns

Manning, A. M., and A. N. Rowan, 1992,

Anthrozoos, v. 5, p. 192-201.

A survey was conducted in 4 Massachusetts communities to determine levels of pet ownership and the sterilization status of those pets, to analyse the impact of sterilization on pet overpopulation, to identify major reasons owners do or do not sterilize their animals, and to assess the impact of cost on an owner's decision to sterilize, among other factors. The survey was conducted by telephone using randomly generated telephone numbers. Interviews were conducted with 343 households of which 42% owned pets and 58% owned no pets. The percentages of households owning dogs (22%) and cats (21%) were lower than those reported in national surveys, as were the numbers of dogs (1.17) and cats (1.66) per owning household. Information was collected on 209 animals of which 42% were dogs and 52% were cats. On the animals in the survey, 18.6% were intact and 81.3% were sterilized. Female dogs were sterilized at a significantly higher rate (87.8%) than were male dogs (45%). There was no difference in the sterilization rates for male and female cats. The rate of lifetime litter production by intact (0.4 litters per female) and sterilized females (0.31 litters per female) did not differ significantly. Owners obtaining their animals from pet stores and breeders were more likely to own intact animals than owners obtaining their pets from any other source. The most frequently cited reason for having a pet sterilized was to decrease the number of unwanted offspring. Owners of male animals were more likely to have their animals sterilized for behaviour problems than owners of female animals. The major reasons for not sterilizing animals were: unnecessary because the animal was confined (31.6%), wanted to breed the animal (23.6%), animal was too young (18.4%), and it was inconvenient (10.5%). Less than 6% of owners cited cost as a factor in the decision to sterilize. A relationship also exists between owners religious affiliation and ethnic background and sterilization

status of their pets.

Companion animal illness and human emotion. Historical overview

Kolodny, S. W., 1991,

Problems in Veterinary Medicine, v. 3, p. 1-5.

The historical changes in practitioner response to client emotions during a companion animal's illness are outlined. In the not too distant past, veterinarians, frustrated by lack of technical competence, ignored the emotional needs of clients. The 1970s witnessed the development of a concerted interest in resolving the lack of knowledge in the subject. The American Veterinary Medical Association and other professional organizations have disseminated proven insights into client emotions. Client sophistication, increased competition, and the threat of litigation have forced practitioners to understand and appreciate human psychologic needs. Major publishers and institutions have accepted the responsibility of making material available. In the final analysis, establishing rapport with clients will prove gratifying to the practitioner and will gain client loyalty.

Companion animal issues and the physician

Hoff, G. L., J. Brawley, and K. Johnson.

Southern Medical Journal, v. 92, p. 651-9. 1999.

BACKGROUND: The companion animal population in the United States is both large in numbers and diverse in composition. Nearly 60% of households have one or more animals. Associated with this large and diverse group of animals are considerable risks for injuries and transmission of infections to humans.

METHODS: Through a review of the relevant literature and our collective professional experience in public health and veterinary medicine, we framed issues regarding companion animals and human health and safety.

RESULTS: We placed the identified issues in general contexts that could be applied to varying circumstances.

CONCLUSIONS: Physicians, veterinarians, public health officials, and others need to work together to ensure that animal ownership is as risk free for people as possible.

Companion animal separation and loneliness.

Gilbey, A.; McNicholas, J.; Collis, G. M.;

Anthrozoos. 2006. 19: 3, 257-264.

It is widely believed that companion animal ownership can help to alleviate loneliness. This study explored whether companion animal separation leads to increased levels of loneliness. Among new students who had been at university for three weeks, no evidence was found that companion animal separation was associated with increased levels of loneliness, irrespective of the self-reported "closeness" of the owner-companion animal relationship before separation. Because prior to leaving home companion animal owners and non-companion animal owners may have somehow differed, a comparable sample of companion animal owners and non-companion animal owners was tested immediately prior to the time of moving to university. No difference in loneliness was found due to companion animal ownership, irrespective of the self-reported degree of closeness of the relationship. As both samples may have been atypical, the impact of moving to university on loneliness was explored and a highly significant increase in loneliness was found. Overall, these findings suggest that

companion animal separation does not contribute to the increase in loneliness observed when students leave home to start at university.

Companion animals and adaptation in chronically ill children

Spence, L. J., 2002,

Western Journal of Nursing Research, v. 24, p. 639.

Health benefits of companion animals have been described across psychosocial, physiological, and behavioral spheres for healthy children and children with disabilities. Spence and Kaiser use a stress-coping model to examine the role animals may play in adaptation for children with chronic illnesses.

Companion animals and human health

Edney, A. T., 1992,

Veterinary Record, v. 130, p. 285-7.

Pets, or companion animals, are said to be good for people. Until recently there has been little serious study of the effects on people's health of their interactions with companion animals. This is in spite of the fact that they have shared human lives for centuries and their beneficial effects have been known for at least 200 years. This paper reviews the ways in which companion animals have favourable effects on human health and behaviour, for example, as guides for blind and deaf people, for enriching the lives of long stay patients and for providing physical activity like horse riding for the severely disabled. Current knowledge of the effects of animals on human psychological, behavioural, physiological and social development is reviewed, including the use of animals in prison programmes. New findings in Australia show that pet owners had marked reduction in risk factors related to cardiac disease compared with non-owners. Other recent work has indicated that companion animals are able to act as 'early warning systems' for acute human conditions such as epileptic seizures.

Companion animals and human health: an overview

Edney, A. T.

Journal of the Royal Society of Medicine, v. 88, p. 704p-8p. 1995.

Domestic animals share our environment in a variety of ways. One of these ways is as companions in and around our homes. Although a wide variety of species are kept in households for this purpose, the great majority are dogs and cats. Sharing our environment with such animals has a profound effect on the health of the humans concerned. As keeping companion animals is a very widespread activity, about 50% of all households in the Western world have some sort of animal, the effects are far reaching.

Companion animals and persons with dementia of the Alzheimer's type

Therapeutic possibilities:

Baun, M. M., & McCabe, B. W., 2003,

The American Behavioral Scientist, v. 47.

Companion animals have the potential to create new meaning and bring comfort in the lives of persons who experience the devastating effects of dementia of the Alzheimers type (DAT). Research studies conducted using companion animals with persons diagnosed with DAT provide evidence that

the presence of a companion animal can increase socialization and decrease agitation behaviors. In addition, caregivers can benefit from reduced physiological stress by petting a companion animal. Using Reisberg's staging system, a caregiver can plan activities with companion animals that correspond to the functional and cognitive ability of the person with DAT.

Companion animals and the elderly: a state-of-the-art summary

Wilson, C. C., and F. E. Netting.

Journal of the American Veterinary Medical Association, v. 183, p. 1425-9. 1983.

The human/animal relationship exhibited by the elderly and their pets has limitations as well as potentials. The functions of a pet as a companion and social facilitator in pet-facilitated psychotherapy include serving as a cotherapist for facilitation of rapport, providing companionship, substituting for close interpersonal relationships (ie, significant others), enhancing the health status of a variety of target groups, increasing opportunity for sensory stimulation, and providing emotional support and a sense of well-being. Available information was limited because few studies have been replicated, data were not validated, and previous studies were restricted mainly to institutionalized or therapeutic environments. Implications for future research include use of animals for companionship and to promote the physical, social, and emotional health of the elderly.

Companion animals and the psychological health of Alzheimer patients' caregivers

Fritz, C. L., T. B. Farver, et al.

Psychological Reports 78(2): 467-481. (1996).

Examined the effect of regular association with a pet on 3 indices of psychological health (caregiver burden, life satisfaction, and depression) in 244 nonprofessional caregivers (aged 25-91 yrs) to persons with Alzheimer's disease (AD). 124 Ss had regular contact with pets; 120 Ss did not. Men who were attached to dogs scored better on some areas of psychological health than those who had no pets. Women less than 40 yrs old who were attached to cats scored better on some measures of psychological health than did same-age women without pets. Women aged 40-59 yrs who were attached to dogs scored worse on life satisfaction and depression than those without pets. Results suggest a positive indirect effect on caregivers' mental health through interaction between the pet and the patient. Association with pets appeared to temper some of the psychological stress associated with caring for an adult with AD among young women and men, but not among middle aged women.

Companion animals and us: Exploring the relationships between people and pets.

Podberscek, A. L., Paul, E. S., & Serpell, J. A., ed., 2000,

Cambridge, Cambridge University Press.

Over the past 30 years there has been a tremendous growth in interest in the multidisciplinary field of human-companion animal interactions and relationships. This is not surprising considering that pets are kept in at least half of the households in Western societies. What, then, is so special about the relationships people have with their pets? Are we very different from our ancestors in the ways we feel about animals? What does pet keeping tell us about ourselves and our relationships with people. Can pets be good for our health? Do they help promote empathy for other humans? These questions and more are explored in this book. Companion animals & Us brings together some of the newest research from a wide variety of disciplines including anthropology, history, psychology, sociology and human and veterinary medicine. This book will make fascinating reading for anyone interested in

understanding more about the human-pet relationship.

Companion Animals in Human Health: Series

Wilson, C. C. T., D. C., ed.

Thousand Oaks, Sage Publications, 310 p. 1998.

Exactly how do animals affect the quality of life in their human companions? The 7th International Conference on Animals, Health and Quality of Life set out to explore this question. A major result of this quest was 'Companion Animals in Human Health', a careful selection of refereed and invited papers from that conference. The articles in this volume address Human Animal Interactions (HAI) according to the elements that define quality of life: physical, mental, emotional and social health; functional health; and general well-being. Beginning with an overview of human/animal interaction from historical and value perspectives, the authors develop a conceptual framework for HAI research and quality of life measurement. They then go on to explore the psychosocial and physiological impact of HAI. The concluding section addresses the role of companion animals in human development and the training and welfare of animals in therapeutic programs.

2<Companion animals in Indiana elementary schools>Anthony G. Rud Jr." and Alan M. Beck * Center for the Human-Animal Bond, School of Education, Purdue University, Indiana, USA t Center for the Human-Animal Bond, School of Veterinary Medicine, Purdue University, Indiana, USA

This descriptive study examines data on the presence of pets in elementary classrooms in a sample of rural, suburban, and urban elementary school classrooms in Indiana, and suggests a rich area for researchers interested in human-animal interactions in school settings. A convenience sample of rural, suburban, and urban teachers was compiled from the state department of education's database, and surveys were sent to 2,149 teachers in 115 schools. More than 25% of the responding teachers' classrooms contained a variety of animals, mostly small vertebrates. Teachers used animals to provide enjoyment and hands-on educational experiences for students. This article extends similar classroom research by Zaslo, ff, Hart and DeArmond (1999). The educational value of classroom animals is not often appreciated or studied, and the results of this study suggest this is a productive area for interdisciplinary research.

Anthrozoos 16 (3) 2003 2<Companion animals, attitudes toward pets and health outcomes among the elderly: a long-term follow-up>

Lago, D., M. Delaney, M. Miller, and C. Grill.

Anthrozoos, v. 3, p. 25-34. 1989.

The Companion Animal Project has longitudinally followed a sample of rural, community -dwelling older persons to obtain basic descriptive information on the pattern and meaning of pet ownership among the elderly and to evaluate the impact of an organisation formed to support pet ownership among the elderly.

Two telephone interviews were conducted with the entire sample (N= maximum of 355) in 1984 and 1987. Brief subscales of key items were completed from earlier in-person interviews assessing changes in animal-ownership status physical health, social activities, perceived social support, emotional well-being, and demographic changes. In 1987, the Pet Relationship Scale (PRS), developed from earlier in-person interviews (Lago et al. 1985), was added to the telephone battery.

Results reveal mortality and attrition are higher for former owners than current owners, though the differences are not significant. Pet ownership has declined to 40% of the sample. Declining health status is a stronger predictor of attrition and death than are pet attitudes. Perceived health and morale were strong predictors of each other over a four-year period. Pet attitudes and ownership became significant predictors of maintaining higher levels of both health and morale over four years, but not

for the total sample. Directions for future research include focusing on higher-interest subgroups.

Companion animals: social support for orthopedic clients:

Carmack, B. J.

Nursing Clinics of North America, v. 33, p. 701-11, 1998.

Various definitions, conceptualizations, and measurements of social support exist in literature. Consistently among these variations, the focus is on people. Companion animals are not included; however, reviews of both social support literature and human-animal bond literature shows that the two share a number of common functions. Using two case studies, the author demonstrates that the social support of companion animals is a legitimate and relevant source of support for persons with orthopedic disorders.

Companion cats and the social support systems of men with AIDS

Castelli, P., L. A. Hart, et al.

Psychological Reports, 89, (1): 177-87. (2001)

60 male pet owners with AIDS were given a formal questionnaire including items related to demographic, lifestyle, and pet ownership, as well as the Comfort from Companion Animals Scale, the Revised UCLA Loneliness Scale, and the General Health Questionnaire (GHQ-28). The men lived in the San Francisco area and received assistance from Pets Are Wonderful Support (PAWS), a community organization, in caring for their companion dogs or cats. Participants were a convenience sample of pet owners who volunteered from among 500 PAWS clients and who do not necessarily represent a random sample of men with AIDS who keep companion animals. For these men, their comfort from companion animals was significantly associated with having cats but not dogs, closeness with friends, dissatisfaction with their practical support system, and listing pets as a source of support. Loneliness was negatively associated with having a large practical support network, scoring as healthy on the General Health Questionnaire, and living alone. For these male pet owners with AIDS, pet cats appeared to complement their supportive relationships with friends and family that were protective against loneliness.

Comparative survey of dog owners in Berlin and Brandenburg, Germany

Brand, U., 2002,

Tieraerztliche Umschau., v. 57, p. 309-316.

Before the introduction of new legislation in summer 2000 on dog keeping, comparative survey data on dog owners in Berlin and Brandenburg was collected. The majority of the dog owners were female, and the proportion of female dog owners was greater in Berlin. Salaried staff and labourers were under-represented. In Berlin, most dogs were kept by people aged between 20 to 40 years old, while most dogs in Brandenburg were kept by people 30 to 50 years old. Many of the dog owners in Berlin lived in a household with one or two people, but in Brandenburg more lived in larger households. The majority of the dog owners in the study did not live with children less than 18 years old and 50% of households had more than one pet. Half of the dog owners in Brandenburg and 25% of dog owners in Berlin kept at least two dogs, and in approximately 30% of the households also kept one cat. A major difference between the two study locations was that the dogs in Berlin were merely indoor pets and most of those in Brandenburg were kept in households with a garden. Brandenburg dog owners were more likely to have bought their dogs from a breeder, while a greater proportion of Berlin dog owners had obtained their dog from a pet shop or animal shelter.

Constraints in assessing the impact of animals in education

Sandra B. Barker*, A1 M. Best, Maureen Fredricksont and Gwen Hunter

The primary purpose of this article is to delineate constraints researchers may encounter in assessing the impact of animals in education, even when using rigorous research designs. A case study is used as a framework for this discussion and consists of a project conducted in a pre-school setting, using a cross-over design to control for most threats to internal and external validity. The project is presented first, with a brief description of the goals and methodology of the project followed by a summary of the outcomes. A discussion follows of the constraints encountered in implementing and evaluating the project, including confounding variables and unanticipated, intervening events occurring during the course of the project. Finally, suggestions are provided for addressing these types of constraints in future outcome studies of the impact of animals in education.

Anthrozoos 13 (2) 2000

Coping skills interventions with adolescents in anger management using animals in therapy.

J. L. Hanselman, 2001

Journal of Children and Adolescent Group Therapy., 11,

Pet Therapy reduces apprehension and is, therefore an important tool in working with children and adolescents. Treatment of animals by children is also indicative of their mental health and healthy development. Cruelty to animals may foretell later abuse to humans providing the link between child and animal abuse. Understanding the role of pets as indicators of individual and family problems enable therapists and other professionals to provide the proper counseling for the situation. This paper presents a describes a group work program cognitive behavioral approach with adolescents in pet therapy as an adjunct to treatment in anger management.

<http://www.ingentaconnect.com/content/klu/jcag/2001/00000011/00000004/00369671;jsessionid=1ks66eo9vuqrr.victoria>

Coping with blindness: a survey of 50 blind dogs

Chester, Z. and W. T. Clark (1988)

Vet Rec123(26-27): 668-71.

A telephone survey of 50 owners of blind dogs was made in order to assess how well visually deprived dogs can cope within their environment. Ten of the 50 dogs surveyed died or were euthanased as a direct result of their blindness or ocular disease. Three owners were unable to come to terms with their pet's visual loss. Two dogs died as a result of accidents directly associated with blindness and five dogs were euthanased due to pain caused by glaucoma. Twenty-seven owners reported permanent behaviour or temperament changes in their pets. Behavioural changes included a more cautious approach to the environment and closer contact with the owner. Owners were aware of an obvious compensatory reliance on the senses of hearing and smell. Permanent temperament changes were reported in only two dogs both of whom became more aggressive. Only six of the surveyed dogs were unable or unwilling to find their way around in familiar surroundings. The most consistent measures undertaken by owners to ensure the dogs' safety was to prevent access to roads and to ensure that there was minimal movement of furniture within the home. Six dogs lost interest in

exercise after the onset of blindness but a further six were still allowed to roam at large. Of the 32 owners who accompanied their dogs eight reported that restraint on a lead was unnecessary. Twenty-eight owners had encountered people who had suggested it was unkind to keep a blind dog.

Cortisol concentrations in saliva of humans and their dogs during intensive training courses in animal-assisted therapy.

Haubenhofer, D.; Mostl, E.; Kirchengast, S.;

Wiener Tierärztliche Monatsschrift. BWK Public Relations - Brigitte Weber-Kraus, Wien, Austria: 2005. 92: 3, 66-73.

This study was conducted to investigate the levels of disturbances that affected dog owners and their dogs while attending a 5 day training course of the Animals as Therapy in Vienna, Austria to become therapeutic teams in animal-assisted therapy. Cortisol samples were taken from 32 humans and their dogs (18 female and 15 male animals) during 3 training courses (11-15 August 2002, 18-22 April 2003 and 11-15 August 2003). The concentration of cortisol in saliva was measured using an enzyme immunoassay. It was observed that the cortisol concentrations of the dogs were significantly lower than the humans. Cortisol concentration was also higher in humans at day 5 of the training which was the day of the final examination. However, the level of cortisol in saliva of the dogs did not differ during the course of the training. The animals showed an insignificant trend of increased salivary cortisol levels during the first 3 days of the courses when compared with the other days of their training and even had the lowest cortisol-median of all investigated days on day 5. This may be caused by the fact that the dogs got used to the new socio-ecologic circumstances that had bothered them at the beginning of their training. Age and sex did not significantly affect the cortisol levels in both humans and dogs, but more female dogs completed their training than male dogs. The results indicate that the training courses for working in animal-assisted therapy provided disturbance for the participating humans on the day of their examinations. On average, no such disturbing situations could be detected among the dogs and that the training is not stressful for the animals. It is recommended that further studies should be performed to evaluate the cortisol levels in human and dog teams during their therapeutic work in animal-assisted therapy to gain related information and possible comparisons.

Could Type A (coronary prone) personality explain the association between pet ownership and health?

J. C. McNicholas, G.M.

Journal/Companion Animals in Human Health, Sage Publications, 1998

Contact with companion animals has been hypothesized to enhance the quality of life of their human partners. A search of the scientific literature between 1990 and 1995 uncovered 25 empirical studies in the English language addressing this issue. Using the social support paradigm derived from the human well-being literature, the 25 studies were examined according to the types of support offered, types of models tested, and types of well-being affected. In addition, studies are analyzed by types of research design employed. The review concludes that although research progress continues to be slow in this area, findings of quality of life benefits derived from companion animal contact are consistent with the research reported during the last two decades in the literature on human social support.

Couples' Perception of Stressfulness of Death of the Family Pet

M. Geraldine Gage, Ralph Holcomb

Family Relations, Vol. 40, No. 1 (Jan., 1991), pp. 103-105

A survey mailed to 1,650 mid-life couples resulted in a subsample of 242 couples whose pet had died during the 3 years prior to the survey. Among the subsample who reported pet loss, about half of wives and more than a quarter of husbands reported they were "quite" or "extremely" disturbed by the death of a family pet. For husbands, pet loss was rated about as stressful as the loss of a close friendship, for wives about as stressful as losing touch with their married children. There was consensus on the rating of the stressfulness of pet loss by fewer than half of the couples.

Cracking the secrets of aging

Holden, C., 2002,

Science [NLM - MEDLINE], v. 295, p. 1033.

Theories about how to define aging abound, including the accumulation of cell damage and the stiffening of tissue with formation of sugar-protein bonds. Another is the progressive shortening of telomeres, the tips of chromosomes, as cells divide. Scientists are still not even sure whether aging is in fact a unitary phenomenon. Meanwhile, the life-extending effect of calorie restriction offers researchers tantalizing clues.

Creating a healing environment for critical care

Molter, N. C.

Critical Care Nursing Clinics of North America. 15(3): 295-304. (2003)

Creating a healing environment for critical care requires an organizational as well as personal commitment. An organizational model for health and healing integrates five key elements: common value for the mind-body-spirit approach to wellness and health; patient/family centered relationships; an organizational culture that promotes personal growth; the availability of CAT as well as conventional therapy; and a physical environment that supports healing. CAT strategies to support a physical environment for spirituality and healing were outlined, followed by a discussion of strategies for building capacity for EI to alleviate the emotional labor of nursing and facilitate family centered care.

Critters in the cube farm: perceived psychological and organizational effects of pets in the workplace

Wells, M., and R. Perrine, 2001,

Journal of Occupational Health Psychology, v. 6, p. 81-7.

This article reports the findings of an exploratory study examining the perceived functions and psychological and organizational effects of pets in the workplace. Participants were 193 employees from 31 companies allowing pets in the workplace who completed anonymous questionnaires. Results indicated that participants perceived pets in the workplace to reduce stress and to positively affect employee health and the organization. Participants who brought their pets to work perceived greater benefits than participants who did not bring their pets to work and participants who did not own pets.

2<Cruelty to animals in normative, sexually abused, and outpatient psychiatric samples of 6- to 12-year-old children:>Cruelty to animals in normative, sexually abused, and outpatient psychiatric samples of 6- to 12-year-old children: Relations to maltreatment and exposure to domestic violence

Frank R Ascione ; William N. Friedrich ; John Heath and Kentaro Hayashi

Anthrozoos 16 (3) 2003

We examined the associations of children's reported "cruelty to animals" and "touching animal's sex parts" with the reported presence of physical abuse and parental physical fighting for three groups of children. Maternal caregivers of 1433 6- to 12-year-old children completed the Child Behavior Checklist (CBCL) and the Child Sexual Behavior Inventory (CSBI). These children were categorized into three groups: a normative sample screened for the absence of sexual abuse (n=540), a sexually abused sample (n=481), and a psychiatric comparison group (n=412) without a history of sexual abuse. The caregivers also provided information on comorbid physical abuse and domestic violence. Single items from the CBCL and the CSBI related to cruelty to animals and sexual contact with animals were examined across the three groups. Gender and maltreatment history were significantly related to cruelty and sexual contact, with physical abuse and domestic violence, in some cases, having an additive effect. Cruelty to animals was significantly associated with cruelty to humans for all three groups; however, cruelty to animals was significantly, associated with sexual contact with animals only for the sexually abused group. The reported prevalence of cruelty to animals was more than five times higher for the sexual abuse (17.9%) and psychiatric (15.6%) groups than for the normative group (3.1 %). The results point to the critical need to assess cruelty toward, and sexual behavior with, animals in future studies of children who are maltreated, exposed to domestic violence, or psychologically distressed.

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Cult of the cat

Dale-Green, P

Weatherlane Books.New york,

Some people will read this book because they have a strong attraction to cats, and cats have a strong attraction to them. Others will discover in it why they have so violent a dislike of cats, and vice-versa. Patricia Dale-Green has done more than simply collect interesting bits of animal lore in this book. She investigates why the world is (and has been, for a long time) divided into cat-persons and the others.

Beginning in ancient Egypt, with its cat-headed goddess, Bastet, cats have always been closely associated with mankind's religious feelings and activities. In Siam they were used as temple-guardians, and their purring was believed to be the animal's prayer; in ancient Ireland there was a cat-oracle which sat enthroned on a silver and carved-wood chair, prophesying for clients who came from far and wide.

On the other hand, cats have not always been considered beneficent beasts. Witches, of course, have long been connected with cats, which they kept as familiars and which it was whispered were really the devil in disguise. Japan has its legends of vampire cats devouring beautiful princesses and Judas, the archetypal betrayer, is shown in many paintings of the Last Supper with a cat at his feet- a reflection of that independence and the "walking-aloneness" which so many people distrust in cats.

The splendid illustrations in the book, and Patricia's intensive research into cats and people's feelings about them, combine to make the most complete volume on an unfailingly popular and fascinating subject.

Cultural considerations in human-animal studies

E. a. C. Dresden, D., 2005

ISAZ 14th Annual Conference,

For abstract go to <http://www.vetmed.ucdavis.edu/CCAB/isaz2005.pdf> and see page 12

Cute and cuddly and a whole lot more? A call for empirical investigation into the therapeutic benefits of human-animal interaction

Cute and cuddly and a whole lot more? A call for empirical investigation into the therapeutic benefits of human-animal interaction for children.

Fawcett, Nicholas R; Gullone, Eleonora.

Behaviour Change. Vol 18(2) 2001, 124-133.

There are many indications that humans have a tendency to affiliate with nature and to connect emotionally with non-human species. Research has also shown that humans can benefit significantly from their relationships with non-human animals (NHAs). For example, studies have indicated that even the mere observation of NHAs can result in reduced physiological responding to stressors and increased positive mood. The present review proposes that findings such as these may provide important information regarding the potential benefits to be derived from incorporating NHAs into intervention strategies, particularly for children. Of specific relevance for children is their fascination with, and attraction to, NHAs. There is also the very nonjudgmental nature of human-animal interactions (i.e., unconditional positive regard) that has been argued, among other benefits, to serve as a useful 'bridge' for the establishment of rapport between therapist and child. However, despite promising avenues of investigation, the area of animal-assisted intervention remains largely neglected by researchers. This paper also calls for sound empirical investigation into proposals regarding the potential therapeutic benefits of incorporating NHAs into psychological intervention programs for children.

Darwinism and the study of human-animal interactions

Herzog, H., 2002,

Society & Animals, v. 10, p. 361-367.

Evolutionary psychology is controversial and has been criticized on methodological, theoretical, and political grounds. However, as illustrated by increased introductory psychology textbooks and courses taught in psychology departments, the field rapidly is joining the intellectual mainstream. In this essay, I briefly discuss three intellectually exciting Darwinian ideas that are particularly germane to the study of human-animal interactions.

<Death of a Companion Cat or Dog and Human Bereavement: Psychosocial Variables> Journal Society and Animals, 10, 1, 2002, 93-105

Lynn A. Planchon, Donald I. Templer, Shelley Stokes and Jacqueline Keller

This study found that death depression, general depression, and positive attitudes toward, and attachment to, companion animals were associated with greater grief following the death of cats and dogs both in a veterinary client group who had recently lost their companion animals and in a college student group with a history of companion animal loss. The correlations of both the above variables and the demographic and death circumstance variables tended to be higher with the veterinary clients. Death of a dog by accident as opposed to illness correlated .81 with extended grief in the veterinary clients. Not having their dogs euthanized correlated .70 with extended grief in this group as well.

Defining the role of pet animals in psychotherapy

R. J. Draper, G. J. Gerber and E. M. Layng, 1990

Journal/Psychiatric Journal of the University of Ottawa, 15,

The literature now contains more than 1000 references to the use of a variety of animals in therapy. The terms used include Pet Therapy, Pet Assisted Therapy, Pet Facilitated Therapy. They reflect lack of agreement as to the role and effectiveness of animal use. Most are anecdotal descriptive studies lacking in scientific methodology. There are almost none in the psychiatric literature despite repeated claims of effectiveness in treating mental and emotional illness. This paper provides a review for the psychiatrist. It describes the development and use of rating scales to generate numerical values for statistical analysis, from videotaped observations of pet therapy sessions. Blind ratings yielded high inter-rater correlations. Although a pilot study, the results indicate the feasibility of designing definitive studies to evaluate the claims of animal enthusiasts. Valuable insights were gained which help to clarify the respective roles of animals and therapists.

Demographic and aggressive characteristics of dogs in a general veterinary caseload

Guy, N. C., U. A. Luescher, S. E. Dohoo, E. Spangler, J. B. Miller, I. R. Dohoo, and L. A. Bate, 2001,

Applied Animal Behaviour Science, v. 74, p. 15-28.

A retrospective cross-sectional survey of dog-owning veterinary clients was undertaken in 1996 in three Canadian provinces (New Brunswick, Nova Scotia, and Prince Edward Island) to generate a population of dogs for future use in a more detailed survey on canine behaviour. The questionnaire was designed to detect which dogs had or had not bitten a person living in the same household, and included both demographic and behaviour questions. Twenty veterinary clinics were enlisted to administer the questionnaire to their clientele. Data was collected on 3226 dogs and a response rate of 81.4% was observed. The dogs were predominantly purebred (60.1%) and neutered (71.6%). Of the 110 breeds, the Labrador Retriever was the most commonly reported. There were slightly more female than male dogs, and significantly more female dogs were neutered ($P < 0.001$). Questions

elicited information about three forms of aggression: growling, possessive aggression, and biting. The reported frequencies of aggression problems were significantly associated with age, gender, neuter status, and breed. Biting behaviour was reported for 15.6% of all dogs. The highest frequency of biting was reported for dogs less than one year of age. Relative to intact female dogs of at least 1 year of age, the odds ratio for having bitten a member of the household was highest for neutered male dogs (OR: 3.23; 95% CI: 1.83-5.71), followed by neutered female dogs (OR: 2.13; 95% CI: 1.21-3.75). Similar trends were seen for growling and possessive aggression. Our results indicate that excellent response rates can be achieved in behavioural research by utilizing general veterinary practices and their clientele, that canine aggression in a household setting is a frequent problem, and that the relationship between neutering and behaviour warrants further investigation.

Demographics of companion animals in South Africa

Odendaal, J. S., 1994,

Journal of the South African Veterinary Association, v. 65, p. 67-72.

A survey conducted in 1992, using a standardised, stratified sample was used to determine companion animal numbers in South Africa as a single geographical entity. The results indicated that there were 3.93 million dogs, 0.97 million cats, 0.98 million birds, 0.22 million other companion animals and 0.1 million horses in South African households. Thirty-seven per cent of households keeping companion animals, kept dogs; cats (13.4%); birds (4.8%); other companion animals (1.1%) and horses (2%). These results may provide information about possible markets in terms of numbers of species kept.

Demographics of pet presence and attachment

Poresky, R. H., and A. M. Daniels, 1998,

Anthrozoos, v. 11, p. 236-241.

A demographic profile of pet ownership and attachment was compiled from a statewide telephone survey of more than 1800 adults in Kansas, USA. Pet presence in the adults' households increased from 54% for the 18-25 year-olds to 71% for the 36-45 year-olds and declined to 37% for those more than 65 years old. Pet presence was associated with larger families, rural residences, family income, and marital status. In contrast, companion animal bonding scores were higher for adults in smaller families, urban residents, divorced adults, and those who mentioned a dog first when asked about their pets

Demographics of the owned dog population in Miacatlan, Mor. Mexico

Orihuela, T. A., and V. J. Solano, 1995,

Anthrozoos, v. 8, p. 171-175.

Information was collected on 1026 dogs in 575 households during 1993. The ratio of persons per dog was 2.63. 85% of the households had at least 1 dog. Most of the animals were intact (92.22%), adult (38.2%), mongrels (61.85%) and kept as guards (65%). Dogs were primarily received as gifts (57.77%) and 45% of the dogs were allowed to live part or full time on the street. Most of the rabies vaccinations (94.6%) were given free by government campaigns. 89.86% of the dogs were primarily fed on leftovers.

Describing categories of temperament in potential guide dogs for the blind

Murphy, J. A., 1998,

Applied Animal Behaviour Science, v. 58, p. 163-178.

Trainers at the Royal Guide Dogs Associations of Australia (RGDAA) assess 12-month-old potential guide dogs for 20 categories of temperament after walking and observing each dog over 5 days in increasingly complex environments. The way trainers interpret these temperament categories from the canine behaviour observed was investigated. Dogs were videotaped by the author on their final assessment walk. Trainers who had no knowledge of the dogs on the videotapes observed the tapes and pointed out segments which, in their opinion, showed dogs expressing particular categories of temperament. 102 segments of tape were isolated and examined in detail. The elements of behaviour observed in each segment were noted. Descriptions or 'indicator sets' were determined for 9 temperament categories. Each set lists the elements of behaviour shown by dogs in 60%-69%, 70%-79% and more than or equal to 80% of cases. Indicator sets were not determined for categories that were rarely identified by trainers, rarely observed in dogs, or which could not be assessed from a single videotaped walk. Although each indicator set was unique, some elements of behaviour were common to more than one set. Therefore, it is best to interpret temperament categories from many elements of behaviour rather than just one or two. If adopted by other guide dog associations, the indicator sets derived from this study may be useful in standardizing the identification and assessment of temperament categories of potential guide dogs by avoiding anthropomorphism or misinterpretation of behaviour.

Desensitization of sexual anxiety: Relaxation, play, and touch experience with a pet

Pichel, C. H., and L. A. Hart, 1988,

Anthrozoos, v. 2, p. 58-61.

Discusses the case of a couple married for 3 yrs who had not developed sexual intimacy. Ss responded to systematic desensitization treatment that consisted of playing with and stroking a pet kitten in order to induce relaxation and desensitize the couple to physical contact.

Developing a Physiology of Inclusion: Recognizing the Health Benefits of Animal Companions,

Lynch, J. J.,

Place

Published, Delta Society.

<http://www.deltasociety.org/dsx109.htm>

Development of a discriminative questionnaire to assess non-physical aspects of quality of life of dogs.

Wojciechowska J. I. Hewson, C. J.; Stryhn, H.; Guy, N. C.; Patronek, G. Y. J.; Timmons, V.

American Journal of Veterinary Research. American Veterinary Medical Association, Schaumburg, USA

2005. 66: 8, 1453-1460. 45

Objective - To develop a preliminary discriminative questionnaire for assessment of nonphysical aspects of the quality of life (QOL) of pet dogs and evaluate the questionnaire's content validity, test-retest reliability, and internal consistency. Study Population - Owners of 120 dogs. Procedure - Each QOL question had 4 response options, representing descending levels of QOL that were equally weighted. A maximum of 38 items contributed to the QOL score. The questionnaire was administered by telephone to owners of dogs with appointments at a veterinary teaching hospital before the appointment. After the appointment, each dog was classified as sick or healthy by use of defined criteria; owners of healthy dogs had a second interview 3 to 4 weeks later. Test-retest reliability (κ), internal consistency (Cronbach alpha), and respondents' comprehension were used as criteria for excluding an item. Results - There were 77 sick and 43 healthy dogs. Twenty-two QOL questions had significant kappa values (0.11 to 0.91). The Cronbach alpha values for 5 domains of QOL ranged from 0.45 to 0.61, indicating that the domains had moderate internal consistency (homogeneity). The initial pool of 38 items was reduced to 27. Conclusions and Clinical Relevance - The questionnaire was designed to complement veterinary assessment of dogs' physical health. The questionnaire may be a useful tool in making decisions regarding dogs' QOL.

Development of the Monash Dog Owner Relationship Scale (MDORS).

Dwyer, F.; Bennett, P. C.; Coleman, G. J.;

Anthrozoos. 2006. 19: 3, 243-256.

With increasing scientific and clinical attention being paid to the formation, nature and consequences of human-companion animal relationships, there is a need to develop scales with which to assess such relationships in a rigorous, empirically valid manner. Accordingly, the aim in this study was to develop a psychometrically sound, multi-dimensional questionnaire with which to assess human-companion dog relationships. A multi-step process involving over 1,000 participants resulted in the development of a scale with 28 items, the Monash Dog Owner Relationship Scale or MDORS. The MDORS has three sub-scales, Dog-Owner Interaction, Perceived Emotional Closeness, and Perceived Costs, that appear to be relatively stable and interpretable across participant groups and that appear to represent important and diverse aspects of the human-companion dog relationship. It is envisaged that the future use of this scale will allow researchers to significantly increase our understanding of human-companion dog relationships by permitting direct comparisons across participant groups drawn from different demographic or cultural contexts. It may also permit clinicians to analyze relationships between dog owners and their dogs in more detail and depth than is possible using existing scales.

Development of the pet bereavement questionnaire.

Hunt, M.; Padilla, Y.

Anthrozoos. 2006. 19: 4, 308-324.

The death of a pet can be a significant stressor for some people and is a known risk factor for depression. The Pet Bereavement Questionnaire (PBQ) was developed to fill the need for a brief, acceptable, well-validated instrument for use in studies of the psychological impact of losing a pet. Initial results suggest that the PBQ has good internal reliability (Cronbach's alpha = 0.87), as well as good construct validity, with three distinct factors reflecting grief, anger and guilt. Grief was found to correlate strongly with pet attachment. The anger and guilt scales, however, correlated with depressive symptoms. The PBQ discriminated between individuals seeking support after pet loss (who would be expected to show higher levels of bereavement) and those who simply acknowledge the recent loss of a pet. We suggest that future research into pet bereavement use this new questionnaire so that the results of different studies can be compared, normative scores can be developed and researchers in this area can use a single instrument with established construct validity.

In particular, we hope the PBQ will be used in treatment outcome research to identify high-risk individuals and test the effectiveness of both existing and novel interventions. Moreover, the PBQ could also be used in clinical settings, such as tertiary care veterinary hospitals, to identify pet owners in need of clinical support services.

Diet and exercise patterns in pet dogs

Slater, M. R., L. E. Robinson, D. L. Zoran, K. A. Wallace, and J. M. Scarlett, 1995,

Journal of the American Veterinary Medical Association, v. 207, p. 186-90.

A study was conducted to provide baseline data on pet dog diet and exercise patterns. In addition, the repeatability of a telephone questionnaire to determine these patterns was evaluated. Dogs seen at the Texas Veterinary Medical Center that were less than 3 years old and of medium, large, or giant purebreeds or mixed-breeds were included. Information was collected about background variables, brands, quantities, and types of foods fed, and types and frequency of exercise. Daily intake of metabolizable energy, calcium, fat, and protein were calculated from the diet. Sixty-nine dog owners completed the study. Most dogs were kept as pets in an urban/suburban environment. Most were also fed dry food. About 60% were fed dog biscuits or some other dog snack or treat, and about half of the dogs in the study were fed twice daily. Meat scraps and bones were the table foods most commonly fed. Most owners considered their dogs to be moderately or very active. Greater than 70% of the dogs were confined to a fenced yard. About 65% of the owners took their dogs for walks. Forty percent of dogs in the study exercised with other dogs daily. More than half of the owners reported playing retrieving games with their dogs, including playing with a flying disk. The questionnaire was shown to be repeatable.

Differential effects of pet presence and pet-bonding on young children

Poresky, R. H., and C. Hendrix

Psychological Reports, v. 67, p. 51-4. 1990

Pets have been shown to influence human development, but whether the effect is due to the presence of a pet or to the person's relationship with a pet is uncertain. Mothers rated their young children's companion animal bond (relationship) and social competence on a parental questionnaire, and a researcher assessed the children's empathy, cooperation, and intelligence during home visits. Significant correlations were noted between the children's bonds with their companion animals and their scores on the social competency scales as well as their empathy scores. The lack of similar significant pet presence ("ownership") correlations supports the hypothesis that the children's relationships with their pets are more important than just the presence of one or more pets in their homes.

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their scores on the social competency scales as well as their empathy scores. The lack of similar significant pet presence ("ownership") correlations supports the hypothesis that the children's relationships with their pets are more important than just the presence of one or more pets in their homes.

Dilemmas associated with rehousing homeless people who have companion animals

Singer, R. S., L. A. Hart, and R. L. Zasloff, 1995,

Psychological Reports, v. 77, p. 851-7.

66 individuals were given a questionnaire during the initial visit to a veterinary clinic for homeless pet owners. Among the 35 men and 31 women, 32 had been homeless for 6 mo. or less and were termed the acutely homeless subgroup, and 34 had been homeless multiple times or for more than 6 mo. and were termed the chronically homeless subgroup. In responding to the Lexington Attachment to Pets Scale, both men and women participants had significantly higher mean scores on attachment to their pets than did the scale's standardization population. Participants did not differ from the normative sample of adults on the Beck Hopelessness Scale. Both men and women participants stated a preference for being rehoused. 93% of men and 96% of women said that housing would not be acceptable if pets were not allowed. 61% of the men and 33% of the women stated they would be willing to live anywhere pets were allowed except in a shelter. Reluctance to live in a shelter was significantly greater among chronically homeless men than other subgroups, and they also had low desire to be rehoused. A majority of the participants had been refused housing because they had pets. Attempts to rehouse homeless individuals who have pets are likely to be unsuccessful unless accommodation for pets is included.

Dimensions of the pet population problem

Faulkner, L. C. (1975).

Journal of the American Veterinary Medical Association 166(5): 477-8.

In 1973, an estimated \$4.5 billion was spent on the combined care and feeding of pets, whereas about 18 million neglected pets were impounded, costing our society nearly \$125 million. About 72,000 dogs and cats must die or be killed each day to maintain zero growth in the population. Humane shelters and pounds have become slaughterhouses. Neglected pets constitute a hazard to the health and quality of life of man and other animals. Sizable segments of society are becoming hostile toward dogs and cats.

Direct and indirect exposure to pets - risk of sensitization and asthma at 4 years in a birth cohort

Clinical and Experimental Allergy. 2003 Sep;33(9):1190-7.

Almqvist C, Egmar AC, Hedlin G, Lundqvist M, Nordvall SL, Pershagen G, Svartengren M, van Hage-Hamsten M, Wickman M.

INTRODUCTION: There are conflicting data on the association between early exposure to pets and allergic diseases. Bias related to retrospective information on pet ownership has been addressed as a reason for distorted study results. **OBJECTIVE:** To elucidate how early exposure to cat and dog relates to IgE-sensitization and asthma in children at 2 and 4 years of age, in a prospective birth-cohort study.

METHODS: Four thousand and eighty-nine families with children born 1994-1996 in predefined

areas of Stockholm answered questionnaires on environmental factors and symptoms of allergic disease at birth, one, two and four years of age. Dust samples collected from the mothers' beds at birth were analysed for Fel d 1 and Can f 1 in a subgroup of the cohort. Blood samples taken at four years from 2614 children were analysed for allergen-specific IgE to common airborne allergens. Risk associations were calculated with a multiple logistic regression model, with adjustment for potential confounders.

RESULTS: A correlation was seen between allergen levels and reported exposure to cat and dog. Exposure to cat seemed to increase the risk of cat sensitization, OR (odds ratio) 1.44 (95% confidence interval 1.03-2.01), whereas dog exposure did not have any effect on dog sensitization, OR 1.16 (0.79-1.72). Dog ownership was related to a reduced risk of sensitization to other airborne allergens, OR 0.36 (0.15-0.83), and a similar tendency was seen for cat ownership OR 0.63 (0.37-1.07). Early dog ownership seemed to be associated with a lower risk of asthma, OR 0.50 (0.24-1.03), with no corresponding effect after cat ownership, OR 0.88 (0.56-1.38).

CONCLUSION: Early exposure to cat seems to increase the risk of sensitization to cat but not of asthma at 4 years of age. Dog ownership, on the other hand, appears to be associated with lowered risk of sensitization to airborne allergens and asthma. Both aetiological relationships and selection effects have to be considered in the interpretation of these findings.

Direct exposure to animal enteric pathogens

Enriquez, C., N. Nwachuku, et al. (2001)

Rev Environ Health 16(2): 117-31.

Humans have very close interactions with working, food-producing, and companion animals. According to the American Veterinary Medical Association, there are more than one hundred million cat and dog pets in the United States. Furthermore, non-traditional pets like reptiles and exotic birds are not unusual companion animals in households. In addition to sharing with animals our living and/or working space and time, we also share, unfortunately, many disease causing microorganisms. In the past few years, we have become aware that several enteric pathogens that were thought to be mostly restricted to animals are a major cause of human disease. Examples of such pathogens include the protozoan parasite *Cryptosporidium parvum* and bacteria such as *Campylobacter* spp. This review will examine the characteristics of zoonotic enteric pathogens including bacterial (*Helicobacter* spp., *Campylobacter* spp., *Salmonella* spp., and verotoxin-producing *Escherichia coli*); parasitic (*Toxoplasma gondii*, *Giardia* spp., *Cryptosporidium* spp.); and viral (rotavirus, norwalk-like virus, hepatitis E virus), and the status of our knowledge with regard to the impact of such pathogens on human health.

Disciplining behavior of dog owners in problematic situations: the factorial structure

Judith Ben-Michael*, Hubert P L. M. Korziliust, Albert J. A. Fellingl' and Jo M. H. Vossen

The purpose of the study was to investigate the magnitude and structure of situation-specific owner emotions and behavioral reactions in problematic situations involving a dog. The following questions were addressed: 1. What is the magnitude of situation-specific owner emotions and reactions in a group of dog owners, and 2. What is the structure of situation-specific owner emotions and reactions in a group of dog owners? In addition, the study considered whether these emotions and behavioral reactions differed between male and female owners. Fifty-five dog owners were presented with 16 descriptions of possible situations with a dog and were asked to record the degree to which they elicited 13 emotions (such as irritation, anger, sorrow, anxiety). They were further asked which disciplinary reactions, such as punishment, demanding compliance, they would use in each situation.

Factor analysis of the emotions and behavioral reactions resulted in three emotional factors: anger/irritation, compassion/anxiety and compunction, and two behavioral factors: power assertion and encouraging behavior. Though most would modify behavior using power assertion, about 10% of the dog owners chose not to enforce compliance of the rules but would prevent further problems by using encouragement. Investigation of the male and female owners resulted in slightly different scores, especially for the group of the male owners. These results are related to the literature concerning child discipline in problematic situations.

Anthrozoos 13 (2) 2000

Do Animal-Assisted Activities Effectively Treat Depression? A Meta-Analysis

Souter, Megan A.; Miller, Michelle D.

Anthrozoos: 20, 2, 2007 , pp. 167-180(14)

We conducted a meta-analysis to determine the effectiveness of animal-assisted activities (AAA) and animal-assisted therapy (AAT) for reducing depressive symptoms in humans. To be included in the meta-analysis, studies had to demonstrate random assignment, include a comparison/control group, use AAA or AAT, use a self-report measure of depression, and report sufficient information to calculate effect sizes, a statistical standardization of the strength of a treatment effect. Five studies were identified for analysis. The aggregate effect size for these studies was of medium magnitude and statistically significant, indicating that AAA/AAT are associated with fewer depressive symptoms. This analysis revealed gaps in the research on AAA/AAT, which we attempted to identify in order to better understand the factors that make AAA and AAT effective at reducing depression.

Do animal-assisted activities effectively treat depression? A meta-analysis.

Souter, M. A.; Miller, M. D.;

Anthrozoos. 2007. 20: 2, 167-180.

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Do disrupted early attachments affect the relationship between guide dogs and blind owners?

Fallani, G.; Previde, E. P.; Valsecchi, P.

Applied Animal Behaviour Science. 2006. 100: 3/4, 241-257.

The study investigated the affectional bond developed by dogs (*Canis familiaris*) towards their human companions during the selection process to become guide dogs and compared this bond with that

formed by pet dogs with their owners. One hundred and nine dog-owner pairs were tested using a modified version of the Strange Situation Test: custody dogs-puppy walkers (n=34), apprentice dogs-trainers (n=26), guide dogs-blind owners (n=25) and pet dogs-owners (n=24). Twenty-six behaviours were scored using a 5 s point sampling method and two vocal behaviours were recorded as bouts. Factor analysis carried out on 24 mutually exclusive behaviours highlighted two different profiles of response. A relaxed reaction characterised by a high play activity was distinctive of custody and apprentice dogs, whereas an anxious reaction characterised by a high degree of proximity seeking behaviours was distinctive of pet dogs. Guide dogs were intermediate between these two extremes, expressing their attachment to the owners but showing a more controlled emotional reaction. This finding suggests that guide dogs can be viewed as "working pets". Furthermore, the experimental set-up, characterised by the presence of a frightening stimulus, revealed that untrained dogs (pets and custody dogs) were more fearful than trained dogs (guide dogs and apprentice dogs). Finally, differences in temperament emerged between retrievers: Golden retrievers showed a higher level of affection demand while Labrador retrievers were more playful. Overall, these findings show that in spite of separations from previous attachment figures, guide dogs established with their blind owner a rather good and secure affectional bond.

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Do Pet Owners Enjoy Better Health? Results from the German Socio-Economic Panel > Associate Professor Bruce Headey University of Melbourne, Victoria, Australia

Animals, Community Health and Public Policy Symposium, 27th November 1998

Results from the German Socio-Economic Panel Survey (N=13400) indicate linkages between dog and cat ownership and lower use of health services. These linkages were initially found in small-scale Australian, American and British studies, a few of which had prospective designs and thus suggested causal links rather than just statistical associations (Anderson et al, 1992; Friedman et al, 1980; Friedman, 1995; Serpell, 1991; Siegel, 1990). The first national survey to find a moderate statistical relationship was the Australian People and Pets Survey (Headey, 1995). However, the methodology of some of the studies has been criticised and not all have found the hypothesised relationships (Beck & Katcher, 1984; Jorm et al, 1997; Wright & Moore, 1982). The German results show dog and cat owners making 16% fewer annual doctor visits and spending 21% fewer days in hospital than non-owners. Benefits appear particularly strong for men over 65. Results relating to doctor visits are statistically significant at the 0.01 level, controlling for sex, age and income.

2<Does dog or cat ownership lead to increased gastroenteritis in young children in South Australia?

Heyworth, J. S.; Cutt, H.; Glonek, G.;

Epidemiology and Infection. 2006. 134: 5, 926-934

The aim of this study was to investigate the relationship between dog and cat ownership and gastroenteritis in young children. A diary study of 965 children aged 4-6 years living in rural or semi-rural South Australia was undertaken. Data were collected on pet ownership, drinking water and other risk factors for gastroenteritis. Overall 89% of households had pets and dog ownership was more common than cat ownership. The multivariable models for gastroenteritis and pet ownership indicated that living in a household with a dog or cat was associated with a reduced risk of gastroenteritis (adj. OR 0.71, 95% CI 0.55-0.92; OR 0.70, 95% CI 0.51-0.97 respectively). This paper adds to the evidence that pets are not a major source of gastroenteritis in the home and lends support to the health benefits of pet ownership. However, this must be weighed against the potential negative consequences, such as dog bites, particularly for this age group.

<http://journals.cambridge.org/>

Does dog-human attachment affect their inter-specific cooperation?

S. Naderi, 2002

Acta Biologica Hungarica, 53,

Leading a blind or blindfolded person is a complex cooperative task influenced by many factors. The aim of this study was to determine if quality of attachment affects the performance of dog and owner dyads showed on an Obstacle Course. Modified Ainsworth's Strange Situation Test was used for assessing attachment quality. Only one dimension of the attachment, the 'anxiety' factor was found to correlate with behavioural measures of the Obstacle Course (e.g. number of mistakes, initialisation index that reflects which participant initiates more actions in a dyad). We found significant differences of performance between the three groups of dog-owner pairs (pet dog, guide dog and police dog dyads), but we could not show significant differences in the 'attachment' factor among these groups. We concluded that it is not the attachment type that causes the main differences in the leading behaviour of our three study groups. Dogs have an innate ability for cooperation with humans that was enhanced by selective breeding during domestication and this basic ability can be modified by training but seem to be less affected by the relationship with the owner.

Does Early Exposure to a Cat or Dog Protect Against Later Allergy Development?

B. Hesselmar, N. Aberg, B. Aberg, B. Eriksson, & B. Bjorksten. Department of Pediatrics, University of Goteborg, Goteborg, Sweden.

Clinical Exp Allergy 1999 May; 29(5): 611-7.

Background:

It is unknown which factors in modern western society that have caused the current increase in prevalence of allergic diseases. Improved hygiene, smaller families, altered exposure to allergens have been suggested.

Objectives:

To assess the relationship between exposure to pets in early life, family size, allergic manifestations and allergic sensitization at 7-9 and 12-13 years of age.

Methods:

The prevalence of allergic diseases and various background factors were assessed in 1991 and 1996 by questionnaire studies. In 1991, the study comprised representative samples of children from the Goteborg area on the Swedish west coast (7 years old, n = 1649) and the inland town Kiruna in northern Sweden (7-9 years old, n = 832). In 1992, a validation interview and skin prick test (SPT) were performed in a stratified sub-sample of 412 children. In 1996, this subgroup was followed up with identical questions about clinical symptoms as in 1991, detailed questions about early pet exposure were added and SPT performed.

Results:

Children exposed to pets during the first year of life had a lower frequency of allergic rhinitis at 7-9 years of age and of asthma at 12-13 years. Children exposed to a cat during the first year of life were less often SPT positive to a cat at 12-13 years. The results were similar when those children were excluded, whose parents had actively decided against pet keeping during infancy because of allergy in the family. There was a negative correlation between the number of siblings and development of asthma and allergic rhinitis.

Conclusion:

Pet exposure during the first year of life and increasing number of siblings were both associated with a lower prevalence of allergic rhinitis and asthma in school children.

Does getting a dog increase recreational walking?

International Journal of Behavioral Nutrition and Physical Activity 2008, 5:17doi:10.1186/1479-5868-5-17

Hayley E Cutt , Matthew W Knuiman and Billie Giles-Corti

School of Population Health, The University of Western Australia, Crawley, Western Australia

<http://www.ijbnpa.org/content/5/1/17>

Background

This study examines changes in socio-demographic, environmental and intrapersonal factors associated with dog acquisition in non-dog owners at baseline to 12-months follow-up and the effect of dog acquisition on minutes per week of recreational walking.

Methods

RESIDE study participants completed self-administered questionnaires (baseline and 12-months follow-up) measuring physical activity, dog ownership, dog walking behavior as well as environmental, intrapersonal and socio-demographic factors. Analysis was restricted to 'Continuing non-owners' (i.e., non-owners at both baseline and follow-up; n = 681) and 'New dog owners' (i.e., non-owners who acquired a dog by follow-up; n = 92).

Results

Overall, 12% of baseline non-owners had acquired a dog at follow-up. Dog acquisition was associated with working and having children at home. Those who changed from single to couple marital status were also more likely to acquire a dog. The increase in minutes of walking for recreation within the neighborhood from baseline to follow-up was 48 minutes/week for new dog owners compared with 12 minutes/week for continuing non-owners ($p < 0.05$). After adjusting for baseline variables the effect of dog acquisition on the increase in minutes of recreational walking within the neighborhood was 31 minutes (95% CI: 7.39, 54.22; $p < 0.01$). However, this reduced to 22 minutes (95% CI: -1.53, 45.42; $p > 0.05$) after further adjustment for change in baseline to follow-up variables. Increase in intention to walk was the main factor contributing to attenuation of the effect of dog acquisition on recreational walking.

Conclusion

This study used a large representative sample of non-owners to examine the relationship between dog acquisition and recreational walking and provides evidence to suggest that dog acquisition leads to an increase in walking. The most likely mechanism through which dog acquisition facilitates increased physical activity is through behavioral intention via the dog's positive effect on owner's cognitive beliefs about walking, and through the provision of motivation and social support for walking. The results suggest that behavioral intention mediates the relationship between dog acquisition and walking and that dogs may have a significant role in the maintenance of owner walking behavior.

Does participation in Dolphin-Human Interaction Programs affect bottlenose dolphin behaviour?

Trone, M.; Kuczaj, S.; Solangi, M.;

The present study quantified the daily (short-term) and monthly (long-term) behavioural repertoires of three dolphins that participated in Dolphin Interaction Programs with paying guests. Behavioural data were collected over a 6-month period, with Dolphin Interaction Programs occurring daily during the central 4 months. Observations were conducted for 90 min before and 90 min after Dolphin Interaction Programs during the central 4 months, and at corresponding times during the first and last months. Twelve days of such observations were conducted each month. Statistical analyses were conducted on the data obtained from three Social Behaviour categories (Solitary, Dolphin-Dolphin, and Dolphin-Human) and four Behavioural Event categories (Play, Swimming, Orienting, and Motor Movements). Results revealed no short-term or long-term changes in the frequencies of Social Behaviours, and no long-term changes in the frequencies of Behavioural Events. However, there was a significant difference in the short-term frequencies of Play behaviours, with Play being more frequent during the Observation Sessions that followed dolphin participation in a Dolphin Interaction Program. The increased levels of Play behaviours following Dolphin Interaction Programs were indicative of robust psychological health. Furthermore, the dolphins continued to voluntarily interact with park visitors, even after interacting with a limited number of guests during Dolphin Interaction Programs. Finally, the lack of observed changes in other behavioural frequencies suggested that engaging in Dolphin Interaction Programs was not detrimental to the participating dolphins. However, these conclusions should be accepted with caution, given the low statistical power resulting from using only three subjects. In addition, the results should only be generalized to situations where dolphins partake in a single Dolphin Interaction Program each day.

Dog and cat ownership among suicides and matched controls

Helsing, K. J. and M. Monk (1985)

American Journal of Public Health 75(10): 1223-4.

In Washington County, Maryland, ownership of cats and/or dogs was compared among 48 residents who committed suicide in the years 1975-83 and 96 living controls matched to the suicides by race, sex, and date of birth. Another comparison used as controls persons of same race, sex, and age who died of causes other than suicide in the same year as the suicide. No material association between pet ownership and suicide was observed.

Dog bite injuries in children: a preliminary survey

Gandhi, R. R., M. A. Liebman, et al. (1999).

American Surgeon 65(9): 863-4.

Dog bite injuries in children are a preventable health problem. To characterize this type of injury, we have undertaken to define demographic criteria and patterns of injury inflicted by dogs in our pediatric population. A retrospective chart review was conducted of pediatric patients with dog bite injuries admitted to a Level I pediatric trauma center from January 1986 through June 1998. Patient demographics, canine characteristics, and hospital patient data were collected and analyzed using the Excel program and appropriate statistical methodology. There were 67 patient records reviewed. Thirty-eight (57%) of the patients were male, and 29 (43%) were female. There were 43 (64%) white children, 22 (33%) African-American children, and 2 (3%) Hispanic children. The average age of the children was 6.2 +/- 4.2 years, with an average weight of 23.3 +/- 13.7 kg. More than half the attacks occurred in the afternoon and 55 per cent of these attacks were documented as "unprovoked" attacks. Thirty-one (46%) of these attacks involved family pets, and 30 (45%) dogs were known to the attacked child. The head and neck was involved in greater than 67 per cent of these injuries. Pit bulls caused 25 per cent of the bite injuries. Large dogs were responsible for 88 per cent of the attacks.

Forty-four (66%) patients required operative intervention. Twenty-eight of these patients had multiple anatomical areas injured. There were 44 procedures involving the head and neck, 21 involving extremities, and 6 involving other areas of the body. All patients 5 years of age and under had head and neck injuries. Dog bite injuries requiring admission occur more in male children. Caucasian and African American children were the majority of children affected. The children under 5 years of age suffered the most devastating injuries. More than half of these attacks were not provoked. More than two-thirds of the injuries to these children involved the head and neck. We conclude that effective prevention strategies must stress careful supervision of young children and the family or neighbor's dog, a scenario that may easily lead to complacency and set the stage for a severe injury.

Dog bites

Graham, W. P., 3rd, A. M. Calabretta, et al. (1977 American Family Physician 15(1): 132-7.

Dog bites can be prevented by proper education of children, appropriate selection of family pets and the restraint of guard dogs in the community. An unusually high incidence of bites by German shepherds was observed in this study. Treatment of injuries inflicted by dogs should include: careful wound toilet, appropriate excision of damaged tissues, careful wound repair with adequate drainage and systematic therapy with selected antibiotics.

Dog keeping in Taiwan: Its contribution to the problem of free-roaming dogs.

Y. Hsu, Severinghaus, L. L., & Serpell, J. A., 2003

Journal of Applied Animal Welfare Science., 6,

For abstract, go to
http://www2.vet.upenn.edu/research/centers/cias/pdf/Hsu_dog_keeping_in_taiwan.pdf

Dog on a tightrope: the position of the dog in British society as influenced by press reports on dog attacks (1988 to 1992)

Podberscek, A. L., 1994,

Anthrozoos, v. 7, p. 232-241.

Five major British daily newspapers (4 broadsheets and 1 tabloid) and their related Sunday editions were monitored over a 5-year period (1988 to 1992 inclusive) to locate articles on dog attacks on humans. From 1989 to 1991 (inclusive) there was intense media interest in dog attacks whereas 1988 and 1992 there was little. In 1989 and 1990, German Shepherds and Rottweilers were most often reported as the attacking dog but the Rottweiler suffered disproportionate negative publicity. Breed registration figures reflected the media interest with a dramatic drop in Rottweiler numbers. In 1991, the American Pit Bull Terrier was most often in the news and the government hastily introduced new dog legislation, the Dangerous Dogs Act 1991. It is suggested that the media, public, and government response is an overreaction to the generally held ideal that the dog's position in society is as a loyal and faithful companion. The dog's position in society therefore appears to be inherently unstable. With real or even perceived increases in unacceptable behaviour by these animals, the species, or the very least certain breeds of dog, could rapidly lose public favour and acceptance.

Dog owners walk their way to fitness: study<2>Dog ownership and contact during childhood and later allergy development

European Respiratory Journal 2008; 31:963-973

C-M. Chen, V. Morgenstern, W. Bischof, O. Herbarth, M. Borte, H. Behrendt, U. Krämer, A. von Berg, D. Berdel, C. P. Bauer, S. Koletzko, H-E. Wichmann, J. Heinrich and the Influences of Lifestyle Related Factors on the Human Immune System and Development of Allergies in Children (LISA) Study Group and the German Infant Nutrition Intervention Programme (GINI) Study Group

CORRESPONDENCE: J. Heinrich, E-mail: joachim.heinrich@helmholtz-muenchen.de

The effect of dog ownership during childhood on the development of allergy has been investigated in few studies with conflicting results. The association between dog contact and indoor endotoxin exposure during infancy and the development of allergic sensitisation and atopic disease up to age 6 yrs was investigated.

Two ongoing birth cohorts, the German Infant Nutrition Intervention Programme (GINI; n = 1,962) and the Influences of Lifestyle Related Factors on the Human Immune System and Development of Allergies in Children (LISA; n = 1,193), were analysed. In both studies, information on children's contact with dogs and their allergic symptoms and doctor-diagnosed allergic disease were collected during follow-up using questionnaires. Specific immunoglobulin E to common aeroallergens was measured at age 6 yrs. House dust samples were collected at age 3 months and the amount of endotoxin was determined.

Dog ownership in early childhood was associated with a significantly lower rate of mixed pollen and inhalant sensitisation but not with dog sensitisation or allergic symptoms and diseases up to age 6 yrs. Regular contact with dogs, without ownership, during childhood was not associated with those health outcomes. No associations were found between house dust endotoxin exposure during infancy and sensitisation outcomes.

In conclusion, dog ownership in early childhood protects against the development of inhalant sensitisation and this effect cannot be attributed to the simultaneous exposure to endotoxin.

Dog Ownership and Control of Borderline Hypertension: A Controlled Randomized Trial.

Delta Society.

<http://www.deltasociety.org/dsx409.htm>

Dog ownership, health and physical activity: A critical review of the literature

Health & Place

Volume 13, Issue 1, March 2007, Pages 261-272

Hayley Cutt, Billie Giles-Corti, Matthew Knuiman

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Received 3 May 2005; revised 15 November 2005; accepted 10 January 2006. Available online 28 February 2006.

Abstract

This review examines the association between dog ownership and adult physical activity levels. While there is evidence to suggest that dog ownership produces considerable health benefit and provides an important form of social support that encourages dog owners to walk, there is limited evidence on the physical environmental and policy-related factors that affect dog owners walking with their dog. With the high level of dog ownership in many industrialized countries, further exploration of the relationship between dog ownership and physical activity levels may be important for preventing declining levels of physical activity and the associated detrimental health effects.

Dog Play

Blackman, D., 1996,

Place Published, Dog-Play.

<http://www.dog-play.com/therapy.html>

2<Dog training as a Violence prevention tool for at-risk adolescents>R Lee Zaslo ff, Lynette A. Hart` and Joan Melrod Weiss

'School of Veterinary Medicine, University of California, Davis, USA t PCA/LA, Los Angeles, USA

Humane education programs often target at-risk children and seek to teach empathy and gentleness with animals, but few of these have been assessed. This prospective, longitudinal study examined the effects of "Teaching Love and Compassion" (TLC), a humane education program employing educational group discussions and dog training for seventh-grade, inner city youth in Los Angeles, California The TLC program is offered to groups of 10 to 12 students during their three-week vacation at the year-round school. Students for the experimental and control groups were selected from the pool of those scoring below the 25th percentile in reading and mathematics. The study, conducted over a two-year period assessed four successive sessions, comprising an experimental group of 41 children and a control group of 42 children. In morning sessions, the experimental group had discussions focusing on interpersonal issues and conflict management. In the afternoons they were taught the proper care and obedience training of shelter dogs. Pre-, post-, and follow-up tests, specially developed to accommodate the children's reading ability and scheduling constraints, were given to both the experimental and control groups to assess their knowledge of animal care, conflict management skills, attitudes toward self and others, and fear of dogs. Members of the experimental group increased their understanding of pet care and the needs of animals and retained this information more than did the control group for all four TLC sessions, both at post-testing ($F=58.4$, $p=0.0001$) and follow-up testing ($F=18.9$, $p=0.0001$). At post-testing, the experimental group showed a trend toward a decreased fear of dogs ($F=3.6$, $p=0.062$), that was significant at follow-up testing ($F=4.2$, $p=0.019$). For these children who are exposed to daily violence and aggression to people and animals, these modest changes were associated with the threeweek intervention.

Anthrozoos 16 (4) 2003

Dog walking and physical activity in the United States.

Ham, S. A.; Epping, J.;

Preventing Chronic Disease. National Center for Chronic Disease Prevention and Health Promotion, Washington, USA: 2006. 3: 2, A47.

Introduction: Dog walking is a purposeful physical activity that may have health benefits for humans and canines. A descriptive epidemiology of the contribution of dog walking to physically active lifestyles among dog walkers in the United States has not been previously reported. Methods: Data on youth and adults who reported walking for pet care trips (N=1282) on the National Household Travel Survey 2001 were analysed for number of trips, proportion walking a dog for at least 10 minutes on one trip, and accumulation of 30 minutes or more in 1 day of walks lasting at least 10 minutes. Results: In 1 day, 58.9% of dog walkers took two or more walks, 80.2% took at least one walk of 10 minutes or more, and 42.3% accumulated 30 minutes or more from walks lasting at least 10 minutes each. There were no significant differences by sex, family income, or categories of urbanization. Conclusion: Walking a dog may contribute to a physically active lifestyle and should be promoted as a strategy that fits within the framework set forth by the Task Force on Community Preventive Services for Physical Activity.

Dog-human relationship in an evolutionary perspective

A. Miklosi, 2005

ISAZ 14th Annual Conference,

For abstract, go to <http://www.vetmed.ucdavis.edu/CCAB/isaz2005.pdf> and see page 5

Dog-owners 'lead healthier lives'>2<Dogkeeping practices as reported by readers of an Australian dog enthusiast magazine.

Masters, AM; McGreevy, PD;

Australian Veterinary Journal. 2008. 86: 1/2, 18-25.

Objective: To characterise Australian domestic dogkeeping practices relevant to canine health and welfare. Procedure: A quantitative questionnaire was distributed nationally through Dog's Life magazine. Data on management practices, household and dog demographics from 690 Australian dogs in 485 self-selected respondent households were analysed using ordinal and binary regression. Results: Several variables, relating to dog, owner and environment were associated with management practices. The size of the dog correlated positively with being fed outdoors ($P<0.001$), gameplaying ($P=0.016$) and being trained ($P=0.001$) and negatively with time spent indoors ($P<0.001$). Neutered dogs were more likely to be walked every day ($P=0.027$) and have had prior treatment for unwelcome behaviours ($P<0.001$) but less likely to be fed outdoors ($P<0.013$). The number of children in the household correlated with the dog being fed outdoors ($P<0.001$). The number of adult female humans in the household correlated with dog being neutered ($P<0.001$) whereas the reverse was linked to number of adult male humans in the household ($P<0.013$). Larger numbers of adult female humans in the household were associated with a higher incidence of prior treatment for unwelcome behaviours ($P=0.020$). The number of dogs in the household correlated negatively with dogs being walked every day ($P<0.004$) and gameplaying ($P=0.001$). Pure bred dogs were more likely to have attended puppy preschool than cross breeds ($P=0.002$). Conclusion: Reference to previous studies of Australian dog owners suggests that the current data are representative in terms of location of households, sex and age of dogs, however, the proportion of pure bred dogs in the current survey was surprisingly high. This was perhaps because respondents were from a particular sector of the Australian dog-owning population. It must be acknowledged that Dog's Life magazine readers may be atypical of Australian dog owners, nevertheless, the study demonstrates that variables relating to the dog, owner or environment can be used to characterise management styles.

Dogs and cats in animal shelters in Japan

Hart, L. A., T. Takayanagi, and C. Yamaguchi, 1998,

Anthrozoos, v. 11, p. 157-163.

The number of dogs admitted to shelters in Japan decreased from 345 136 in 1984 to 243 753 in 1994. The number of dogs killed in the same period decreased from 331 442 to 219 831. Kittens account for most animals in shelters in Tokyo: 34 745 of 62 803 animals (55%) admitted in 198 and; 12 805 of 21 075 (61%) animals admitted in 1993. Most cats were found abandoned and were subsequently killed. 41% of dogs admitted to Tokyo shelters were reclaimed or returned to their owners, 7% were adopted by new owners, and 52% were killed.

Dogs and photos could hold the key to unlocking memory>2<Dogs as catalysts for social interactions: robustness of the effect

McNicholas, J., and G. M. Collis

Br J Psychol, v. 91 (Pt 1), p. 61-70. 2000

It is known that pet dogs can act as catalysts for human social interactions, and it has been suggested that this may enhance feelings of well-being. Two studies were carried out to establish the robustness of this effect. In Study 1, a highly trained dog was used to ensure that the dog itself did not solicit attention from passers-by, and data were collected across a range of normal daily activities in which a dog could be included, not confined to conventional dog walking areas as in previous studies. Being accompanied by a dog increased the frequency of social interactions, especially interactions with strangers. In Study 2, also using a trained dog, a different (male) participant observer was dressed either smartly or scruffily. Although there were significantly more interactions when he was smartly dressed, the greatest effect was between the Dog present and No Dog conditions irrespective of the handler's dress. It is concluded that the social catalysis effect is very robust, which opens the way for investigating possible consequences of the effect for well-being and health.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=10717771

Dogs as catalysts for social interactions: robustness of the effect

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Dogs as Transitional Objects in the Treatment of Patients with Drug Dependency

A. B. Charnaud, 2000

The SCAS JOURNAL,

Many patients who suffer from drug dependency have a history of severe attachment disorders in childhood and often have suffered severe early life trauma. Research that has been done in Cornwall has shown that 70% of the women who inject drugs and 30-40% of the men who inject drugs have suffered childhood trauma to the degree that had they been identified they would have been placed on the "At Risk" register. A significant number of these patients have suffered severe trauma and abuse early in life. The result of this is that they have difficulty forming attachments with other people as their original attachments have been associated with severe trauma and abuse and therefore find it extremely difficult to form good relationships with other human beings and to form secure attachments.

http://www.scas.org.uk/html/journal/journal_transitional.htm

Dogs in child psychotherapy: effects on state of mind.

Prothmann, A.; Bienert, M.; Ettrich, C.;

Anthrozoos. 2006. 19: 3, 265-277.

Using a pretest-posttest design, this study investigates possible influences of animal-assisted therapy (AAT), using a dog, on the state of mind of children and adolescents who have undergone inpatient psychiatric treatment. To measure this, the Basler Befindlichkeits-Skala (BBS) was used, which measures general "state of mind" and provides four sub-scale scores: vitality, intra-emotional balance, social extroversion, and alertness. For Group 1 patients (n=61, with AAT), the results show highly significant increases in all dimensions of the BBS. These changes were not found in a second group (Group 2, n=39), in which there was no AAT. There was a significant negative correlation between pretest BBS scores and the change in scores that occurred after therapy incorporating AAT. Among seven patients in Group 1, a deterioration in state of mind was recorded. Under our controlled clinical conditions, an effect size of 0.38 was calculated for the therapy using a dog. Incorporating a dog could catalyze psychotherapeutic work with children and adolescents.

Dogs in practice: beyond pet therapy."Winkle, M. (2003)

Dogs in practice: beyond pet therapy

Winkle, M. (2003).

Ot Practice. 8(4): 12-7.

Melissa Winkle describes how dogs can be used as assistive technology to improve occupational performance and promote independence.

Dogs, cats and morale maintenance: some preliminary data

Alexa Albert' and Marion Anderson

INTRODUCTION

Over the past decade there has developed an impressive literature on the benefits of pet ownership. For example, owning a pet can reduce the risk of cardiovascular disease (Anderson, et al. 1992; Patronek and Glickman 1993; Rowan and Beck 1994) as well as minor health problems (Serpell 1991). Pets ameliorate stress, enhance morale (Garrity et al. 1989; Lago, et al. 1989; Siegel 1993) and reduce loneliness (Peretti 1990) among the elderly who live alone, and they facilitate positive social interaction among patients in nursing homes (Flick 1993). Pets can also function as "social lubricants" for their owners, as people who walk dogs not only reap the benefits of exercise but also have more frequent and longer conversations with strangers (Robins et al. 1991; Hunt et al. 1992). In addition, service dogs play a similar role for people with disabilities as they increase the number of friendly approaches by strangers to people in wheel chairs (Eddy, et al. 1988, Hart, et al. 1988, Mader et al. 1989). Meeting and interacting with people outside the home on a daily basis is particularly beneficial for people who live alone and may lack social contact with others.

The benefits of pet ownership for children are no less notable. Pets can be objects of psychosocial need gratification for children (Gage and Christensen 1990), and children who are attached to their pets score higher in social competence and empathy (Poresky and Hendrix 1990). Further, school counselors observe that the companionship provided by a family pet can help abate many of the problems experienced by latchkey children such as fearfulness, social isolation, and loneliness (Heath and McKenry 1989). Pets can help reduce self absorption in autistic children (Redefer and Goodman 1989) and the use of pets in therapy with children who have difficulty attaching to others is being explored (Parker and Forrest 1993).

The benefits of pet ownership have been reported in both the popular press and in scholarly research (see Beck and Katcher 1984, for a critical review of this literature). Yet, with a few notable exceptions (e.g. Miller and Lago 1990; Siegel 1990, 1993), less attention has been paid to distinguishing among pets in their ability to provide health and social benefits to their owners. Are all pets created equal in their ability to enhance morale among their owners or are some pets more facile at performing this positive social role? Further, most studies of the benefits of pet ownership continue to focus on groups with "special needs" such as the elderly, people who live alone, children with problems, and people with disabilities. The day to-day benefits provided by pets within the family continue to receive less attention in the scholarly literature.

In this paper we present some preliminary data on the contributions of dogs and cats to morale maintenance and positive social interaction within the family. We hypothesize that dogs are more adept than cats at cheering up family members and providing them with support during stressful periods in their lives. Our hypothesis is rooted in the findings of other studies. In her research on physician contact among the elderly, Siegel (1993) notes that, in comparison to other pet owners, people who own dogs have a qualitatively different relationship with their pets. She finds that dog owners spend more time with their pets, talk to them more, report that they make them feel more secure and provide them with love. Moreover, pet attachment is highest among dog owners (Albert and Bulcroft 1987, 1988; Siegel 1993) and people who own dogs are more likely to "attribute human qualities" to their pets (Albert and Bulcroft 1987, 1988).

Dogs: a mother's best friend for fitness>2<Dyadic interactions between domestic dogs

Bradshaw, J. W. S., and A. M. Lea, 1992,

Anthrozoos, v. 5, p. 245-253.

The components of behavioural interactions between pairs of dogs were observed during exercise periods in public open spaces. Most of the interactions were nonaggressive and ended without interference from either of the owners. Even in the 13% of interactions that were ended by owners, there was little evidence to suggest that either dog's behaviour had triggered the intervention. The dog that started the interaction was most likely to finish it, particularly when there was a size difference between the two dogs. The majority of the behavioural components observed during such interactions could be categorized into a small number of fixed action patterns in predictable sequences. It is suggested that domestic dogs, despite selective breeding, have retained inherited social behaviour patterns. After an initial approach phase, the majority of the interactions appeared to consist of olfactory inspections, particularly of the head and anal regions. Female dogs concentrated on the head area, and male dogs the anal area, irrespective of the sex of the other dog. The evident mutual tolerance of the dogs in this study probably reflects human rather than canine, behaviour; owners with highly aggressive or submissive dogs are unlikely to exercise them where they will encounter other dogs. However, the generally low level of aggression and the sequence of the olfactory inspections suggest that behaviour patterns characteristic of subordinate wild canids have become fixed in many breeds of domestic dogs.

Editorial: Pets and exercise in childhood asthma

1976,

Br Med J, v. 2, p. 264-5.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=986223

Effect of aquariums on electroconvulsive therapy patients

Sandra B. Barker", Keith G. Rasmussen, and AL M. Best'

Virginia Commonwealth University, Richmond,VA, USA t Mayo Clinic Department of Psychiatry, Rochester, MN, USA

This study investigates the effect of an aquarium on pre-treatment anxiety, fear, frustration, and depression in electroconvulsive therapy (ECT) patients. Forty-two patients consecutively referred for ECT were rotated between rooms with and without aquariums. Self report measures of depression, anxiety, fear, and frustration were obtained, along with heart rate and blood pressure measurements. Preliminary mixed-model, repeated measures analysis of variance (ANOVA) revealed no significant differences between the aquarium and control conditions on any of the dependent measures. A trend toward significance was found for self reported anxiety ($p=0.08$) and further data were collected. Subsequent mixed model, repeated measures ANOVA confirmed the trend toward differences ($p=0.08$) in anxiety between the aquarium and control conditions. Factoring out demographic factors, the average patient experienced 12% less anxiety in the presence of an aquarium.

Effect of dog-walking on autonomic nervous activity in senior citizens

Masahiko Motooka, Hiroto Koike, Tomoyuki Yokoyama and Nell L Kennedy

MJA 2006; 184 (2): 60-63

Objective: To compare changes in autonomic nervous activity in healthy senior individuals while walking with and without a dog, and during routine activities at home and periods of interacting with the dog at home.

Design: Controlled crossover study.

Participants and setting: 13 healthy volunteers (3 men, 10 women; mean age, 67.5 years) who walked in a park adjacent to Gunma University, Japan, and 4 volunteers among these who underwent monitoring in their own homes.

Interventions: Heart rate variability was monitored continuously by means of a palm-sized electrocardiographic monitor (which facilitated spectral analysis of the RR interval) while participants walked for 30 minutes (first with, then without, the study dog, or vice versa); three participants underwent this intervention on 3 consecutive days. Four participants underwent continuous monitoring for 6 hours in their own homes, including two 30-minute periods of free interaction with the study dog.

Main outcome measures: High frequency (HF) power values of heart rate variability, which is a measure of parasympathetic neural activity.

Results: During dog-walking, HF power increased significantly ($P < 0.01$); this increase was sustained throughout each dog walk, and was more pronounced during succeeding dog walks. At home, HF power was 1.87 times greater when the dog was present, and 1.57 times greater ($P < 0.01$) than in the walking experiment.

Conclusions: Walking a dog has potentially greater health benefits as a buffer against stress in senior citizens than walking without a dog; and, independent of actually walking, merely patting and talking to a dog also raises parasympathetic neural activity. Power spectral analysis of heart rate variability shows promise as a non-invasive approach to quantifying clinicophysiological research on human health benefits possibly derived from interaction with companion animals.

http://www.mja.com.au/public/issues/184_02_160106/mot10618_fm.pdf

Effect of spinal cord stimulation on myocardial blood flow assessed by positron emission tomography in patients with..

Effect of spinal cord stimulation on myocardial blood flow assessed by positron emission tomography in patients with refractory angina pectoris.

Hautvast, R. W., P. K. Blanksma, et al. (1996).

Am J Cardiol 77(7): 462-7.

Spinal cord stimulation in angina pectoris increases exercise capacity and reduces both anginal attacks and ischemic electrocardiographic signs. This suggests an anti-ischemic action, perhaps through changes in myocardial blood flow. In 9 patients, regional myocardial blood flow was studied with positron emission tomography before and after 6 weeks of spinal cord stimulation, both at rest and during a dipyridamole stress test. Frequency of anginal attacks and consumption of short-acting nitrates were assessed by patient diaries. Exercise duration and time to angina were measured with treadmill exercise tests. After 6 weeks of stimulation, both frequency of daily anginal attacks and nitrogen consumption decreased (3.7 ± 1.7 vs 1.4 ± 1.0 [$p < 0.01$] and 2.8 ± 2.2 vs 1.1 ± 1.2 tablets [$p = 0.01$], respectively); exercise duration and time to angina increased (358 ± 165 vs 493 ± 225 seconds [$p < 0.01$] and 215 ± 115 vs 349 ± 213 seconds [$p = 0.02$], respectively); and ST-segment depression during dipyridamole stress testing was reduced (0.17 [0 to 0.5] mV vs 0.09 [0 to 0.2] mV, $p = 0.04$) (all data mean $\pm$ SD). Total resting blood flow remained unchanged (115 ± 29 vs 127 ± 31 ml/min/100 g, $p = 0.31$), but flow reserve decreased ($146 \pm 43\%$ vs $122 \pm 39\%$, $p = 0.04$). The coefficient of variation of flow, representing flow heterogeneity, decreased after treatment,

both at rest (20.1 +/- 3.8% vs 17.4 +/- 2.6%, $p = 0.04$) and after dipyridamole stress (26.2 +/- 4.4% vs 22.9 +/- 5.5%, $p = 0.02$). Thus, spinal cord stimulation is clinically effective due to homogenization of myocardial blood flow. Since flow reserve decreases despite clinical improvement, the dipyridamole effect may be blunted by spinal cord stimulation.

Effects of animal-assisted therapy on agitated behaviors and social interactions of older adults with dementia

Richeson, N. E. (2003).

American Journal of Alzheimer's Disease & Other Dementias. 18(6): 353-8.

The effects of a therapeutic recreation intervention using animal-assisted therapy (AAT) on the agitated behaviors and social interactions of older adults with dementia were examined using the Cohen-Mansfield Agitation Inventory and the Animal-Assisted Therapy Flow Sheet. In a pilot study, 15 nursing home residents with dementia participated in a daily AAT intervention for three weeks. Results showed statistically significant decreases in agitated behaviors and a statistically significant increase in social interaction pretest to post-test.

Effects of animal-assisted therapy on agitated behaviors and social interactions of older adults with dementia

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Effects of animal-assisted therapy on patients' anxiety, fear, and depression before ECT.

Barker, S. B., Pandurangi, A. K. & Best, A. M., 2003,

Journal of ECT., v. 19, p. 38-44.

OBJECTIVE: To determine whether animal-assisted therapy (AAT) is associated with reductions in fear, anxiety, and depression in psychiatric patients before electroconvulsive therapy (ECT).

MATERIALS AND METHODS: Before their scheduled ECT treatment, 35 patients were assigned on alternate days to the treatment condition, consisting of a 15-minute AAT session, and the standard (comparison) condition, consisting of 15 minutes with magazines. Visual analogue scales were used to measure anxiety, fear, and depression before and after treatment and standard conditions.

RESULTS: The effect of AAT on fear was significant in both the mixed-model, repeated-measures analysis of covariance (ANCOVA) ($p = 0.0006$) and the secondary analysis ($p = 0.0050$), which covaried out all of the demographic conditions (gender, race, marital status, pet ownership, age), condition order, and the pretest rating. The effect of AAT on anxiety approached significance in the ANCOVA ($p = 0.0982$), but in the secondary analysis, the effect was not significant ($p = 0.6498$). The AAT effect on depression was not significant in ANCOVA ($p = 0.7665$) or in the secondary analysis

($p = 0.9394$). A least squares mean analysis showed that AAT reduced fear by 37% and anxiety by 18%. There was no demonstrated effect of AAT on depression.

CONCLUSIONS: Animal-assisted therapy may have a useful role in psychiatric and medical therapies in which the therapeutic procedure is inherently fear-inducing or has a negative societal perception

Effects of Animal-Assisted Therapy on Patients' Anxiety, Fear, and Depression before...

Effects of Animal-Assisted Therapy on Patients' Anxiety, Fear, and Depression before ECT

Sandra B Barker, Anand K Pandurangi, Al M Best

Objective: To determine whether animal-assisted therapy (AAT) is associated with reductions in fear, anxiety and depression in psychiatric patients before electroconvulsive therapy (ECT)

Conclusion: Animal-assisted therapy may have a useful role in psychiatric and medical therapies in which the therapeutic procedure is inherently fear-inducing or has a negative societal perception.

Effects of dog ownership and genotype on immune development and atopy in infancy

Gern, J. E., Reardon, C. L., Hoffjan, S., Nicolae, D., Li, Z., Roberg, K. A., Neaville, W. A., Carlson-Dakes, K., Adler, K., Hamilton, R., Anderson, E., Gilbertson-White, S., Tisler, C., Dasilva, D., Anklam, K., Mikus, L. D., Rosenthal, L. A., Ober, C., Gangnon, R., & Lemanske, R. F. Jr.

Journal of Allergy & Clinical Immunology. 113(2): 307-14. 2004

BACKGROUND: Exposure to furred pets might confer protection against the development of allergic sensitization through a mechanism that is incompletely understood.

OBJECTIVE: The objective of this study was to determine the effects of pet exposure and genotype on immunologic development and the incidence of atopic markers and diseases in the first year of life.

METHODS: Pet exposure in the home was compared with cytokine secretion patterns (mitogen-stimulated mononuclear cells at birth and age 1 year) and indicators of atopy (allergen-specific and total IgE, eosinophilia, food allergy, atopic dermatitis) in 285 infants. Interactions with genotype at the CD14 locus were also evaluated in the data analyses.

RESULTS: Exposure to dogs was associated with reduced allergen sensitization (19% vs 33%, $P = .020$) and atopic dermatitis (30% vs 51%, $P < .001$). The risk for atopic dermatitis was further influenced by genotype at the CD14 locus ($P = .006$), even after adjusting for exposure to dogs ($P = .003$). Furthermore, infants with the genotype -159TT were less likely to develop atopic dermatitis if they were exposed to a dog (5% vs 43%, $P = .04$). Last, dog exposure was associated with increased IL-10 (117 vs 79 pg/mL, $P = .002$) and IL-13 (280 vs 226 pg/mL, $P = .013$) responses at age 1 year.

CONCLUSIONS: Having a dog in infancy is associated with higher IL-10 and IL-13 cytokine secretion profiles and reduced allergic sensitization and atopic dermatitis. These findings suggest that postnatal exposure to dogs can influence immune development in a genotype-specific fashion and thereby attenuate the development of atopy in at-risk children.

Effects of group and individual housing on the behavior of kennelled dogs in animal shelters

Mertens, P. A., and J. Unshelm, 1996,

Anthrozoos, v. 9, p. 40-51.

The behaviour of 211 dogs was studied in 2 animal shelters in Germany in 1993 and 1994. 109 dogs in the Munich shelter were housed individually and 102 dogs in the Bochum/Hattingen shelter were housed in groups. 91% of the social confrontations among the dogs housed together were settled by behavioural rituals. The individually housed dogs were significantly more noisy than the group housed dogs. Behavioural problems and stereotypies were observed in 31% and 10% of the individually housed dogs and in 11% and 0% of the group housed dogs, respectively. The dogs kept in groups were adopted within 10 days and were returned to the shelter less often (9%) compared with the individually housed dogs that were adopted after 17 days and 25% were returned to the shelter. Within 4 weeks after adoption, new owners reported behavioural problems in 88% of the individually housed dogs and in 47% of the dogs kept in groups. It is concluded that group housing is a suitable alternative for animal shelters.

Effects of pet and/or people visits on nursing home residents

Hendy, H. M., 1987,

International Journal of Aging & Human Development, v. 25, p. 279-91.

A previous study by the author supported the recently popular idea that live pet-visits increased desirable behaviors in nursing home residents such as smiling and alertness, but it also suggested that people-visits may be even more effective. The purpose of the present study was therefore to compare the effects of different visiting programs (people-alone, people-plus-pets, pets-alone and no visit) on the behaviors of nursing home residents (proximity, talking, smiling, ambulation, alertness). All three visiting programs of people-alone, people-plus-pets, and pets-alone increased the behaviors of smiling and alertness in comparison to control conditions in the nursing home lounge. Close proximity to the person-alone visitor was, however, associated with the greatest number of positive resident behaviors. Future research is suggested to examine the characteristics that make effective pet and person visitors for nursing home residents.

Effects of Pet Ownership on the Well-Being of Adolescents with Few Familial Resources

N.M. Bodmer, Institute of Psychology, University of Berne, 3000 Berne 9, Switzerland. 1995.

(Paper presented at the 7th International Conference on Human-Animal Interactions, Animals, Health and Quality of Life, September 6-9, 1995, Geneva, Switzerland).

This study investigates the relationship between pet-ownership and subjective well-being of adolescents who report few familial resources. The sample comprises 1219 Swiss adolescents aged between 10 to 16 years (girls and boys are equally distributed). 592 adolescents (56%) are pet-owners. The variables taken into account in our analyses are: Pet-ownership (i.e., having played with their own pet during the last week), personal characteristics of the adolescents (i.e., gender, age, manifest anxiety), familial resources (i.e., family climate, daily presence of family members, amount of leisure time spent with family members, and socio economical status of the family estimated by the adolescents), and the outcome variable, subjective well-being.

Multivariate analyses of variance with pet-ownership as the independent variable were used to show in which respects pet-owners differ from other adolescents. Pet-owners report a higher level of subjective well-being ($p < .05$), more familial resources ($p < .001$), but not less manifest anxiety than adolescents who do not have a pet at home. Both groups of adolescents do not differ in the self-estimated socio-economical status, indicating that a higher living standard does not explain the

positive relationships. Finally, a three factorial multivariate analyses of variance with manifest anxiety, family resources (both median-split and controlled for age and gender), and pet-ownership, on the dependent variable well-being was calculated. The results show that pet-ownership, though directly related to higher levels of well-being and more familial resources, cannot serve as a buffer for adolescents reporting less familial resources (i.e. the interactions were not significant). These results stem from the first wave of a longitudinal study. The longitudinal study will provide more information about potential relationships between pet-ownership and adolescent's well-being, and provide a clearer picture of the animal-adolescent-relationship in case of loss of familial resources.

Effects of the interaction with dolphins on physical and mental conditions of the elderly.

Akiyama, J.; Sugimoto, K.; Ohta, M.;

Journal of Azabu University. 2004. 9/10: 11-16.

The effects of animal-assisted therapy (AAT) on the physical and physiological health of old people have been well known. In general, dogs, cats and small animals have been used at the AAT for seniors. In this study we tried to clarify physical and mental effects of the interactions of old people and dolphins, with ten people aged from 50 to 60. The blood pressure and the heart rate were measured with a hemodynamometer before and after the activity with the dolphins. The psychological test was performed at the same time, using the Multiple Mood Scale. The results show that the positive emotions of the subjects were increased significantly, with concomitant decreases in the negative emotions. The means of the blood pressures were increased before approaching to dolphins and decreased gradually after the interaction with dolphins. These findings indicate that interactions with dolphins have a relaxed effect upon both mental and physical states of the participants in a short time.

Effects of weight, litter size and parity of mother on the behaviour of the puppy and the adult dog

Wilsson, E., and P. E. Sundgren, 1998,

Applied Animal Behaviour Science, v. 56, p. 245-254.

During 1978-83, behaviour tests were carried out on 867 German Shepherd puppies at 8 weeks of age and again at 450-600 days of age. Body weight was recorded every 10 days to 50 days of age. Litter size and parity of the dam were also recorded. Puppy weight decreased with increasing litter size ($r = -0.08$ to -0.16). Litter size decreased between the 2nd and 3rd litter ($P < 0.001$), but parity had no effect on puppy weight. Parity of dam had some effect on puppy behaviour but none on adult behaviour. Puppy weight affected the behaviour of female puppies and adult females, but had no effect in males. Larger female puppies were more active and explorative in the puppy test and scored higher as adults for defence drive and hardness. Puppies born during 1978 and during the first 5 months of 1979 (period 1) weighed 25% more at 50 days of age than those born during the last 7 months of 1979 and in 1980-83 (period 2). Significant differences between period 1 and 2 were found both in the puppy test and in the test results of adult dogs. It is suggested that these effects were caused by the change in material used in the whelping boxes. In period 1, puppies born in the winter weighed less than those born in the summer ($P < 0.001$), but in period 2 the reverse was found ($P < 0.01$).

Elimination of rabies from red foxes in eastern Ontario

MacInnes, C. D., S. M. Smith, et al. (2001)

J Wildl Dis 37(1): 119-32.

The province of Ontario (Canada) reported more laboratory confirmed rabid animals than any other state or province in Canada or the USA from 1958-91, with the exception of 1960-62. More than 95% of those cases occurred in the southern 10% of Ontario (approximately 100,000 km²), the region with the highest human population density and greatest agricultural activity. Rabies posed an expensive threat to human health and significant costs to the agricultural economy. The rabies variant originated in arctic foxes: the main vector in southern Ontario was the red fox (*Vulpes vulpes*), with lesser involvement of the striped skunk (*Mephitis mephitis*). The Ontario Ministry of Natural Resources began a 5 yr experiment in 1989 to eliminate terrestrial rabies from a approximately 30,000 km² study area in the eastern end of southern Ontario. Baits containing oral rabies vaccine were dropped annually in the study area at a density of 20 baits/km² from 1989-95. That continued 2 yr beyond the original 5 yr plan. The experiment was successful in eliminating the arctic fox variant of rabies from the whole area. In the 1980's, an average of 235 rabid foxes per year were reported in the study area. None have been reported since 1993. Cases of fox rabies in other species also disappeared. In 1995, the last bovine and companion animal cases were reported and in 1996 the last rabid skunk occurred. Only bat variants of rabies were present until 1999, when the raccoon variant entered from New York (USA). The success of this experiment led to an expansion of the program to all of southern Ontario in 1994. Persistence of terrestrial rabies, and ease of elimination, appeared to vary geographically, and probably over time. Ecological factors which enhance or reduce the long term survival of rabies in wild foxes are poorly understood.

Embracing The Eden Alternative[™] in Long-term Care Environments

Embracing The Eden Alternative[™] in Long-term Care Environments.

Tavormina, C. E. R. N. B. S. N. (1999)

Geriatric Nursing May/June 20(3): 158-161.

As we move toward the new millennium, 76 million Baby Boomers are on the brink of retirement. For some seniors, long-term care will be a necessity. Older adults value independence, physical activity, intellectual curiosity, caring, and spirituality. The long-term care culture is being revolutionized by The Eden Alternative, which strives to decrease loneliness, helplessness, and boredom by developing healthy habitats in a home-like environment. Three key components are children, plants, and companion animals that provide variety and spontaneity in life.

Emerging zoonoses and social-economic impact in India - a review.

Sherikar, A. T.; Waskar, V. S.

Indian Journal of Animal Sciences. Indian Council of Agricultural Research, New Delhi, India: 2005. 75: 6, 700-705. 22

Abstract Emerging and re-emerging zoonoses are newly recognized diseases or are newly evolved, or have occurred previously but have increased incidence recently or expansion into a new geographic, host or vector range. Many new human pathogens that have emerged or reemerged worldwide originated from animals or from products of animal origin. The emergence of zoonotic diseases is associated with a range of underlying causal factors and represents a global threat to human and animal health. They hamper agricultural production, decrease availability of food and create barriers to trade. In India, livestock are important in supporting the livelihood of poor farmers, consumers, traders and labourers throughout the country. Close association between human population and animals, consumption of unpasteurized milk and dairy products, intensified animal production and increase trade of animals and animal products, large number of stray dogs, illegal slaughtering and inappropriate waste disposal are some of the principal factors perpetuating infection in humans. Emergence or re-emergence of these diseases requires long-term actions from the veterinary sector to

decrease incidence among disease hosts and reduce or interrupt transmission with the commitment between the health sector and veterinary sector to implement common control programmes. A close collaboration is needed between animal keepers, farmers, veterinarians and other health professionals including epidemiologists, occupational health workers, food technologists, specialists in environmental control and laboratory personnel.

Empathis response to animal suffering societal versus family influence

Margaret Fidler, Peter Coleman and Anthony Roberts

Department of Psychology, University of Southampton, UK

Attitudes to animals vary according to social conditions, current philosophies and personal experience. This paper reports the findings from two items which were part of a 21-item questionnaire investigating attitudes to non-pet animals. Participants were drawn equally from three consecutive and related generations; students, parents and grandparents. They were asked how they would respond to the plight of a mouse or bird, when each was attacked by a cat. Responses were associated with cat, but not dog, ownership. There were generational differences in participants' reactions to the two situations, and in the reasons given for their choice of action. The findings suggest that changing ideologies and social conditions have a greater impact on attitudes than does transmission of family values.

2<Empathy and attitudes to animals.>Taylor, N.; Signal, T. D.; Anthrozoos. 2005. 18: 1, 18-27.

There is increasing support for the idea that human attitudes to animals may be indicative of human-human empathy. This has implications for the treatment of empathy deficits and related anti-social behaviors. The purpose of the present study was to explicitly investigate links between human-human empathy and attitudes to animals. The Interpersonal Reactivity Index (IRI) and Animal Attitude Scale (AAS) were administered to 194 undergraduate Sociology and Psychology students. A significant correlation between empathy levels, gender, companion animal ownership and attitudes to animals was found. Implications of these findings are discussed.

Empathy with animals and with humans: are they linked?

Elizabeth S. Paul

Department of Psychology, University of Edinburgh, UK

A sample of 514 adults completed a postal questionnaire measuring both their empathy with humans (using the Mehrabian and Epstein (1972) Questionnaire for the Measurement of Emotional Empathy) and their empathy with non-human animals (using the Animal Empathy Scale, developed for this study). There was a significant, but modest correlation between the two scales (Kendall's tau=0.26, $p<0.001$), indicating that although the two types of empathy measure are in some way linked, they are unlikely to tap a single, unitary construct. This conclusion is reinforced by the finding that human- and animal-oriented empathy exhibit different levels of association with different potential sources of variation. Animal-oriented empathy was related to the current ownership of pets ($U=19825.5$, $p<0.0001$) and to the ownership of pets during childhood ($U=10271.0$, $p<0.01$), while human-oriented empathy was related to currently having a child or children at home ($U=21020.5$, $p<0.05$).

Anthrozoos 13 (4) 2000

2<Encouraging physical activity through dog walking: Why don't some owners walk with their dog?>

Hayley Cutt, Billie Giles-Corti, Matthew Knuiman

Objective.

To identify factors associated with owners not walking with their dog.

Method.

Dog owners (n = 629) taking part in the RESIDE study, Perth, Western Australia completed a self-administered questionnaire in 2005-06 that included items about the dog, dog-owner relationship, dog walking and intrapersonal and environmental factors associated with dog walking. Physical activity data were also collected using NPAQ.

Results.

Overall, 23% of dog owners did not walk with their dog. More dog walkers achieved 150 min of physical activity/week than owners who did not walk with their dog (72% vs. 44%, $p < 0.001$). Not walking with a dog was significantly more likely in owners who did not perceive that their dog provided motivation (OR 9.60, 95% CI: 4.37, 21.08) or social support (OR 10.84, 95% CI: 5.15, 22.80) to walk, independent of other well-known correlates of physical activity.

Conclusion.

There would be a significant impact on community physical activity levels if owners who do not walk with their dog could be persuaded to begin dog walking. Understanding the factors that discourage or facilitate owners to walk with their dog will assist in tailoring interventions designed to encourage both the uptake and maintenance of regular dog walking.

Enhancing Children's Attitudes About The Humane Treatment of Animals: Generalization to Human-Directed Empathy

Frank R. Ascione

Anthrozoos, 5 (3), 1992.

We assessed the impact of a year-long, school-based humane education program on younger (first and second graders) and older (fourth and fifth graders) children's attitudes toward the treatment of animals. Generalization to human-directed empathy was also measured. Using a pretest/post-test design and ANCOVA, we found that the program enhanced the animal-related attitudes of children differentially, depending on grade level. For younger children, there was no significant difference between experimental (E) and control (C) group attitude means; however, qualitative analysis showed that greater enhancement of attitudes occurred for first grade E group children than for C group children at that grade level. No differences were present on the generalization measure of empathy. For older children, there was a significant difference between E and C group attitude means qualified by grade level—there was greater enhancement of humane attitudes for E group than for C group fourth graders but no difference for fifth graders. On the generalization measure of empathy, post-test means for the E group were significantly greater than means for the C group regardless of grade level. The results contribute to the growing literature on the relation between children and animals and serve to encourage and validate the efforts of humane educators to improve children's caring and kindness toward companion and noncompanion animals.

The role of nonhuman animals, especially pets or companion animals, in the psychological and social

development of children has been the focus of numerous calls for increased research attention (e.g., Levinson 1983; Westerlund 1982). Heeding these calls are researchers whose efforts have been aimed at the study and enhancement of children's attitudes toward the care and treatment of and respect for animals. Developmental changes in the quality of children's humane attitudes have been assessed by Kellert and class=Spelle>Westervelt (1983); Rheingold and Emery (1986) have explored the roots of such attitudes in the second year of human life; class=Spelle>Fogel, Melson, and class=Spelle>Mistry (1986) have included values and attitudes toward animals as underlying one of the many forms of nurturance that children may display; Kanner et al. (1987) included pet-related items in their measures of "uplifts and hassles" in early adolescence; and Bryant (1985) has explored how relations with companion animals may relate to children's empathic tendencies toward people. Other evidence of revitalized attention to this area is the number of child-related papers included in the 1985 Special Issue of the journal *Marriage and Family Review*, which focused on "Pets and the Family."

A topic of interest in this general area is the effectiveness of school-based humane education programs in enhancing children's understanding about and attitudes and behavior toward companion and noncompanion animals. The focus of this project was assessing the impact of a year-long humane education program on children's attitudes toward animals. The generalization of such attitudes to human empathy was also of interest. Following a review of the relevant literature, the specific aims of this study will be presented.

<http://www.deltasociety.org/download/ascione.rtf>

Environmental tobacco smoke exposure during childhood is associated with increased prevalence of asthma in adults

Larsson, M. L., M. Frisk, J. Hallstrom, J. Kiviloog, and B. Lundback, 2001,

Chest, v. 120, p. 711-7.

OBJECTIVE: To examine if exposure to environmental tobacco smoke (ETS) during childhood has an impact on asthma prevalence in adults, and to identify the amount of nuisance from ETS and other lower airway irritants (LAWIs) in a city population.

DESIGN: A postal survey. **SETTING:** The municipality of Orebro, Sweden.

PARTICIPANTS: A total of 8,008 randomly selected inhabitants aged 15 to 69 years. **MEASUREMENTS:** Exposures, airway symptoms, and respiratory history were assessed using a questionnaire.

RESULTS: The response rate was 84%. In never-smokers with childhood ETS exposure, the prevalence of physician-diagnosed asthma was 7.6% vs 5.9% in nonexposed subjects ($p = 0.036$). In never-smokers without a family history of asthma, the prevalence of physician-diagnosed asthma in subjects reporting childhood ETS exposure was 6.8% vs 3.8% in nonexposed subjects ($p < 0.001$). Subjects with childhood ETS exposure were more likely to start smoking in adulthood. The prevalence of ever-smokers was 54.5% vs 33.8% ($p < 0.0001$) in nonexposed subjects. ETS was the most commonly reported LAWI in the total sample (21%), followed by exercise in cold air (20%), dust (19%), exercise (16%), perfume (15%), cold air (12%), pollen (10%), and pets (8%). All LAWIs were more frequently reported by women.

CONCLUSIONS: Childhood exposure to ETS is associated with an increased prevalence of asthma among adult never-smokers, especially in nonatopic subjects. Children exposed to ETS are also more likely to become smokers. ETS is as a major LAWI.

<http://www.chestjournal.org/cgi/content/full/120/3/711>

<http://www.chestjournal.org/cgi/content/abstract/120/3/711>

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=11555497

Equine-facilitated psychotherapy benefits students and children

Roberts, F., J. Bradberry, and C. Williams, 2004,

Holistic Nursing Practice., v. 18, p. 32-5.

Baccalaureate nursing students who participated in equine-facilitated psychotherapy (EFP) clinical observation found that they could benefit as much from the program as the child clients. By identifying beneficial educational outcomes of this nontraditional learning assignment, the authors hope readers will explore similar possibilities for nurses at various stages of their professional development.

Estimation of animal intelligence by university students in Japan and the United States

Sadahiko Nokajima, Kohki Arimitsu and K Matthew Lattal

Department of Psychology, Kwansei Gakuin University, Nishinomiya, Japan t Department of Human Sciences, Kobe Shinwa Women's University, Kobe, Japan \$ Department of Biology, University of Pennsylvania, Philadelphia, USA

Japanese and American university students rated the intelligence of 56 animals relative to that of humans. In general, American students (n=104) rated animal intelligence higher than did Japanese students (n=235), and females rated intelligence higher than did males. In spite of these differences among groups, the general patterns of ratings were almost identical: The correlation coefficients of the male-female comparisons were 0.99 in both countries, and the coefficients of Japan-US comparisons in male and female groups were 0.95 and 0.96, respectively. The intelligence ratings generally corresponded to the so-called "phylogenetic scale" from amoeba to chimpanzee, with several exceptions. The implications of these findings for the cross-cultural analysis of perceptions of animal mentality are discussed.

Anthrozoos 15 (3) 2002

Ethical implications of the human-animal bond in the laboratory

Ethical implications of the human-animal bond in the laboratory

Russow, L. M. (2002)

Ilar Journal 43(1): 33-7.

This analysis of the moral implications of a human-animal bond in a research setting begins by describing a set of criteria that delineate the human-animal bond in general and form the foundation on which moral issues rest. Questions about if, when, and how such bonds are formed are discussed briefly; the discussion focuses on how the concept of a human-animal bond fits into standard moral

theories. The conclusion is that impartial theories such as utilitarianism and deontological theories must be supplemented with an ethics of caring and that the moral duties engendered by the human-animal bond are best identified with such a supplemented theory.

Ethical issues in the ownership of companion animals: an empirical and normative analysis

Endenburg, N. and J. M. Vorstenbosch (1992).

Veterinary Quarterly 14(4): 129-36.

This article deals with the ethical aspects of companion animal ownership. Research was done by means of interviews (n = 40) and questionnaires (n = 871). Respondents were randomly chosen from Dutch telephone directories. Euthanasia, docking tails, ear clipping and sterilisation are discussed on the basis of the opinions of respondents. Owners of companion animals very often seem to have insufficient knowledge about animal behaviour. Companion animal owners as a group differ rather strongly in their moral opinions about the acceptability of certain actions towards animals. At the individual level also people are not always consequent in their reasoning as was illustrated by their opinions about ear clipping and the stopping of tail docking and vice versa. Respondents live in a community with animals and usually use a utilitarian balancing model. The different outcomes of the uses of this balancing model indicate how far the respondents are willing to adapt their life style to the needs of an animal; in other words to what extent intrinsic values and integrity are taken into account within the process of (re)creating a living community.

Ethnic variations in pet attachment among students at an American school of veterinary medicine

Brown, S.-E.

Society & Animals, v. 11, p. 101-102. 2003.

Explored ethnic variations in animal companion ("pet") attachment among 57 White and 76 African American students in a school of veterinary medicine. Participants completed surveys that included background information, questions about their pets, and a pet attachment questionnaire (PAQ). Significant differences were found on PAQ questions about agreeing that no family is complete without a pet, having feelings affected by how people react to you pet, taking pets to visit friends and relatives, and keeping a picture of your pet in your wallet or on display in your home or office.

Ethotest: A new model to identify (shelter) dogs' skills as service animals or adoptable pets

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Applied Animal Behaviour Science

Volume 95, Issues 1-2 , November 2005, Pages 103-122

The paucity of dogs dedicated to animal-assisted therapy (AAT) for disabled people creates long waiting lists worldwide and compromises the health of the few certified animals by demanding too much work from them at times, thus jeopardizing their future as service dogs. In an attempt to obviate this situation, a mathematical model has been conceived to select animals endowed with a set of specific inborn skills from a population of sheltered dogs. The model is able to select dogs capable of creating a special bond with humans and able to work anywhere and with any human partner or team; it represents a rapid, inexpensive and coherent method and has been validated after 1 year of observation. The algorithm consists of three steps. Step A is a test assessing the aggressiveness and temperament of animals and selection occurs based on a binary criterion (yes or no). Step B is a test comprising three items and selects animals able to interact with humans; dogs have to fulfil two conditions to pass on to Step C. Step C is a test evaluating the animal's ability to respond appropriately to easy commands (trainability) given by different partners; dogs have to fulfil two interrelated conditions judged more flexibly than in test B. The aims of the Ethotest are: (a) to prevent aggressive animals from entering animal-assisted activity and/or Therapy programmes; (b) to select dogs with the right aptitude and especially to restrict selection to dogs that offer consistent responses; (c) to include both male and female purebreds or mix breeds older than 1 year of age; (d) to identify animals able to work with different partners. Moreover, the aim of this contribution is to share with the scientific community an easy method to select shelter dogs as safe companion animals.

Euthanasia & thanatology in small animals

Journal of Veterinary Behavior (2007) 2, 35-39

Moises Heiblum Frid, DVM, Alberto Tejeda Perea, DVM, MSC

Abstract The study of thanatology has recently taken on increased importance in the field of veterinary medicine. Today, the roles of Companion animals have expanded to include beloved pet and family member, provider of social and emotion support, and in the case of service dogs, provider of assistance to owners with special needs. For these reasons, companion animals have taken on greater significance within their human families. Their deaths can be as painful and difficult for their families as the death of human family members. Veterinarians are tasked with working in concert with the pet owner, throughout the lifetime of the pet, to promote the pet's health and well-being. In critical and/or terminal situations, it is the veterinarian's role to educate the owner, so that informed decisions regarding treatment options or a decision to euthanize the pet can take place. In veterinary medicine, euthanasia means to end life painlessly. Veterinarians and owners, working in partnership to make subjective and objective assessments on the pet's quality of life, produce the best results. For the veterinarian, the medical approach (including: clinical history, physical exam, laboratory tests, diagnosis, prognosis and treatment) can assist in assessing the pet's physical health status, any potential treatments, and the likely short and long term outcomes. The owner's role in the partnership is to subjectively assess overall behavioral changes and the pet's quality of life. Once owners have decided to euthanize their pet, there are still more factors to consider: where to perform the procedure, which family members will be present, and how the remains will be handled. The veterinarian can do everything possible to minimize any anxiety for the pet during the euthanasia, including administration of a tranquilizer prior to the procedure. The veterinarian will allow the pet's family time to say goodbye and educate them on what to expect when their pet dies. There is a possibility that other pets that lived in the same household may also experience distress at the loss of their animal family member. The veterinarian can let the owners know what signs may be signaling depression or anxiety in that pet. The grieving process is extremely personal and people must be allowed to grieve in the way that helps them deal with their loss. Veterinarians need to be careful not to minimize the owner's loss or grief. The owner will count on the veterinarian's guidance and expertise when making decisions affecting their pet's well-being. Making an informed decision can help assuage any guilt about opting for euthanasia when done in the best interest of the pet.

Euthanasia of companion animals: a legal and ethical analysis.

Annali dell'Istituto Superiore di Sanita. Istituto Superiore di Sanita, Roma, Italy: 2006. 42: 4, 491-495.

In Italy, the conditions under which euthanasia of small pets is justified are only partially regulated by law, i.e., n. 281/1991, article 2 n. 6 and 9, by the later Ministry Circular n. 9 made on 10/03/1992 and by law n. 189/2004. Law n. 281/1991, besides delegating the job of birth control in cat and dog populations to the regions, has made it statutory that stray dogs may only be euthanized when they are "seriously or incurably ill or proven to be dangerous". The Ministry Circular underlines the fact that "euthanasia of dogs is prohibited except in special justified cases". On the other hand, due to the legal classification of animals as property, the owner has the right of ownership over his animal so that he can sell it and kill it (*ius vitae ac necis*). In this view a request for euthanasia is licit, whatever the animal's state of health may be. The authors feel that further legislation to regulate the question more completely would be opportune and thus they analyse the problems of legal-ethics and public health that a veterinarian faces when carrying out euthanasia, also bearing in mind the laws and codes of professional ethics. They suggest possible solutions which could be adopted by competent authorities.

Evaluating the economic and noneconomic impacts of the veterinary medical profession in Michigan

Lloyd, J. W., and B. A. Dartt, 2000,

J Am Vet Med Assoc, v. 216, p. 27-30.

This study reaffirms the diversity and breadth of the veterinary profession. As it turns out, some of the furthest-reaching impacts of the veterinary medical profession were largely non-quantifiable. The veterinary medical profession had a substantial direct economic impact in Michigan during 1995. The total economic contribution of the veterinary medical profession to Michigan during 1995 that was attributable to expenditures on salaries, supplies, services, and their multiplier effect was approximately \$500 million. In addition, the profession was associated with nearly 8,500 jobs (combined professional and lay positions). The veterinary medical profession was also considered to have an impact on the prosperity of the live-stock, equine, and pet food industries in Michigan, even though the economic contribution in these areas could not be directly quantified. Economic well-being of the individual businesses in these industries is directly related to the health and productivity of the associated animals, and improvements in output or productivity that accompany improved animal health likely carry substantial economic benefits in these sectors. In addition, progressive animal health management provides a crucial method of managing risk in the animal industries. Similarly, although the economic contribution could not be quantified, the veterinary medical profession enhances the safety and quality of human food through research, regulation, and quality assurance programs in livestock production, minimizing the risk of drug residues and microbial contamination. During 1995, approximately 5.3 million Michigan residents benefitted from the physical, psychological, and emotional well-being that accompanies companion animal ownership. By preserving the health and longevity of companion animals, veterinarians sustain and enhance these aspects of the human-animal bond. As Michigan enters a new century, it is likely that the state's veterinary medical profession will continue to make a highly valued societal contribution. Pets, equines, and food animals will continue to have prominent roles in Michigan for the foreseeable future, as will the human-animal bond, food safety, and medical research. Clearly, for economic and noneconomic reasons, it will be in the interest of the people of Michigan to seek opportunities to maintain and enhance the vitality of the state's veterinary medical profession. It was our hope that results of this study would provide university administrators, legislators, MVMA executives, and others with information needed to justify the ongoing provision of public support for the veterinary medical profession. In addition, we expect that the results will supply useful material for public relations and marketing campaigns by the MVMA and the Michigan State University College of

Veterinary Medicine and will provide the media with public interest stories to promote the veterinary profession. Although this study considered the economic and noneconomic impacts of the veterinary medical profession only in Michigan, the results can provide an important reference point for educators, policy makers, and legislators in other states. In addition, this study could serve as a methodologic model for veterinary organizations in other states, or at the national level, to emulate.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=10638314

Evaluating the value of service dogs for children with autism

K. E. a. A. Burrows, C. L., 2005

ISAZ 14th Annual Conference,

For abstract go to <http://www.vetmed.ucdavis.edu/CCAB/isaz2005.pdf> and see page 10

Evaluation of animal-assisted therapy for the elderly with senile dementia in a day care program

Kanamori, M., M. Suzuki, K. Yamamoto, M. Kanda, Y. Matsui, E. Kozima, S. Takeuchi, and H. Oshiro.

Nippon Ronen Igakkai Zasshi - Japanese Journal of Geriatrics, v. 38, p. 659-64. 2001.

We conducted animal-assisted therapy (AAT) for the elderly with senile dementia in a day care center. AAT was performed between July 27 and October 12, 1999 for a total of six biweekly sessions. The AAT group consisted of 7 subjects; 5 with senile dementia of Alzheimer's type (SDAT) and 2 with vascular dementia (VD). The control group was 20 elderly subjects (7 SDAT, 13 VD). The results were as follows: Comparing between MMS scores at the baseline and those three months later, the average score on MMS before AAT (baseline) was 11.43 (+/- 9.00), and that three months later was 12.29 (+/- 9.69). In the AAT group, the average baseline N-ADL score was 28.43 (+/- 14.00) and that after ATT was 29.57 (+/- 14.47). In the AAT group, the average baseline score on Behave-AD was 11.14 (+/- 4.85), and that three months after AAT was 7.29 (+/- 7.11) ($p < 0.05$). In the control group, the average baseline score was 5.45 (+/- 3.27) and that three month later was 5.63 (+/- 3.59). However, the results of eight subscales of communication behavior three months later were significantly low comparing to those at the baseline in the control group. The evaluation of CgA, which was a mental stress index, showed a decreasing tendency in the AAT group. Our findings suggested we should use several evaluation methods for evaluation of the changes of patients receiving AAT.

Evaluation of the efficacy of an instructional programme in the self-management of patients with asthma

Byrne, D. M., J. Drury, et al.

J Adv Nurs 18(4): 637-46. (1993).

The restrictions imposed on patients with asthma is problematic to them, in that their physical disability interferes with personal, interpersonal and/or professional goals. Twenty-three patients under the care of general practitioners were surveyed by interview in their homes, doctors' surgery or at work to determine their current control of selected variables related to their asthma: exercise, use of drugs and related factors. An instructional programme was offered to interested participants to assist in complying with their prescribed medication regimens and to tailor exercise to their tolerance levels. Findings showed that 18 patients experienced moderate to severe restrictions when troubled with

asthma. Although over one-half of the patients exercised regularly for fitness, including seven with aerobic exercise, some chose sports they thought could provoke an asthmatic attack. Half took precautionary measures when exercising. All patients used bronchodilators to relieve their asthma, yet one-third did not keep their inhalers accessible. None of the most troubled 18 lived in a smoke-free environment, and one-third kept furry animals as pets. Recommendations are made for further study of the effects of instructional programme to improve compliance to a healthy lifestyle.

Evaluation of treatments for separation anxiety in dogs

Evaluation of treatments for separation anxiety in dogs

Takeuchi, Y., K. A. Houpt, et al. (2000).

Journal of the American Veterinary Medical Association 217(3): 342-5.

OBJECTIVE: To evaluate treatment outcome in dogs with separation anxiety and owner compliance with and perception of effectiveness of discharge instructions.

DESIGN: Cohort study.

ANIMALS: 52 dogs with separation anxiety.

PROCEDURE: Sex, age at which the owner obtained the dog, age at which separation anxiety was first noticed, age at behavioral examination, and discharge instructions were obtained from medical records of each dog. Between 6 and 64 months after the behavioral examination, owners were contacted by telephone and questioned about the outcome of treatment, their compliance with discharge instructions, and their perception of the effectiveness of each instruction.

RESULTS: Thirty-two (62%) dogs had improved, whereas 20 were the same, were worse, or had been euthanatized or given away. Mixed-breed dogs were significantly less likely to improve than purebred dogs. Compliance varied according to discharge instruction. Significantly fewer dogs with owners that were given > 5 instructions improved or were cured, compared with those with owners given fewer instructions. Twenty-seven dogs were also treated with amitriptyline or other medication; 15 (56%) improved.

CONCLUSIONS AND CLINICAL RELEVANCE: Owners complied with instructions that involved little time such as omitting punishment and providing a chew toy at the time of departure. Owners were also willing to increase the dog's exercise but were not willing to uncouple the cues of departure from real departures or desensitize the dog to impending departure. Administration of psychoactive medication may be necessary to augment behavior modification techniques designed to reduce separation anxiety in dogs.

Evidence for an association between pet behavior and owner attachment levels

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Applied Animal Behaviour Science

Volume 47, Issues 1-2 , April 1996, Pages 49-60

Human-Animal Interactions

The possible relationship between companion animal behavior and owner attachment levels has received surprisingly little attention in the literature on human-companion animal interactions, despite its relevance to our understanding of the potential benefits of pet ownership, and the problems associated with pet loss, or the premature abandonment and disposal of companion animals. The present study describes a preliminary investigation of this topic involving a questionnaire survey of 37 dog owners and 47 cat owners exactly 1 year after they acquired pets from animal shelters. The results demonstrate a number of highly significant differences in owners' assessments of the behavior of dogs and cats, particularly with respect to playfulness (Mann-Whitney U Test, $P = 0.125$), confidence ($P < 0.001$), affection ($P = 0.002$), excitability ($P = 0.018$), activity ($P = 0.002$), friendliness to strangers ($P < 0.001$), intelligence ($P = 0.02$), and owner-directed aggression ($P = 0.002$). However, few differences were noted between dog and cat owners in terms of their perceptions of what constitutes ideal pet behavior. The findings also suggest that dog owners who report weaker attachments for their pets are consistently less satisfied with most aspects of their dogs' behavior compared with those who report stronger attachments. Weakly attached cat owners are significantly more dissatisfied with the levels of affection shown by their pets ($P = 0.0186$), but in other respects they are far less consistent than dog owners.

Evidence for canine olfactory detection of melanoma

D. Pickel, G. P. Manucy et al, 2004

Applied Animal Behaviour Science, 89,

Evidence of chemical markers for melanoma in blood and urine suggests that volatile chemicals might be released from melanoma cells (on the skin surface) in amounts sufficient to allow early diagnosis. When tested using methods normally used in canine olfactory detection of drugs and explosives, two dogs demonstrated reliable localization of melanoma tissue samples hidden on the skin of healthy volunteers. One dog (A) then "confirmed" clinically suspected (and subsequently biopsy-proven) diagnoses of melanoma in five patients. In a sixth patient, this dog "reported" melanoma at a skin location for which initial pathological examination was negative, despite clinical suspicion. More thorough histopathological examination in this individual then confirmed melanoma in a fraction of the cells. In a seventh patient, in whom neither dog nor dermatologist provided a definitive response, melanoma was detected by histopathological examination. Dog B searched four of these seven patients; in each case, responses agreed with those of dog A. These findings warrant further study of the conditions under which detection of melanoma might be enhanced by the biological or non-biological detection of volatile chemicals emanating from skin lesions.

Experiences, characteristics and treatment of women suffering from dog phobia

Willem A. Hoffmann and Lourens H. Human

Department of Biomedical Sciences, Technikon Pretoria, Pretoria, South Africa t Department of Psychology, University of Pretoria, Pretoria, South Africa

Dog phobia is a complex psychological phenomenon classified under the anxiety disorders. Twelve female students suffering from dog phobia participated in this qualitative study which included an initial screening, therapeutic intervention and eight-month follow-up. Initial screening was conducted by means of a Fear Survey Schedule and observational assessment of non-verbal behavior during a behavioral approach test (dog stimulus). Therapeutic intervention involved a combination of systematic desensitization and instructional learning. Qualitative data analysis followed a phenomenological approach. The results indicate that the onset age of dog phobia varied from early childhood to late adolescence. Two-thirds of the participants reported a direct traumatic event as the

onset context of their dog phobia, while 17% reported vicarious learning contexts and 17% an inability to recall the onset context. The most widely used sensory focal mode of perception during contact with dogs was visual cues, followed by auditory cues. Half of the participants reported "eye" aspects as the fear-evoking stimulus. A wide variety of anxieties and fears were found to co-occur with dog phobia, although some participants were still able to accommodate dogs and other companion animals in their lives. The poststudy follow-up indicated that the intervention yielded significant real life improvement in 75% of the cases. The implications of this study for therapeutic situations are discussed.

Anthrozoos 16 (1) 2003

Exploring the dimensions of serious leisure: "Love me - love my dog!"

Norris, Patricia A.

Journal of Leisure Research; Jan 1999

This study examines the meaning of the serious leisure experience for American Kennel Club (AKC) activity participants. Particular attention is given to issues of the centrality of leisure participation as it relates to personal identification with the leisure pursuit and adopting a "dog person" lifestyle. This serious leisure pursuit differs from others previously examined because amateurs and professionals compete together. Hobbyists and amateurs support the formal AKC activity pursuit by fulfilling multiple club roles.

Exposure to animal abuse and group context: two factors affecting participation in animal abuse

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Over the previous three decades, an emerging body of literature has highlighted the significance of animal abuse as an important indicator of disturbed social development. The current study attempted to expand upon previous research by examining two factors associated with participation in animal abuse: age of first exposure to animal abuse and group versus solitary participation in animal abuse. Within a sample of 206 college students, the age at which a participant reported that they were first exposed to animal abuse was an important determinant of the risk associated with that exposure. Those who reported having first observed animal abuse prior to 13 years of age were more likely to have engaged in animal abuse than were those who reported having first observed abuse at 13 years or later. In addition, those who reported having engaged in animal abuse alone on at least one occasion had higher self-reported delinquency scores, and exhibited less sensitivity to the treatment of animals, than those who never engaged in animal abuse. Theoretical and methodological considerations, as well as directions for future research, are discussed.

Anthrozoos 17 (4) 2004

Exposure to Dogs and Cats in the First Year of Life and Risk of Allergic Sensitization at 6 to 7 Years of Age

Dennis R. Ownby, MD; Christine Cole Johnson, PhD; Edward L. Peterson, PhD

JAMA. 2002;288:963-972.

Context: Childhood asthma is strongly associated with allergic sensitization. Studies have suggested

that animal exposure during infancy reduces subsequent allergic sensitization.

Objective: To evaluate the relationship between dog and cat exposure in the first year of life and allergic sensitization at 6 to 7 years of age.

Design, Setting, and Subjects: Prospective birth cohort study of healthy, full-term infants enrolled in a health maintenance organization in suburban Detroit, Mich, who were born between April 15, 1987, and August 31, 1989, and followed up yearly to a mean age of 6.7 years. Of 835 children initially in the study at birth, 474 (57%) completed follow-up evaluations at age 6 to 7 years.

Main Outcome Measures: Atopy, defined as any skin prick test positivity to 6 common aeroallergens (dust mites [*Dermatophagoides farinae*, *D pteronyssinus*], dog, cat, short ragweed [*Ambrosia artemisiifolia*], and blue grass [*Poa pratensis*]); seroatopy, defined as any positive allergen-specific IgE test result for the same 6 allergens or for *Alternaria* species.

Results: The prevalence of any skin prick test positivity (atopy) at age 6 to 7 years was 33.6% with no dog or cat exposure in the first year of life, 34.3% with exposure to 1 dog or cat, and 15.4% with exposure to 2 or more dogs or cats ($P = .005$). The prevalence of any positive allergen-specific IgE test result (seroatopy) was 38.5% with no dog or cat exposure, 41.2% with exposure to 1 dog or cat, and 17.9% with exposure to 2 or more dogs or cats ($P = .003$). After adjustment for cord serum IgE concentration, sex, older siblings, parental smoking, parental asthma, bedroom dust mite allergen levels at 2 years, and current dog and cat ownership, exposure to 2 or more dogs or cats in the first year of life was associated with a significantly lower risk of atopy (adjusted odds ratio, 0.23; 95% confidence interval, 0.09-0.60) and seroatopy (adjusted odds ratio, 0.33; 95% confidence interval, 0.13-0.83).

Conclusion: Exposure to 2 or more dogs or cats in the first year of life may reduce subsequent risk of allergic sensitization to multiple allergens during childhood.

Exposure to pets and atopy-related diseases in the first 4 years of life

Nafstad P, Magnus P, Gaarder PI, Jaakkola JJ.

Allergy. 2001 Apr;56(4):267-9.

Department of Population Health Sciences, National Institute of Public Health, Oslo, Norway.

BACKGROUND: It is still unclear how early-life exposure to pets is related to children's risk of developing atopy-related diseases. We estimated associations between early-life exposure to pets and atopy-related diseases at 0-4 years of life in a cohort of Norwegian children. **METHODS:** A population-based cohort of 2531 children born in Oslo, Norway, was followed from birth to the age of 4 years. Information on early-life exposure to pets, a number of possible confounders, and atopy-related diseases was mainly collected by questionnaire. **RESULTS:** In logistic regression analysis adjusting for potential confounders, the odds ratio for being exposed to pets in early life (reference category: not exposed) was, for bronchial obstruction at 0-2 years of life, 1.2 (95% confidence interval 0.9, 1.8); for asthma at the age of 4 years, 0.7 (0.5, 1.1); for allergic rhinitis at the age of 4 years, 0.6 (0.4, 1.0); and for atopic eczema at 0-6 months of life, 0.7 (0.5, 0.9). **CONCLUSIONS:** The results indicate that early-life exposure to pets or lifestyle factors associated with exposure to pets reduce the risk of developing atopy-related diseases in early childhood. However, these findings might also be explained by selection for keeping pets.

Factors affecting pica in the domestic cat

Bradshaw, J. W. S., P. F. Neville, and D. Sawyer, 1997,

A postal survey was conducted of the owners of 152 cats, mainly of oriental breeds, which exhibited pica (defined broadly, as chewing, sucking or ingesting non-nutritive materials). The most common material was wool (93% of cases), followed by cotton, man-made fabrics, rubber/plastic and paper/cardboard (8%). Actual ingestion was as likely to occur in Burmese cats as in Siamese. Pica appeared to be linked to infantile behaviour in non-oriental cats, but possibly not in orientals. Onset of pica could occur at any time during the first 4 years of the cat's life, but was most frequent in the 2 months after rehoming. Onset in other cases could not be linked to rehoming, but tended to occur between 6 and 18 months of age, and may therefore be linked to the onset of sexual maturity or territorial behaviour. Neutering had little effect on the expression of pica.

Factors associated with client, staff, and student satisfaction regarding small animal euthanasia procedures at a veterinary tea

F. Martin, 2004

Journal of American Veterinary Medical Association, 225,

OBJECTIVE: To identify factors influencing satisfaction with procedures for small animal euthanasia and to compare the relative importance of those factors among clients, staff, and students at a veterinary teaching hospital. **DESIGN:** Survey.

SAMPLE POPULATION: 18 nonclinical hospital staff members, 13 clinical staff members, 10 veterinary technicians, 19 veterinary students, and 91 clients.

PROCEDURE: Participants were asked to complete a survey that was designed to assess satisfaction with various aspects of the euthanasia procedure.

RESULTS: Overall response rate was 48% (151/313). Respondents most strongly agreed with the statements that clients should have the option to be present, that having a private place was important, and that employees should be trained to attend to the emotional needs of the client. When asked to place factors in order of importance, those that were ranked the highest included compassionate and caring attitudes of the hospital employees, the option for the client to be present during the euthanasia, and the client being informed and well prepared.

CONCLUSIONS AND CLINICAL RELEVANCE: Overall, all groups (nonclinical staff, clinical staff, veterinary technicians, veterinary students, and clients) identified the same factors as being important in the euthanasia of a pet. Results may help facilitate healthy euthanasia experiences.

Factors associated with dog ownership and contact with dogs in a UK

Westgarth, C.; Pinchbeck, G. L.; Bradshaw, J. W. S.; Dawson, S.; Gaskell, R. M.; Christley, R. M.

BMC Veterinary Research. BioMed Central Ltd, London, UK: 2007. 3: 5, (3 April 2007).

Background: Dogs are popular pets in many countries. Identifying differences between those who own dogs or have contact with dogs, and those who do not, is useful to those interested in the human-animal bond, human health and for provision of veterinary services. This census-based, epidemiological study aimed to investigate factors associated with dog ownership and contact with dogs, in a semi-rural community of 1278 households in Cheshire, UK. **Results:** Twenty-four percent of households were identified as dog-owning and 52% owned a pet of some type. Multivariable

logistic regression suggested that households were more likely to own a dog if they had more occupants (five or more); if they had an adult female household member; or if they owned a horse. The age structure of the households was also associated with dog ownership, with households containing older children (between six and 19 years of age) and young adults (between 20 and 29 years of age), more likely to own dogs. We also found that dog owning households were more likely to be multi-dog households than single-dog if they also owned a cat or a bird, or if the household contained a person of 20-29 years old. Dog owners reported increased contact with dogs, other than their own, compared to those that did not own dogs and this contact appeared to be mainly through walking. Conclusion: Some household types are more likely to own a dog than others. This study supports the suggestion that dogs are more common in families who have older children (6-19 years), as has been generally observed in other countries. Dog owners are also more likely to have contact with dogs other than their own, compared with those not owning a dog.

<http://www.biomedcentral.com/content/pdf/1746-6148-3-5.pdf>

Factors in children's attitudes toward pets

Kidd, A. H., and R. M. Kidd, 1990,

Psychological Reports, v. 66, p. 775-86.

This study investigates parental attitudes, family size, and structure, and presence or absence of household pets as influences on children's attitudes toward pets. 700 parents completed a Melson Parent Questionnaire which assesses children's activities with, interest in, and responsibility for pets, and completed either the Wilson Attitude Inventory for Pet Owners or for Nonpet Owners. Results indicated: that children of strongly attached adults and in pet-owning homes scored higher on Activities and Interest than children of weakly attached adults and in nonpet-owning homes; that children of both sexes in one-parent homes scored higher on Responsibility than in two-parent homes; that boys scored higher on Interest, girls on Activities, and both sexes on Responsibility when mothers worked full time rather than part-time; that girls scored higher on Interest and, in pet-owning homes, on Responsibility than boys; that preschoolers scored lower on Activities and Interest than older children, and that grade schoolers scored higher on Responsibility than preschoolers or high schoolers.

Factors influencing human attitudes to animals and their welfare

J. Serpell, 2004

Animal Welfare, 13,

This paper reviews the literature on human attitudes to animals, and postulates the existence of two primary motivational determinants of attitudes labelled 'affect' and 'utility'. It also proposes that the relative strengths of these key attitude dimensions are affected by various modifying variables including the specific attributes of the animal, the individual characteristics and experience of the person evaluating the animal, and a range of cultural factors. The role of science as a cultural modifier of human attitudes to animals is also discussed.

<http://www.ufaw.org.uk/journal/SUPPLEMENT%20ABSTRACTS.htm>

Fatal anaphylaxis after eating wild boar meat in a patient with pork-cat syndrome

Drouet, M., A. Sabbah, J. Le Sellin, J. C. Bonneau, G. Gay, and C. Dubois-Gosnet, 2001,

Crossed allergy between pork and cat epithelia was described by us in 1994. It is due to serum albumin. Nowadays, other bio-chemical observations allow "completion" of the syndrome by extension of the crossed reactivity between other mammal meats and other epithelia of dog and horse. The authors report an observation of the pork-cat syndrome (developing in the form of anaphylaxis, and then ending in the death of the patient), following consumption of wild boar meat. Co-factors, such as effort, taking alcohol or hormonal condition may complicate the picture to make diagnosis more difficult.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=11434195

Fear of dogs in a community sample: Effects of age, gender and prior experience of canine aggression

Carolyn M. Boyd', Brian Fotheringhaml, Carlo Litchfield !.-n McBryce
Jocques C. Metzger', Pamela Scanlon Ron Somers' and Anthony H. Wine field'

Centre for Applied Psychological Research, School of Psychology. University of South Australia ' Child Accident Prevention Foundation of Australia (SA Branch) ' Salisbury Highway Veterinary Surgery, South Australia ' Port Noarlunga Veterinary Clinic, South Australia 'Department of Human Services, South Australia

An investigation was conducted into human fear of dogs and experiences of canine aggression in an adult community sample ($n = 292$). Consistent with expectations, it was found that, while fear of dogs was relatively common (present in almost half the respondents), fear of dog attacks was less so, and extreme fear of dog attacks was very rare. Women, middle-aged and older adults were more likely to fear dogs than men and younger adults, while older people were more likely than younger ones to fear dog attacks. Reported encounters with canine aggression, particularly threatening behavior, were relatively common, but having been attacked by a dog was less strongly related to fear of dogs than having been threatened by a dog. Logistic regression analyses revealed that being female, having been threatened by a dog, and being older were strong predictors of dog related fear, while being older and obtaining higher scores on a measure of trait anxiety predicted fear of dog attacks. Keywords: canine aggression, dog, fear, human-animal relationship, phobias.

Feline behavior guidelines from the American Association of Feline Practitioners.

Overall, K. L.; Rodan, I.; Beaver, B. V.; Carney, H.; Crowell-Davis, S.; Hird, N.; Kudrak, S.; Wexler Mitchel, E.;

Journal of the American Veterinary Medical Association. American Veterinary Medical Association, Schaumburg, USA : 2005. 227: 1, 70-84.

The benefits of living with a pet are now well recognized. By preventing and treating behavior problems, veterinarians have the opportunity to protect and strengthen the human-animal bond and increase the quality of life for pets and pet owners. The goal of the American Association of Feline Practitioners Feline Behavior Guidelines is to support veterinarians by providing practical information that will help successfully incorporate feline behavior medicine into any practice that offers feline health care.

Feline behaviour problems: the influence of declawing

Morgan, M., and K. A. Houpt, 1989,

Anthrozoos, v. 3, p. 50-53.

In a survey of 60 cat owners with a mean of 2 cats each, the percentages of cats exhibiting behaviour problems were: jumping on tables, 60%; scratching furniture, 42%; eating house plants, 36%; aggression towards other cats, 25%; stealing food, 25%; house soiling, 16%; inappropriate vocalization, 16%; aggression towards people, 12%; chewing fabric, 7%; hissing at people, 5%. A significantly greater percentage of declawed, as compared to intact, cats was reported to jump on tables. However, overall declawed cats are not prone to show more problem behaviour than do clawed cats.

Feline house-soiling problems

Olm, D. D., and K. A. Houpt, 1988,

Applied Animal Behaviour Science, v. 20, p. 3-4.

Failure to use the litter box or house soiling is a common feline behaviour problem, accounting for 59 of 100 cases of feline behaviour problems presented to the New York State College of Veterinary Medicine. Of the 59 cases, 19 (32%) of all house soilings were urine spraying, 19 (32%) urinating, 10 (17%) defaecation and 11 (19%) were urination and defaecation. Many factors appear to contribute to house soiling, including environmental and social stress, medical problems, in particular feline urological syndrome, and individual cats' idiosyncratic preferences for elimination sites. 24% of cats had been unsuccessfully treated with progestins by the referring veterinarians. Treatment of inappropriate elimination behaviour may involve treatment of medical problems, elimination of stress factors, increasing the attractiveness of the litter box and drug therapy. Results of the more than therapies suggested to owners were: 22% cured; 37% improved; 10% no change; 27% lost to follow-up. Therapies included recommendations to change the litter daily, to add more litter boxes, to cease punishing the cat, to have the cat neutered and prescription of progestins.

Feline urine spraying

Dehasse, J., 1997,

Applied Animal Behaviour Science, v. 52, p. 365-371.

10% of all cats spray in adulthood. The sequence of urine spraying and its triggering stimuli were analysed and its pharmacological treatment is summarized. Clomipramine (Anafranil(R)) was tested on 26 cats (5 mg once a day). The results showed clomipramine is responsible for a reduction of urine spraying (by more than 75%) in 80% of the cats. In clinical use, clomipramine is recommended at the dosage of 0.25 to 0.5 mg kg⁻¹ twice a day.

Fostering inter-connectedness with animals and nature: The developmental benefits for children

F. G. Melson, 1990

Journal/People- Animals- Environment, 8,

Experiences of interconnectedness with animals and with nature may be an important context within which more nurturing children may grow to be more nurturing adults. I first will briefly underline the importance of studying this aspect of development and suggest some reasons why developmental psychologists and others who study children's development have neglected this topic. Using evidence

from the relatively recent research in this area, I will trace out a research and theory agenda for studying ways in which nurturance may be fostered throughout the child's development, with particular attention to inter-connectedness with animals and with nature. Finally, I'll suggest some other developmental areas that may be affected by such inter-connectedness.

<http://www.deltasociety.org/dsx212.htm#pageMenu>

From horse doctor to cow leech to veterinary manager. Regulation of the market for veterinary services in historical perspective

Koolmees, P. A.

Argos, p. 75-7, 2000.

In the course of the last two centuries veterinarians succeeded in gaining a monopoly with respect to a number of specific tasks within society under the motto "to the benefit of man and animal alike". Today, a veterinary infrastructure exists in the western world, which is usually taken for granted by society. Before the responsibility for maintaining animal resources and protecting both animal and human health were entrusted to veterinarians, both the process of scientific progress and professionalization of veterinary medicine were necessary. In this paper the regulation of the market for veterinary services in The Netherlands is described. Until World War II, the military and the colonies represented a major demand for veterinary services. A healthy livestock has always been considered as a main concern by the Dutch government with respect to the domestic food supply as well as exports. State intervention concerning veterinary medicine therefore focused on the organized campaigns against livestock diseases. Early national veterinary legislation originated from this concern, as is still the case today within the EU framework. The protection of human health only became part of the veterinary professional domain at a relatively late stage. Due to a strong economic growth from the 1960s onwards, veterinary practice was extended with the care for an increasing number of companion animals. The veterinary profession and its employment are subject to changes in society, such as the number of animals and the significance that is paid to the different species. In 1900 there were 4 million production animals in The Netherlands, while the human population counted 5 million. One century later, not less than approximately 130 million farm animals and 30 million companion animals are living in this country, which now has about 16 million inhabitants. Consequently, the total number of active vets increased from about 250 to 4,000 in the same period, while the number of group and solo practices both increased.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=11625627

Further explorations into the Avian-human bond

P. K. Anderson,

2005

ISAZ 14th Annual Conference,

For abstract go to <http://www.vetmed.ucdavis.edu/CCAB/isaz2005.pdf> and see page 9

Future directions in human-animal bond research:

Beck, A. M., and A. H. Katcher, 2003,

The American Behavioral Scientist, v. 47, p. 79.

Human-animal contact can influence psychological and physiological parameters important to health and welfare; nevertheless, there has been relatively little research on the variables that influence or mediate those health consequences. In addition, little attention has been paid on how to create or alter the animal interactions for the betterment of people and their animals. The investigation can be guided by two theoretical perspectives, which make powerful but different testable predictions: The biophilia hypothesis and social support theory. Along with this theoretically driven research, there is a need for replication of salient research findings to resolve important discrepancies in the literature. Last animal-assisted therapy has to be placed in the context of alternative therapies now available to define its specificity, risks, and overall benefits.

Gastrointestinal parasites of urban dogs in Perth, Western Australia.

Bugg, R. J., I. D. Robertson, et al.

Vet J 157(3): 295-301, (1999)

A study was conducted to determine the prevalence of gastrointestinal parasites in a sample of urban dogs in Perth and the knowledge of their owners about the control and zoonotic transmission of these parasites. Faecal samples (421), collected from dogs originating from five sources, were examined by microscopy and questionnaires administered to dog owners and managers/owners of pet shops. The prevalence of gastrointestinal parasitism was higher in pet shop puppies (51%), than in dogs from refuges (37%), breeding kennels (32.7%), veterinary clinics (15.6%) and exercise areas (5.3%). Protozoa, in particular *Giardia*, were detected more frequently (22.1%) than helminth parasites. After adjusting for other factors with multiple logistic regression, puppies less than 6 months of age, dogs living in households with more than one dog, and dogs from refuges were significantly more likely to be parasitized. The prevalence of *Giardia* was found to be directly associated with the number of doses of anthelmintics given in a year, increasing 1.2 times for each dose administered. The majority of owners were aware of the potential risk to human health from canine helminths, however only one third were aware of the means of transmission to humans. It is concluded that veterinarians can play an important role in increasing the level of awareness of canine zoonotic parasites.

Gender differences in human-animal interactions: a review.

Herzog, H. A.

Anthrozoos. 2007. 20: 1, 7-21.

I review the direction and magnitude (effect sizes) of gender differences that have been reported in several areas of human-animal interactions. These include: attitudes toward the treatment of animals, attachment to pets, involvement in animal protectionism, animal hoarding, hunting, animal abuse, and bestiality. Women, on average, show higher levels of positive behaviors and attitudes toward animals (e.g., attitudes towards their use, involvement in animal protection), whereas men typically have higher levels of negative attitudes and behaviors (e.g., hunting, animal abuse, less favorable attitudes toward animal protection). The effect sizes of gender differences range from small (e.g., attachment), to medium size (e.g., attitudes toward animal use) to large (e.g., animal rights activism, animal abuse by adults.) In most areas, there is considerable overlap between men and women, with much greater within-sex than between-sex variation. Research on the roles of gender in human-animal relationships is hindered by the omission in many reports of gender difference effect sizes and basic descriptive statistics.

Gender differences in owners interacting with pet dogs: an observational study

Prato-Previde, E.; Fallani, G.; Valsecchi, P.;

Many studies show that people form strong affectional bonds with their dogs, treating them like family members or children. The present study investigates differences between women and men owners during interactions with their dogs, in a situation designed to investigate attachment and, thus, to promote emotional and affective responses: the Ainsworth's Strange Situation. Twenty-five dog owners, 10 men and 15 women, were observed during free interactions with their pets in an adapted version of the 'strange situation procedure'. Their behaviour towards their pets was videorecorded. Talking to the dog was evaluated together with the occurrence of affiliative and play behaviours. The owner's level of attachment to the dog was assessed using a questionnaire. Women and men differed in the use of verbal communication. Women talked more than men and had a shorter latency in starting talking. Their utterances resembled more closely infant-directed speech or 'motherese'. In contrast, there were no clear gender differences in affiliative and play behaviours. Both women and men engaged in play with their dogs and provided physical comfort. No differences emerged in the level of attachment reported by women and men owners in the questionnaire. These data support the hypothesis that the behaviour of modern pet owners towards their dogs is an interspecific parental behaviour, and suggest that behaviours evolved to provide care and comfort to human infants have been co-opted for interacting with other social partners. The difference in verbal communication between women and men is in agreement with an evolutionary scenario suggesting a greater pre-disposition in women to use language as a relational tool.

Genetic and environmental factors associated with asthma.

Bener, A., Y. M. Abdulrazzaq, et al.

Hum Biol 68(3): 405-14. (1996).

We investigate the familial and environmental risk factors associated with asthma among United Arab Emirates schoolchildren aged 6-14 years. A cross-sectional study of 850 schoolchildren living in both urban and rural areas (average age 9.36 +/- 2.11 years; 46.8% boys, 53.2% girls) was conducted using self-administered questionnaires between October 1992 and May 1993. The population sample had a high prevalence rate of diagnosed asthma (13.6%) and allergic rhinitis (22.9%). The frequency of asthma, allergic rhinitis, and eczema among parents and siblings reflected the same pattern as that seen in the children. Environmental risk factors associated with asthma were pets, medicine, plants, dust storm, physical exercise, humidity, and perfume. All other factors, such as foods, climate, and parental smoking, showed no apparent relation to the development of asthma. The logistic regression analysis showed that parental asthma, plants, perfume, dust storm, humidity, and pets were the only significant predictors after adjusting for sex and other confounding covariates in the model. In conclusion, risk factors for asthma identified by our study are similar to those found in other community-based studies. Consistencies and discrepancies between our findings and those from other studies with respect to asthma risk factors support the hypothesis that asthma is a multifactorial disease related to both familial and environmental influences.

Get a pet--doctor's orders!

Moore, A., 2002

Prevention, v. 54.

Frequently, a family pet can motivate a patient to put forth the best effort possible to deal with a serious illness such as cancer. Research has shown that companion animals are especially beneficial to seniors and that the interaction with one's pet raises levels of the body's "good" chemicals such as oxytocin and prolactin.

Good dog: The stories we tell about our canine companions and what they mean for humans and other animals

Armbruster, Karla

2002

Papers on Language and Literature , Volume: 38, Issue: 4, Pages: 351

While the popularity of fiction, movies, poems and other stories about dogs in American culture often contrasts with the ways people treat actual dogs, these stories are cultural artifacts that can also shed light on this paradoxical attitude. Analyzing examples of these popular narratives allows people to explore the ways they communicate powerful cultural messages about what it means to be a "good dog," along with what these messages suggest that people feel they owe to dogs, both good and bad.

Grief resulting from euthanasia and natural death of companion animals

McCutcheon, K. A., & Fleming, S. J., 2001/2002,

Pet death, like other losses, requires that the bereaved adjust to the often severe consequences of that loss. Previous research suggests there may be specific owner characteristics and situational variables that can affect how individuals adjust to the loss of their pet (Thomas, 1982). The present study investigated the influence of a number of variables on how one adjusts to companion-animal death including: Cause-of-Death (euthanasia versus natural death); Attachment; Gender; Age; Time-Since-Loss; Type-of-Pet; Replacement-of-Pet; and Household-Make-up. Voluntary participants (N = 103) completed the Grief Experience Inventory (Sanders, Mauger, & Strong, 1985), the Companion Animal Loss Scale (Stallones, Johnson, Garrity, & Marx, 1989), and a General Information Questionnaire. Major findings indicated that: 1) owners whose pets died naturally experienced significantly more total grief, social isolation, and loss of control compared to owners who had their pets euthanized; 2) female owners experienced significantly greater depersonalization, death anxiety, and rumination compared to males; 3) younger owners experienced significantly greater anger/hostility and despair than elderly owners; and 4) owners who lived alone experienced significantly greater somatization than owners who lived with others. Results of the present study suggest reasons why some owners may be "at risk" for excessive grief reactions due to the loss of their companion animal. The importance of providing bereaved owners with a source of mental health counseling is discussed, and directions for future research are suggested.

2<Grieving pet death: normative, gender and attachment issues> OMEGA: The Journal of Death and Dying, 47, 4, 2003, 385-39

THOMAS A. WROBEL; AMANDA L. DYE

Grief over the loss of a pet was investigated to clarify the usual course of symptoms experienced, gender differences in the experience, and the role of attachment to the pet. The sample included 174 adults who had lost a pet dog or cat to death. Participants were administered a modified CENSHARE Pet Attachment Survey (Holcomb, Williams, & Richards, 1985) and a survey of symptoms experienced. Results indicate that initially 85.7% of owners experienced at least one symptom of grief, but the occurrence decreased to 35.1% at six months and to 22.4% at one year. Males and females reported significantly different rates on six of 12 symptoms surveyed. The severity and length of symptoms is significantly correlated with the degree of attachment to the deceased pet. These findings indicate that pet loss can be a potential area of clinical concern, especially if the person's attachment to the pet was strong.

Guard dogs: sleep, work and the behavioural responses to people and other stimuli

Adams, G. J., and K. G. Johnson,

1995,

Applied Animal Behaviour Science, v. 46, p. 1-2.

Sleep-wake cycles and the responses to naturally occurring stimuli were studied in 17 guard dogs; detailed video recordings were made of 10 of these dogs. The guard dogs lived permanently on-site, or were commercially owned and brought on to premises, removed before the workers started and rested at off-site kennels. During 8 h recordings the guard dogs were inactive for 84% of the time at night, and 70% of the time during the day. Dogs had 2.7 activity sessions per hour at night, which was significantly less than during the day (4.2/h). Guard dogs barked 5 times more often during the day than at night (1.06 vs. 0.2 barks/h). 70% of barking sessions were apparently stimulated by human activity, 29% by activity of other dogs and 1% were of indefinite origin. During the day, guard dogs permanently on-site had more activity sessions than commercial guard dogs (5.8 vs. 2.1/h); however, at night there was no significant difference between the sleep-wake cycles and activity levels of the 2 groups. When the dogs were guarding premises after business hours, most (14/17) rested <15 m from their front fences, usually out of obvious view of observers driving past the guard sites. All but one dog showed aggression towards passers-by, and especially towards other dogs. When 14 dogs were directly challenged at their fences, only 3 held their ground, 6 barked and then backed off or ran away, and the other 5 remained hidden. For most of the time spent resting 16 of the 17 dogs lay on available soft materials such as car seats, cloth or sand. All the dogs that were off-site at kennels during the day used resting-sites at night within 15 m of their pick-up and delivery points. Of the dogs remaining permanently on-site, 4 rested at sites provided by their owners and the other 9 rested close to where their owners were active during business hours.

Guidelines for animal-assisted interventions in health care facilities.

Lefebvre, SL; Golab, GC; Christensen, E.; Castrodale, L.; Aureden, K.; Bialachowski, A.; Gumley, N.; Robinson, J.; Peregrine, A.; Benoit, M.; Card, ML; Horne, L. van; Weese, JS;

AJIC - American Journal of Infection Control. 2008. 36: 2, 78-85.

Many hospitals and long-term care facilities in North America currently permit animals to visit with their patients; however, the development of relevant infection control and prevention policies has lagged, due in large part to the lack of scientific evidence regarding risks of patient infection associated with animal interaction. This report provides standard guidelines for animal-assisted interventions in health care facilities, taking into account the available evidence.

Health benefits and health cost savings due to pets: preliminary estimates from an Australian national survey

Heady, B.

Social Indicators Research 47: 233-243. 1999.

American, Australian and British studies have shown that pet dogs and cats confer health benefits on their owners. This paper reports results from the first national survey (N = 1011) estimating the magnitude of these benefits. The survey showed that dog and cat owners make fewer annual doctor visits and are less likely to be on medication for heart problems and sleeping difficulties than non-

owners. An important public policy implication is that pet ownership probably reduces national health expenditure. By linking sample survey results to data on health expenditure, the paper proposes a method of estimating savings. A preliminary estimate of savings of \$988 million is given for Australia for financial year 1994-95.

Health Benefits and Health Cost Savings Due to Pets: Preliminary Estimates from an Australian National Survey

Journal Social Indicators Research

Issue Volume 47, Number 2 / June, 1999, Pages 233-243

Bruce Headey

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American, Australian and British studies have shown that pet dogs and cats confer health benefits on their owners. This paper reports results from the first national survey (N = 1011) estimating the magnitude of these benefits. The survey showed that dog and cat owners make fewer annual doctor visits and are less likely to be on medication for heart problems and sleeping difficulties than non-owners. An important public policy implication is that pet ownership probably reduces national health expenditure. By linking sample survey results to data on health expenditure, the paper proposes a method of estimating savings. A preliminary estimate of savings of \$988 million is given for Australia for financial year 1994--95.

Health benefits and potential budget savings due to pets:

Health benefits and potential budget savings due to pets: Australian and German survey results

Australian Social Monitor: Volume 2, Number 2: May 1999

Bruce Headey and Peter Krause

Australian and German dog and cat owners use health services less than the rest of the population. In both countries pet owners make about 12-15% fewer annual doctor visits than non-owners. German owners spend 32% fewer nights in hospital. Benefits appear particularly strong for older people, the population group with the worst health and heaviest use of health services. The paper also links the survey results to national health expenditure in order to estimate potential savings due to pet ownership. Indicative estimates are given of \$2 billion savings for Australia in 1994-95 and DM9 billion for Germany in 1996.

Health Correlates of Compatibility and Attachment in Human-Companion Animal Relationships

R. Claire Budge, J. Spicer, B. Jones, and R. St. George

Society & Animals Journal of Human-Animal Studies, Volume 6, Number 3, 1998

The relationship between animal ownership and owners' health has received increasing attention in the recent human-companion animal literature. This article considers a new aspect of the human-companion animal relationship, that of compatibility between pet and owner. Compatibility is viewed as the fit between the animal and the owner on physical, behavioral, and psychological dimensions. A postal survey was used to test the hypothesis that compatibility has influences on physical and mental health that are independent of those because of owners' level of pet attachment and human social support. A sample group of 176 pet owners completed a questionnaire containing a new measure of

compatibility as well as standard measures of pet attachment, human social support, and mental and physical health. Results of multiple regression analyses indicated that people who are relatively more compatible with their pets report better mental health overall and fewer physical symptoms. Social support was positively associated with mental health. Pet attachment was also positively associated with mental health, but negatively with physical health. MORE

Health Cost Savings. The impact of pets on the Australian health budget.

Baker Medical Research Institute, The Centre for Public Policy

The University of Melbourne, November 1995

This paper has been prepared as a contribution to the furthering of discussion and research on the implications of the human companion animal bond

It has been jointly prepared by:

- * Associate Professor Bruce Headey
The Centre for Public Policy, University of Melbourne
- * Professor Warwick Anderson
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The authors acknowledge the research assistance of Dr. Jonica Newby, Veterinary Consultant to the Petcare Information & Advisory Service.

Published by the Petcare Information & Advisory Service
SUMMARY

The Australian NATIONAL PEOPLE & PETS SURVEY 1994 (N = 1011) showed that dog and cat owners make fewer doctor visits and appear to have better health than non-pet owners. It follows that the presence of pets in a majority of Australian households entails savings in health expenditure. This paper provides the first preliminary estimates of these savings. Eight per cent of GDP, over \$30 billion, is spent on health care, of which 68% is government expenditure and 32% private. Our calculations indicate that the presence of pets could save between \$790 million and \$1.5 billion, annually, depending on whether it is assumed that only the main carers of pets enjoy health benefits, or whether other family members are assumed to benefit also. The paper outlines future research requirements which would enable more precise estimates of savings to be calculated.

INTRODUCTION

In 1992 the Baker Medical Research Institute found that pet owners in its clinic population had lower levels of risk factors for cardiovascular disease and that this was not explicable on the basis of cigarette smoking, diet, body mass index or socio-economic profile or other variables which normally increase risk. (Anderson, Reid & Jennings, 1992). These findings are now being further investigated through the Institute's cardiovascular disease risk clinic.

Australian and American research has also shown that dog and cat owners go to the doctor less often (Headey, 1995; Serpell, 1990a, 1990b). Furthermore, there is strong evidence that the relationship between pet ownership and better health may be causal and not merely correlational; that is, people who acquire a dog or cat subsequently enjoy improved health, perhaps because they are less likely to be lonely and more likely to take exercise (Serpell, 1990a, 1990b).

The Petcare Information & Advisory Service agreed that this last finding indicated that pet ownership may have a beneficial impact on community health costs and that this impact ought to be investigated.

To do so it was decided to combine a number of social and economic research methodologies to explore this possibility further.

BACKGROUND

The purpose of this paper is, therefore, to make preliminary estimates of the health expenditure savings in Australia, resulting from pet ownership. Health costs are significant - they absorb about 8% of the Australian GDP - and if pet owners enjoy better health, the existence of pets has the clear potential to save substantial sums of government and private money.

The methodology adopted to ascertain whether such savings exist and how significant they may be involved:

undertaking research on the behaviour of Australians regarding use of doctors and pharmaceuticals;

establishing whether existing health cost data indicated that the different behaviours could have a measurable economic impact; and

developing a method which would allow the data to be used to calculate the size of any such savings.

The estimates outlined below are based on data from the 1994 Australian NATIONAL PEOPLE & PETS SURVEY (N=1011), conducted by McHarg, Baldock, Headey and Robinson for the Urban Animal Management Coalition (McHarg et al., 1995). Because this survey obtained information about a representative national sample, it is possible for the first time to estimate national expenditure savings resulting from pet ownership. Because the sample is representative it was possible to check that results relating to health benefits and savings were not spurious when statistical controls were used to net out the effects of age and gender*

. * It should be understood that the estimates provided are based on comparing actual Australian health expenditure with a counterfactual situation, namely the expenditure which would be incurred if pets were banned and none existed. The difference between current expenditure and the hypothetical level of expenditure in the absence of pets may be regarded as the savings due to pets. (An alternative means of calculating possible savings would be to postulate various increases or decreases in pet ownership.)

ASSUMPTIONS AND METHODS

Dog and cat owners make fewer annual doctor visits than non-owners.

In what follows it is assumed that all or part of recurrent national health costs can be divided up proportionately to the number of doctor visits people make. We have made this assumption on two grounds. The first entry point to the Australian health system is overwhelmingly through GPs. Thus, the number of doctor visits is probably a reasonably valid indicator of health system usage. We plan other research to throw further light on this relationship. One assumption (one of a range of alternatives considered) is that all the nation's recurrent health expenditure, which amounted to \$32.922 billion in 1992-93, can be apportioned on the basis of doctor visits. In effect, we assume that if some people go to the doctor more than others, they are "responsible" for proportionately more hospital costs, pharmaceutical costs, salary costs, bed costs, etc. throughout the health sector (Note: only recurrent expenditure not capital expenditure is included in our estimates)*

. An alternative, but perhaps less justified assumption, is that only costs that can be more directly associated with general practitioner (GP) visits should be calculated. These costs comprise (1) the cost of the GP visit itself; (2) the cost of pharmaceuticals prescribed by the GP; and (3) the cost of

hospitalisation based on the probability of being hospitalised following a GP visit. The main reason for this being less justified is that the question asked in The NATIONAL PEOPLE & PETS SURVEY related to visits to all types of doctors and not just GPs.

In our calculations we also needed to make assumptions about (1) which pet owners (dog owners or cat owners as well?) enjoy better health; and (2) which members of the family benefit and by how much from the presence of a pet. The NATIONAL PEOPLE & PETS SURVEY was based on interviews with main carers of pets in those families which had pets, and a representative sample of Australian residents aged 16 and over in families which did not have pets (more detail below).

All calculations in the paper use as their base the difference in doctor visits between people who own a dog or a cat or both (4.41 visits per year) and people who have no cat or dog in the home (5.00 visits per year). However, the figures in the last two rows of Table 1 also require comment.

The difference in doctor visits between dog owners and non-dog owners was statistically significant at the 95% confidence level. The question of cat ownership is more difficult. The figures in Table 1 suggest that cat ownership may be even more beneficial to health than dog ownership, but due to smaller numbers the difference in doctor visits between cat owners and non-owners was not quite significant at the 95% confidence level. However, in the calculations presented below, we have combined the dog-cat figures, taking the view that our best available current estimate (point estimate) is that these two most common household pets both confer health benefits.

A final issue is whether all the health benefits due to pets flow to the main carer, or whether other members of the family also benefit. Plainly our survey data only relates to main carers. However, it seems likely that some benefits also flow to other family members who are likely to interact, to a greater or lesser extent, with the pets.

The calculations below show results assuming (1) that only main carers benefit and; (2) that other family members benefit to half the extent of the main carer. In effect, we assume that other family members interact with the pet *.

The NATIONAL PEOPLE & PETS SURVEY and Other Data Sources The NATIONAL PEOPLE & PETS SURVEY (N=1011) was conducted in November 1994. Telephone interviewing was carried out by The Roy Morgan Research Centre and was commissioned by the Urban Animal Management Coalition. The Roy Morgan Research Centre, which has an excellent reputation for accurate representative sampling, was asked to obtain samples of pet owning and non-pet owning households. In pet owning households, the main carer of the "principal" pet was interviewed. This was assumed to be the dog (or dogs) in dog owning households and the first pet mentioned by the respondent in non-dog owning households.

HEALTH EXPENDITURE

Data on health expenditure was primarily supplied by the Australian Institute of Health and Welfare and relates to 1992/93. In that year recurrent health expenditure was \$32.922 billion or about 8% of GDP. Of this, 68% was government expenditure and 32% private. The sheer size of this expenditure means that even small differences in health system utilisation between pet owners and non-owners can yield large savings.

Information about the cost of doctor visits, pharmaceutical benefits and hospitalisation comes from Department of Human Services and Health: Statistical Overview, 1993-94.

For consistency (since 1992-1993 expenditure data is used) population figures for December 1992 are used in our calculations. At that date the population was 17.6 million living in 6.08 million households.

* It should be noted that the paper focuses only on health cost savings. It leaves out all other costs and benefits of pet ownership. For instance, we have excluded costs incurred by pet owners in terms of feeding and maintaining their pets. Feeding and maintaining has a tax impact through the sales tax on pet food; the decision to have a pet is voluntary; there are non-economic benefits experienced by pet owners in return for their expenditure; and health costs are qualitatively different because of their impact on government spending.

RESULTS - ESTIMATES OF HEALTH SAVINGS

We first give results for Method I which involves apportioning all recurrent health expenditure in 1992-93 among pet owners and non-owners. Method II, for which results are presented later, is based on a more conservative, but in our view less justified approach, in which only costs more directly deriving from GP visits are calculated.

Method I - All Recurrent Expenditure Apportioned

As a worked example, results are given in detail for savings due to main carers of dogs and cats. The assumption here is one of zero benefits to other family members.

A. Savings Due to Health Benefits for Main Carers Only Step 1 - Population Estimates

In 1992-1993, 58% of Australia's 6.08 million households owned a dog, or cat (or both)*. Therefore, there were 3.538 million main carers, i.e. 20.1% of the total population of 17.6 million. 79.9% of the population are assumed not to gain health benefits from being main carers of pets for the purpose of this calculation.

*Morgan Research Data

Step 2 - Doctor Visits per year

Dog and cat owners (20.1%) - 4.41

All others (79.9%) - 5.00

Using these figures, straightforward multiplication indicates that 79.9% of the population makes 81.8% of doctor visits.

Step 3 - Apportioning Health Expenditure

It follows that in our counterfactual situation, annual recurrent health expenditure in 1992-1993 would have been: $81.8/79.9 \times \$32.922 \text{ billion} = \33.712 billion

Therefore, savings due to the health benefits flowing to main carers were:

$\$33.712 \text{ billion} - \32.922 billion

Savings = \$790 million

B. Savings Due to Health Benefits for Main Carers of Dogs and Cats and Their Families

Making an alternative assumption that other family members receive half the health benefits of main carers, the additional savings were: 1.895 million additional family members x 0.5 health benefits x \$790 million benefits to main carers = \$749 million. Total savings due to main carers and other family members = \$1.539 billion. Method II - Savings Derived More Directly from Fewer Doctors Visits by Pet Owners

Our alternative method involves conservative but also perhaps less realistic assumptions. First, this method assumes that when survey respondents told us how many doctor visits they had made in the last year, they reported only GP visits. It should be noted, however, that the relevant survey question asked about visits to "any sort of doctor, your family doctor or specialist". Following from this assumption, the method next involves directly calculating three sets of savings:

1. Savings from fewer GP visits by pet owners;
2. Savings due to assumed lower consumption of pharmaceuticals (prescribed by GPs) on the part of pet owners;
3. Savings due to assumed lower rates of hospitalisation among pet owners.

In making calculations, we assume that the probability of receiving a prescription for pharmaceuticals following a GP visit is 0.9**. The probability of being hospitalised is one in thirty or 0.033***. The probability of these events happening is of course assumed to be the same for pet owners and non-owners.

**Estimated from Dept. of Human Services and Health Statistical Overview, 1993-1994 (1995) Chap 8

*** Estimated from Australian Institute of Health and Welfare data - personal communication

A. Savings for Main Carers Only

Savings for main carers will again be shown in some detail by way of example. Recalling that there are 3.538 million main carers of dogs and cats, we get the following results.

Savings from GP visits: 3.538 million x 0.59 fewer GP visits x \$21.44 per visit* = \$44.754 million.

*Estimated from Health Insurance Commissioner, Annual Report 1992-1993 (1994). This figure is an underestimate of total costs, since it is the Medicare reimbursement level. In fact only about 60% of GP services are bulk-billed. The remaining 40% of services attract higher charges.

Savings on pharmaceuticals: 3.538 million x 0.59 x 0.9 probability of getting a prescription x \$16.73 per script = \$31.430 million.

Savings on hospitalisation: 3.538 million x 0.59 x 0.033 probability of being hospitalised x \$2,700 cost of the average stay in hospital* = \$186.3 million.

Health Insurance Commission Annual Report, 1992-1993(1994)

Total savings: \$262.484 million

CONCLUSIONS

Our main conclusion is that the savings in annual health expenditure due to pets are very large. Small differences in health system usage between pet owners and non-owners translate into huge savings, simply because national health expenditure absorbs 8% of GDP.

Based on the method of disaggregating the nation's recurrent health expenditure, annual savings may range from \$790 million (if it is assumed that only main carers of cats and dogs receive health benefits) to \$1.5 billion (if it is assumed other family members also enjoy better health to a lesser extent). 68% of these savings accrue to government and 32% to private households. We contend that

it would be appropriate to make an estimate in excess of \$790 million because it seems highly likely that other members of the family besides the main carer receive at least some benefit.

It should be remembered that the counterfactual situation used for all calculations has been an Australia in which there are no pets. We have answered a classic economic "what if?" question. From a public policy standpoint, an alternative way of viewing the results is to ask how much saving there would be if dog and cat ownership were increased due to a campaign to promote the benefits of the human companion animal bond.

The results given in the paper provide a good starting point to estimate health benefits and savings, but a great deal of further research is needed before more precise estimates are available; estimates which would narrow down the wide range presented here. Larger or repeated national sample surveys are required to confirm, among other issues, that cat ownership confers health benefits. Also needed are more direct estimates of savings in hospital costs due to pets. Finally, longitudinal and prospective studies are essential both to confirm that there really is a causal (and not just a correlational) link between pet ownership and better health, and also to estimate the medium, longer term and even lifetime benefits.

What is clear is that there is a link between pet ownership and better health and that this link may have profound implications for health policy and practice.

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Health enhancement and companion animal ownership

Beck, A. M., and N. M. Meyers.

Annual Review of Public Health, v. 17, p. 247-57. 1996.

The relationship between people and companion animals, on the one hand, explains the bites and zoonotic diseases that occur among those with companion animals and, on the other hand, appears to enhance the psychological and physiological well-being of many people. Presently, no less than 56% of households in the United States have animals, typical of developed countries around the world. It is well documented that people denied human contact do not thrive well. All indications are that companion animals play the role of a family member, often a member with the most desired attributes. Animals play special roles for children, aiding the teaching of nurturing behavior and appreciation of nonverbal communication. Ordinary interactions with animals can reduce blood

pressure and alter survival after a heart attack. For some, pets increase the opportunities to meet people, while for others pets permit them to be alone without being lonely.

Healthy pets, healthy people

Wong, S. K., L. H. Feinstein, and P. Heidmann.

Journal of the American Veterinary Medical Association, v. 215, p. 335-8. 1999.

Zoonoses, diseases that can be transmitted from animals to humans, can pose serious health risks to immunocompromised people. Although pets can carry zoonoses, owning and caring for animals can benefit human health. Information exists about preventing transmission of zoonoses, but not all physicians and veterinarians provide adequate and accurate information to immunocompromised pet owners. This disease prevention/health promotion project provides physicians and veterinarians with information, created specifically to share with patients and clients, about the health risks and benefits of pet ownership. Further, "Healthy Pets, Healthy People" encourages communication between veterinarians, physicians, clients, and patients and can serve as a model program for a nation-wide effort to aid health professionals in making recommendations about pet ownership for immunocompromised people.

High school students and their pets

Kidd, R. M., and A. H. Kidd.

Psychological Reports, v. 66, p. 1391-4, 1990.

50 high school students, 25 boys and 25 girls, were individually interviewed using a series of open-ended questions to analyze the cognitive, affective, and behavioral factors in adolescents' attitudes toward their pets. It was hypothesized that cognitive elements would progress from the concrete operations stage to the formal operations stage, that empathy and perspective taking would continue developing, and that behavioral elements would be closely related to realistically assessed characteristics of pets. Although the data supported the second and third hypotheses, only 30 (60%) of the subjects had reached the formal operations stage of cognition. An unexpected finding was that a higher percentage of high school students than of the grade school students previously studied in 1985 indicated closeness to and love for their pets. Further research was suggested.

Historical perspectives on the human-animal bond

L. M. Hines, 2003

American Behavioral Scientist, 47,

The term human-animal bond (HAB) was used prominently in 1979 in Scotland, but the concept had been articulated by Konrad Lorenz and Boris Levinson earlier. International and national conferences in the 1970s and 1980s and their published proceedings brought wide attention to the HAB, as did media coverage of community animal-assisted activity and therapy programs and service dog training programs. Much of the progress in the HAB can be attributed to veterinary leaders, university centers, conferences, and publications. Other professions were slower to see the value of the HAB. The need for a research base for the field was recognized early by the Delta Society and key individuals. The majority of funding for HAB research, programs, and conferences has come from the pet industry. The HAB field is shifting to a focus on the importance of human-animal interactions to human health and well-being.

<http://abs.sagepub.com/cgi/content/abstract/47/1/7>

Horse reactions to human attitudes and behavior

To assess the effects of human confidence levels on horse behavior, 40 veterinary students led the same mare around a fixed course. Multivariate analysis of human attitudes and behavior and horse behavior showed that a positive attitude towards horses related to infrequent ear movement in that horse (accounting for 46% of variance); positive attitude, together with low lead tension, related to a horse's forward ear position (47%); loose lead tension related to both a horse's low resistance (66%) and low head position (11%). Human attitudes towards at least one horse is shown to be associated with changes in human behavior, which leads to altered behavior in that horse.

Anthrozoos 15 (4) 2002

Housing conditions and behavioural problems of indoor cats as assessed by their owners

Heidenberger, E., 1997,

Applied Animal Behaviour Science, v. 52, p. 345-364.

Housing conditions and behavioural problems of a sample of 1177 cats were described by their 550 owners. Indications for inadequate housing in the light of species-specific needs were analysed. 65.1% of the cats were Domestic European Shorthairs and 78.7% were castrated animals. 87% of the responding cat owners were female. 59% of the households had more than one cat (mean 2.2). On average 1.8 of the 2.3 members living in a household dealt with the animals. The average cat could use 34 m² of the living space and had 5 different resting places, the owner's bed being the favourite in 52% of the cases. 14% of the owners allowed their cats to run free outside without restriction; 55% let their cats out under various levels of control. Feeding most often took place (79%) in the kitchen; 24% of the cats had communal food bowls. 51% of cats had to share their cat-toilet, and 22% of the cats were fed in the same room as they had to use for elimination behaviour. More than one toilet in different rooms were available to 28% of the cats. In 644 cats (54.7%) the owners complained of 1 or more behavioural problems with their cats. The self-assessed problems most often mentioned were: states of anxiety (16.7% of 1177 cats); scratching on furniture (15.2%); feeding problems (10.9%); aggression (10.5%); inappropriate urination and spraying (8.2%) and defaecation in the house (5.1%). Neutered females exhibited problems most often. People without children kept cats more often than others, but they also complained more often about their cats. Owners who interacted with their pets for several hours over the day mentioned problems with them less often. In many cases the owners were unable to solve problems on their own. It is concluded that there are deficiencies in indoor cat housing and that owners need help to correct them.

How animal-assisted therapy affects discharge teaching: a pilot study

J. Miller, K. Connor, B. Deal, G. W. Duke, M. Stanley-Hermanns, G. Varnell, K. Hartman and J. McLarty, 2003

Critical Care Choices,

ANIMAL-ASSISTED THERAPY (AAT) has been shown to benefit patients who need critical care nursing.¹ Under direction of health services and education professionals, animal-assisted therapy can also provide physical, emotional, and cognitive benefits to people with special needs,^{2,3} In AAT, a

goal-directed intervention, an animal that meets specific criteria is integral to the treatment process.^{4,5}

The health care professional who specializes in AAT identifies physical, psychological, and cognitive goals for each patient. She then develops a treatment plan that incorporates the therapy animal as the tool to help achieve those goals and evaluates and documents the patients progress.

http://www.findarticles.com/p/articles/mi_qa3689/is_200301/ai_n9182945

How dogs influence the evaluation of psychotherapists.

Schneider, M. S.; Harley, L. P.

Anthrozoos. 2006. 19: 2, 128-142.

Research has shown that the presence of a companion animal reduces anxiety, encourages interaction among humans and enhances the way in which people are perceived. These are all effects which would be useful in a psychotherapeutic setting. On this basis the current study investigated the effect of the presence of a dog on the way in which people perceive psychotherapists. The study utilized an experimental design in which participants viewed a videotape of one of two therapists who were either with or without a dog. It was hypothesized that people would respond more positively to the psychotherapists when accompanied by a dog; specifically, that they would be more generally satisfied and would be more willing to disclose personal information, and that these effects would be influenced by attitudes towards pets. The first two hypotheses were confirmed. The effect was most pronounced among those who were the least positive toward the psychotherapist, demonstrating a ceiling effect. Contrary to the last hypothesis, attitudes toward pets had no influence on the perceptions of psychotherapists. History of pet ownership had only minimal impact on the results. Practical applications and directions for further research are discussed.

Human behaviour and the epidemiology of parasitic zoonoses.(Special: Parasitic zoonoses - emerging issues.)

Macpherson, C. N. L.

International Journal for Parasitology 2005. 35: 11/12, 1319-1331.

The behaviour of *Homo sapiens* has a pivotal role to play in the macro and microepidemiology of emerging or re-emerging parasitic zoonoses. Changing demographics and the concomitant alterations to the environment, climate, class=GramE>technology land use and changes in human behaviour, converge to favour emergence and spread of parasitic zoonoses. The recent unprecedented movements of people, their animals and their parasites around the world, introduce and mix genes, cultural preferences, customs, and behavioral patterns. The increasing proclivity for eating meat, fish, crabs, shrimp, molluscs raw, undercooked, smoked, pickled or dried facilitates a number of protozoan (*Toxoplasma*), trematode *Fasciola* sp., *Paragonimus* spp *Clonorchis* sp., *Opisthorchis* spp *Heterophyes* sp., *Metagonimus* sp *Echinostoma* spp *Nanophyetus* sp.) cestode (*Taenia* spp., *Diphyllobothrium*) and nematode (*Trichinella* spp., *Capillaria* spp., *Gnathostoma* spp *Anisakis* sp., *Parastrongylus* spp.) caused zoonoses. The increasing world population and the inability to keep pace with the provision of adequate sanitation and clean, safe drinking water, has led to an increased importance of waterborne zoonoses, such as those caused by *Giardia* *Cryptosporidium* and *Toxoplasma*. Our close relationship with and the numerous uses to which we put companion animals and their ubiquitous distribution has resulted in dogs and cats unwitting participation in sharing over 60 parasite species including: *Giardia*, *Cryptosporidium*, *Toxoplasma*, most foodborne trematode species, *Diphyllobothrium*, *Echinococcus* spp., *Ancylostoma* and *Toxocara*. Changing human behaviour through education, to encourage the proper cooking of food, which may have cultural and social significance, will remain as challenging as controlling stray and feral pet populations, improving hygiene levels and the provision of safe drinking water and the proper use of sanctuary facilities. Long pre-patent periods and the normally insidious sub-clinical nature of most zoonoses makes advice requiring behavioural change for their control a difficult task. Our clearer understanding of the heterogeneity of susceptibility to infection, the complex genetic variations of people and parasite

species and the development of molecular epidemiological tools is shedding more light on transmission routes and the spectrum of disease that is observed. Improved and new serological, molecular and imaging diagnostic tests and the development of broad spectrum chemotherapeutic agents has led to the attenuation of morbidity and mortality due to parasitic zoonoses in economically advantaged regions. Such advancements, in partnership with supportive behavioural change, has the potential for a sustainable global reduction in the burden of ill health due to parasitic zoonoses. Whether this will materialise is a challenge for us all.

Human companion-animal relationships in the veterinary consulting room

Odendaal, J. S., and A. Weyers.

Journal of the South African Veterinary Association, v. 61, p. 14-23, 1990.

A questionnaire, based on 14 years' private practice experience and psychological principles, was compiled to establish the reasons why veterinary clients are involved with their pets. Questionnaires were sent to South African veterinarians country-wide and only clients visiting veterinarians were requested to complete the questionnaires anonymously. Questionnaires (n = 612) were returned and the data was processed by computer. The results indicated that clients are involved with their companion animals for emotional, social and relaxational reasons, which all have psychological implications. They are, however, also involved with their animals by caring for them, and they keep them for utility or economical reasons and also due to their general interest in nature. The latter reasons could be seen as natural reasons for keeping pets. The same relationship between clients and their pets continue during veterinary consultations. Because of this continuing involvement, some clients may consult veterinarians mainly for psychological reasons and others mainly for clinical reasons. There is a constant interaction between these motivations for veterinary consultations. Client consultations of veterinarians could thus be categorised into psychological consultations which are predominantly human/client orientated and clinical consultations which are predominantly animal/patient orientated.

Human peak experience triggered by encounters with cetaceans

Ryan DeMares

Although wild animals are listed in the literature of the humanistic sciences as a known peak trigger, this phenomenon has not until now been formally explored. In investigating peak experience from the perspective of the human-animal connection, the present study focuses on spontaneous encounters with cetaceans (whales and dolphins) that the human participant considered to be a highly significant personal event. Seven narrative stories were obtained from six human percipients who reported peak experience as a result of interactions with cetaceans which, with one exception, were free-ranging. The species represented are the Atlantic bottlenose dolphin (*Tursiops truncatus*); the orca (*Orcinus orca*), also known as killer whale or blackfish; and the beluga or white whale (*Delphinapterus leucas*). The data were analyzed through the process of phenomenological reduction, yielding five invariant themes: reciprocity of process, intention, connectedness, aliveness and harmony. Other essences of the wild-animal-triggered peak experience also are presented, along with suggestions regarding dynamics that may underlie spontaneous encounters which culminate in an emotional catharsis or other healing.

Anthrozoos 13 (2) 2000

Human speech and blood pressure

J. J. Lynch, S. A. Thomas et al, 1980

The recent development of a noninvasive automated blood pressure device has revealed a strong relationship between human conversation and blood pressure. Conventional techniques of pressure measurement such as the stethoscope and manometer, which require silence during the measurement, tended to obscure this important relationship. Findings from this study indicate that interpersonal communications surrounding the measurement of blood pressure can rapidly alter systolic and diastolic pressures. In certain situations, changes greater than 20 per cent in systolic and diastolic blood pressure and heart rate can occur within 30 seconds after the initiation of human speech. Such variance can be of critical significance in making clinical judgments concerning hypertension. These findings are discussed in the context of recent nonpharmacological treatment approaches being developed to help control hypertension.

Human-animal bonds in the laboratory: how animal behavior affects the perspectives of caregivers

Chang, F. T. (2002).

Ilar Journal. 43(1): 10-8.

Experiencing the human-animal bond in the laboratory context can potentially improve the quality of life of animals as well as increase job satisfaction for animal caregivers. With today's centralized facilities, caregivers generally focus entirely on providing routine care for animals without involvement in experimental procedures. Results of responses to a detailed and open-ended survey of 16 caregivers and five campus veterinarians at seven University of California campuses are presented, in addition to six interviews of additional caregivers and veterinarians. The survey revealed that these individuals became caregivers because of their attraction to the animals. Positive interactions with the animals were highly rewarding. Approximately half of the caregivers reported feeling less attracted to mice than other species. Job satisfaction could perhaps be increased by offering seminars for the research team that would include the caregivers and providing support related to animal deaths and euthanasia.

Human-companion animal relationships and animal behavior problems

Marder, A. R., and L. R. Marder, 1985,

Veterinary Clinics of North America - Small Animal Practice, v. 15, p. 411-21.

The compatibility of the social systems of humans and companion animals has facilitated the formation of a unique interspecific relationship. Some of the most common behavior problems that people have with their pets are a result of the type of relationship that has formed between them. In most cases, neither pet nor owner is exhibiting abnormal behavior; rather, they are demonstrating normal species-typical behaviors that are unacceptable to the other species.

Human-dog interactions in a guide-dog training program

Koda, N., and S. Shimoju, 1999,

Psychological Reports, v. 84(3, p. 1115-1121.

Examined dyadic interactions between 6 female and 6 male neutered, 1-yr-old dogs and 20 women (aged 20-40 yrs), 14 men (aged 20-40 yrs) and 10 girls (aged 8-13 yrs) who were unfamiliar with each

other. Also examined was the effect of sex differences in dogs and humans, as well as age differences in humans on human-dog interactions in a guide-dog training program. Female dogs more actively regulated their distance from humans than male dogs. Dogs made contact with women more frequently than with men, and men made contact with dogs more frequently than women. Girls initiated interactions with dogs more frequently than women; girls formed reciprocal interactions with dogs less frequently than women.

Human-mare relationships and behaviour of foals toward humans

Henry, S.; Hemery, D.; Richard, M. A.; Hausberger, M.;

Applied Animal Behaviour Science. Elsevier, Amsterdam, Netherlands: 2005. 93: 3/4, 341-362. 43

We studied experimentally whether horse dams influenced foals' relationships with humans. We investigated the influence of the establishment of positive human-mare relationships on foals' behaviour toward humans. Forty-one foals and their dams were involved in this experiment. Half of the mares were softly brushed and fed by hand during a short period (total of 1.25 h) during the first 5 days of their foals' lives (experimental group, $n=21$). The other mares were not handled experimentally and their foals received no contact with the experimenter (control group, $n=20$). The reactions of both experimental and control foals were recorded under various conditions, first, for 5 min in the presence of a motionless experimenter, when foals were 15 and 30-35 days old, then in an approach test when they were 15 days old and in a saddle-pad tolerance test when they were 30-35 days old. Finally, approach-stroking tests were performed successively by the familiar experimenter when foals were 11-13 months old and by an unfamiliar person when they were 13-15 months old. Several observations strongly suggest that mares can influence their foals' behaviour toward humans: (1) during the handling procedure, experimental foals of protective mares were further from the handler than foals of calm mares ($p<0.001$); (2) experimental foals remained, at all ages, closer to the experimenter ($p<0.05$) and initiated more physical contacts (sniffing, licking, etc.) with the experimenter ($p<0.05$) than control foals; (3) avoidance and flight responses of experimental foals were considerably reduced during approaches by the experimenter ($p<0.01$) and they accepted saddle-pads on their backs more easily ($p<0.01$) and more quickly ($p<0.01$) than control foals. Lastly, the consequences of handling mares had effects that lasted at least until foals were one year old ($p<0.05$) and became generalized from experimenter to unfamiliar humans, who could approach and stroke experimental foals rapidly during a test ($p<0.05$). This is the first report of an attempt to use observation of mother by foals to facilitate human-foal relationships. The procedure is simple, takes little time and can easily be applied to any dam-foal pair, as it is not intrusive and presents no risks of disrupting mare-foal bonds.

animal behaviour. foals. mares. social behaviour. socialization. .

Humans and pets and attachment

Rynearson, E. K., 1978,

British Journal of Psychiatry, v. 133, p. 550-5.

The bond between human and pet depends on their commonality as animals and their mutual need for attachment. Under abnormal circumstances of developmental frustration a human may displace an overdetermined need for attachment to the pet. The attachment relationship is pathological because of its defensive purpose, and its interruption can create enduring psychiatric reactions. The paper details the developmental determinants for this interaction.

Husbandry considerations for better behavioral health in psittacine species.

Keeping psittacine species as companions presents several unique challenges that are not involved in the ownership of dogs or cats. Because psittacine species are prey species, they respond differently than dogs and cats to seemingly benign challenges, such as the introduction of a novel item, sudden gestures, or even minor changes to the environment. Most psittacine species kept in captivity do not have the extended history of domestication that dogs and cats have. Because of a tendency to form flocks in the wild and the important functions of these flocks, psittacine species may be less tolerant of isolation from conspecifics in captivity. Many psittacine species have a life expectancy similar to that of humans, requiring a lifelong commitment from the caregiver. In addition, most psittacine species remain reproductively intact, which can contribute to behavior problems as the birds reach sexual maturity. Husbandry considerations that affect mental wellness and behavior in pet birds have been reviewed by Luescher and Wilson and me. Environmental considerations for pet birds include air quality, social interaction, intellectual stimulation, diet variation, foraging opportunities, adequate sleep, reduction of stressors, exercise, appropriate housing, and expression of species-typical behaviors. Inadequate husbandry for exotic species is an extremely important welfare issue, contributing to both mental and physical suffering. Caregivers should be encouraged to learn effective behavior modification techniques to address common behavioral issues, including screaming, reproductive behaviors, and biting.

Immunotherapy in childhood asthma

Buenfil Lopez, J. A.

Rev Alerg Mex 44(3): 67-9. (1997).

It was accomplished a prospective study with 100 pediatric patients (60 children- and 40 girls) with the diagnoses of chronic rhinitis and bronchial asthma and reactivity allergic to three or more antigens environmental related to exacerbation of disease and whose symptoms were impeding a normal life. It was then included in a program of immunotherapy in compliance with the plan that has in the Centro Regional para la Prevencion y el Tratamiento de las Enfermedades Alergicas (CRPTEA) of the Hospital Universitario de la Universidad Autonoma de Nuevo Leon, as well as an education and rehabilitation program of the patient and family. There was a notable improvement, clinically demonstrated by the important decrease in the quantity of asthmatic crises and rapid answer to drugs, being integrated to a life of better quality, with good scholastic exploitation, suitable allowance to exercise and quiet sleep. It was concluded that, in well selected asthmatic patients, it is justified the immunotherapy, when it can be demonstrated specific sensitisation to allergens by tests cutaneous and that unfetter the symptoms and that they do not answer adequately to pharmacotherapy of first line.

Impact of Keeping Pets at Home Upon the Social Development of Children

Zuzanna Toeplitz Ph.D., Anna Matczak Ph.D., Anna Piotrowska Ph.D. Aleksandra Zygier, University of Warsaw. Warsaw. Poland. 1995.

(Paper presented at the 7th International Conference on Human-Animal Interactions, Animals, Health and Quality of Life, September 6-9, 1995, Geneva, Switzerland).

The impact of keeping dogs or cats at home on social development of children age 4. 6 and 8 years was examined using interpersonal decentration. social sensibility. social interaction. prosocial behaviour and self-reliance as indicators of social development.

Three levels of age, two kinds of pets and sex construed 3 x 3 x 2 factorial design. A total of 540 subjects. 30 subjects per cell took part in the study. Dependent measures consisted of: interview, natural experiment, Test of Faces and CAT. Subjects' mothers filled up information questionnaire and PARI (attitude test) and teachers Observation Sheet. ANOVA analysis and t-test were used to test between-group differences.

The main results were as follows: the difference in personal decentration ($p < .001$) greater in groups of children with pets at home and higher scores in prosocial behaviour measures ($p < .001$) in groups with dogs and cats at home. Children with cats also show higher levels of self-reliance ($p < .01$).

The results show the importance of keeping pets at home for the development of prosocial behaviour even in the very young children. The results also show the role played by domestic cats that may be important for future pet buyers.

Impact of pet ownership on elderly Australians' use of medical services: an analysis using Medicare data

Jorm, A. F., P. A. Jacomb, H. Christensen, S. Henderson, A. E. Korten, and B. Rodgers.

Medical Journal of Australia, v. 166, p. 376-7. 1997.

OBJECTIVES: To determine whether pet ownership by elderly people is associated with lower use of health services. **DESIGN:** Survey of physical and mental health, and retrospective 12-month review of Medicare records of the number of general practitioner and specialist services.

PARTICIPANTS AND SETTING: Elderly people living in Canberra (Australian Capital Territory) and Queanbeyan (New South Wales), surveyed in 1994 for the second stage of a larger longitudinal study.

RESULTS: Elderly pet owners did not differ from non-owners on any of the physical or mental health measures or in use of health services.

CONCLUSION: Given the high use of health services by older people, our findings suggest that the claim that pet ownership leads to savings in health services should be viewed with caution.

Implementation of a pet visitation program in critical care

Giuliano, K. K., E. Bloniasz, and J. Bell, 1999,

Critical Care Nurse, v. 19, p. 43-50.

We have no quantitative research data to document that these visits are actually helpful to patients in any measurable way, although we certainly hope to have some soon. However, observations of staff members and evaluations from participants in the program have been quite positive thus far. The program has been in place for more than 2 years, and about 30 pets have visited so far, including 28 dogs and 2 cats. Implementing a pet visitation program for critically ill patients affords healthcare providers the opportunity to offer a unique and humanistic therapeutic intervention to appropriate patients. Although it is a time-consuming endeavor, it has been well received by those patients and families that have participated in pet visits. Critically ill patients are often denied many simple pleasures because they are in physiological crisis. Such patients experience loneliness, isolation, depression, and lack of emotional support. Pet visitation is one way to address these common problems of ICU patients. For this reason, pet visitation will remain a therapeutic option for the support of our critically ill patients.

Importance of the human-animal bond for pre-veterinary, first-year, and fourth-year veterinary students in relation to their...

Importance of the human-animal bond for pre-veterinary, first-year, and fourth-year veterinary students in relation to their career choice.

Martin F, R. K., Farnum J.

Journal of Veterinary Medical Education 30(1): 67-72, (2003)

RATIONALE FOR THE STUDY: The Human-Animal Bond (HAB) is a construct that has received increased attention in the field of veterinary medicine. However, it remains unclear how important the HAB is to veterinary students and how it may be related to their career choice.

METHODOLOGY: Questionnaires were administered to 146 veterinary students. A variety of variables was assessed, including sex, year of study, career choice, surgery track, and "farm" versus "city" upbringings.

RESULTS AND CONCLUSIONS: Overall, students consider the HAB to be an important and valuable construct, one that was influential in their decision to become veterinarians. However, the HAB's importance seems to decrease as students progress in school. Also, students aspiring to food animal careers seem to attach less value to some aspects of the HAB. Females attached more importance to the role HAB plays in their lives than did males; those on "alternative" surgery track assigned more significance to the role of the HAB in veterinary medicine than did those on the "traditional" surgery track. Students also reported that they believe the HAB should be addressed in veterinary curricula.

Important zoonotic intestinal protozoan parasites in Asia.

Mak, J. W

Tropical Biomedicine. Malaysian Society of Parasitology and Tropical Medicine, Kuala Lumpur, Malaysia: 2004. 21: Supplement, 39-50.

Intestinal protozoa are increasingly being studied because of their association with acute and chronic diarrhoea in immunocompromised as well as immunocompetent patients. Various community outbreaks due to contamination of water or food with these protozoa have further highlighted their importance in public health. Among these important pathogens are *Giardia duodenalis*, *Entamoeba histolytica*, *Cryptosporidium parvum*, *Cyclospora cayentanensis*, *Isospora belli*, and microsporidia. Except for the cyst-forming *G. duodenalis* and *E. histolytica*, the others are intracellular and form spores which are passed out with the faeces. These organisms are also found in various animals and birds and zoonotic transmission is thought to occur. These infections are distributed worldwide, with a higher prevalence in developing countries compared to developed countries. However, the relative importance of zoonotic infections especially in developing countries has not been studied in detail. The prevalence rates are generally higher in immunodeficient compared to immunocompetent patients. Higher prevalence rates are also seen in rural compared to urban communities. Most studies on the prevalence have been carried out in developed countries where the laboratory and other health infrastructure are more accessible than those in developing countries. This relative inadequacy of laboratory diagnosis can affect accurate estimates of the prevalence of these infections in developing countries. However, reports of these infections in travellers and workers returning from developing countries can provide some indication of the extent of these problems. Most studies on prevalence of amoebiasis in developing countries were based on morphological identification of the parasite in faecal smears. As the pathogenic *E. histolytica* is morphologically indistinguishable from that of non-

pathogenic *E. dispar*, estimates of amoebiasis may not be accurate. The epidemiology of human microsporidia infections is not completely understood. Two species, *Enterocytozoon bieneusi* and *Encephalitozoon intestinalis*, are associated with gastrointestinal disease in humans and it is believed that human to human as well as animal to human infections occur. However, the importance of zoonotic infections has not been fully characterized. *G. duodenalis* cysts, microsporidia and *Cryptosporidium* oocysts have been detected in various ground water resources, but their role in community outbreaks and maintenance of the infection has not been fully characterized. The taxonomic classification and pathogenic potential of *B. hominis* are still controversial. While considered by many as yeast, fungi or protozoan, recent sequence analysis of the complete SSUrRNA gene has placed it within an informal group, the stramenopiles. This review covers recent published data on these zoonotic infections and examines their public health importance in Asian countries.

2<In It for the Nonhuman Animals: Animal Welfare, Moral Certainty, and Disagreements>Nicola Taylor

Source: *Society and Animals*, Volume 12, Number 4, 2004, pp. 317-339(23) Publisher: Brill Academic

Based on three years' ethnographic research with animal sanctuary workers, this paper argues that a level of moral certainty drives and justifies many of the workers' actions and beliefs. Similar to the "missionary zeal" of nonhuman animal rights activists, this moral certainty divides the world into two neat categories: good for the animals and bad for the animals. This overriding certainty takes precedence over other concerns and pervades all aspects of sanctuary life, resulting in the breakdown of different facets of that life into good and bad homes, good and bad animals, and good and bad workers. The paper, therefore, argues that animal welfare workers may be as "radical" as animal rights activists in one respect-their adherence to the overriding principle of being "in it for the animals." 2<In puppy love: how an assistance dog can enhance the life of a child with a disability>

Nattrass, K., B. W. Davis, S. O'Brien, G. Patronek, and M. MacCollin,

Contemporary Pediatrics., v. 21, p. 57-8.

The role of dogs in the care of children is surprisingly broader today than just the familiar guide animals for the blind. Do you have a patient whose autism or AND or other disability might benefit from "paws-on" attention?

In search of King Solomon's ring: Cognitive and communicative studies on Grey Parrots

I. Pepperberg, 2005

ISAZ 14th Annual Conference,

For abstract got to: <http://www.vetmed.ucdavis.edu/CCAB/isaz2005.pdf> and see page 7

<http://www.vetmed.ucdavis.edu/CCAB/isaz2005.pdf>

Inappropriate behavior of potential guide dogs for the blind and coping behavior of human raisers

Koda, N., 2001,

Applied Animal Behaviour Science, v. 72, p. 79-87.

Inappropriate behaviour of potential guide dogs (puppies; n=11) for the blind and coping behaviour of their adult female raisers (puppy walkers: PWs) were videotaped in their play situation at home from when the puppies were 2-11 or 12 months of age. The frequency of inappropriate behaviour decreased with an increase in the puppies' age, suggesting that human-dog relationships became friendlier. The PWs tended to use moderate coping behaviour to stop the inappropriate behaviour of the puppies. Rejecting interaction with the puppies was effective for stopping the puppies from biting the PWs. Forcible stopping was effective for stopping the puppies from damaging objects. Not responding to the puppies was effective for stopping the puppies from biting the PWs, barking/growling and damaging objects

Incorporating a Centre for Human-Animal Interactions into an academic medical centre

S. B. a. B. Barker, R. T.,

ISAZ 14th Annual Conference, 2005

For abstract go to <http://www.vetmed.ucdavis.edu/CCAB/isaz2005.pdf> and see page 9

Influence of companion animals on the physical and psychological health of older people: an analysis of a one-year longitudinal

Raina, P., D. Waltner-Toews, B. Bonnett, C. Woodward, and T. Abernathy

Journal of the American Geriatrics Society, v. 47, p. 323-9. 1999

OBJECTIVE: To examine whether companion animals or attachment to a companion animal was associated with changes in physical and psychological health in older people and whether the relationships between physical and psychological health and human social networks were modified by the presence or absence of a companion animal.

DESIGN: A 1-year longitudinal study with standardized telephone interview data collected at baseline and repeated at 1-year

SETTING: Wellington County, Ontario, Canada

PARTICIPANTS: An age- and sex stratified random sample (baseline n = 1054; follow-up n = 995) of noninstitutionalized adults aged 65 and older (mean age = 73, SD +/- 6.3)

MEASUREMENTS: Social Network Activity was measured using a family and non-family social support scale, participation in an organized social group, involvement in the affairs of the social group, the practice of confiding in others, feelings of loneliness, and the perceived presence of support in a crisis situation. Chronic conditions were measured as the current number of selected health problems. Pet ownership was assessed by the report of owning a dog or a cat and the Lexington Attachment to Pets Scale score. Physical health was assessed as the ability to perform Activities of Daily Living (ADLs). Psychological health was measured as a summed score comprising the level of satisfaction regarding one's health, family and friend relationships, job, finances, life in general, overall happiness, and perceived mental health. Sociodemographic variables assessed include subject age, sex, marital status, living arrangements, education, household income, and major life events.

RESULTS: Pet owners were younger, currently married or living with someone, and more physically active than non-pet owners. The ADL level of respondents who did not currently own pets deteriorated more on average (beta = -.270, P =.040) than that of respondents who currently owned pets after adjusting for other variables during the 1-year period. No statistically significant direct

association was observed between pet ownership and change in psychological well-being ($P > .100$). However, pet ownership significantly modified the relationship between social support and the change in psychological well-being ($P = .001$) over a 1-year period.

CONCLUSIONS: The results demonstrate the benefits of pet ownership in maintaining or slightly enhancing ADL levels of older people. However, a more complex relationship was observed between pet ownership and an older person's well-being.

Influence of male and female petters on plasma cortisol and behaviour: can human interaction reduce the stress of dogs in a..

Influence of male and female petters on plasma cortisol and behaviour: can human interaction reduce the stress of dogs in a public animal shelter?

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Applied Animal Behaviour Science

Volume 61, Issue 1 , 14 December 1998, Pages 63-77

During their second or third day in public animal shelter, juvenile/adult dogs were exposed to a venipuncture procedure. Then the dogs were either not petted or were petted in a prescribed manner by either a man or a woman; 20 min later, a second blood sample was collected. There was a clear increase in cortisol levels 20 min after the first venipuncture in juvenile/adult dogs that were not petted, but not in dogs that were petted by either a man or a woman. Additional comparisons showed that the petting procedure also inhibited the cortisol response following venipuncture in puppies. However, petting did not reduce the cortisol response to housing in the shelter per se. During petting, dogs made few attempts to escape, frequently were observed in a relaxed posture, and panting was common in juvenile/adult dogs. When dogs were petted immediately following removal from the living cage, those petted by women yawned more often and spent more time in a relaxed, head-up posture. Together, these results indicate that a previously observed sex difference in the effectiveness of petters in reducing the cortisol response was not due to some difference in odor or other nonbehavioural stimulus quality of men and women. Subtle aspects of petting technique appear to have pronounced effects on physiological and possibly behavioural responses of dogs confined in a shelter. Petting may be an effective means of reducing the cortisol responses of dogs to other common aversive situations, such as routine medical examinations and vaccination procedures at veterinary clinics as well as shelters.

Influence of pet ownership on opinions towards the use of animals in biomedical research

Joakim Hagelin`, Bo Johansson, Jann Hau` and Hans-Erik Carlsson`

Department of Physiology, Uppsala University, Sweden. t Department of Teacher Training, Uppsala University, Sweden.

The present study investigated the relationship between pet ownership and opinions on the use of animals in medical research. A questionnaire was answered by 484 schoolteacher students and 156 pre-school teacher students from Uppsala University, Sweden. Animal use was found to be of significant importance for developing treatments for human disease by 59 percent of respondents, but 15 percent did not agree. Forty-four percent thought that it was morally acceptable to use animals in biomedical research, while 25 percent did not. A significantly higher proportion of those who reported experience in the use of animals in research from university teaching morally accepted and understood the importance of using animals in biomedical research, compared with students without this background. Fifty-eight percent of the students were pet owners and the most common species owned were the cat and the dog. A lower proportion of pet owners (39%) found it acceptable to use pet species in biomedical research than did non-pet owners (52%).

Anthrozoos 15 (3) 2002

Influence of various early human-foal interferences on subsequent human-foal relationship.

Henry, S.; Richard-Yris, M. A.; Hausberger, M.;

Developmental Psychobiology. 2006. 48: 8, 712-718.

Whereas the way animals perceive human contact has been particularly examined in pet animals, a small amount of investigations has been done in domestic ungulates. It was nevertheless assumed that, as pet animals, non-aggressive forms of tactile contact were as well rewarding or positive for these species, even though the features of intraspecific relationships in pet animals and domestic ungulates may be to some extent different. We test here the hypothesis that horses may not consider physical handling by humans as a positive event. When comparing different early human-foal interactions, we found that early exposure to a motionless human enhanced slightly foals reactions to humans whereas forced stroking or handling in early life did not improve later human-foal relation. Foals that were assisted during their first suckling (e.g., brought to the dam's teat) even tended to avoid human approach at 2 weeks, and physical contact at 1 month of age. We argue that interspecies differences may exist in how tactile stimulation is perceived. It may be important for the establishment of a bond that a young animal is active in the process and able, through its behavioural responses, to help define what is positive for it. This way of investigation may have important general implications in how we consider the development of social relations, both within and between species.

Influence of visitor presence on the behaviour of captive lion-tailed macaques (*Macaca silenus*) housed in Indian zoos.

Avanti Mallapur; Anindya Sinha; Waran, N.;

Applied Animal Behaviour Science.: 2005. 94: 3/4, 341-352.

To study the influence of 'visitor presence' on captive lion-tailed macaques, a behavioural study (Short Term Effects) was conducted on 30 individuals housed in 8 zoos across India. The study animals were observed on 'visitor presence' days and on 'visitor absence' days, which were zoo holidays. To record the long-term impact of 'visitor presence' on captive primate behaviour, a study on the Long Term Effects was also conducted. In this study, the behaviour of seven singly-housed individuals was recorded independently when 'on-exhibit' and 'off-exhibit' in enclosures of similar sizes. In the Short Term Effects, visitors influenced 20% more abnormal behaviour and 3% more social, mating and aggressive behaviours. In the study on Long Term Effects, visitors were found to influence a 30% increase in abnormal behaviour. In addition, in this study on Long Term Effects, use of space in the enclosure varied with individuals using the areas of the enclosure with trees, shrubs and water bodies (enriched zone) more when 'off-exhibit' than when 'on-exhibit'. 'Visitor presence'

was thus found to influence the behaviour of captive lion-tailed macaques in a negative way suggesting that 'visitor presence' might adversely affect their welfare.

Influences of Pets on the Empty Nester Family

Fu Na & Zheng Richang; Psychology College Beijing Normal University Beijing 100875

Chinese Mental Health Journal Vol 17, Number 8, August 2003

Objective: To investigate the influence of pets on the empty nester. **Method:** 719 families have been investigated with ADL (activity of daily living) and questions about life satisfaction , 161 of them owned pets. **Result:** There was no significant difference between pet-owners and others (control) in gender, occupations and family income. The pet owners were younger than the control group. More of them were married, and they have lower education than control group. The pet owners had better mental and physical states than the control. The above differences were significant in statistics. **Conclusion:** Pet owners are younger, lower educated , their marriages are more stable, and they have better mental and physical states. Further research shall be carried on the respects of social support, life events and pet dependence.

Influences of Pets on the Empty Nester Family

Fu Na & Zheng Richang

Chinese Mental Health Journal Vol 17, Number 8, August 2003

Objective: To investigate the influence of pets on the empty nester. **Method:** 719 families have been investigated with ADL (activity of daily living) and questions about life satisfaction , 161 of them owned pets. **Result:** There was no significant difference between pet-owners and others (control) in gender, occupations and family income. The pet owners were younger than the control group. More of them were married, and they have lower education than control group. The pet owners had better mental and physical states than the control. The above differences were significant in statistics. **Conclusion:** Pet owners are younger, lower educated , their marriages are more stable, and they have better mental and physical states. Further research shall be carried on the respects of social support, life events and pet dependence.

Interparental conflict and youth maladjustment: the buffering effects of pets

E. B. Strand, 2004

Journal/Stress, Trauma and Crisis, 7,

Children who experience interparental conflict have more difficulty with internalizing and externalizing problems. Children's ability to manage their emotional and physiological arousal buffer them from the effects of interparental conflict. The child-pet bond is associated with emotional and physiological management, yet researchers have not explored the buffering effects of this relationship in the face of interparental conflict. This article reviews salient literature and presents implications for social work research and practice on this topic.

Intimacy, domesticity and pet therapy with the elderly: expectation and experience among nursing home volunteers

Savishinsky, J. S.

Social Science and Medicine, v. 34, p. 1325-34. 1992.

A study of volunteers in three nursing homes revealed that their role had several unexpected consequences for institutional residents and for the volunteers themselves. The research, carried out in geriatric facilities in upstate New York, focused on community members and college students working in a pet therapy program, through which they brought companion animals to various institutions on a weekly basis. Visiting people and pets re-created an aura of domesticity for residents who had been cut off from homes and families by age and illness. Consonant with this domestic perception by residents was the self-image that volunteers developed of their role: most came to see themselves as family and friends to patients rather than as visitors, strangers, or adjunct staff. Volunteering, however, was an emotionally demanding experience that some people handled more successfully than others. While certain individuals found the costs of this unexpected intimacy to be too high, others discovered significant rewards in what one person called its 'selfish altruism.' Several factors were found to mediate how volunteers felt about what they did, and whether or not they continued with their work over a long period of time. These variables included: (a) the motives that people had for becoming volunteers, (b) their prior experience doing this kind of work, (c) their career orientations, and current family and living situation, and (d) the image that they had of the elderly in general and nursing homes in particular.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=1529370

Is there a relationship between canine behavior problems and spoiling activities, anthropomorphism, and obedience training:

Voith, V. L., J. C. Wright, and P. J. Danneman, 1992,

Applied Animal Behaviour Science, v. 34, p. 263-272.

From the statistical analysis of a questionnaire answered by 711 different clients during 1981 it was concluded that dogs whose owners interacted with them in an anthropomorphic manner, 'spoiled' them in certain ways, or did not provide obedience training were no more likely to engage in behaviours considered a problem by the owner than were dogs not viewed anthropomorphically, 'spoiled' by their owner, or given obedience training.

ISAZ 2007, Tokyo, Japan

4th -5th October, 2007

Yayoi Auditorium, The University of Tokyo

We are pleased to announce that the annual conference of the ISAZ in 2007 will be held on the 4th and 5th of October in Tokyo, Japan, as a satellite meeting to the IAHAIO 2007. The conference starts in the morning of the 4th and ends at noon on the 5th, so that those participating in the IAHAIO conference can attend the opening ceremony held in another hall in the same campus of the University of Tokyo. The ISAZ meeting will be held in Yayoi Auditorium at the University of Tokyo (<http://www.a.u-tokyo.ac.jp/yayoi/>).

Detailed instructions for submission of abstracts will soon be available on the ISAZ web page. The deadline for submission will be the 1st of April, 2007. Discount registration fees for participants for both IAHAIO and ISAZ meetings will be available, so please plan to visit Tokyo this coming autumn! More information on registration, travelling, and accommodation at various price levels will be also posted later on the ISAZ web page.

It may be a dog's life...communication in veterinary medicine.

It may be a dog's life but the relationship with her owners is also key to her health and well being: communication in veterinary medicine. (Effective Communication in Veterinary Practice.)

Adams, C. L.; Frankel, R. M.;

Veterinary Clinics of North America, Small Animal Practice. 2007. 37: 1, 1-17.

A framework for communicating with clients and colleagues that links elements of communication with processes and outcomes of care is presented in this article. Practical examples of how clinical communication skills can lead to more effective client relationships in practice are provided. Ideas on developing an individual communication skills repertoire in practice are given.

Jama Asks Animal-Assisted Therapy To Prove It

In a recent editorial in *Anthrozoos* (8-3, 130-1), it was pointed out that interest among the medical profession in animal-assisted therapy is very limited. It was argued that the field would only gain wider acceptance in human medicine if the anecdotal reports of successful animal-assisted therapy were replaced by disciplined case studies published in academic journals. A recent JAMA news item (274:1897-1899, 12/27/95) reviews the current array of animal therapy programs and argues that what is needed is proof that these programs actually do work. How to do this is a matter of debate. Such programs do not lend themselves easily to double-blind techniques. It is also problematic to create a statistically powerful study because animal-assisted therapy programs usually do not work with a large number of people with exactly the same condition.

Holly Parker, a recreational therapist who works with the National Cancer Institute's Department of Rehabilitation Medicine, is conducting a study to measure differences in anxiety levels (using state-trait anxiety measures) in children with cancer or HIV infections who interact with a therapy dog versus those who do not. This study is part of an annual evaluation of outcomes mandated by the Department of Rehabilitation and is not required to follow usual NIH research protocol and institutional review board scrutiny. Parker says that it is "very difficult to pull out what the patients get from one interaction as compared with the rest of the hospital environment and treatment. We're using anxiety as a first step to see if we can look at just one aspect."

Aaron Katcher's work with children that have attention-deficit and conduct disorders uses standard clinical trial methods and has produced statistically significant results. The group of children working with animals showed a decrease in symptoms while with the animals. The children in the experimental group also had no episodes of aggression while the control group did. Katcher reports that the effects of the "zoo" program persist : for four years or longer. Nevertheless, "[t]he number of clinical studies demonstrating clear clinical benefits is extremely limited" notes Maureen Frederickson of Delta Society in Renton, WA. As a result, the biggest challenge facing advocates of animal-assisted therapy today is how to prove that such therapy does actually improve outcomes. Aaron Katcher agrees that the push to evaluate outcomes is hampered by the lack of experience in outcomes-based research among those conducting animal-assisted therapy. Nevertheless, he argues that there is room for optimism. Over the past fifteen years, research in the field of human-animal interactions has produced solid evidence linking the presence of a pet with changes in blood pressure, blood lipid levels and utilization of medical services. The same growth could easily take place in animal-assisted therapy, especially if the medical profession changes its attitude from one of benign neglect to skeptical encouragement.

Keeping pets (and people) healthy

L. Bren, 2004

FDA Consumer., 38,

Pets occupy an esteemed place in many of our households, often being treated as members of the family. They offer a source of amusement, pleasure and companionship. They provide opportunities for outdoor exercise and socialization. And, according to some studies, they can decrease our blood pressure, cholesterol levels, and triglyceride levels.

But along with the emotional rewards and health benefits of pet ownership also come health risks. Pets and other animals can give us diseases.

http://www.fda.gov/fdac/features/2004/104_pets.html

Key References on Human-Animal Interactions for Children

Delta, and Society, 2002, , Delta Society.

<http://www.deltasociety.org/dsc060.htm>

Knowledge and attitudes of Australian veterinarians to animal abuse and human interpersonal violence

Green, P. C.; Gullone, E.;

Australian Veterinary Journal: 2005. 83: 10, 619-625.

A survey of Australian veterinarians was undertaken to assess their amount of knowledge about, and their attitudes towards animal abuse, human violence and the link between the two. Results from the 185 respondents to a questionnaire that was either mailed out or hand delivered revealed a wide variety of definitions and attitudes towards abuse, with the majority of veterinarians recognising the link between human and animal abuse. The overwhelming majority of veterinarians believed that they should intervene in some way when confronted with either animal or human abuse, although most felt ill-equipped to deal with suspected human abuse. Almost 20% of cases of animal abuse had associated suspected or known human abuse. It is suggested that veterinarians need more resources made available to them to be able to deal more effectively with these situations.

Knowledge, attitude and practices about animal bites and rabies in general community - a multi-centric study.

Ichhpujani, R. L.; Mala Chhabra; Veena Mittal; Bhattacharya, D.; Singh, J.; Shiv Lal;

Journal of Communicable Diseases. Indian Society for Malaria and other Communicable Diseases, Delhi, India: 2006. 38: 4, 355-362. 8 ref.

Rabies continues to be the most feared of all communicable diseases. Despite the availability the state-of-the-art tools that ensure near complete protection against rabies, India has the highest rabies mortality in the world. A multicentric study was carried out between April 2001 and September 2002 to assess the knowledge, attitudes, beliefs and practices (KAP) about animal bites and rabies in the general community. The proforma for interviewing the general community was developed and used after field testing. The study was carried out in six selected centres across the country (i.e., Delhi, Hyderabad, Raipur, Jamnagar, Coonoor and Rajahmundry) and was coordinated by National Institute of Communicable Diseases (NICD) in Delhi, after thorough briefing of designated nodal officers. A total of 1129 (male:female ratio, 48.5:51.5) adults (aged 18-80 years) were interviewed. Of these

subjects, about 75% had attended school at some level, while the rest were illiterate. About 68.7% of the subjects had heard about rabies, and 60.7% believed that rabies is associated with dog bites only. Only 360 (31.9%) subjects felt that washing the wound with soap and water is the best option. Application of indigenous products such as chillies (11.4%), turmeric (5.6%), lime (6.8%), kerosene (2.3%), and herbal paste (4.2%) was also reported, along with visit to an occult medicine practitioner (1.5%). People were not aware of the number of injections needed for the treatment of animal bites. Negligence and ignorance (n=354, 31.4%), fear of multiple painful injections (n=365, 32.3%), expensive treatment (n=169, 15%), and long course requiring daily visits to anti-rabies clinics (n=73, 6.5%) were cited as reasons for non-compliance to treatment. Results suggest that there is need to create awareness among the masses regarding the epidemiology of the disease and the advantages of prompt and appropriate post-exposure treatment through enhanced IEC activities.

Linguistic deception: Effects of language use on interactions with nonhuman animals

Lawrence, E. A.

Ethics & Behavior, v. 13, p. 203-207, 2003.

The author of the book provides useful style guidelines for countering speciesism, advising readers what language to use and what to avoid in writing about animals. A valuable feature of the book is the thesaurus designating terms to avoid and alternatives to use for each of the topics covered in the chapters. In *Animal Equality*, Dunayer has proved her thesis: The way we speak and write about animals is inseparable from the way we treat them. This extraordinary book is highly recommended for anyone working in the field of human-animal interactions and especially for animal rights proponents who need readily available data to support their arguments. The work is as much a guide for activists as it is a scholarly treatise. It will be especially valuable for teachers of human-animal relationships and bioethics. Scientists who write and speak about their work with animals will find it useful for gaining new understanding about the manipulation of language in their reports. The book does a service in exposing cruelties to animals that may not be generally known. In calling for honest rather than deceitful language, Dunayer has advanced the cause of animal liberation by detailing one vitally important way to help bring about more just and equitable treatment for nonhumans.

Loneliness and pet ownership among single women

Zasloff, R. L., and A. H. Kidd, 1994,

Psychological Reports, v. 75, p. 747-52.

Relationships among loneliness, pet ownership, and attachment were studied in a sample of 148 adult female students, 59 pet owners and 89 nonowners. No significant differences were found on the loneliness reported by pet owners and nonowners. A two by two analysis of variance showed that women living entirely alone were significantly more lonely than those living with pets only, with both other people and pets, and with other people but without pets. No associations were found between loneliness and pet attachment. Also, no significant differences were found in loneliness or pet attachment scores between dog and cat owners; however, women living only with a dog were significantly more attached to the dog than those living with both a dog and other people. Conversely, women living only with a cat were significantly less attached to the cat than those living with both a cat and other people. These findings indicate that having a pet can help to diminish feelings of loneliness, particularly for women living alone, and compensate for the absence of human companionship.

Loneliness, Stress and Human-Animal Attachment Among Older Adults

Keil, C. P.

C. C. Wilson, and D. C. Turner, eds.,

Companion Animals in Human Health: : Thousand Oaks, California, Sage Publications, p. 123-134. 1998.

The purpose of this descriptive study was to explore the role of human animal bonding in quality of life of older adults. More specifically, the relationships among pet attachment, loneliness, and stress were evaluated in animal owners (N=275) from three community programs for older adults in the midwestern United States. Measures included the Human-Animal Relationship Questionnaire for attachment and two Revised Philadelphia Geriatric Centre Morale Scale factors for loneliness and stress. Pearson correlations between attachment and loneliness ($r=.30$, $p=.002$) and between attachment and stress ($r=0.3$, $p=.001$) indicated that as loneliness and stress increased, attachment increased. Visual interaction, dog ownership, stress and the animal's appeal explained 31% of the variance of human-animal attachment, $F(4,269) = 29.24$, $p=.001$. The correlation between loneliness and attachment was higher for participants without a human confidant. These findings suggested that animals could become supplementary attachment figures for older people.

Loneliness: A health hazard of modern times

Duncan, S. L., 1995,

Interactions, v. 13, p. 5-6 ,8-9.

<http://www.deltasociety.org/loneliness1.htm>

Loss of pets II

Satori, A.

KisallatPraxis. BetuVet, Budapest, Hungary: 2005. 6: 4, 158-162.

One of the most significant difference between human and veterinary medicine is the chance for euthanasia. Euthanasia provides a painless termination of the animals' life, however, it increases the responsibility enormously. Many of our colleagues do not perform euthanasia or do it under very extreme circumstances only (accidental injuries, inoperable cases, etc.) while, others do it just like a routine action. Regardless of one's attitude, euthanasia makes a strong psychological stress on veterinarians. Practical details of euthanasia are explained in the curriculum but the emotional processes in the animal and human related to this action usually remain undiscussed. In the last part of this series, we try to give a review on the aspect of death and extermination.

Love of animals and love of people

J. J. Ray, 1982

Journal/Journal of Social Psychology, 116,

W. C. Fields once said: "Anyone who hates children and dogs can't be all bad" (1). He was thus affirming, if in an inverted way, an old piece of folk wisdom -- that love of pets and love of people are closely associated. Even the affection for dogs of such notorious figures as Heinrich Himmler seems to do little to undermine this belief. A belief in the generality of benevolence even forms the foundation of some of the world's religions -- such as the Jains of India who feel a necessity to avoid harming even microbes and insects. Even in the literature of social science, the belief is respected. Psychiatrists (2) see pets as helpful substitutes for people and one experimental study even found that students with low affection for dogs also cared little about people (3). Even the student protest

movement of the '60s had as a substantial part of its ideological underpinnings the view that "Doves" were "life-loving" whereas "Hawks" were "death-loving." This high point in generalization found its way into the psychological literature in the form of Maccoby's "Biophilia" scale (4). Love of people was seen as associated not only with love of animals but also with a love of living things in general.

Maintenance and improvement of quality of life among elderly patients using a pet-type robot.

Kanamori, M., Suzuki, M. & Tanaka, M.

Nippon Ronen Igakkai Zasshi - Japanese Journal of Geriatrics, v. 39, p. 214-8. 2002.

There have been reports of cases in which quality of life and loneliness of elderly people have been affected by interaction with the pet-type robot AIBO. In the present comparison between first and 20th sessions of activity with the pet-type robot, statistically significant improvements were observed in speech, emotional words and satisfaction index. The AKO loneliness scale value was 3.33 at the first session, and was 1.00 at the 20th session (statistically significant decrease). In a comparison of health-related QOL before and after interaction with AIBO, using the SF-36 survey, role function (RP) was statistically higher at the 20th session than at the first session. Evaluation by CgA, a mental stress index, showed a statistically significant decrease as the number of AIBO sessions increased. Case 1: The patient was a 68-year-old woman with chronic rheumatoid arthritis. Her AKO loneliness scale value was 4 on the first session and 1 on the 20th session. She said, "I do not think about anything while playing with the pet-type robot. It heals my mind." Case 2: The patient was a 74-year-old woman with cervical osteochondrosis. Her AKO loneliness scale value was 5 on the first session and 2 on the 20th session. She said, "The first time, I didn't like playing with the robot because I was depressed. After I had played with the robot several times, I felt good." Case 3: The patient was an 84-year-old man with cerebral apoplexy sequelae. His AKO loneliness scale value was 6 on the first session and 1 on the 20th session. He sang with the robot occasionally. The amount of conversation between him and his children greatly increased. Unlike animals, a pet robot does not carry the risk of bacterial infection. The present results suggest the possibility of using robots as a substitute for animal-assisted therapy and other psychosocial therapy in aseptic rooms, ICUs, children's wards, and special care wards for patients with dementia.

Male and female dogs respond differently to men and women

Wells, D. L., and P. G. Hepper.

Applied Animal Behaviour Science, v. 61, p. 341-349, 1999.

The reactions of male and female dogs housed in an animal rescue shelter towards the presence of men and women were investigated. The response of 30 dogs housed in the Ulster Society for the Prevention of Cruelty to Animals (USPCA) to each of 3 men and 3 women, standing individually for 2 minutes at the front of the dog's cage, was observed. The amount of time that the dog spent at the front of the cage, barking, looking towards the human, wagging its tail, and engaged in activities of sitting, standing, moving, resting, was recorded. Canine gender affected the amount of time that dogs spent looking towards the humans. Female dogs showed a greater decrease in the amount of time they spent looking towards the humans over the course of the testing than male dogs. Human gender had an effect on both dog barking, and eye orientation. Dogs showed a stronger decrease in barking and tendency to look towards the human whenever the subject was a woman than a man, suggesting that dogs may be more defensively-aggressive towards men than women. There was no interaction between canine and human gender on the response of the dog towards the persons. This study indicated that both canine and human gender affect certain elements in the response of a dog towards the presence of a human. The findings may have practical implications for the re-housing of dogs from rescue shelters

Man and Cat: The benefits of cat ownership

Bergler, R.

London, Blackwell Scientific Publications. 1989.

Domestic animals have served for centuries as man's natural companions, through modern man is in danger of abandoning many traditional beliefs and modes of behaviour that have regulated and supported human existence for centuries. This book presents and discusses scientific evidence to show how essential to human well-being it is that animals remain a natural part of our everyday life, and examines, in particular, the role of cats as pets. It deals, in detail, with cats in art and culture, the personality of the cat owners, how cats satisfy human needs, and what they can mean for old, lonely or troubled people. Cats emanate a quality that human beings seem to have lost - they create a calm, agreeable ambience and provide reassurance.

Man and Dog: The Psychology of a Relationship

Bergler.

Oxford, Blackwell. 1986.

Our quality of life and well-being are determined to a significant degree by the importance we attach to other people and other things. Relationships between human beings and animals are an integral part of this world of meanings and values and this study is an attempt to examine the nature and significance of the relationship between man and dog and the effect it can have on people's lives. It examines in detail the role of dogs in art and culture, the personality of dog-owners, the role of dogs in psychotherapy (particularly remarkable results, for example, have been obtained with autistic children, the mentally ill and old people), the treatment and prevention of cardiovascular disorders, developmental psychology and help for the disabled. The benefits of dog ownership for children and the elderly are explained and illustrated. Scientific evidence is presented throughout to support the importance of dogs in improving the life of man and the ways in which dogs could play an even more helpful part.

Managing primates in zoos: lessons from animal behaviour

Avanti Mallapur

Current Science. Indian Academy of Sciences, Bangalore, India: 2005. 89: 7, 1214-1219.

The use of animal behaviour in primate husbandry and management is discussed here through two studies conducted on non-human primates in Indian zoos. Abnormal behaviours such as begging from humans, floating limb, self-biting and stereotypic pacing were observed only in omnivorous primates in these two studies. The factors influencing the exhibition of abnormal behaviours were identified to be group composition and size, enclosure design and rearing history. Methods to reduce and increase proportions of behaviour pathologies and natural behaviours, respectively, have been suggested. The behaviour of captive non-human primates differs vastly from their free-ranging counterparts. This difference is primarily because captive environments lack appropriate environmental and social stimuli, which often leads to the development of bizarre behavioural patterns unique to captive animals, technically referred to as 'abnormal behaviours'. In this paper, the presence of abnormal behaviours in the behavioural repertoire of a captive primate is used to demonstrate the need for animal behaviour studies to be included in the management strategies towards improved primate husbandry in Indian zoos.

Manifestations of chronic and acute stress in dogs

Beerda, B., M. B. H. Schilder, J. A. R. A. M. v. Hooff, and H. W. d. Vries, 1997,

Applied Animal Behaviour Science, v. 52, p. 307-320.

In order to evaluate stress responses as potential indicators of poor welfare in dogs, studies dealing with dogs subjected to stressors (noise of up to 3000 Hz at a level of 70, 78 and 87 dB, transport, electric shock) were reviewed. Several sources of misinterpretation have to be considered before stress responses may be used as valid indicators of welfare. Most studies deal with acute stress and do not address chronic stress and related phenomena. Adaptation may counteract the initial stress response and render parameters of acute stress useless for assessing chronic stress. Adaptations to stress are therefore in themselves indicative of reduced welfare. Such adaptations may be discovered by challenging a stress responsive system. Obtaining and applying fundamental knowledge of stress responses in dogs and measuring more than one stress parameter are proposed to minimize the risk of misinterpreting measurements of stress.

Measuring attachment to companion animals: a dog is not a cat is not a bird

R. Lee Zasloff

Center for Animals in Society, School of Veterinary Medicine, University of California, Davis, CA 95616, USA

Applied Animal Behaviour Science

Volume 47, Issues 1-2 , April 1996, Pages 43-48

Human-Animal Interactions

Although the literature on human-animal interactions has documented the physical, psychological, and social benefits resulting from positive relationships with dogs, cats, and other kinds of companion animals, many attachment instruments include items that pertain to specific kinds of interactions with dogs. For this reason, dog owners attain higher scores on these measures than owners of cats and other types of pets. This study introduces a scale for measuring attachment in terms of the perceived comfort received from a pet. A sample of 87 cat owners and 58 dog owners completed the Comfort from Companion Animals Scale. The results showed that, when two items pertaining to dogs were included, dog owners showed a significantly higher degree of attachment. When only the 11 items pertaining to the emotional nature of the relationship were included, however, there were no differences in the scores of the two groups. The results indicate the importance of clarifying both the commonalities and differences of human interactions with various companion animal species.

Metaphoric Relationship with Pets

Society & Animals Journal of Human-Animal Studies

Volume 4, Number 2

Russell W. Belk
University of Utah

Using depth interviews and participant observation, the predominant metaphors that emerge in pet owners' relationships with their animals are pets as pleasures, problems, parts of self, members of the family, and toys. These metaphors as well as patterns of interacting with and accounting for pets, suggest vacillation between viewing companion animals as human and civilized and viewing them as

animalistic and chaotic. It is argued that these views comprise a mixed metaphor needed to more fully understand our fascination with pets.

2<Methodological issues in studying the anxiety-reducing effects of animals: Reflections from a pediatric dental study>Angela Schwartz and Gary Patronek

Center for Animals and Public Policy, Tufts University School of Veterinary Medicine, North Grafton, USA

This article reports observations made during a study investigating the role of a therapy dog in reducing anxiety in urban children visiting the dentist. The design and execution of the study were affected by methodological issues such as the reaction of urban children to the dog in the clinic, the tools used to measure anxiety in the children, the age and pet-ownership status of the children, and the personality of the therapy dog. Suggestions made for researchers designing similar studies include allowing children to become comfortable with the therapy dog before beginning formal data collection, working with younger children who have made fewer visits to the dentist, and using or developing more accurate tools for measuring behavioral and physiological anxiety.

Anthrozoos 15 (4) 2002

2<Misanthropy, idealism and attitudes towards animals>Karl L Wuensch, Kevin W Jenkins, and G. Michael Poteat

Department of Psychology, East Carolina University, USA

Abstract

When evaluating the ethical status of an action that harms a nonhuman animal (henceforth animal), one might weigh the benefit to humankind against the cost of the harm done to the animal. To the extent that one does not like humans (is misanthropic), one will not be likely to think that benefits to humans can justify doing harm to animals. We hypothesized that misanthropy would be less strongly related to support for animal rights among idealists (who tend not to do cost-benefit analysis) than among nonidealists. College students (n=154) completed a questionnaire which included questions designed to measure their ethical idealism (ten items), misanthropy (five items), and attitudes towards animal rights and animal research (28 items). Respondents were classified as being idealistic if their score on the idealism scale was greater than the median score. The regression lines for predicting attitudes towards animals from misanthropy differed significantly between idealists and nonidealists. Among nonidealists there was a significant positive relationship between misanthropy and support for animal rights, but among idealists the regression line was flat.

Anthrozoos 15 (2) 2002

More Than a Furry Companion: The Ripple Effect of Companion Animals on Neighborhood Interactions and Sense of Community

Wood, Lisa J.; Giles-Corti, Billie; Bulsara, Max K.; Bosch, Darcy A

Society and Animals, Volume 15, Number 1, 2007 , pp. 43-56(14)

Companion animals (pets) exemplify the affinities possible between humans and nonhuman animals. Evidence documenting a diversity of emotional, physical, and therapeutic benefits of pet guardianship (ownership) substantiates sentimental anecdotes from pet owners. Although the literature focuses primarily on the "one to one" benefits accruing from interactions with pets, this paper explores the

potential role of pets as facilitators of social interactions and sense of community. The paper uses triangulation to synthesize findings from qualitative and quantitative research undertaken in three Western Australian suburbs. The qualitative data derive from 12 focus groups and quantitative data, from a survey of 339 residents. In both qualitative and quantitative research, pet ownership positively associated with social interactions, favor exchanges, civic engagement, perceptions of neighborhood friendliness, and sense of community. Pets appeared to ameliorate some determinants of mental health such as loneliness. Findings suggest pets have a ripple effect extending beyond their guardians (owners) to non-pet owners and the broader community. Given the high rates of pet residency in neighborhoods, there is merit in further considering the nexus between pets and community health and well being.

Motivations and characteristics of volunteer flying-fox rehabilitators in Australia

Markus, N., and J. K. Blackshaw, 1998,

Anthrozoos, v. 11, p. 203-208.

A survey of volunteers involved in flying-fox rehabilitation investigated the demographic profile of carers, their motivations for rehabilitation and the costs incurred in the care of flying-foxes. 119 carers from the east coast of Australia responded by completing a questionnaire. 90% of carers were women. Ages ranged from under 20 to over 50 years, with 60% between 30-50 years. Most carers were employed and almost 30% had professional or para-professional occupations. Carers appeared to be motivated by altruism rather than by a nurturance instinct or the desire to conserve the species. Respondents considered the time demanded for rehabilitation to be the single greatest challenge to the task, while the risk of contracting a bat-transmitted disease caused concern to 41.2% of carers. Recruitment of new carers was predominantly through contact with care groups or individual bat supporters which indicated a potential avenue for disseminating information and conservation messages to the public.

MRSA carriage in a pet therapy dog

Enoch, D. A.; Karas, J. A.; Slater, J. D.; Emery, M. M.; Kearns, A. M.; Farrington, M.

Journal of Hospital Infection. Elsevier, Amsterdam, Netherlands: 2005. 60: 2, 186-188. 8

Abstract An 11-year-old border collie acquired methicillin-resistant *Staphylococcus aureus* (MRSA) in a UK general hospital after visiting care-of-the-elderly wards. The dog and owner were both asymptomatic and had no apparent source of MRSA. The swabs taken after the ward visit grew MRSA. The antibiotic susceptibility profile was typical of MRSA found in the hospital. *mecA* gene was detected by polymerase chain reaction. The isolate was confirmed as MRSA and genotyping by pulsed field gel electrophoresis (PFGE) showed it to be a variant of EMRSA 15. Two other pet therapy dogs were screened before visiting the hospital and were found to be MRSA-negative. MRSA screening of the index dog two weeks later was negative. The isolates from seven known MRSA patients in the wards visited by the dog were identified as EMRSA 15 and displayed five different PFGE patterns. All differed from the dog isolate. It is suggested that pet therapy dogs can acquire and spread MRSA. Some guidelines for the prevention of spread of MRSA from pet therapy dogs for use in hospitals and in other health care settings are outlined. Further studies are required to assess carriage sites and prevalence of MRSA in pet therapy dogs and the potential risk to patients.

My animals and other family: children's perspectives on their relationships with companion animals.

Morrow, V.

The relationship between children and companion animals in contemporary British society has not been explored in any depth from a sociological perspective. The new paradigm of the 'sociology of childhood' constructs children as active social agents whose social relationships are worthy of study in their own right. This raises questions about the nature of children's social relationships, which often include close attachment to companion animals. This exploratory paper draws on data from 2 qualitative research projects, a study of children's activities outside school (191 children aged between 12 and 15 years), and a study of children's conceptualizations of family (183 children aged between 8 and 14 years). The paper is based upon children's descriptions of their pets, in their own words, and indicates that children's relationships to their pets changes with age. It concludes that to see pet care as merely a form of role rehearsal for future adult activities is too limited and that we need to take account of the importance of animals in children's lives in the here and now

2<National survey of owner-directed aggression in English Springer Spaniels.>Reisner, I. R.; Houpt, K. A.; Shofer, F. S.;

Journal of the American Veterinary Medical Association. 2005. 227: 10, 1594-1603.

Among purebred dogs, English Springer Spaniels are most frequently referred to behaviorists for aggression directed to owners. In a national survey of 1,053 owners of English Springer Spaniels, 26% reported their dogs had bitten a human, which in 65% of instances was a family member or other person familiar to the dog, and 48% had growled at, snapped at, or bitten family members or familiar persons in contexts related to social or resource-related conflict. Analysis of many aspects of behavior in these dogs, including environmental and genetic factors (determined by examination of pedigrees for associations between kennel lines and behavior), yielded information useful in the understanding of owner-directed aggression in general and in this breed specifically. One particular kennel line and 1 sire from that kennel were significantly associated with owner-directed aggression in this breed.

Nature-based therapy: its potential as a complimentary approach to treating communication disorders

K. Lundgren, 2004

Journal/Seminars in Speech and Language, 25,

Nature-based therapy (NBT) has been incorporated into the practice of many medical and mental health professions. Occupational therapists, physical therapists, nurses, social workers, psychologists, and to a lesser extent, speech-language pathologists have used NBT practices as a complementary means of treating a variety of physical, emotional, and cognitive disorders. This article includes a description of NBT and the three types that comprise the practice and a review of the literature demonstrating the use of NBT in the general population and, more specifically, with individuals with neurogenic communication disorders. It concludes with a discussion of directions for future research of NBT.

<http://www.thieme-connect.com/ejournals/abstract/ssl/doi/10.1055/s-2004-825650>

Neurophysiological correlates of affiliative behaviour between humans and dogs

Odendaal, J. S. J., and R. A. Meintjes, 2003,

Few physiological parameters for positive human-companion animal contact have been identified and those that are established have all been in humans. The implication is that if the physiological reactions are mutual, dogs would experience the same psychological benefits from these neurophysiological changes as humans. Therefore, we have determined the role of certain neurochemicals during affiliation behaviour on an inter-species basis. Our results indicate that concentrations of beta-endorphin, oxytocin, prolactin, beta-phenylethylamine, and dopamine increased in both species after positive interspecies interaction, while that of cortisol decreased in the humans only. Indicators of mutual physiological changes during positive interaction between dog lovers and dogs may contribute to a better understanding of the human-animal bond in veterinary practice.

New data on communication behaviour between the young child and his pet dog

Filiatre, J. C; Millot, J. L; Montagner, H.

Behavioural Processes. Vol 12(1) Jan 1986, 33-44.

Conducted an ethological study of interaction systems and the effect of pet dogs on family communications. Also examined were correlations between characteristics of children and their pet dogs and the duration and frequency of communications between children and their pets. Ss were 18 children (aged 2-5 yrs) and their 18 pet dogs (mean age 37.66 mo). Results from a systematic investigation of communication behavior between children and their dogs drawn from videotaped interactions in the home indicate that children took the initiative in communication more often and sought body contact more often than the dog in dog-child interactions. Age of child, family size, and size and sex of dog were strongly correlated with the quantity of communication and type of child behavior in relation to the dog. Findings confirm the hypothesis that interaction systems between the dog and child can play a role in the emotional development and relational systems of the child, suggesting that pet dogs can enhance the social and emotional development of young children.

New evidence suggests that to be truly human is to be partly wolf: Co-Evolution

McGhee, R.

Alternatives Journal, v. 28, p. 12. 2002

This was a new development in biology and history. For the first time, hunting parties and camp groups composed of two distinct species began to spread across the landscapes of the world. It makes little sense to think of this process as one in which early humans "domesticated" the wolf. Aside from the human use of simple tools, there was probably little difference in the complexity of hunting patterns or social organization between early human bands and wolf packs. If humans domesticated the wolf, is it not equally probable that wolves domesticated humans? Were the changes that developed between wolf and dog any more significant than those that occurred to early humans through their constant association with canids? If so, how do we explain the fear and loathing that seem to be the central emotions that most human societies generate toward the wolf? Biologists assure us that, despite the tales of slaving packs pursuing hapless troika-drivers across the Russian steppe, or of Canadian pioneers passing winter nights in trees surrounded by leaping and snarling wolves, wolf attacks on humans are extremely rare. Bears and large cats do kill people regularly; coyotes and cougars and feral dogs kill many more livestock than do wolves; yet it is the wolf that attracts our hatred and our fear. Can we see in this another hint of our special ties to the wolf? As loathed villain

and as rescuer of lost children, the wolf stands apart from all other animals in human consciousness, and perhaps in this we may detect a deeply felt knowledge of our ancient kinship. In recognizing that animals such as wolves do have emotions - perhaps not as complex as ours, but probably as deeply felt and as powerful influences on their behaviour - we begin to understand the mechanisms that are at work to bond packs into long-term social units of cooperative hunters, and which allow them to be such effective and efficient users of their environment. Having learned to what extent wolves resemble humans in their social behaviour and their capacity to form emotional bonds, we may begin to wonder how much of this similarity is due to the shared lives of our species over thousands of generations during a period when humans were first learning to be human. Biologist Wolfgang Schleidt suggests that "wolves and dogs, with their remarkable capacity for co-operation and loyalty, were both role models and companions on this long trek toward humanity.

Nursing home staffs' empathy for a missing therapy dog, their attitudes to animal-assisted therapy programs and suitable dog breeds

Crowley-Robinson, P. and J. K. Blackshaw (1998)

Anthrozoos 11 (2): 101-104.

47 of 80 staff members (58.75%) of the War Veterans Home, Brisbane, Queensland, Australia, where a spayed female dog was used as a therapy dog, returned completed questionnaires on attitudes towards animal-assisted therapy (AAT) programmes. The pet attitude scale was used to analyse the staff attitude questionnaire. Respondents with high pet attitude scores were more upset when the dog disappeared for 2 days. The staff with high scores were also more pleased when the dog returned. Respondents who were in favour of a programme were those who liked dogs the most and did not think that an AAT programme would increase their workload. Gentle/placid dogs were more frequently chosen (78.7%) than active dogs as suitable for AAT and the preferred size was medium (57.5%) with a short coat (78.7%).

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Occupational therapists and therapeutic riding

Marcia S. M. Funk' and Betsy A. Smith'

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Statistics indicate that physical therapists considerably outnumber occupational therapists in utilizing therapeutic horseback riding as a treatment modality. This study was conducted in an effort to gain insight into the reasons for the discrepancy. Two different questionnaires were developed and distributed to two different populations, occupational therapy practitioners, and the American Occupational Therapy Association (AOTA) accredited schools offering occupational therapy programs. Three hundred and twenty-four occupational therapy (OT) practitioners responded to a questionnaire about their knowledge and interest in therapeutic horseback riding (THR). These practitioners included both registered occupational therapists (OTR) and certified occupational therapy assistants (COTA) in the United States, who were randomly selected from a mailing list obtained through the AOTA. The first questionnaire addressed the research question, "Why are there so few occupational therapy practitioners involved in therapeutic horseback riding?" The most frequent response cited by OT practitioners was a lack of horse knowledge, followed closely by a lack of time. Additionally, 181 schools offering occupational therapy programs responded to a questionnaire addressing the research question, "Do AOTA approved occupational therapy programs include therapeutic horseback riding as a treatment option in their curriculum?" The most frequent manner in which THR was included in a curriculum was through informal discussion or student presentation.

Anthrozoos 13 (3) 2000

Older Latinos, pets, and health

Johnson, R. A., and R. L. Meadows.

Western Journal of Nursing Research, v. 24, p. 609-20. 2002.

The majority of the findings regarding pet ownership, interaction, and the human-animal bond have involved only Caucasians or have included other ethnic group members only incidentally. The extent to which older adults from other ethnic groups may benefit from pet ownership and interaction is unclear. If the benefits of human-animal interaction are to be used effectively in promoting health and preventing illness, it is necessary to identify the "boundaries" of effectiveness for this interaction across various populations. The present study is an initial effort at describing one ethnic minority group, Latino pet owners, the extent of their relationships with their pet, and the extent to which these relationships may be beneficial in facilitating health. Twenty-four Latinos over age 50 were studied and are described in terms of their demographic characteristics, relationships with their pets, health, and exercise practices. The findings suggest that the participants were very devoted to their pets, had been involved with pets since childhood, and viewed themselves as healthy.

Older people and attachment to things, places, pets, and ideas

Cookman, C. A.

Image - the Journal of Nursing Scholarship, v. 28, p. 227-31. 1996.

A model of older adult to environment interactions is proposed that moves beyond the perspective of environment as safety hazard to environment as supportive resource the framework encourages health professionals to look for ways to incorporate positive environmental influences into individualized plans of care with older adults. Research is reviewed on the attachments formed by older adults to things, places, companion animals, ideas, and beliefs-which alongside people-to-people attachments comprise the "attachment structure." Research on attachments of older people to environmental objects identifies important sources of security, belonging, and self-identity. Further research is needed to define the nature of environmental connections in later life, their developmental characteristics, and their potential to influence the health of older people. [References: 56]

Owner and cat features influence the quality of life of the cat

S. Adamelli, , L. Marinelli, S. Normando and G. Bono

Dipartimento di Scienze Sperimentali Veterinarie, University of Volume 94, Issues 1-2 , October 2005, Pages 89-98

This study analysed the cat-human relationship paying attention to the quality of life (QoL) of 62 cats. QoL was assessed as being low, medium and high, using: (1) four questionnaires which investigated care, cat behaviour, cat and owner features, (2) a simple physical examination of the cat and (3) the Lexington attachment to pets scale (LAPS) test. The investigation revealed a medium QoL for about 87.2% of the pets. Although most of the cats received a good quality of care and were in good physical condition, only 16.1% did not show abnormal behaviour. The level of QoL results to be influenced by the cohabitation with conspecifics. The level of care given to the cat is greatly influenced by the gender, the education, the previous experience, the real ownership, the number of friends and of emotional bonds of the owner to people and by the gonadectomy ($P < 0.05$). The cat behaviour depends mainly on the features of the owner (age; gender; number of family members and of friends; who looks after the cat, $P < 0.05$; presence of children, $P < 0.01$) and less of the cat (gonadectomy, $P < 0.05$; cohabitation with other cats, $P < 0.01$). Also the physical condition results influenced by gonadectomy ($P < 0.01$). Finally the attachment level of the owner to the cat depends on the number of the owner emotional bonds and on the age of adoption of the cat ($P < 0.05$).

All the condition analysed result to be influenced more by the owner's features than by the cat's ones. Moreover the significant cat's features are those which strictly depend on the owner's choices and wills, such as gonadectomy, age of adoption and cohabitation with other cats.

Owner characteristics and interactions and the prevalence of canine behaviour problems

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Applied Animal Behaviour Science

Volume 47, Issues 1-2 , April 1996, Pages 31-42

Human-Animal Interactions

Despite the popular idea that dog owners are often responsible in some way for their animals' behaviour problems, the scientific evidence is scarce and contradictory. Some studies have failed to detect any links between the quality of the owner-dog relationship and the occurrence of behaviour problems, while others suggest that some behaviour problems may be associated with certain aspects of owner personality, attitudes and/or behaviour.

Using retrospective data from a sample of 737 dogs, the present study investigated the association between the prevalence of different behaviour problems and various aspects of either owner behaviour or owner-dog interactions. A number of statistically significant associations were detected: (a) between obedience training and reduced prevalence of competitive aggression ($P < 0.02$), separation-

related problems ($P < 0.001$), and escaping and roaming ($P < 0.05$); (b) between the timing of the dogs' meal times and the occurrence of territorial-type aggression ($P < 0.01$); (c) between sleeping close to the owner and increased prevalence of competitive aggression ($P < 0.01$) and separation-related problems ($P < 0.01$); (d) between first-time ownership and the prevalence of dominance-type aggression ($P < 0.001$), separation-related problems ($P < 0.05$), fear of loud noises ($P < 0.001$), and various manifestations of overexcitability ($P < 0.001$); (e) between owners' initial reasons for acquiring a dog and the prevalence of dominance-type ($P < 0.001$), competitive ($P < 0.01$) and territorial aggression ($P < 0.01$). The possible practical implications of these findings are discussed.

Owner-companion dog interactions:

Owner-companion dog interactions: relationships between demographic variables, potentially problematic behaviours, training engagement and shared activities.

Bennett, P. C.; Rohlf, V. I.

Applied Animal Behaviour Science. 2007. 102: 1/2, 65-84

Many companion dogs occupy a privileged position in our society, living closely with human caretakers who go to great lengths to provide for their needs and desires. Others fare less well, being abandoned or killed, many because they are believed to exhibit behaviour problems. The aim in this study was to investigate the frequency of potentially problematic behaviours experienced by a convenience sample of companion dog owners and to establish if the presence of these behaviours was associated with demographic variables, involvement in dog training activities and participation in other dog-human interactions. Potentially problematic behaviours were reported to occur by the 413 adult participants only infrequently, but fell into five factors; disobedience, unfriendliness/aggression, nervousness, anxiety/destructiveness and excitability. Each of these factors was associated with a number of owner and dog characteristics. Engagement in training activities was predictive of lower scores being obtained for many of the behaviours, as well as increased involvement in shared activities. Some of the behaviours, particularly the perceived friendliness of the dog, were also predictive of involvement in shared activities. This confirms that strategies designed to increase participation in dog training activities and promote canine sociability may have significant benefits for both companion dog owners and their dogs.

Owners, guardians, and owner-guardians: differing relationships with pets.

Carlisle-Frank, P.; Frank, J. M.;

Anthrozoos. 2006. 19: 3, 225-242.

A national study was conducted in the US examining pet caregivers who define themselves as either "owners," "guardians" or "owner-guardians." The purpose was to determine whether these groups differed in their attitudes, beliefs and behaviors with regard to companion animals. Random samplings of US households and clients of randomly selected veterinarians and animal clinics were surveyed about their attitudes and beliefs about their pets, their treatment of their pets, and about companion animals in general. The results suggest statistically significant differences between these groups with regard to the way they think about, and behave toward, their companion animals. It is unknown whether these differences result from the changes in mental constructs and language resulting from the Guardian Campaign, or whether they represent preexisting differences in attitudes.

Owning a pet is linked to health and wellbeing (November 2005)>2<Paradoxical Effect of Domestic Animals on Asthma and Allergic Sensitization

Thomas A. E. Platts-Mills, MD, PhD

JAMA. 2002;288:1012-1014.

Over the last 20 years, the relationship between exposure to allergens and asthma has been intensively investigated because the prevalence and severity of the disease have increased, and because sensitization to common indoor allergens is strongly associated with asthma.¹⁻² Studies on exposure to dust mite allergens have consistently shown a direct relationship to sensitization, as judged by positive skin prick test responses, as well as a strong relationship between sensitization and asthma.³⁻⁶ By contrast, several studies of farming communities in Europe have indicated that early exposure to farm animals has a protective effect against both sensitization and asthma.⁷ Recent evidence has suggested that this effect might be mediated by high exposure to bacterial endotoxins.⁷⁻⁸

Patterns of pet cat behaviour at feeding occasions

Bradshaw, J. W. S., and S. E. Cook, 1996,

Applied Animal Behaviour Science, v. 47, p. 61-74.

The behaviour of 36 domestic cats was observed immediately before and after they were fed by their owners. Before feeding, behaviour was mainly directed at the owner and included vocalizations and patterns thought to be signals in cat-cat interactions. After the meal, 7 cats continued to direct behaviour towards their owners, but the majority spent much of their time to grooming. There were differences between the behavioural patterns of individual cats and these were not correlated with the age or sex of the cat or the characteristics of the owner. It was suggested that the behavioural patterns may have their origins in developmental and/or inherited factors.

People and animals learning: The PAL program

DeGrave, J., 1999,

F. R. Ascione, and P. Arkow, eds.,

Child abuse, domestic violence, and animal abuse: Linking the circles of compassion for prevention and intervention:

Indiana, Purdue University Press, p. 410-423.

People, pets, and wills--taking care of our pets

B. Ausman, 2004

Canadian Veterinary Journal, 45,

The importance of the relationship between people and their pets has long been accepted in our society. The amount of money that people are prepared to spend on their animals' happiness and health has been growing in leaps and bounds over the years. It is no wonder then that there has been a marked increase in the number of people seeking the advice of their veterinarians and lawyers on how best to provide for their pets if these pets survive them.

Perceived importance and integration of the human-animal bond in private veterinary practice.

Journal American Veterinary Medical Association. 2006 Feb 15;228(4):522-7.

Martin F, Taunton A. People-Pet Partnership Program, College of Veterinary Medicine, Washington State University, Pullman, WA 99164-7010, USA.

OBJECTIVE: To determine perceptions of the human-animal bond (HAB) among veterinarians in private practice and evaluate how these veterinarians incorporate the HAB in their practices.

DESIGN: Survey.

SAMPLE POPULATION: 1,602 veterinarians in private practice in Washington state.

PROCEDURE: Participants were contacted and asked to complete a survey.

RESULTS: Response rate was 26% (415/1,602). Most respondents agreed that veterinarians will be more successful if they recognize and facilitate the HAB, that facilitating the HAB was important to their practices, that they actively evaluated the degree of bonding between clients and their animals, and that the bonding between a client and his or her animal affected the way they practiced medicine. However, > 50% of respondents did not train veterinary technicians and front office staff members in the HAB or encourage veterinary technicians or front office staff members to learn about the HAB. Fifty-one percent of respondents offered few or no HAB resources to clients. When asked to quantify the importance of 10 nontechnical skills associated with private veterinary practice, respondents ranked communication skills, ethical reasoning, and business management first, second, and third; the HAB was ranked fifth.

CONCLUSIONS AND CLINICAL RELEVANCE: Results suggest that for veterinarians in private practice in Washington state, there is a dichotomy between how important they consider the HAB to be in their practice and the degree to which they facilitate the HAB with regard to communication, training, and client resources. More research on the HAB is necessary to better understand what the HAB encompasses and its implications for private practitioners.

Perceived Restorative Components: A Scale for Children

Children, Youth and Environments.

Vol 14, No.1 (2004)

Kathleen L. Bagot

Department of Psychology Monash University, Australia Department of Psychology Monash University Australia This study reports on the development and psychometric validation of a perceived restorative components scale for children (PRCS-C). Children (n=112 boys, n=113 girls) aged 8 to 11 years completed an initial pool of 23 items addressing the components of a restorative environment to assess two familiar, everyday environments- their school playground and their school library. Factor analysis indicated a five-factor model (Being Awayñ Physical, Being Away-Psychological, Fascination, Compatibility and Extent) of 15 items best fit the data, consistent with prior adult restorativeness measure research and fitting within Kaplanís Attention Restoration Theory. Satisfactory internal consistency was found for four of the five factors, with a two-item construct of Extent being lowest. School playgrounds had significantly higher restoration potential than school libraries, when compared with school classrooms, indicating divergent validity of the measure. Results were examined by sex and age and differences reported as a broad indicator of the measureís ability to differentiate between groups of peopleís reports of perceived restorativeness and possible developmental differences.

Perioperative nursing and animal-assisted therapy

Miller, J., and L. Ingram, 2000,

AORN Journal, v. 72, p. 477-83.

Interacting with animals has been shown to reduce blood pressure and cholesterol, decrease anxiety, and improve a person's sense of well being. Animal-assisted therapy (AAT) can be incorporated into the care of perioperative patients. Some of the goals that can be met by using trained and certified therapy animals are reducing stress preoperatively, motivating patients to have a positive attitude, promoting postoperative activity, and reducing the need for pain medication. Infection control, immunosuppressed patients, and research are issues regarding AAT in the hospital setting that must be covered by policy and procedure. Suggestions for setting up an AAT program are discussed.

Personality, anal character, and attitudes toward dogs

Stubbs, C. J., and M. Cook, 1999,

Psychological Reports, v. 85(3, p. 1089-1092.

Determined whether people who strongly dislike dogs would exhibit an obsessive or anal character and investigated differences in personality between people who like and dislike dogs. 25 Ss who liked dogs and 25 people who disliked dogs matched for age, sex, and education, completed an anal character measure to assess anal or obsessive personality and the California Psychological Inventory to assess general social and emotional adjustment. Analysis showed that Ss who disliked dogs scored higher on the anal character measure and also scored lower on the Empathy scale of the California Psychological Inventory, indicating that people who liked dogs have less difficulty relating to people. 2<Personality, empathy and attitudes to animal welfare>Furnham, A.; McManus, C.; Scott, D.; Anthrozoos. 2003. 16: 2, 135-146.

A total of 833 students completed a four-part questionnaire which measured demographic factors (sex, education, vegetarianism, religiousness), attitudes to animal experimentation, personality (Big Five) and empathy. Attitudes to animal experimentation factored into five interpretable factors, and multiple regression analyses were used to examine the extent to which demographic factors, personality and empathy predicted these. Sex, vegetarianism, agreeableness, openness, extraversion and empathy were significant predictors of all these factors. Results showed an interpretable set of correlates that were similar to previous studies in the area. As with previous research findings, the measures used predicted only a small amount of variance with respect to attitudes to animals.

Pet (dog and cat) overpopulation in the United States

Olson, P. N., and C. Moulton, 1993,

Journal of Reproduction & Fertility - Supplement, v. 47, p. 433-8.

Over half of all United States (US) households own a dog or cat. The veterinary profession can now provide health care for dogs and cats of affluent or devoted owners that rivals the health care offered many human patients. Unfortunately, as many pets receive medical and surgical care that becomes increasingly sophisticated, other pets in the US receive no veterinary care at all. Additionally, millions of pets are humanely killed in US animal shelters because owners are not committed to the continual responsibilities of pet care. Although the total dog and cat population is unknown in the US, as is the total number of pets killed, estimates suggest that between one-tenth and one-quarter of the entire US pet population is destroyed annually because of a surplus dog and cat problem. Pet overpopulation is attributable to relinquishment and abandonment, as well as to birth rates; thus, veterinarians must

strive to reduce pet overpopulation by not only curbing reproduction, but also by decreasing the major cause of pet death in the US (i.e. humane killing). Thus, the veterinary profession must take a prominent role in the campaign to prevent the deaths of healthy animals for whom homes cannot be found, just as it has done to prevent the deaths of sick animals that do have homes.

2<Pet attachment and personality type>Bagley, D. K.; Gonsman, V. L.; Anthrozoos. 2005. 18: 1, 28-42.

This study examined the relationship between personality type and pet attachment by administering the Keirsey Four Types Sorter and the Lexington Attachment to Pets Scale to 163 participants. Idealist personality types had significantly higher attachment scores than Rationals and Artisans, but not Guardians. Rationals, Artisans, and Guardians did not differ from each other on attachment scores. In addition, stronger attachments to target pets were observed as the length of time the respondents cared for the target pets or other pets increased and as the number of current pets increased. Pet attachment was not significantly related to gender, marital status, or pet preference (dog versus cat), while it was nonlinearly related to age.

Pet care: A vehicle for learning

S. Law, and Scott, S.

Journal/Focus on Autistic Behavior, 10, 1995.

Educational programming for individuals with pervasive developmental delay (PDD)/autism is comprehensive in nature. In utilizing the ARCH model (Law & Scott, 1989), educators design and implement myriad activities that comprise academics and recreational and community and home skills. A purposeful activity that integrates the home/community elements of this model involves the care and handling of domestic animals within the confines of the classroom. Pet care routines can effectively operate in both mainstream and self-contained settings, proving to be beneficial for all learners. The rationale for instituting this innovative endeavor is multifaceted. The authors have observed that some children with PDD/autism exhibit anxiety or excessive fear when in contact with animals.

Pet dilemmas

Linzey, A., 2002,

The Animals' Agenda, v. 22, p. 21.

Linzey had never really been in favor of keeping pets. However, once a stray dog chose the family, the Linzey family has cared for various canines and even has a cat. Linzey reflects on his changed attitudes and notes the irony that so many animal rights people have to burden their conscience cleaning up the mess left by those who care little or nothing for animals.

Pet dogs and chicken meat as reservoirs of *Campylobacter* spp. in Barbados.

Workman, S. N.; Mathison, G. E.; Lavoie, M. C.

Journal of Clinical Microbiology. American Society for Microbiology (ASM), Washington, USA: 2005. 43: 6, 2642-2650.

Abstract *Campylobacter* spp. are the second most common pathogen isolated from stools of patients with gastroenteritis in Barbados. The aim of this study was to identify reservoirs of *Campylobacter* and the likely source(s) of human infection. Fecal specimens from 596 animals and 311 samples of animal food products were analyzed for the presence of *Campylobacter* spp. by standard culture

techniques. Isolates were characterized by conventional phenotypic tests, confirmed by latex agglutination and PCR with genus-specific primers, and identified by the use of species-specific primers. High isolation rates were obtained for chickens (94.2%), pigs (90.5%), dogs (46.9%), cats (37.3%), and wild birds (39.3%). *Campylobacter* was also recovered from monkeys (17.1%) and sheep (4.2%) but not from cows. Chicken meat was frequently contaminated with *Campylobacter* (58.4%), but its recovery from other animal food products was rare. *Campylobacter jejuni* was the most commonly identified species in humans (63.6%), chickens (86.6%), dogs (51.5%), and chicken meat (79.8%). Porcine isolates were predominantly *C. coli* (98.4%), while cats harbored mainly *C. upsaliensis* and *C. helveticus*. Wild birds alone carried urease-positive thermophilic campylobacters. *C. jejuni* and *C. coli* isolates from different sources were compared with isolates from humans by randomly amplified polymorphic DNA typing with the primers OPA 11 and HLWL 85. Genotyping revealed similarities between isolates from chicken meat and those from humans and could not distinguish between two clinical isolates and four canine strains. Our results suggest that dogs are significant reservoirs of *Campylobacter* and contribute to human enteric infections and that chicken meat is a likely vehicle for the transmission of campylobacters to humans.

2<Pet Dogs Benefit Owners' Health: A 'Natural Experiment' in China> Journal Social Indicators Research

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Received: 24 November 2006 Accepted: 14 May 2007 Published online: 6 June 2007

This paper reports results from a 'natural experiment' taking place in China on the impact of dogs on owners' health. Previous Western research has reported modest health benefits, but results have remained controversial. In China pets were banned in urban areas until 1992. Since then dog ownership has grown quite rapidly in the major cities, especially among younger women. In these quasi-experimental conditions, we hypothesise that dog ownership will show greater health benefits than in the West. Results are given from a survey of women aged 25-40 in Beijing, Shanghai and Guangzhou (N = 3031). Half the respondents owned dogs and half did not. Owners reported better health-related outcomes. They exercised more frequently, slept better, had higher self-reported fitness and health, took fewer days off sick from work and were seen less by doctors. The concluding section indicates how these results may be integrated and suggests further research on the potential economic benefits of pets.

Pet insurance--essential option?

Stowe, J. D.

Can Vet J 41(8): 639-44, (2000).

As Hawn (2) says, "insurance is about risk and peace of mind." She reports that the American Humane Society supports pet insurance because companion animals are able to be treated for disease or accidents that are life-threatening where, otherwise, they would have been euthanized. For veterinarians, she suggests that pet insurance allows them to practice veterinary medicine "as if it were free." It is inevitable that pet insurance will grow as a recourse for veterinary fees. This may be a savior to some families whose budget is stretched to the limit at a critical moment in the health care of their cherished pet. We in the veterinary profession have an advantage over other professions. We have seen the good, the bad, and the ugly of insurance, as it applies to human health and dental care. If we work hand-in-hand with our own industries, collectively we may be able to develop a system

that wins for everyone, with fees that allow practice to thrive and growth strategies that accommodate new treatment and diagnostic modalities, as well as consistent and exemplary customer service. The path ahead is always fraught with bumps and potholes. We can be a passive passenger and become a victim of the times or an active driver to steer the profession to a clearer route. Pet insurance is but one of the solutions for the profession; the others are a careful assessment of our fees--charging what we are worth, not what we think the client will pay; business management; customer service; leadership of our health care team; lifelong learning; and more efficient delivery systems. Let us stop being a victim, stop shooting ourselves in the professional foot, and seize the day!

Pet Loss and Bereavement

Sandra B. Barker, Ph.D., L.P.C.

Of the many client-veterinarian interactions that occur, perhaps the most awkward and uncomfortable involves pet loss and bereavement. Veterinarians cannot predict how the owner will react. Some become angry and verbally abusive - even threatening; some cry uncontrollably; while others remain tofally controlled, refusing to believe hat death has occurred or is imminent. Although some veterinary schools have recently included course work addressing the bereaved pet owner, most practising veterinarians must deal with their bereaved clients without the benefit of any formal training.

Pet loss: Issues and implications for the psychologist

Sharkin, B. S., and D. Knox, 2003,

Professional Psychology - Research & Practice, v. 34, p. 414-421.

The subject of pet loss has received little attention within the field of psychology, which is surprising given the millions of people who form strong attachments with their pets and experience the death of a pet at some point during their lifetime. The primary purpose of this article is to show why it is important for psychologists to understand how significant pets can be in the lives of their clients and to be sensitive to clients' grief in response to the death of a pet. We discuss special considerations related to the effect of pet loss on families, children, and the elderly. In addition, we examine how psychologists can play an important role in helping people cope with the emotional impact of pet loss through grief counseling, consultation with animal health care professionals, and outreach.

Pet Oriented Child Psychotherapy

Levinson, B. M., 1969,

Springfield, ILL., Charles Thomas.

The unusual, highly readable book, describes a unique method of child psychotherapy developed by the author, which involves the use of pets. It is the first book on methods of using animals in the treatment of emotionally disturbed children, where the animal is considered a partner of the therapist; namely, an actively dynamic agent that helps to change the therapeutic process.

Pet owner attitudes to pets and people: a psychological study

Berryman, J. C., K. Howells, et al. (1985).

Veterinary Record 117(25-26): 659-61.

A preliminary attempt was made to assess how pet owners view their relationships with their pets and how pet relationships compare with human relationships. In the sample studied there was a marked variation between individuals in their perceptions but two group trends emerged. First, the pet

relationship was most similar to the relationship to the individual's own child and, secondly, the pet relationship was frequently valued because of the attributes of 'dependency', 'fun/play' and 'relaxation based on absence of demands'. It is suggested that the personal meaning of pets for people needs to be further explored.

Pet owner behaviors and attachment to yard versus house dogs.

Shore, E. R.; Riley, M. L.; Douglas, D. K.

Anthrozoos. 2006. 19: 4, 325-334.

The majority of research on the human-nonhuman animal bond has considered its advantages for the human. Research investigating the benefits of the bond for the companion animal has focused primarily on the relationship between owner attachment and the relinquishment or abandonment of pets. Shore, Douglas and Riley (2005) compiled a list of 67 behaviors of pet owners of potential benefit to the dog or cat, categorized the behaviors as Essential, Standard, Enriched, or Luxury Care, and studied the relationship between these behaviors and a measure of attachment. The present study continues the investigation of more routine pet-keeping activities by examining the prevalence of such behaviors among a subset of dog owners who keep their dogs out of doors as compared with those whose dogs live primarily in the house. Participants were 322 largely non-traditional college students at a university in the Midwestern United States. Scores on two attachment measures were significantly higher for owners of house dogs as compared with those of owners of yard dogs. Although the majority of both house and yard dogs received basic care, fewer yard dogs received as high levels of attention to some of their physical and safety needs. The gap between yard and house dogs widened as the category of care moved from Essential to Enriched. Involvement in agility training, being taken to events for pets, and exercising with a member of the family were notable exceptions, in that they occurred in equal proportions for yard and house dogs, and perhaps represent opportunities for yard dogs to be in closer contact with a human caretaker. The results suggest that adoptions of sheltered or rescued dogs to people who plan to keep the pet outside can be made with confidence that the dog will be cared for, but that programs to educate the public on the social needs of dogs and the benefits of keeping dogs indoors might result in increased attention to the needs of the animals, strengthening of the human-nonhuman animal bond, and reduction of relinquishment.

Pet owners hail positive health findings>2<Pet ownership among persons with AIDS in three Florida counties.

Conti, L., S. Lieb, et al. (1995).

American Journal of Public Health 85(11): 1559-61.

Interviews were conducted among 408 adults with acquired immunodeficiency syndrome at three local health departments to determine the proportion who owned pets, their perceived attachment to their pets, and the proportion who were informed about zoonoses. Nearly half (187, or 46%) were living with pets, most commonly dogs (64%), followed by cats (38%), fish (15%), birds (8%), reptiles (3%), and rodents (2%). Most pet owners (81%) reported an attachment to their pet. Only 10% were informed of zoonoses, albeit some incorrectly. Health care providers should recognize the high pet ownership rate among persons infected with human immunodeficiency virus and correctly inform their patients of strategies to sustain a low zoonotic disease incidence.

Pet ownership and attachment as supportive factors in the health of the elderly

Garrity, T. F., L. Stallones, M. B. Marx, and T. P. Johnson.

Anthrozoos, v. 3, p. 35-44. 1989.

In order to examine pet ownership and pet attachment as factors supporting the health of the elderly, a national probability sample of Americans 65 years of age and older was drawn. Participants answered telephone survey questions regarding pet ownership, life stress, social support, depression, and recent illness. In multiple regression analyses, pet ownership failed to predict depression and illness behaviour, while pet attachment significantly predicted depression but not illness experience. In a group with particularly great distress (the bereaved), pet ownership and strong attachment were significantly associated with less depression only when the number of available confidants was minimal.

Pet ownership and children's immune function>2<Pet ownership and health in older adults: Findings from a survey of 2,551 community based Australians aged 60-64

R. A. Parslow, Jorm, A. F., Christensen, H., Rodgers, B., & Jacomb, P., 2005

Gerontology, 51,

BACKGROUND: It is commonly assumed that owning a pet provides older residents in the community with health benefits including improved physical health and psychological well-being. It has also been reported that pet owners are lower on neuroticism and higher on extraversion compared with those without pets. However, findings of research on this topic have been mixed with a number of researchers reporting that, for older people, there is little or no health benefit associated with pet ownership.

OBJECTIVE: To identify health benefits associated with pet ownership and pet caring responsibilities in a large sample of older community-based residents.

METHODS: Using survey information provided by 2,551 individuals aged between 60 and 64 years, we compared the sociodemographic attributes, mental and physical health measures, and personality traits of pet owners and non-owners. For 78.8% of these participants, we were also able to compare the health services used, based on information obtained from the national insurer on the number of general practitioner (GP) visits they made over a 12-month period.

RESULTS: Compared with non-owners, those with pets reported more depressive symptoms while female pet owners who were married also had poorer physical health. We found that caring for a pet was associated with negative health outcomes including more symptoms of depression, poorer physical health and higher rates of use of pain relief medication. No relationship was found between pet ownership and use of GP services. When we examined the personality traits of pet owners and carers, we found that men who cared for pets had higher extraversion scores. Our principal and unexpected finding, however, was that pet owners and carers reported higher levels of psychoticism as measured by the Revised Eysenck Personality Questionnaire.

CONCLUSIONS: We conclude that pet ownership confers no health benefits for this age group. Instead, those with pets have poorer mental and physical health and use more pain relief medication. Further, our study suggests that those with pets are less conforming to social norms as indicated by their higher levels of psychoticism.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=15591755&query_hl=2

Pet ownership and human health: a brief review of evidence and issues

June McNicholas psychologist (1), Andrew Gilbey lecturer (2), Ann Rennie general practitioner (3), Sam Ahmedzai professor of palliative medicine (4), Jo-Ann Dono director (3), Elizabeth Ormerod veterinary surgeon(3)

1.Croit Cullach Durnamuck, Dundonnell, Ross-shire, 2. Massey University, New Zealand, 3. Society for Companion Animal Studies, Blue Cross, Burford, Oxon, 4. Royal Hallamshire Hospital, University of Sheffield

BMJ;2005;331:1252-1254

Correspondence to: J McNicholas june@cullach.fsnet.co.uk

Research into the association between pet ownership and human health has produced intriguing, although frequently contradictory, results often raising uncertainty as to whether pet ownership is advisable on health grounds

The question of whether someone should own a pet is never as simple as whether that pet has a measurably beneficial or detrimental effect on the owner's physical health. The emotional bond between owner and pet can be as intense as that in many human relationships and may confer similar psychological benefits. Death of a pet can cause grief similar to that in human bereavement, whereas threat of loss of a pet may be met with blunt refusal and non-compliance with advice on health.

We examine the current evidence for a link between pet ownership and human health and discuss the importance of understanding the role of pets in people's lives.

Pet ownership and knowledge of zoonotic diseases in De Kalb County, Georgia

Fontaine, R. E. and P. M. Schantz

Anthrozoos 3(1): 45-49. (1989)

In a telephone survey in September 1986, 62% of interviewed households had pets (42% with dogs and 30% with cats). Respondents were poorly informed about the potential health hazards associated with animals. Only 63% of household heads believed that diseases of pets could be transmitted to humans and few could recognize specific zoonotic infections other than rabies. Other diseases such as ringworm, infectious diarrhoea, intestinal helminths (*Toxocara*), toxoplasmosis, heartworm, distemper and parvovirus were included in the list, and were spontaneously mentioned by only 10% of respondents. It is suggested that veterinarians could convey advice on prevention of zoonoses to most pet owners

Pet ownership and prophylaxis of headache and chronic pain

Hirsch, A. R. and B. W. Whitman (1994).

Headache 34(9): 542-3.

The belief that having household pets promotes good health is ubiquitous among Americans. Recent studies support this belief where certain medical conditions are concerned. To investigate the advantages of pet ownership in the prophylaxis of headache and other chronic pain conditions, we queried 62 patients suffering from such diseases about whether they owned pets and whether children and other adults shared their households. We similarly queried a control group of 38 patients with various conditions not involving headache or chronic pain. We found that statistically, the

experimental group and the control group were not significantly different in their household compositions. In fact, those with headaches and chronic pain, on average, owned slightly more pets and had slightly more children and other adults sharing their households than did those without headache or chronic pain conditions. Thus, contrary to our expectations, pet ownership apparently conferred no analgesic benefits, nor did the presence of children or of other adults in the household confer any benefit to headache and other chronic pain sufferers.

Pet ownership and risk factors for cardiovascular disease

Anderson, W. P., C. M. Reid, and G. L. Jennings,

Medical Journal of Australia, v. 157, p. 298-301. 1992

OBJECTIVE: To compare risk factors for cardiovascular disease in pet owners and non-owners.

DESIGN AND PATIENTS: Accepted risk factors for cardiovascular disease were measured in 5741 participants attending a free, screening clinic at the Baker Medical Research Institute in Melbourne. Blood pressure, plasma cholesterol and triglyceride values were compared in pet owners (n = 784) and non-owners (n = 4957).

RESULTS: Pet owners had significantly lower systolic blood pressure and plasma triglycerides than non-owners. In men, pet owners had significantly lower systolic but not diastolic blood pressure than non-owners, and significantly lower plasma triglyceride levels, and plasma cholesterol levels. In women over 40 years old, systolic but not diastolic pressure was significantly lower in pet owners and plasma triglycerides also tended to be lower. There were no differences in body mass index and self-reported smoking habits were similar, but pet owners reported that they took significantly more exercise than non-owners, and ate more meat and "take-away" foods. The socioeconomic profile of the pet owners and non-owners appeared to be comparable.

CONCLUSIONS: Pet owners in our clinic population had lower levels of accepted risk factors for cardiovascular disease, and this was not explicable on the basis of cigarette smoking, diet, body mass index or socioeconomic profile. The possibility that pet ownership reduces cardiovascular risk factors should therefore be investigated.

Pet ownership and risk factors for cardiovascular disease: another look

R. A. a. A. F. J. Parslow.

Journal/The Medical Journal of Australia, 179, 2003.

Objective: To test the claim that pet ownership reduces cardiovascular risk.

Design: Community survey.

Participants: 2528 adults aged 40-44 years and 2551 aged 60-64 years who lived in the Australian Capital Territory and Queanbeyan, New South Wales, and were drawn randomly from the Australian electoral roll in 2000 and 2001.

Main outcome measures: Sociodemographic measures, including pet ownership, and measures of physical health (including body mass index [BMI], alcohol and cigarette consumption, and levels of physical activity). Two readings of diastolic and systolic blood pressure were also taken.

Results: While pet owners and non-pet owners had similar levels of systolic blood pressure, those with pets had significantly higher diastolic blood pressure. Pet owners also had higher BMI and were

more likely to smoke. While those with pets undertook more mild physical activity, they continued to have significantly higher diastolic blood pressure after controlling for hypertensive risk factors.

Conclusions: In this study, we found no evidence that pet ownership per se is associated with cardiovascular health benefits. Rather, pet owners had higher diastolic blood pressure than those without pets. It is likely that this increased health risk is linked to other hypertensive risk factors that are only indirectly associated with pet ownership.

http://www.mja.com.au/public/issues/179_09_031103/par10103_fm.html

Pet ownership and self-perceptions of older people

Kidd, A. H., and B. M. Feldmann.

Psychological Reports, v. 48, p. 867-875. 1981.

It was hypothesized that pet owners would score higher on the Self-Confidence and Personal Adjustment scales and lower on the Abasement, Deference, and Succorance scales than would nonowners on the Adjective Check List. 52 male and 52 female 65-87 yr olds completed an experimenter-designed questionnaire and the checklist. An ANOVA was performed on the standardized T scores for each scale. For owners and nonowners the Scheffe test showed that males were significantly higher on the Need for Achievement and Endurance scales, while females were significantly higher on the Lability scale. Pet owners were significantly higher on the number of adjectives checked and on the Nurturance scale and significantly lower on the Succorance and Abasement scales than nonowners; 2 of the interactions were significant. Male owners scored significantly higher on the Defensiveness scale and male nonowners scored significantly higher on the number of unfavorable adjectives checked than did the other 3 groups. The differences suggest that pet ownership may be psychologically advantageous to the elderly. (27 ref)

Pet ownership can bring better health according to the latest research

Templeman, N., 1997,

Published, Virginia Cooperative Extension.

<http://www.ext.vt.edu/news/releases/042897/pet&health.html>

Pet ownership in rural Northern California (El Dorado County)

Franti, C. E., J. F. Kraus, et al. (1980)

Journal of the American Veterinary Medical Association 176(2): 143-9.

Demographic and economic aspects of pet ownership were studied in 488 households in El Dorado County, California, from May to July 1971. About 60% of households owned dogs or cats, and pet ownership was most prevalent (75%) in two small residential communities in the western end of the county. Among dogs, Poodle and German Shepherd Dog were the most popular breeds; about 36% of the females in the sample were spayed, but only 6% of the males were castrated. Approximately one third of all cats had been neutered. Reported use of veterinary services was higher for dogs (79%) than for cats (53%). The results of the survey indicated pet ownership is most likely to be found in households with children, where the head of household is employed, generally confirming findings from earlier surveys in Yolo, Alameda, and Contra Costa Counties (all in northern California) and later surveys in Champaign County, Illinois, and Garland, Tex. Some community health findings were included for El Dorado County and nearby Yolo County. In these two counties, cancer was reported

more frequently by adults without pets (3.9% of those greater than or equal to 65 years old) than by pet owners (1.8% of those greater than or equal to 65 years old). Among children less than 5 years old, "frequent diarrhea" was reported more commonly in homes without pets (9.5% vs 2.6%; P less than 0.01). On the other hand, pet-owning adults, 16 to 64 years of age, living in rural areas or areas with generally lower than average incomes reported "frequent headaches" (21%) more frequently than did adults without pets (17%; P less than 0.025%) who resided in the same areas.

Pet ownership may be a factor in improved health of the elderly

Dembicki, D. and J. Anderson

Journal of Nutrition for the Elderly 15 (3): 15-31. (1996)

The familiar adage "pets are good for your health" is an interesting but largely untested theory. A new model was developed, based on pet ownership leads to better self care, to show possible associations between pet ownership with eating, exercise, nutritional status, and specific cardiovascular risk factors. Seniors aged sixty and above were solicited mainly at senior congregate meals program sites in north-central Colorado ($n = 127$) to participate in this cross-sectional, observational study. Statistical analyses of questionnaire, anthropometric, physiological, and biochemical data were performed. Dog owners walked significantly longer than non-owners ($p < 0.05$), and pet owners had significantly lower serum triglycerides than non-owners ($p < 0.01$). Results suggest that pets may be good for your health.

Pet Ownership Predicts Adherence to Cardiovascular Rehabilitation

Mary M. Herrald, Joe Tomaka, Amanda Y. Medina

This experiment examined the effects of pet ownership and potential mediating (e.g., social support) and moderating variables (e.g., gender, personality, pet attachment) on completion of a 12-week cardiac rehabilitation program. This experiment assessed pet ownership, personality, and psychosocial variables at the beginning of the program and followed participants through to completion. Results showed that pet owners (96.5%) were significantly more likely to complete cardiac rehabilitation compared with non-owners (79.2%). Covariance analyses ruled out several alternative explanations for the results, including social support, personality variables, personal efficacy, and pet attachment. Results suggest that having a pet may facilitate rehabilitation and that further research is needed to understand how having a pet or being a pet owner improves health outcomes.

Pet ownership protects against the risks and consequences of coronary heart disease

Patronek, G. J., and L. T. Glickman, 1993,

Medical Hypotheses, v. 40, p. 245-9.

Despite decreasing coronary heart disease mortality among both men and women, this disease still remains the leading cause of death in the United States. In addition to known physiologic factors, such as hypertension, smoking, and elevated plasma cholesterol, psychosocial factors including anxiety, marital status, and social isolation have been shown to contribute to the risk of coronary heart disease. There is increasing evidence suggesting that pet ownership causes measurable short term psychological and physiological effects in people, including reduction of blood pressure and mitigation of psychological indicators of anxiety. There is also evidence that pet ownership is associated with clinically significant health effects in people, including improved survival after a coronary event. We hypothesize that pet ownership, through its ability to positively influence psychosocial risk factors, results in a lowered risk of coronary heart disease and increased survival after a coronary event if it occurs, and that increased pet ownership would further reduce mortality

from coronary heart disease.

Pet ownership, but not ace inhibitor therapy, blunts home blood pressure responses to mental stress

Allen, K., B. E. Shykoff, and J. L. Izzo, Jr.,

2001,

Hypertension, v. 38, p. 815-20.

In the present study, we evaluated the effect of a nonevaluative social support intervention (pet ownership) on blood pressure response to mental stress before and during ACE inhibitor therapy. Forty-eight hypertensive individuals participated in an experiment at home and in the physician's office. Participants were randomized to an experimental group with assignment of pet ownership in addition to lisinopril (20 mg/d) or to a control group with only lisinopril (20 mg/d). On each study day, blood pressure, heart rate, and plasma renin activity were recorded at baseline and after each mental stressor (serial subtraction and speech). Before drug therapy, mean responses to mental stress did not differ significantly between experimental and control groups in heart rate (94 [SD 6.8] versus 93 [6.8] bpm), systolic blood pressure (182 [8.0] versus 181 [8.3] mm Hg), diastolic blood pressure (120 [6.6] versus 119 [7.9] mm Hg), or plasma renin activity (9.4 [0.59] versus 9.3 [0.57] ng. mL(-1). h(-1)). Lisinopril therapy lowered resting blood pressure by approximately 35/20 mm Hg in both groups, but responses to mental stress were significantly lower among pet owners relative to those who only received lisinopril ($P < 0.0001$; heart rate 81 [6.3] versus 91 [6.5] bpm, systolic blood pressure 131 [6.8] versus 141 [7.8] mm Hg, diastolic blood pressure 92 [6.3] versus 100 [6.8] mm Hg, and plasma renin activity 13.9 [0.92] versus 16.1 [0.58] ng. mL(-1). h(-1)). We conclude that ACE inhibitor therapy alone lowers resting blood pressure, whereas increased social support through pet ownership lowers blood pressure response to mental stress.

Pet ownership, social support, and one-year survival after acute myocardial infarction in the Cardiac Arrhythmia Suppression

Pet ownership, social support, and one-year survival after acute myocardial infarction in the Cardiac Arrhythmia Suppression Trial (CAST)

Friedmann, E., and S. A. Thomas, 1995,

American Journal of Cardiology, v. 76, p. 1213-7.

Social support and pet ownership, a nonhuman form of social support, have both been associated with increased coronary artery disease survival. The independent effects of pet ownership, social support, disease severity, and other psychosocial factors on 1-year survival after acute myocardial infarction are examined prospectively. The Cardiac Arrhythmia Suppression Trial provided physiologic data on a group of post-myocardial infarction patients with asymptomatic ventricular arrhythmias. An ancillary study provided psychosocial data, including pet ownership, social support, recent life events, future life events, anxiety, depression, coronary prone behavior, and expression of anger. Subjects ($n = 424$) were randomly selected from patients attending participating Cardiac Arrhythmia Suppression Trial sites and completed baseline psychosocial questionnaires. One year survival data were obtained from 369 patients (87%), of whom 112 (30.4%) owned pets and 20 (5.4%) died. Logistic regression indicates that high social support ($p < 0.068$) and owning a pet ($p = 0.085$) tend to predict survival independent of physiologic severity and demographic and other psychosocial factors. Dog owners ($n = 87$, 1 died) are significantly less likely to die within 1 year than those who did not own dogs ($n = 282$, 19 died; $p < 0.05$); amount of social support is also an independent predictor of survival ($p = 0.065$). Both pet ownership and social support are significant predictors of survival, independent of

the effects of the other psychosocial factors and physiologic status. These data confirm and extend previous findings relating pet ownership and social support to survival among patients with coronary artery disease.

Pet ownership, social support, and one-year survival after acute myocardial infarction in the Cardiac Arrhythmia Suppression Tri

Friedmann, E. and S. A. Thomas

American Journal of Cardiology 76(17): 1213-7. (1995)

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2<Pet ownership: good for health?>Medical Journal of Australia Vol 179 3 November 2003

Bruce Headey, Principal Research Fellow, Melbourne Institute of Applied Economic and Social Research, University of Melbourne, Melbourne, VIC

IN THE CURRENT ISSUE of the Journal (page 466), Parslow and Jorm reopen the debate about whether pets benefit human health. They give the results of a high quality Australian sample survey indicating that pet owners do not have lower blood pressure than non-owners, and, in this respect at least, are not at lower risk of heart disease. Their results run counter to an earlier Australian study,² based on a large volunteer sample, in which pet owners were found to have lower blood pressure and cholesterol levels.

Where are we up to in this debate - are we back to square one? The case I will present here is that we can be fairly confident that pets do confer health benefits, but we do not know exactly how. MORE

Pet Project Can Animals Influence Lifestyle Changes?

Minneapolis, L. S.

The Physician and Sportsmedicine, v. 30, p. 13, 2002.

If patients can't seem to find an internal motivation to exercise or make other lifestyle changes, maybe they'll do it on behalf of their pets. The percentage of overweight and obese pets has increased to 25% to 40%. Meanwhile, a recent public health estimate for people is that more than half of Americans are overweight.

Pet project: four-legged caregivers benefit patients and staff

N. Lavoie-Vaughan and D. Vaughan, 2003

Nursing, Spectrum,

For abstract, go to <http://community.nursingspectrum.com/MagazineArticles/article.cfm?AID=9166>

Pet projects: animal assisted therapy in nursing homes.

Gammonley, J. and J. Yates (1991). *Journal of Gerontological Nursing* 17(1): 12-5.

1. Animal assisted therapy is an applied science using animals to solve a human problem. It is an interdisciplinary approach using animals as an adjunct to other therapies.
2. The major difference between animals as therapy and entertainment is the animal-human bond, a special relationship that develops when a person has strong feelings of psychological attachment to the animal.
3. It is essential that a complete nursing and activity assessment be made before implementation of individualized animal assisted therapy.

Pet Rx: implications for good health

Wilkes, C. N., T. K. Shalko, and M. Trahan.

Health Education, v. 20, p. 6-9. 1989.

According to Dr. Aaron Ketcher, Associate Professor of Psychiatry at the University of Pennsylvania, studies reveal that potential health values exist in use of pets in the rehabilitation process. Caution, however, must be taken. Animals are not a cure-all, but they can be urged as valuable complements to service offerings. As presented by AARP Board member Marion Waite, "Pets are good for your health." She goes on to state that pets help reduce stress and blood pressure and speed up recovery from traumatic incidents such as moves, illness, or the death of a loved one (AARP, 1987). Growing understanding of relationships between people and their pets suggests benefits that barely have been tapped. Some forecasters have predicted that one day patients may receive a prescription to obtain a pet as routinely as prescribed medication. Incorporating animals as a therapeutic approach for the development and rehabilitation of special population members can be unique and beneficial. Animal therapy can be a salutary form of rehabilitation if the program is organized, supervised, and implemented in a professional manner. Implementing this approach may result in promoting unconditional acceptance and enhancing the normalization process for special population members.

Pet therapy - a new concept in human health care.

Utpal Das; Basudeb Mukherjee;

Intas Polivet. Intas Pharmaceuticals Ltd, Ahmedabad, India: 2006. 7: 2, 198-199.

The use of animal assisted therapy or pet therapy in human health care is presented. The beneficial effects of pets on human behaviour are discussed. Focus is given to one of the most common pets of man, the dog.

Pet therapy and institutionalized elderly: a study on 144 cognitively unimpaired subjects

Colombo, G.; Buono, M. dello; Smania, K.; Raviola, R.; Leo, D. de; Archives of Gerontology and Geriatrics. Elsevier, Amsterdam, Netherlands: 2006. 42: 2, 207-216. 44

The aim of this study was to assess whether a pet therapy program had a favorable effect on psychopathological status and perception of quality of life in cognitively unimpaired institutionalized elderly. Seven elderly rest homes in Veneto Region of Northern Italy participated in the project, which was conducted on 144 cognitively intact elderly residents (97 females and 47 males). The participants were randomly divided into three groups: 48 subjects were given a canary, 43 subjects were given a plant, and 53 subjects were given nothing. The observation period (t0-t1) lasted for 3 months. At time t0 and t1 participants were administered the mini mental state examination (MMSE) to assess their cognitive status, the LEIPAD II-Short Version (LEIPAD-SV), to gauge subjective perception of quality of life in the elderly, and the brief symptom inventory (BSI), for self-evaluation of the presence of psychopathological symptoms. At the end of the 3-month trial, tests were re-administered, without removing the experimental condition. Even if the group that received a plant seemed to benefit from the experience, they did not achieve the same positive results on BSI and quality of life subscales exhibited by the group that received a pet. This study reinforces the hypothesis that pet therapy may have a beneficial effect on the psychological well being of institutionalized elderly, in particular on aspects related to depressive symptoms and perception of quality of life.

Pet therapy effects on oncological day hospital patients undergoing chemotherapy treatment.

Orlandi, M.; Trangeled, K.; Mambrini, A.; Tagliani, M.; Ferrarini, A.; Zanetti, L.; Tartarini, R.; Pacetti, P.; Cantore, M.;

Anticancer Research. International Institute of Anticancer Research, Attiki, Greece: 2007. 27: 6C, 4301-4304.

Background: Pet therapy is utilised to improve the quality of life of patients with chronic diseases. The impact of AAA (animal-assisted activities), a kind of pet therapy, on oncological patients submitted to chemotherapy was evaluated. Patients and Methods: Two groups of patients receiving chemotherapy with (experimental group) or without AAA (control group) were compared. The 2 participating dogs have been trained by a cynophilist behaviourist and examined by a veterinarian. Before and after chemotherapy both groups of patients were asked to fill out a A.De.Ss.O. test questionnaire, a simplified Italian version of Kellner's Symptom Questionnaire. Arterial blood pressure, heart rate and arterial oxygen saturation were recorded. Results: Depression improved only in the AAA group ($p=0.01$). Arterial oxygen saturation increased in the experimental group ($p=0.004$), while it decreased in the controls. Conclusion: AAA during chemotherapy reduces depression of patients and increases their arterial oxygen saturation.

Pet therapy in the 19th century

In a letter to the Medical Tribune (May 3, 1987), Dr. Max Klinghoffer of Starke, Florida, points out that Florence Nightingale was aware of the benefits of a patient-pet relationship over one hundred years ago. In her Notes on Nursing, published in 1860, she states that: "A small pet animal is often an excellent companion for the sick, for long chronic cases especially. A pet bird in a cage is sometimes

the only pleasure of an invalid confined for years to the same room. If he can feed and clean the animal himself, he ought always to be encouraged to do so."

2<Pet Therapy. Healing, Recovery and Love - Pawprints and Purrs>Bachman, S. S., 1997,

Pet Therapy. Healing, Recovery and Love - Pawprints and Purrs,

Place Published, Sniksnak pawprints and purrs.

<http://www.sniksnak.com/therapy.html>

Pet therapy: A trial for institutionalised frail elderly patients.

M. F. Stasi, Amati, D., Costa, S., Resta, D., & Senepa, G., 2004

Arch. Gerontology Suppl, 9,

Twenty-eight subjects with chronic age-related disabilities living in the nursing home "Istituto di Riposo per la Vecchiaia" in Torino were assigned to a pet-therapy intervention group, consisting of 3/week sessions of almost one-hour visit for 6 weeks with a little cat, or to a control group undergoing usual activity programs. The purpose of this study was to evaluate the effects of pet-therapy on nursing home inpatients. There were no differences in demographic or clinical characteristics and in mean duration of institutionalization between the two groups. Results showed that patients with animal interaction had improved depressive symptoms and a significant decrease in blood pressure values. The pet-therapy programs are desirable components of the multidisciplinary treatment for frail elderly patients in long-term care.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=15207440&dopt=Citation

Pet therapy: therapeutic benefits of human-animal relation

E. Sidoti, A. Piccolo et al, 2004

Journal/Acta Medica Mediterranea, 20,

In this work, authors analyzed the progressive increase and evaluated the benefits in the practice application of Pet Therapy (PT). PT is a therapeutic aid, to add to (not to substitute) traditional cures. PT is intended not as an exclusive therapy but as a support to medical cures and to possibly enhance relational and emotional status of individuals as well as to contribute to the emotional well-being of the sufferer.

Pets along a continuum: Response to "What is a pet?"

Hart, L. A., 2003,

Anthrozoos, v. 16, p. 118-122.

Comments on an article by Eddy (see record 2004-10234-001), which considered concepts and definitions of pets. The current author suggests that the concept of pet is better considered along a continuum of levels, reflecting the growing status of companion animals, and that Eddy's Commentary describes conventional pets as they are kept in suburban homes, yet overlooks some more complex roles of animals.

Pets and health

Brasic, J. R.

Psychological Reports, v. 83, p. 1011-24. 1998.

Beneficial and adverse effects of pets for individuals in a wide range of circumstances have been reported. Nevertheless, well-designed unbiased experiments and long-term follow-up studies are needed. Pets appear to be therapeutic for some individuals and deleterious for others. The controversies concerning the effects of pets on health merit objective assessment by unbiased researchers.

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Pets and health of seniors: a Canadian perspective

Raina, P.

Published, Tufts Education.

<http://www.tufts.edu/vet/cfa/raina.html>

Pets and Human Health in Germany and Australia: National Longitudinal Results

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The German and Australian longitudinal surveys analysed here are the first national representative surveys to show that (1) people who continuously own a pet are the healthiest group and (2) people who cease to have a pet or never had one are less healthy. Most previous studies which have claimed that pets confer health benefits were cross-sectional. So they were open to the objection that owners may have been healthier in the first place, rather than becoming healthier due to owning a pet. In both countries the data show that pet owners make about 15% fewer annual doctor visits than non-owners. The relationship remains statistically significant after controlling for gender, age, marital status, income and other variables associated with health. The German data come from the German Socio-

Economic Panel in which respondents have been interviewed every year since 1984 (N = 9723). Australian data come from the Australian National Social Science Survey 2001 (N = 1246).

Pets and our mental health

Odendaal, J. S., 2002,

New York, Vantage Press.

'Pets and our mental health' is a carefully researched presentation of the scientific evidence of the good our pets do for us and their possible uses in therapy. Johannes Odendaal begins by converging human-human and human-animal theories into one theory, then supports that theory with the human-animal experiment. Discussions of other existing human-animal theories follow with their links to the comprehensive theory presented earlier. While animal-assisted therapy is a fairly new field of study, the potential is enormous. 'Pets and our mental health' takes a giant step toward realising that potential.

Pets and people: The psychology of pet ownership

Gunter, B.

London, Whurr Publishers Ltd, 1999.

This examination of the relationship between pets and people illustrates the many psychological benefits animal companionship can give us, including providing security for the anxious, companionship for the lonely and status symbols for the image-conscious. This book examines the phenomenon of pet ownership and the importance placed upon this strange relationship by people in modern society. It concludes by describing the ultimately positive influence of the relationships between pets and people on our social lives, self-esteem and general health.

Pets and personality development

Levinson, B. M., 1978,

Psychological Reports, v. 42, p. 1039-1047.

Man has had animal companions since prehistoric times, as reflected in folklore, legends, and literature. In an urban, technological society such as ours, closeness to animals can reduce alienation. Development over the life cycle can be favourably influenced by close association with an animal companion, particularly during middle childhood and old age. The development of empathy, self-esteem, self-control, and autonomy can be promoted in children through raising pets, while loneliness of old age can be eased and deterioration ward off by nurturing an animal. Psychologists have not studied animal-human relationships to date, and such research is long overdue.

Pets and the development of allergic sensitization.

Simpson A, Custovic A.

Curr Allergy Asthma Rep. 2005 May;5(3):212-20.

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Sensitization to pets remains a risk factor for asthma and rhinitis, and can occur in people who have never lived with a pet. Several reports have indicated that living with a pet reduces the risk for becoming sensitized to that pet. Having a pet in the home gives exposure to more than just allergens.

In areas with high frequency of pet ownership, community exposure to pet allergens is almost certainly sufficient to induce sensitization among non-pet owners. In this review, we examine the results of recent studies that have investigated the relationship between pet ownership, specific sensitization to that pet, and allergic sensitization in general. For cat ownership, the results are inconsistent between studies of similar design, with some studies suggesting an increase in risk and others a decrease among cat owners. For dogs, results are more consistent, generally suggesting that owning a dog has no effect or indeed may be protective against the development of specific sensitization to dog and allergic sensitization in general.

Pets go to college: the influence of pets on students perceptions of faculty and their offices

Meredith Wells and Rose Perrine

The present study examined the effects of the presence of a pet in a professor's office on college students' perceptions of the office and the professor. Students (n=257) were randomly assigned to view a slide of an office that contained either a dog, a cat, or no animal. Students perceived the office to be more comfortable and the professor to be friendlier when there was a dog in the office than when there was a cat or no animal in the office. They also perceived the professor who occupied the office with a cat to be less busy than the professors who occupied the offices with a dog and with no animal. These results imply that professors may be able to positively influence students' impressions of them by having a dog or a cat in their offices.

Anthrozoos 14 (3) 2001

Pets in the Network of Family Relationships

S. Bonas, J. McNicholas et al.

Journal/Companion Animals and Us, Cambridge University Press, 2000.

Over the past 30 years there has been a tremendous growth in interest in the multidisciplinary field of human-companion animal interactions and relationships. This is not surprising considering that pets are kept in at least half of the households in Western societies. What then, is so special about the relationships people have with their pets? Are we very different from our ancestors in the ways we feel about animals? What does pet-keeping tell us about ourselves and our relationships with people? Can pets be good for our health? Do they help promote empathy for other humans? These questions and more are explored in this book. Companion Animals and Us brings together some of the newest research from a wide variety of disciplines including anthropology, history, psychology, sociology, human and veterinary medicine. This book will make fascinating reading for anyone interested in understanding more about the human-pet relationship.

<http://www.cambridge.org/aus/catalogue/catalogue.asp?isbn=0521631130>

Pets preferred to relatives

The journal of the Society for Companion Animal Studies, 3(4):8, reports on a study conducted by a British market survey group. In the The Prudential Mori Guide, 49% of 1,230 persons interviewed owned a pet. Of these, 46% agreed that they preferred their pets to their relatives. The book stated, "Agreement that the British like their pets more than their relatives was widespread, never falling below four people in ten and in every group always considerably outnumbering those who disagreed."

Pets' roles in parents' bereavement

Adkins, S. L.; Rajecki, D. W.

Anthrozoos. 1999. 12: 1, 33-42.

Abstract A sample of 43 mothers and 21 fathers completed a retrospective survey concerning a pet's involvement in adaptation to a child's death. Measures included degree of attachment to the pet, and perceptions of the pet's helpfulness and roles in the process of grief resolution. Most parents (75%) indicated that their pet was helpful. Positive pet roles-a distraction, a comfort, a confidant - were positively correlated with degree of attachment to pet. Negative pet roles - a burden, a scapegoat - were negatively correlated with pet attachment. However, the presence of surviving siblings was negatively correlated with judgments of pet helpfulness, social support roles, and pet bonding itself.

Pets, attachment, and well-being across the life cycle

Sable, P.

Social Work 40(3): 334-41, (1995)

Using an ethological framework of attachment developed by Bowlby and the social provisions of relationships delineated by Weiss, this article explores the ways in which family pets, in particular dogs and cats, provide certain components of attachment that contribute to emotional and social well-being throughout the life cycle. Pets may supply ongoing comfort and reduce feelings of loneliness during adversity or stressful transitions such as divorce or bereavement. They can also provide an opportunity to nurture others. In clinical practice it helps to be aware of how significant a pet may be to a client. Implications are identified for social policies that will protect and maintain this bond for particular populations, such as elderly people in nursing homes or retirement communities and individuals going through a life transition.

Pets, kids and revolution in nursing homes

Pets, kids and revolution in nursing homes

Kelley, T., 1999,

Published, Christian Science Monitor.

<http://www.csmonitor.com/durable/1999/05/06/p1s4.htm>

Pets, networks and well-being

Laura Hecht, J. Daniel McMillin and Philip Silverman

This study explores two explanations for well-being among older adults: social network analysis and human-animal relations. The data are based on a stratified probability sample of community living adults, aged 60 years and over, located in several rural communities in north-eastern Oregon. The dependent variables include three distinct measures of psychological well-being: life satisfaction, locus of control, and self-esteem. The independent variables include pet ownership and various measures of the personal network of respondents, including network structural variables (range, density, and frequency of contact) and network content variables (both instrumental and expressive). Control variables include socio-demographic characteristics and a measure of physical health. Multiple regression analysis is used to estimate the effects of the independent and control variables. Pet ownership was related to two of the well-being measures - self-esteem and locus of control - but only for men. Some methodological and theoretical implications are discussed.

Anthrozoos 14 (2) 2001

Pets, worms, and little people

Thomblison, P. (2003).

Contemporary Pediatrics 20(9): 125-6.

Dogs and cats often come with an unwanted accessory: parasites. Fortunately, transmission of serious infection from animals to humans is rare, and preventive measures minimize even that minor risk.

Petting a pooch can lift your mood

Warner, J., 2004,

Published, Web MD Medical News.

my.webmd.com/content/article/87/99525.htm

Physical Activity Behavior of Dog Owners: Development and Reliability of the Dogs and Physical Activity (DAPA) Tool

Journal of Physical Activity and Health, 5(Supplement), January 2008

Hayley E. Cutt, Billie Giles-Corti, Matthew W. Knuiman, Terri J. Pikora

Background: This study aimed to develop a reliable instrument, the Dogs and Physical Activity (DAPA) tool, for measuring important attributes and scales relating to the dog-walking behavior of dog owners. **Methods:** Items measuring dog-specific individual, social environmental, physical environmental, and policy-related factors that affect dog owners' walking with their dogs were assessed for test-retest reliability. Factor analysis was undertaken to demonstrate that the collection of test items had underlying constructs consistent with the theoretical framework. **Results:** DAPA-tool items had test-retest reliability scores $>.7$, indicating a high level of stability. Distinct general and dog-specific constructs of subscales measuring dog-supportive features of parks, barriers to dog walking, and behavioral beliefs about the outcomes of regular dog walking were demonstrated through factor analysis. **Conclusions:** The DAPA tool is the first comprehensive, reliable tool for measuring important attributes and scales relating to dog owners' physical activity and the context-specific factors that affect owners' walking with their dogs.

Physiologic and behavioral responses to companion animals

Katcher, A. H., 1985,

Veterinary Clinics of North America - Small Animal Practice, v. 15, p. 403-10.

There is a set of behavioral and physiologic responses to companion animals that can be reliably observed under both experimental and natural conditions. These responses indicate that contact with companion animals can be an effective means of reducing stress.

Physiological and behavioral reactivity to stress in thunderstorm-phobic dogs and their caregivers

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Applied Animal Behaviour Science

Volume 95, Issues 3-4 , December 2005, Pages 153-168

This study addresses interactions between hypothalamic-pituitary-adrenal (HPA) axis activation in response to stress, relationship quality, and behavior in thunderstorm-anxious dogs and their owners. Using a controlled repeated-measures design, we experimentally manipulated exposure of individuals to a stressor they were highly fearful of, and assessed both their own and their caregivers' physiological and behavioral responsiveness. Saliva samples were collected from 19 dog-owner dyads before, 20 and 40 min after exposure to a simulated thunderstorm and were later assayed for cortisol. In response to the challenge, the dogs exhibited classic signs of fear (i.e., pacing, whining, hiding), their cortisol levels increased 207%, and these levels did not return to baseline within 40 min. There were no effects of the owners' behavior or the quality of the dog-owner relationship on the dogs' HPA or behavioral reactivity. However, the presence of other dogs in the household was linked to less pronounced reactivity and more rapid recovery of the dog's HPA response. On average, the cortisol levels of the caregivers did not increase. Owners' mood (e.g. depression, anger) affected their behavioral response towards their dogs. These findings are among the first to study the HPA responsiveness of anxious canines in response to stress in a home setting, and the physiological and behavioral effects of problem canine behavior on their caregivers.

Physiological arousal for companion dogs working with their owners in animal-assisted activities and animal-assisted therapy.

Haubenhofer, D. K.; Kirchengast, S.;

Journal of Applied Animal Welfare Science. 2006. 9: 2, 165-172.

This study investigated the physiological reactions of companion dogs (*Canis familiaris*) used in animal-assisted activities and animal-assisted therapy by measuring salivary cortisol concentrations. The dog caregivers (owners) collected saliva samples (a) at 3 control days without therapeutic work, (b) directly before and after each therapeutic session during 3 consecutive months, and (c) again at 3 control days without therapeutic work. The study used an enzyme immunoassay to analyze the samples. Cortisol concentrations were significantly higher during therapy days than on control days. Dogs working during the first half of the day produced higher cortisol concentrations after therapeutic sessions than before, whereas dogs working in the afternoon produced lower cortisol concentrations. Cortisol concentrations were higher in short sessions than in long ones and increased relative to the number of therapeutic sessions done during the sampling period. The results indicate that therapeutic work was physiologically arousing for the dogs in this study. Whether these physiological responses are indicative of potentially negative stress or of positive excitement remains an open question.

Physiological effects of human/companion animal bonding

Baun, M. M., N. Bergstrom, N. F. Langston, and L. Thoma, 1984,

Nursing Research, v. 33, p. 126-9.

Blood pressure, heart rate, and respiratory rate were recorded in 24 subjects during 3 9-minute measurement sessions in which they petted an unknown dog, petted a dog with whom a companion bond had been established, or read quietly. Based on the findings of this study, several conclusions were drawn: (1) There is a significant difference in changes over time in both systolic and diastolic blood pressure between petting a dog with whom a companion bond has been established and petting a dog with whom no bond exists; (2) the decreases in both systolic and diastolic blood pressure that

occur during petting a dog with whom a companion bond has been established parallel the relaxation effect of quiet reading; and (3) there is a "greeting response" to the entry of a dog with whom a companion bond has been established, which results in significantly higher systolic and diastolic pressures than the response either to an unknown dog or to reading.

Physiological effects of petting a companion animal

Jenkins, J. L., 1986,

Psychological Reports, v. 58, p. 21-22.

This research compared the blood pressures and heart rates of 20 pet owners in their own homes while petting their dogs and while reading aloud. All pet owners showed a positive regard for their animals as demonstrated by high scores on a Pet Aptitude Scale. The owners exhibited significantly lower blood pressures while petting than while reading.

Physiological Effects of the Use of a Companion Animal Dog as a Cue to Relaxation in Diagnosed Hypertensives

Scheulke, S. T., B. Trask, C. Wallace, M. M. Baun, N. Bergstrom, and B. McCabe, 1991,

Published, Delta Society.

<http://www.deltasociety.org/dsx411.htm>

Physiological response of people to petting their pets

Friedmann, E., A. H. Katcher, D. Meislich, and M. Goodman, 1979,

American Zoologist, v. 19, p. 915.

Although the "effect of person" on dog has been described, there is almost no data on the human physiological response to tactile interaction with a pet. We measured the blood pressure (BP) and heart rate of 35 dog owners during a series of 2 minute conditions including: resting, petting, pretend petting, and reading. The owners petted these animals using a range of behaviors (e.g. patting, scratching, stroking) previously described as "active" and "engaged". During engaged petting the owner's diastolic (D) and systolic (S) BP rose above resting levels ($p < .01$, $p < .01$). Arousal associated with reading aloud also caused increase in BP. The D ($p < .1$) and S ($p < .01$) BP were higher during reading than during petting. BP responses to engaged petting and pretend petting were indistinguishable. Previous data have shown that S and D BP rise while talking and while reading aloud. The results suggest that tactile interaction with a pet may be less arousing than some types of verbalisation and interaction with other people.

Physiological responses of college students to a pet

Wilson, C. C.

Journal of Nervous & Mental Disease, v. 175, p. 606-12. 1987.

The effect of a pet on cardiovascular responses of college students was examined under three test conditions (i.e., reading aloud, reading quietly, and interacting with an unknown dog). A repeated-measures analysis with three covariates was used to examine the effect of the treatment on each of six dependent variables (systolic blood pressure, diastolic blood pressure, mean arterial pressure, heart rate, and State and Trait Anxiety). Reading aloud differed from baseline measures under all treatment conditions (p less than .001). Reading quietly and interacting with a pet were slightly below baseline for all dependent variables with a slightly greater effect by reading quietly than interacting with a pet.

Examination of interactions between variables revealed no significant differences. Effects on State anxiety level mirrored cardiovascular responses (p less than .001). Trait anxiety levels remained relatively constant throughout the treatments. Results indicated that interacting with a pet does affect physiological and psychological responses by lowering response levels. A parallel effect was also demonstrated by reading quietly. Given the effect of pet interaction upon selected indicators of health in well college students, these data suggest the relevance of examining this treatment with an "at-risk" group.

Play and pets: The physical and emotional impact of child-life and pet therapy on hospitalized children

Kaminski, M., T. Pellino, and J. Wish, 2002,

Children's Health Care, v. 31, p. 321-335.

Child-life therapy programs and pet-therapy programs are often used in pediatric hospital settings to provide emotional support and diversion; however there is little research about their efficacy. How play and pet therapy affect children was examined in this study of 70 hospitalized children. Self-reported mood, displayed affect, amount of touch, heart rate, blood pressure, and salivary cortisol were measured. Children and parents viewed both therapies as mood enhancing experiences for the child. Heart rates, parents' ratings of the child's mood, and display of positive affect were enhanced in the pet-therapy group. Pet therapy likely provides an additional supportive activity for hospitalized children.

Playing with pets and longevity among older people.

Tucker, J. S., H. S. Friedman, et al.

Psychology & Aging 10(1): 3-7. (1995)

Models of the relations between contact with pets and better health are examined in an archival prospective study using data derived from the longitudinal study initiated by Terman in 1921 (current $N = 343$ men, 300 women). In survival analyses of documented longevity, playing with pets in 1977 (M age = 67 years) was not associated with mortality risk through 1991 for the total sample nor for those who were unmarried or those who were less satisfied with their human relationships. Playing with pets was not associated with health-prone attributes or healthy behaviors such as personality, social ties, education, and smoking.

Population dynamics and the risk of euthanasia for dogs in an animal shelter

Patronek, G. J., L. T. Glickman, and M. R. Moyer, 1995,

Anthrozoos, v. 8, p. 31-43.

The records of dogs in an animal shelter in Chester County, Pennsylvania were analyzed for a 3.5-year period to describe the canine population dynamics and to identify the risk factors for dogs' failure to be reclaimed or to be euthanized. Dogs more than or equal to 1 year of age accounted for the majority (72.5%) of incoming dogs. 41% of dogs received by the shelter were purebred. The 6 most common breeds were Labrador Retriever (14.6%), German Shepherd (9.8%), Golden Retriever (7.5%), Beagle (7.1%), Cocker Spaniel (5.5%), and Siberian Husky (5.3%), accounting for 50% of all incoming purebred dogs. Nearly one fifth (17.2%) of the live surrendered dogs were brought in by their owners specifically to be euthanized. A similar proportion (18.8%) of adopted dogs were

returned to the shelter. 52% of surrendered dogs and 77% of stray dogs were discharged alive from the shelter (53.8% of stray dogs were returned to their owners). The reclaim rate was lowest (10.8%) for the dogs < 4 months of age, and highest (68.8%) for dogs more than or equal to 10 years of age. 67.7% of purebred dogs were reclaimed by their owners, compared with 41.2% of mixed breed dogs. More purebred dogs were reclaimed the same day they were admitted than mixed breed dogs (46.1% vs. 38.0%). Approximately 60% of all stray dogs more than or equal to 1 year old were reclaimed each month while only 23.2% of dogs less than 1 year were reclaimed. Mixed breed dogs were 1.8 times more as likely to be euthanized as purebred dogs. The risk of euthanasia increased with age for mixed breed dogs, but not for purebred dogs. Purebred dogs more than or equal to 3 years old were at an increased risk of euthanasia only when compared with dogs < 4 months of age. Of the dogs that were adopted, purebred dogs < 1 year of age spent fewer days (4.27) in the shelter than mixed breed dogs < 1 year (5.94), purebred dogs more than or equal to 1 year (5.92), or mixed breed dogs more than or equal to 1 year (10.06). Approximately one fifth (19.4%) of purebred dogs were adopted through a breed rescue group.

Potential benefits of pet ownership in health promotion

Jennings, L. B., 1997,

Journal of Holistic Nursing, v. 15, p. 358-72.

Pet ownership provides an opportunity to improve health. A pet may become a stimulus for exercise, reduce anxiety, and provide an external focus of attention. Pets are also a source of physical contact and comfort and may decrease loneliness and depression while promoting an interesting lifestyle. The benefits of pet ownership are consistent with the health promotion and disease prevention goals outlined in Healthy People 2000. These goals include (a) increasing physical activity and fitness and (b) improving mental health and preventing mental disorders. Assessment of pet ownership and discussion of potential health benefits facilitates a holistic understanding of our patients and ourselves.

Presence of domestic pets and respiratory symptoms in asthmatic children

Chew, F. T., J. Teo, et al. (1997).

Ann Acad Med Singapore, 26 (3): 294-8.

The allergens of domestic pets such as cats, dogs and birds, have been known to sensitive predisposed individuals. In Singapore, approximately 25% to 35% of our atopic populations are sensitised to cat, dog or bird feather allergens. It is not known, however, if the presence of such domestic pets would translate to higher rates of sensitisation, or more importantly, give rise to increased respiratory symptoms. This study evaluated the association between the presence of domestic pets at home and the prevalence of respiratory symptoms among asthmatic children in Singapore. The parents of 1517 doctor-diagnosed asthmatic children were interviewed using the American Thoracic Society-Division of Lung Diseases respiratory questionnaire. More than 20% were found to have domestic pets (cats, dogs or birds) at home. Of these, those with exposure to passive smoke in the home were excluded. A total of 188 current pet owners (cats, dogs and birds) were demographically-matched for sex, race and socio-economic status (type of housing) to those without pets, past or current. Compared to those without pets, asthmatic children with pets at home had a higher prevalence of coughing with cold [relative risk (RR) 1.30; 95% confidence interval (CI) 1.01 to 1.69]; wheezing with cold (RR 1.42; CI 1.07 to 1.90), wheezing with shortness of breath (RR 1.33; CI 1.00 to 1.82), exercise-induced wheezing (RR 1.68; CI 1.10 to 2.56); and increased phlegm production or congestion with cold (RR 1.38; CI 1.00 to 1.91). This study suggests that the presence of domestic pets increases the prevalence of respiratory symptoms in asthmatic children. Those with predisposition to these allergens should avoid having these pets in the home or take specific precautions in avoiding their allergens.

Prevalence of asthma among 12 year old children in New Zealand and South Wales: a comparative survey.

Barry, D. M., M. L. Burr, et al.

Thorax 46(6): 405-9. (1991).

A survey of 12 year old schoolchildren was carried out in New Zealand and South Wales, the same questionnaire and exercise provocation test being used. The prevalence of a history of asthma at any time was higher in New Zealand (147/873, 17%) than in South Wales (116/965, 12%). The New Zealand children were also more likely than the Welsh children to have a history of "wheeze ever" (27% versus 22%), and wheeze brought on by running (15% versus 10.5%). The sex ratio of asthmatic and wheezy children was very similar in the two countries. A history of hospital admission for chest trouble was twice as common in New Zealand as in South Wales. An exercise test produced a fall in peak expiratory flow rate of 15% or more in more New Zealand children (12.2%) than Welsh children (7.7%). These results suggest that the prevalence of childhood asthma is higher in New Zealand than in South Wales.

Prevalence of asthma and asthma symptoms among 13 and 14 year old schoolchildren

J. G. S. Maia, Marcopito, L. F., Amaral, A. N., Tavares, B. de F., & Lima e Santos, F. A. N., 2004

Revista de Saude Publica, 38,

OBJECTIVE: Before the use of the ISAAC (International Study of Asthma and Allergies in Childhood) questionnaire in epidemiologic surveys, little could be told about the comparative occurrence of asthma in the world due to differences in employed methods. In Brazil, the ISAAC questionnaire has been used in some urban regions. In this study it was applied in both, urban and rural areas, in order to estimate the prevalence of asthma among schoolchildren living in Montes Claros, Brazil.

METHODS: A cross-sectional study was carried out using the ISAAC written questionnaire with four questions added on exposures of interest. The questionnaire was self-applied in 3,770 randomly selected schoolchildren aged 13 and 14 years.

RESULTS: The prevalence of "wheezing in the last year" was 15.8%, and "asthma or bronchitis ever" was 23.8% with no statistically significant difference between boys and girls. There were significant differences between girls and boys regarding "wheezing ever" (37.8% and 33.6%), "sleeping disturbed by wheezing" (13.7% and 9.5%), and "nocturnal dry coughing without respiratory infection" (36.6% and 28.7%), respectively. "Wheezing in the last year" was found to be positively associated with "pet contact" (OR=1.27; 95% CI: 1.03-1.56), and "family history of asthma" (OR=1.79; 95% CI: 1.50-2.14), and negatively associated with "rural school" (OR=0.63; 95% CI: 0.44-0.91). But no association was found with sex, age, private/public school, and passive smoking.

CONCLUSIONS: The prevalence of asthma in Montes Claros was high and some symptoms were seen mainly among girls. The occurrence of "wheezing in the last year" showed to be associated with family history, contact with pets and urban schools.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=15122387&dopt=Citation

Prevalence of behaviour problems reported by owners of dogs purchased from an animal rescue shelter

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Applied Animal Behaviour Science

Volume 69, Issue 1 , August 2000, Pages 55-65

This study examined the prevalence of behaviour problems exhibited by dogs within 4 weeks of acquisition from a rescue shelter in Northern Ireland. One thousand five hundred and forty-seven people who had purchased a dog from a rescue shelter in Northern Ireland were sent a postal questionnaire designed to collect information on the behaviours exhibited by their dog within the first month of acquisition. Five hundred and fifty-six people responded to the survey, representing a response rate of 37%. The majority of respondents (68.3%) reported that their dog exhibited a behaviour problem, the most common being fearfulness. Most of those respondents (89.7%) who returned their dog to the shelter did so because the animal exhibited behaviour that they considered undesirable. Male dogs showed more unacceptable behaviours than females, specifically inter-male aggression, sexual problems and straying tendencies. More stray dogs displayed undesirable behaviour than unwanted, specifically straying tendencies. Puppies were less likely to exhibit unacceptable behaviours than juveniles or adults, particularly fearfulness, sexual problems and straying tendencies. More juvenile dogs showed excessive activity and excessive barking than puppies or adults. More adult dogs displayed aggression towards other dogs than juveniles or puppies. Findings indicate that dogs purchased from rescue shelters do exhibit behaviour problems that may lead to their return. The number of dogs admitted or returned to rescue shelters with behaviour problems may be reduced by raising public awareness regarding the value of behaviour therapy and introducing behaviour therapy schemes to rescue shelters.

Problems and benefits of bird ownership

Kidd, A. H., and R. M. Kidd, 1998,

Psychological Reports, v. 83, p. 131-138.

Examined the benefits and liabilities of pet bird ownership by interviewing 100 bird owners (aged 18-84 yrs). The Ss reported that the primary benefits of bird ownership were friendship, companionship, and verbal interactions. The primary liabilities were messiness and noise. The Ss commented that good bird owners need to be patient, affectionate, and sensitively perceptive. Implications for the training of both children and adults for careful nurturing of birds and other pets are discussed.

Problems associated with the coexistence of man and animals in urban areas

Mantovani, A., G. Battelli, and R. Zanetti, 1978,

Annali dell Istituto Superiore di Sanita, v. 14, p. 265-71.

The different aspects of the coexistence of man and animals in towns are discussed. The animals living in urban areas are classified as: a) Pets; b) Synanthropic, appreciated by man; c) Synanthropic, disregarded by man; d) Synanthropic, disliked by man. The detrimental effects are: a) Transmission of

diseases; b) Bites, scratches and other lesions; c) Animal wastes; d) Noise; e) Use of feeds, medicines, etc.; f) Abandoned animals. The positive effects are: a) Ecological balance; b) Animals and mental health; c) Other positive aspects. A positive solution of the problem is sought which avoids both the zoomaniac and the zoophobic attitudes.

Project PUP: The perceived benefits to nursing home residents

Yates, J., 1989,

Anthrozoos, v. 1, p. 188-192.

This study documents the perceived value of a pet-facilitated therapy program (Project PUP) to a large number (70) of nursing homes over an extended period of time. The perceived benefits of the program as viewed by both givers (volunteers) and receivers (nursing homes) of the pet visits were very similar. The most highly rated benefits from the Project PUP program appear to relate to a general area which might be termed as "improved quality of life."

Promoting thriving in nursing homes: the Eden Alternative.

Barba, B. E., A. S. Tesh, et al.

Journal of Gerontological Nursing. 28(3): 7-13.

The EDEN ALTERNATIVE is a process of environmental transformation in nursing homes, changing them from institutions based on the medical model of care for older adults who are ill into human habitats that promote thriving. The Eden Alternative process includes decentralizing the institutional organizational structure to empower the residents and employees and incorporating plants and gardening, resident animals, and children's activities into daily lives of residents and staff. The Eden Alternative model offers benefits and risks to residents, employees, and the community.

Psychological health in a population of Australian cat owners.

Straede, C. M. and G. R. Gates.

Anthrozoos 6(1): 30-41. 1993.

92 cat owners (aged 12-74 yrs) and 70 non-pet Ss (aged 19-64 yrs) were surveyed to determine the relationship between psychological health and pet ownership. The survey employed the General Health Questionnaire, Beck Depression Inventory, Marlowe-Crowne Social Desirability Scale, and State-Trait Anxiety Inventory; measures of sleep disturbance, nurturance, and attitudes toward pets; and a life events inventory. Findings show that cat owners had significantly lower scores for general psychological health, indicating a lower level of psychiatric disturbance, and could be considered to have better psychological health than the non-pet Ss. Cat owners also had significantly higher pet attitude scores than non-pet Ss, indicating a more favorable attitude toward pets. No significant differences were found for depression, anxiety, sleep disturbance, nurturance, social desirability, or life events for cat owners and non-pet Ss.

Psychosocial benefits of animal companionship

Hart, L. A., 2000,

Fine, Aubrey H. (Ed). (2000). *Handbook on animal-assisted therapy: Theoretical foundations and guidelines for practice.*: San Diego, CA, US, Academic Press, Inc, p. 59-78.

This chapter discusses the psychosocial benefits of animal companionship. (from the chapter) Topics include: importance of pets in quality of life and for some vulnerable individuals (effects of

companion animals on loneliness and depression, socializing effects of animals, motivating effects of animals, effects of animals in mobilizing attention and calming); normalizing effects of animals (facilitating normal development, ameliorating emotional crises and extenuating circumstances); and individuality in human responses to animals (personal history with animals during the life cycle, attachment and compatibility).

Psychosocial implications of service dog ownership for people who have mobility or hearing impairments

Valentine, D. P., M. Kiddoo, et al. (1993)

Social Work in Health Care 19(1): 109-25.

Service dogs for people with mobility impairments and hearing ear dogs for persons with hearing impairments have grown in popularity because the important practical tasks these dogs perform enhance the independence of their owners. Little is known about the psychosocial impact of service dog ownership, however. The results of a survey of 24 owners and seven trainers on the psychosocial benefits and liabilities of service dog ownership are presented and the implications for social work practice are discussed.

Puppy Love

A. Pollyea, 1997

Journal/Teaching Tolerance, 6,

Ten students at Hawthorne (Calif.) Intermediate School and their canine companions are preparing to "graduate" from a three-week training program called TLC (Teaching Love and Compassion). The voluntary program is offered quarterly during interim breaks at the year-round school. Animal care helps Los Angeles middle schoolers practice patience and cooperation.

<http://www.tolerance.org/teach/magazine/features.jsp?p=0&is=14&ar=116>

Puppy socialisation programs: short and long term behavioural effects

Seksel, K., E. J. Mazurski, and A. Taylor, 1999,

Applied Animal Behaviour Science, v. 62, p. 335-349.

A puppy socialisation training programme were tested in 58 purebred and 10 crossbreed puppies. Each puppy was randomly allocated to one of 5 groups: Socialisation plus Training (S & T, 12 puppies), Socialisation (10), Training (13), Feeding (12) and Control (11 puppies). The S & T group received a full training programme which included both operant training for commands (come, sit, stay, drop and heel) and social interaction with other puppies during 4, weekly 1 h sessions. Puppies in the training or socialisation groups received either the commands or socialisation aspects of the programme. The feeding group received food items equivalent in amount to those given to the previous 3 groups during weekly attendance at the training centre. The control group only attended the centre for rating. A series of rating scales assessed the responses of puppies to novel, social, handling and commands stimuli. All puppies were tested before the programme (baseline), after the second and fourth sessions, and 4 to 6 months after completion of the programme. No groups differed significantly at baseline on any of the scales. Puppies in the S & T and training groups received significantly higher ratings for responses to commands at 2 and 4 weeks. There were no significant group effects on any of the other scales. Although the programme was successful in training the puppies on commands, experiencing additional social interaction (play) with other puppies did not

lead to significant changes in responses to social stimuli as assessed by the rating scales. Additionally, the exposure to novel or handling stimuli did not significantly improve responses in comparison to animals without such exposure. The results suggest that socialisation and training programmes may be useful as a starting point for assessing possible behavioural problems in puppies and are effective in producing well trained dogs.

Reactions of infants and toddlers to live and toy animals

Kidd, A. H., and R. M. Kidd, 1987,

Psychological Reports, v. 61, p. 455-464.

250 infants (aged 6-30 mo) evenly distributed by sex and age were observed with a toy dog that barked and moved realistically, a contact-comfort toy cat that purred and meowed when petted, and the family pet, presented in random order. A checklist was used to record responses demonstrating whether Ss attached to pets because of tactual qualities, sounds, movement, familiarity, or behavioral qualities. Findings show significant differences in quantity of attachment behaviors (ABs) toward live pets and toy animals at age 1 yr. From 1 yr on, dogs were preferred to cats by both sexes. During the 1st yr, boys showed more ABs than girls; the 2 sexes were equal at 18 mo, and girls showed more ABs than boys at 24 and 30 mo.

Recent developments in ectoparasiticides

Taylor, M. A., 2001,

Vet J, v. 161, p. 253-68.

The sales and use of ectoparasiticides for the control of arthropod parasites of domestic animals constitute a major sector of the global animal health market. Animals are infected by a number of parasitic insect and acarine species causing major economic losses in production livestock, intense irritation and skin disease in companion animals, or public health issues, including bites of humans or zoonotic disease transmission. Dog and cat fleas, for example, can be a serious source of both animal and human irritation, which has led to a rapid expansion in the development of flea control products. The control of ectoparasite infections of veterinary importance still relies heavily on the use of chemicals that target the arthropod nervous system. Such compounds have suffered from a number of drawbacks, including the development of resistance and concerns over human and environmental safety. The search for safer technologies has, however, been hindered by the limited number of active target sites present in arthropods and, to some degree, by the ever-increasing costs of research and development of compounds with novel modes of action. This review provides a background to the currently available groups of ectoparasiticide compounds used in veterinary medicine and highlights some of the more recent developments including the introduction of insect growth regulators and new and improved methods of product application.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=11352483

Recent discoveries about our relationships with the natural world

Bustad, L. K., 1996,

Compassion: Our last great hope - Selected speeches of Loe K. Bustad, DVM, Ph.D.:

Renton, WA, Delta Society.

<http://www.deltasociety.org/dsx103.htm>

Reduction in exertional myoglobinemia after physical conditioning

Ritter, W. S., M. J. Stone, and J. T. Willerson, 1979,

Arch Intern Med, v. 139, p. 644-7.

The development of a sensitive radioimmunoassay for the measurement of myoglobin now permits the accurate determination and detection of even small concentrations of serum myoglobin. To determine the effect of exercise and physical conditioning on serum myoglobin levels, 16 male Army recruits (ages 18 to 28 years) underwent treadmill exercise and strenuous physical evaluation tests (PETs) that consisted of sit-ups, push-ups, horizontal ladder, obstacle course, and 3.2-km run. These tests and exercise were performed before and after 12 weeks of physical conditioning performed in conjunction with basic military training. Serum myoglobin levels did not rise after treadmill exercise, but they were increased greatly six hours after PET. After physical conditioning, serum myoglobin concentrations measured after the treadmill exercise remained normal and values after PET showed a significant decrease (P less than 0.001) as compared with those measured before physical conditioning (mean $\pm$ SD, 160 $\pm$ 81 ng/mL after initial PET vs 76 $\pm$ 60 ng/mL after physical conditioning). These results demonstrate that physical training reduces the degree of myoglobinemia occurring after strenuous exercise, possibly by modifying skeletal muscle alterations that allow myoglobin release in this setting.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=443968

Reduction of state-anxiety by petting in a controlled laboratory experiment

S. Shiloh, G., Sorek et al.

Journal/Anxiety, Stress and Coping, 16, 2003.

The effect on anxiety of petting an animal and the underlying mechanisms of such an effect were examined by a repeated-measures, within-session experiment with 58 non-clinical participants. Participants were exposed to a stressful situation in the laboratory - the presence of a Tarantula spider, which they were told they might be asked to hold - and then randomly assigned to one of five groups: petting a rabbit, a turtle, a toy rabbit, a toy turtle or to a control group. Participants' attitudes towards animals were measured as potential moderators. State-anxiety was assessed at baseline, after the stress manipulation, and after the experimental manipulation. The main findings showed that petting an animal reduced state-anxiety. This effect could not be attributed to the petting per se, since it was observed only with animals and not with matched toys. The anxiety-reducing effect of petting an animal applied to both the soft cuddly animals and the hard-shelled ones. The anxiety-reducing effect applied to people with different attitudes towards animals and was not restricted to animal lovers. The discussion addresses possible emotional and cognitive foundations of the observed effects and their implications.

Reforging the bond--towards successful canine adoption

Marston, L. C. and P. C. Bennett (2003)

Applied Animal Behaviour Science 83(3): 227-245.

While most human--canine relationships are very fulfilling others fail, resulting in a large number of animals being abandoned or relinquished to animal shelters each year. This paper reviews our current

understanding of the canine relinquishment and adoption process, with the aim of identifying those areas in which research is incomplete or absent. In order to achieve this aim, the process of canine ownership, relinquishment and adoption is broken down into a number of logical stages, which are then evaluated separately. The areas reviewed include the reasons why people acquire dogs, factors involved in their relinquishment, the effects of shelter admission upon canine behaviour, the evaluation of a dog's potential for adoption, characteristics of adopters, factors influencing a prospective adopter's choice and problems which may be experienced post-adoption. The review identifies deficiencies in our current knowledge and indicates valid directions for future research.

Relationship between attachment to owners and separation anxiety in pet

Parthasarathy, V.; Crowell-Davis, S. L.

Journal of Veterinary Behavior: Clinical Applications and Research. 2006. 1: 3, 109-120.

Dogs' dysfunctional attachment relationships with their owners are assumed to be the underlying cause of separation anxiety. Thirty-two dogs with and 43 dogs without owner-reported separation anxiety (SA) participated in a formal attachment test (AT). After the AT, the dogs were videotaped for 30 minutes while alone at home. Dogs left free in the house were scored on how long they were in proximity to the owners' exit doors. Dogs who were crated or closely confined were scored on several anxiety-related behaviors, which were then compared to those dogs' behaviors during the attachment test. Dogs with SA spent no more time in contact with or proximity to their owners during the attachment test than dogs without SA ($P > 0.05$). Instead, they tended to jump up on the door after the strangers left the room and remain stationary when alone with their owners ($P < 0.05$). There was no significant difference ($P > 0.05$) between SA and non-SA dogs in the amount of time spent in proximity to the owners' exit doors when left alone at home. Dogs crated at home showed no relationship between the amount of anxiety-related behaviors during the AT or at home ($P > 0.05$). There was no significant difference in the type of proximity-seeking behaviors exhibited by dogs with and without SA in the home ($P > 0.02$). These findings suggest that separation anxiety is not based on "hyperattachment" of the dog to the owner, but that a different attachment style may be present between dogs with and without SA.

Relationship between keeping a companion animal and instrumental activity of daily living (IADL). A study of Japanese elderly li

Saito, T., M. Okada, et al.

Nippon Koshu Eisei Zasshi 48(1): 47-55. (2001)

OBJECTIVE: The purpose of this study was to clarify the relationship between the companionship of an animal and the level of Instrumental Activity of Daily Living (IADL) of elderly people living at home, and to consequently determine beneficial effects on the overall health of the elderly.

METHODS: For this study, 400 elderly people aged 65 years and over were randomly selected from among the 1,345 citizens of Satomi Village, Ibaraki Prefecture. Self-administered questionnaires were mailed to the selected subjects in March of 1999. In the survey, the respondents were asked if they could accomplish all seven IADL activities. Subjects for whom this was the case were classified as having no IADL disability. Elderly who answered "No" for even one were listed as having an IADL disability. Using the existence of an IADL disability as a dependent variable and various factors related to companion animals as independent variables, a logistic regression analysis was performed.

RESULTS: Out of the 400 individuals, 84.8% responded. With respect to the possession of a

companion animal, the number of participants who never had a companion animal was 115 (35.8%); while 118 (36.8%) possessed a companion animal in the present. With regard to factors relevant to IADL of elderly people, the odds ratio (OR) adjusted for age and sex for participants who owned dogs was 0.53 (95% confidence interval [CI] 0.27-0.99) relative to those who never had a companion animal: The difference was significant. For those respondents who indicated that their companion animals were their best friends, the OR was 0.48 (95% CI 0.23-0.99), and again significant. The OR tended to decrease with increase in the duration of owning a companion animal.

CONCLUSION: In this study, owning a dog and everyday contact with the companion animal were related to the IADL of the elderly living at home. It is possible that keeping a companion animal may be linked to better overall health in the elderly.

Relationship between regular exercise and life style, social network, education and subjective symptoms in Japanese middle aged

Yosiaki, S., K. Takeuchi, A. Ohta, K. Tajima, and S. Suzuki.

Nippon Koshu Eisei Zasshi - Japanese Journal of Public Health, v. 46, p. 624-37. 1999.

OBJECT AND METHODS: A community-based survey of 12,630 residents of Gunma Prefecture aged 40 to 69 years was conducted to investigate the relationship between the habit of regular exercise and life style, social network, and subjective physical and mental symptoms in particular. The subjective physical and mental symptoms were measured using the Todai Health Index (THI). The response rate was 91.6%. A total of 6,736 responses were analyzed after excluding respondents with chronic diseases from the analysis. On the question about the habit of regular exercise ("Do you exercise regularly?"), the responses were divided into three categories: 1. Often, 2. Sometimes, 3. Hardly ever or Never.

RESULTS AND CONCLUSION: The results are summarized as follows: 1. The proportions of residents who exercise "often" were 14.2% and 11.1% for males and females, respectively, while those of "hardly ever or never" were 52.3% and 59.4% for males and females, respectively. More males than females had the habit of regular exercise. Respondents were divided into three age categories: 40-49, 50-59 and 60-69 years. Among the female respondents, it was shown that the older the age category the greater the habit of regular exercise. 2. Both male and female respondents who had regular exercise habits scored significantly lower on the THI scales for vague complaints, depression, and irregularity of life, while they scored higher on the aggression and lie (social desirability) scales. 3. Both male and female respondents who had regular exercise habits also tended to have better perceived health and social networking, i.e. having close friends, having a hobby and involvement in community social activities, as well as taking care of pets. This group also had a higher average education level and less of a smoking habit. This study suggests that regular exercise habit correlates not only with physical health and fitness levels but with mental health status as well.

Relationship between soil lead, dust lead, and blood lead concentrations in pets and their owners:

Relationship between soil lead, dust lead, and blood lead concentrations in pets and their owners: evaluation of soil lead threshold values:

Berny, P. J., L. M. Cote, and W. B. Buck, 1994,

Environmental Research, v. 67, p. 84-97.

This paper reports the results of a study conducted in Granite City, Illinois during the months of

August through October 1991. The study involved a subpopulation of 77 households having 106 dogs and cats which was a corollary to a major study conducted in humans by the Illinois Department of Public Health to evaluate lead exposure. A secondary lead smelter had been in operation in this town for almost 80 years and was shut down in 1982. Important soil contamination with lead was reported and this paper presents data regarding levels of soil and dust lead and associated blood lead concentrations in animals and their owners in a total of 77 households. Overall, blood lead concentrations (BLC) were low (0-13 micrograms/dl in the animal owners; 0-28 micrograms/dl in pets). There was no significant relationship between soil or dust lead and BLC in humans; however, the relationship was significant in animals. Odds ratios were computed to determine whether 500 or 1000 ppm lead in environmental samples was associated with increased risk of having a high BLC. We could not find any increased risk in humans, while the risk did increase in animals. It is concluded that animals are more at risk than their owners of having a high BLC when exposed to the same contaminated environment and can be used to monitor the bioavailability of lead.

Relationships Among Dog Ownership and Leisure-Time Walking in Western Canadian Adults

Shane G. Brown, BEd, Ryan E. Rhodes, PhD

Am J >Prev Med 2006;30(2):131-136

Background: Dog ownership may be an effective tailored intervention among adults for promoting physical activity. This study examined the relationship between walking, physical activity levels and potential psychological mediators between people who owned dogs and those who did not own dogs in the Capital Region District of Greater Victoria, British Columbia, Canada. Data were collected in September 2004; analyses were conducted in January 2005. **Methods:** A random sample of men (n 177) and women (n 174) aged 20 to 80 years participated. Questionnaires were mailed out in 2004 to collect information about demographics, dog ownership, leisure-time walking, physical activity levels, and theory of planned behavior (TPB) constructs.

Results: The analyses revealed that dog owners spent more time in mild and moderate physical activities and walked an average of 300 minutes per week compared to non-dog owners who walked an average of 168 minutes per week. A mediator analysis suggests that dog obligation acts as a mediator between dog ownership and physical activity. Moreover, the theory of planned behavior constructs of intention and perceived behavioral control explained 13% of the variance in walking behavior with an additional 11% variance in walking behavior being explained by dog obligation. Regarding intention to walk, the TPB explained 46% of the variance in intention to walk with dog obligation adding an additional 1% variance. **Conclusions:** In this group of Canadians, those who owned a dog participated in more mild to moderate physical activity than those who did not. Acquiring a dog should be explored as an intervention to get people more physically active.

Relationships between cat lovers and feral cats in Rome

Natoli, E., M. Ferrari, E. Bolletti, and D. Pontier, 1999,

Anthrozoos, v. 12, p. 16-23.

The aim of this study was to assess the relationships between cat lovers and feral cats in Rome. 158 cats from 3 populations were observed for 1108 hours of data collection: some demographic characteristics of the colonies were investigated, together with the behaviour of cat lovers (those who fed and cared for the cats). The quantity of food eaten and uneaten by the cats was recorded, and the cost to support each colony calculated. The quantity of food provided ranged from 20.47 to 264 kg/month. The mean quantity of food eaten/day by each cat in the study areas never surpassed 130.4

g. In total, the quantity of food wasted ranged from 522 g to 34.05 kg/month. The results of this study can help public administrations decide on how to allocate funds for the management of feral cats. The results provide statistics on the individual food intake/cat/day, as well as information on the type of collaboration one should expect from cat lovers. In addition, this study outlines advantages and limits of the "Roman model" where the Public Veterinary Services (PVS) and associations of cat lovers cooperate to manage feral cats.

Relationships Between Young People with Autism and Their Pets

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(Paper presented at the 7th International Conference on Human-Animal Interactions, Animals, Health and Quality of Life, September 6-9, 1995, Geneva, Switzerland).

Autism manifests itself most strikingly as impairments in communication and in the formation of social relationships. It is thus intriguing that there are a number of reports of children with autism forming what appear to be close relationships with pets. In spite of the frequent claim that pets are beneficial to people with autism, to date the evidence is largely anecdotal, and it could be thought surprising if it were found that people with autism were able to relate to animals in ways that they were unable to with humans. We considered that such reports may be due to the families' desire to attribute some form of 'normal' functioning to the child, or to the pet persisting in soliciting attention from the child. The results from detailed studies of three cases suggest that both these possible explanations are incorrect.

Three in-depth interviews were conducted with families where there was a young person with autism who was reported to have a close relationship with his pet. All subjects were male, one was aged 22, and two aged 12. The pets were two cats and one rabbit. All subjects had received firm diagnoses of autism. Our own assessments using the Childhood Autism Rating Scale (CARS) shown one subject to be severely autistic, and two subjects to be moderately autistic. All subjects had histories of aggression towards family members.

The interviewee (in each case the mother) was asked to assess the subject's behaviour across a number of relationship dimensions with herself, with one other important person in the subject's life, and with the pet. These dimensions include greeting, proximity seeking, the giving and receiving of comfort, conflict, confiding, companionship, sensitivity to the needs of others, and play. The behaviour of the pet toward the subject was also investigated.

The interview data indicate that all subjects displayed behaviours toward their pet that they rarely, if ever, displayed toward human companions. Some of these behaviours are contrary to DSM-IHR diagnostic criteria for autism. In particular pets were sought out for companionship, comfort and confiding in ways never shown to family members. Greater sensitivity toward the needs and feelings of the animal was also apparent, together with a lack of anger and aggression. In spite of a strong dislike by all the subjects to be touched or hugged there was evident enjoyment in tactile comfort with the pets. These results suggest that people with autism may be able to demonstrate behaviours towards pets that they do not display to people, even family members, and which are akin to those associated with close relationships.

Repeatability and validity of a combined mail and telephone questionnaire on demographics, diet, exercise and health status in..

Repeatability and validity of a combined mail and telephone questionnaire on demographics, diet, exercise and health status in an insured-dog population.

Sallander, M. H., A. Hedhammar, M. Rundgren, and J. E. Lindberg.

The validity and repeatability of a telephone questionnaire on demographics, diet, living patterns, exercise and health status in a well-defined dog population was assessed. Randomly selected dogs aged 1-3 years in the largest animal-insurance database of Sweden were included in the study. The repeatability was measured by doing two identical interviews with 64 dog owners on average 39 (S.D. 17) days apart. The overall response percentage was 66% (64/97). The repeatabilities for demographic data were excellent ($r(sp)$ 0.82-1.00), and dietary intake and feeding patterns correlated well between interviews ($r(sp)$ 0.66-0.99, kappa 0.57-0.95). However, correlations for the frequency and daily intake of specific table foods had a wide range ($r(sp)$ 0.06-0.97). The energy and specific nutrient intakes had high repeatabilities ($r(sp)$ 0.72-0.79). Dog owners were quite consistent in reporting living patterns, exercise and dog-training activities ($r(sp)$ 0.65-0.94, kappa 0.43-0.88), except for number of walks per day ($r(sp)$ 0.50). The repeatabilities also were excellent for the evaluation of health status ($r(sp)$ 0.78-0.99, kappa 0.81-1.00). The questionnaire also was compared to a 7-day weighed record of total food intake and registration of exercise to give data on the validity. The questionnaire was given 62 (S.D. 19) days before the weighed registrations, and the overall response percentage was 76% (58/76). Correlations for the frequency and amount of commercial feeds given were high (0.81-0.92), although correlations for specific table foods had a wider range (0.03-0.81). Correlations for total energy, protein, fat and carbohydrate intakes were between 0.80 and 0.85 in the total diet, and 0.79-0.85 in the commercial part of the diet. The correlations for frequency and amount of exercise ranged between 0.50 and 0.77. Corresponding correlations for training activities (such as hunting, tracking, and obedience) were 0.51-0.68.

Report on the potentially dangerous dog program: Multnomah County, Oregon

Oswald, M., 1991,

Anthrozoos, v. 4, p. 247-254.

In April 1986, a 5-year-old boy was fatally mauled by a pit bull terrier in Multnomah County, Oregon. In June 1986, a new law was passed that identifies and regulates potentially dangerous dogs. In the first 3 years of the program, 1652 dogs were classified as potentially dangerous, and restrictions were placed on the ownership of these animals. A pretest-posttest evaluation methodology examining the rate of recidivism was used to measure the programme's effectiveness in limiting the opportunity for identified potentially dangerous dogs to repeat their behaviour. In the 5 years before the implementation of the programme, 25% of those dogs that had caused injury to people or to other animals through attacking or biting repeated that same behaviour within 1 year. After the implementation of the programme, that rate of repeat incidence has been reduced to 7%

Reported cat bites in Dallas: characteristics of the cats, the victims, and the attack events

Wright, J. C., 1990,

Public Health Reports, v. 105, p. 420-4.

Associated with the increased popularity of cats as pets in American households has been an increase in the number of cat bites reported to health departments. Bite reports from Dallas, TX, for 1985 were analyzed for different aspects of the cat bite event, including characteristics of the cats, the people bitten, the wounds, and the attack events. Cat bites and scratches constituted 25 percent of the 2,494 reported animal bites. Biting cats were typically stray females. People 21 to 35 years old were bitten in numbers disproportionate to their numbers in the Dallas population. Females were the victims of a

majority of bites. Although wounds were typically described as "scratches" of a hand or finger, 80 percent of all victims sought some form of treatment for their wound. The highest proportion of bites occurred from May through August from 9 am through 12 noon; unowned cats accounted for most wounds. Cat bite events may be explained by frequency of contact, that is, women prefer cats as pets; activities that bring people and cats into contact; and reaching toward cats to feed or pet them. More specific information on the causes of cat bites will enable educational programs to be established so that the rate of cat bites can be decreased at the community level.

Responses of cats to petting by humans

Susan Soennichsen and Arnold S. Chamove

Department of Psychology, Massey University, New Zealand

There is evidence that different gland areas in animals of the cat family have different functions. This study showed that nine cats gave more positive and fewer negative responses to petting by their owners in the temporal region (between the eyes and ears), the reverse to petting in the caudal region (around the tail), with the perioral (chin and lips) and non-gland areas intermediate. This suggests that cats prefer being petted in certain body areas.

Anthrozoos 15 (3) 2002

Responses of pet cats to being held by an unfamiliar person, from weaning to three years of age

Lowe, S. E., and J. W. Bradshaw, 2002,

Anthrozoos, v. 15, p. 69-79.

Determined the extent to which individual responses of domestic cats on being handled by an unfamiliar person were stable between 2 and 33 mo of age. 29 household cats from 9 litters were tested at 2, 4, 12, 24 and 33 mo of age, by being held for 1 min by a standard, unfamiliar person. Results show that between 4 and 33 mo, individual differences in the number of attempts made by the cat to escape, and in signs of distress were stable, with the partial exception of the test at 12 mo. There was no consistency between tests in whether or not a particular cat purred. At 2 mo, the number of escape attempts was highest in cats that had been handled the least, but this trend was reversed in the number of escape attempts made at 4 mo. The lack of distress exhibited by all cats in the test at 2 mo indicated that all had received at least adequate socialization to people. It is concluded that under normal domestic conditions, the behavior of a cat when handled by an unfamiliar person reflects a stable character trait, and that extensive handling during the socialization period may be subsequently associated with a reduction in inhibited behavior when interacting with an unfamiliar person.

Responsiveness and perceived intelligence as predictors of speech addressed to cats.

Sims, V. K. C., Matthew G. (2002).

Anthrozoos 15(2): 166-177.

Speech addressed to a cat was examined to test whether the use of child-directed language (CDL) with a companion animal is related to perceived intelligence of a listener and/or listener responsiveness. 51 undergraduates briefly entertained a cat using a toy, and the vast majority of these participants spoke to the animal. The language used was similar to CDL, and 2 aspects of this

language (number of questions and attribution of thoughts to the animal) were positively related to ratings of the animal's intelligence. The cat's responsiveness, as measured by time spent in proximity of the participant during the interaction, was not strongly correlated with measures of speech use. The results suggest that speech used with companion animals follows a model in which the human first perceives a social interaction, and therefore uses speech. This speech is then modified, based on the perceived comprehension of the listener, regardless of who this listener may be.

Retirement, life satisfaction, and leisure services: the pet connection

Norris, P. A., K. J. Shinew, G. Chick, and A. M. Beck.

Journal of Park & Recreation Administration, v. 17, p. 65-83. 1999.

This study explored pets' influence on the life satisfaction of recent and long-term retirees. More specifically, the study examined satisfaction with life, satisfaction with level of personal safety, freedom to travel, satisfaction with level of income, satisfaction with level of exercise, satisfaction with health, and perceived health among pet owners (n=115) and nonpet owners (n=405) retired from the University of Illinois, USA [date not specified]. Findings indicated that life satisfaction decreased significantly from recent to long-term retirement. However, when accounting for pet ownership, a significant decrease in only one of the specific contributors (satisfaction with level of income) was found for pet owners, whereas four contributors (satisfaction with level of personal safety, freedom to travel, satisfaction with health, and perceived health) declined for nonpet owners. The impacts on pet-owning retirees access to leisure are discussed and suggestions are offered for recreation programming involving pets in the homes of retirees

Review: children and companion animals

MacDonald, A. J., 1979,

Child: Care, Health & Development, v. 5, p. 347-58.

The literature concerning the relationship between the child and companion animal is reviewed including the possible use of companion animals as aids in the psychotherapy of children. The literature pertaining to cruelty to animals is also discussed. It is concluded that the evidence available is sufficient to justify further research into interactions between children and companion animals both in therapy and in the population generally, and some possible approaches are suggested.

Risk factors for alveolar echinococcosis in humans.

P. Kern, Ammon, A., Kron, M., Sinn, S., Sander, G., Peterson, L. R., Gaus, W., & Kern, P., 2004

Emerging Infectious Diseases., 10,

We conducted a case-control study to investigate risk factors for acquiring autochthonous alveolar echinococcosis in Germany. Forty cases and 120 controls matched by age and residence were interviewed. Patients were more likely than controls to have owned dogs that killed game (odds ratio [OR] = 18.0), lived in a farmhouse (OR = 6.4), owned dogs that roamed outdoors unattended (OR = 6.1), collected wood (OR = 4.7), been farmers (OR = 4.7), chewed grass (OR = 4.4), lived in a dwelling close to fields (OR = 3.0), gone into forests for vocational reasons (OR = 2.8), grown leaf or root vegetables (OR = 2.5), owned cats that roamed outdoors unattended (OR = 2.3), and eaten unwashed strawberries (OR = 2.2). Sixty-five percent of cases were attributable to farming. Measures that prevent accidental swallowing of possibly contaminated material during farming or adequate deworming of pet animals might reduce the risk for alveolar echinococcosis.

<http://www.medscape.com/viewarticle/496313>

Risk factors for dog bites to owners in a general veterinary caseload

Guy, N. C., U. A. Luescher, S. E. Dohoo, E. Spangler, J. B. Miller, I. R. Dohoo, and L. A. Bate,

Applied Animal Behaviour Science, v. 74, p. 29-42. 2001.

A detailed telephone survey of dog owners was undertaken in 1996 to determine the risk factors for biting behaviour of dogs in a household setting. Individuals were selected from a cross-sectional population of veterinary clientele in the Canadian provinces of New Brunswick, Nova Scotia, and Prince Edward Island. Interviews were successfully completed with 515 of 640 individuals selected from a study population of 3226 dogs by a formal random process. For the risk factor analysis, 227 biting and 126 non-biting dogs were selected according to a strict criteria to evaluate the association of potential risk factors to biting behaviour. Biting behaviour was carefully defined in the telephone interview to avoid including activity associated with playful mouthing by the dog. All dogs were at least 6 months of age. Both the mean weight and age of biting dogs were significantly lower ($P < 0.05$) than that of non-biting dogs. Significant risk factors for an outcome of biting were as follows: the dog being female (particularly if small), the presence of one or more teenage children in the home, a history of a pruritic or malodorous skin disorder which had received veterinary treatment, aggression over food in the first 2 months of ownership, the dog having slept on someone's bed in the first 2 months of ownership, and the dog having been given a significantly higher ranking for excitability based on its behaviour in the first 2 months of ownership. Small dogs were also determined to have a higher risk of biting than large dogs when exposed to certain lifestyle and health factors, suggesting a relationship between body size and reactivity, or possibly greater owner tolerance of aggression in smaller dogs. Biting dogs were more likely to have exhibited fear of children, men, and strangers. The risk factors identified provide a useful focus for the veterinarian in general practice when counselling owners in the prevention of canine aggression

Risk factors for separation-related distress and feed-related aggression in dogs: additional findings from a survey of Australia

McGreevy, PD; Masters, AM;

Applied Animal Behaviour Science. 2008. 109: 2/4, 320-328.

The potential risk factors associated with the canine behavioural problems, separation-related distress (SRD) and feed-related aggression (FRA) were evaluated by a questionnaire, distributed through Dog's Life magazine. Data on 690 Australian dogs in 485 self-selected respondent households showed that dogs acquired from friends or family had a higher probability of exhibiting low SRD scores than dogs acquired from pet shops ($P = 0.003$). Male dogs had a higher probability of exhibiting high SRD scores ($P = 0.039$) as did intact dogs ($P = 0.011$). Dogs that generally engaged in game-playing with their owners had a higher probability of exhibiting low SRD scores ($P = 0.023$). However, dogs that played games within the first 30 min of their owner arriving home had a higher probability of exhibiting high SRD scores ($P = 0.020$) than dogs that did not. The probability of SRD also increased with the number of human adult females in the house ($P = 0.014$). The following factors showed a positive association with a higher probability of FRA: mixed breeds ($P = 0.019$), increasing dog age at acquisition ($P = 0.048$), increasing number of females in the household ($P = 0.003$), increasing number of dogs in the household ($P = 0.000$) and feeding a dog treats during the owner's dinner ($P = 0.019$).

Risks of pet ownership. The family practitioner's viewpoint

Loar, M. G., 1987,

Veterinary Clinics of North America - Small Animal Practice, v. 17, p. 17-25.

In this article, I have tried to give the reader some idea of the variety and the magnitude of problems that exist with pet-related ailments and to present some suggestions as to possible solutions. A recent editorial in a medical journal was titled "Caution: Pets May Be Hazardous to Your Health." Although it is a very appropriate warning, I doubt whether we will ever get it printed on the sides of all pets. Rather, it will be up to us in the medical and veterinary communities to educate the population about the risks of pet ownership and to keep ourselves educated about the problem. That way we can more readily recognize pet-related ailments and provide the appropriate care.

Romantic Partners and Four-Legged Friends

Romantic Partners and Four-Legged Friends: An Extension of Attachment Theory to Relationships with Pets

Beck, Lisa; Madresh, Elizabeth A.

Anthrozoos: A Multidisciplinary Journal of The Interactions of People & Animals, Volume 21, Number 1, March 2008 , pp. 43-56(14)

The founding principle of attachment theory (Bowlby 1973) is that a secure attachment to a caregiver is one of the first and most basic needs in an infant's life. Through the decades attachment theory has expanded its scope to include central adult relationships, especially between romantic partners, and has provided a useful framework for exploring relationships with friends and family members. We seek to further extend the application of the standard model of adult attachment to another interaction that people value: relationships with pets. We compared participants' reports of their relationships with pets and relationships with romantic partners in a web-based survey of 192 pet owners. Our adaptations of measures originally designed to measure insecurity in human relationships-the Relationship Questionnaire (RQ; Bartholomew and Horowitz 1991) and the Avoidance and Anxiety scales from the Experiences in Close Relationships-Revised questionnaire (ECR-R; Fraley, Waller and Brennan 2000)-produced reliable measures of relationships with pets. The structure of dimensions of insecurity was similar for pet and partner relationships, but ratings of pet relationships correlated little or not at all with ratings of partner relationships. Surprisingly, relationships with pets were more secure on every measure. Our results provide initial evidence that attachment measures are indeed useful tools for investigating people's relationships with their pets. It appears that pets are a consistent source of attachment security; future research with attachment measures may be useful for understanding how the relationship with a pet affects other aspects of the owner's life, perhaps by buffering the experience of negative human social interactions.

Ruby goes to school: using therapy dogs as treatment assistants

N. Lewis, 2003

ASHA Leader., 8,

I entered my third decade as a speech-language pathologist at the turn of the new millennium. Although my professional skills may steadily improve as a function of experience, the ability to "get the job done" in a public school setting seems increasingly difficult. Caseloads that are too big, budgets that are too small and endless administrative demands limit our efficacy. Both the lives of many of the children that we serve and the range of speech-language impairments are growing in complexity. In spite of my professional experience, I am too often left with a feeling of inefficacy and consequently, I am always searching for ways to remedy this situation. When an out-of town colleague mentioned to me that an audiologist in her office used a "therapy-assistance dog", I

recognized this as an opportunity to effect a winning outcome for all involved: increase the communication skills in my clients, improve my feelings of job satisfaction, and train a smart dog to accomplish a worthwhile task.

<http://www.speechandlanguage.com/article/oct2003.asp>

Sacrificial Symbolism In Animal Experimentation: Object Or Pet?

Arnold B. Arluke

Abstract. Based on ethnographic research in biomedical laboratories, this paper argues that sacrifice is an ambivalent notion in the culture of animal experimentation, requiring both objectification of and identification with the animal. Because of this ambivalence, laboratory animals are not accorded a single, uniform, and unchanging status but seen simultaneously as objects and pets. Animals are objectified by incorporation into the protocol, by deindividualization, by commodification, by isolation, and by situational definition. At the same time, laboratory workers develop pet like relationships with the animals, which may be treated as enshrined pets, liberated pets, saved pets, or martyred pets.

Safe handling of large animals

Safe handling of large animals:

Grandin, T., 1999,

Occup Med, v. 14, p. 195-212.

The major causes of accidents with cattle, horses, and other grazing animals are: panic due to fear, male dominance aggression, or the maternal aggression of a mother protecting her newborn. Danger is inherent when handling large animals. Understanding their behavior patterns improves safety, but working with animals will never be completely safe. Calm, quiet handling and non-slip flooring are beneficial. Rough handling and excessive use of electric prods increase chances of injury to both people and animals, because fearful animals may jump, kick, or rear. Training animals to voluntarily cooperate with veterinary procedures reduces stress and improves safety. Grazing animals have a herd instinct, and a lone, isolated animal can become agitated. Providing a companion animal helps keep an animal calm.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=10329901

Saying good-bye to the pet you love: A complete resource to help you heal

Greene, L. A. and J. Landis (2002)

Oakland, CA, New Harbinger Publications, Inc.

(from the cover) Aims to help readers who have lost a pet understand the very special human-animal bond, which, in turn, can help them deal with their loss. Psychological bereavement techniques are presented to support readers in the grieving process and help them find their own unique path to recovery. The book includes chapters on coping skills for easing a child through pet loss, and for those who accidentally killed, or witnessed the death of, their pets. The special needs of the guardians of working animals are also addressed, as are self-help resources for the elderly.

Screening for asthma and associated risk factors among urban school boys in Abha city:

Alshehri, M. A.

Saudi Med J, v. 21, p. 1048-53, 2000.

OBJECTIVE: The objective of the present study was to measure the prevalence of asthma and asthma-related symptoms among male school children in Abha City and to determine some of the possible risk factors influencing its occurrence.

METHODS: A randomly selected sample of 4300 male school children aged 7 to 15 years in Abha were subjected to a previously validated questionnaire for asthma to be completed by parents. Asthma was identified based on the Rush Medical College and International Study of Asthma and Allergies in Children questionnaire. Information of asthma family history, asthma related symptoms, and other atopic conditions, smokers in the family, pets ownership and monthly family income were collected.

RESULTS: The overall prevalence of asthma was 9% (95% Confidence Interval: 7.73%-9.67%). Doctor-diagnosed asthma was reported by 4%, exercise-induced asthma by 4% and wheeze in the past year by 8%. Multiple logistic regression analysis showed that positive family history of atopic condition (Odds Ratio=437.11, $P<0.001$), pets ownership (Odds Ratio=2.91, $p<0.001$), and lower monthly family income (Odds Ratio=2.00, $P<0.02$) were significant factors influencing the development of asthma.

CONCLUSION: In conclusion, the screening methodology adopted in this study could be applied for all children at the beginning of the school year, being simple and non-invasive measure. The prevalence of asthma in school children in Abha is greater than that reported from most developing countries and closer to the rates reported in developed countries. Avoidance of pets ownership at home, improving social class and premarital counselling for atopic persons are all recommended.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=11360067

Seeking a theory of the human/companion animal bond

Kidd, A. H., and R. M. Kidd, 1987,

Anthrozoos, v. 1, p. www.

Argues that although studies of human-animal interactions have generated creditable research, their authors have been accused of having no theoretical foundations. But studies of the human-companion animal bond undertaken to date have been based on animal-animal, human-human, and human-object relationships as analogous theories most likely to provide the comprehensive inductive, deductive, and functional theoretical bases needed. To develop a more encompassing theory that can be used to organize data and results and generate reliable predictions, it is argued that weaknesses in each of the 3 models need to be analyzed for likenesses and differences and that data that do not seem to fit any of the model analogs must be pinpointed. Five comments on the article and the authors' rebuttal are included.

Seizure-alerting and -response behaviors in dogs living with epileptic children

A. e. a. Kirton, 2004

Neurology, 62,

There is little evidence for the ability of dogs to anticipate human seizures. Families of epileptic children were surveyed to investigate seizure-related behaviors in dogs. Approximately 40% of families owned a dog, about 40% of these had seizure-specific behavior, and about 40% of these (approximately 15% overall) showed anticipatory ability. Anticipation occurred early and was both sensitive and specific. Quality of life was higher in families with a dog that responded to seizures.

[http://www.neurology.org/cgi/content/abstract/62/12/2303?maxtoshow=&HITS=10&hits=10&RESU
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Selective battering of the family pet

Pamela Carlisle-Frank, Joshua M. Frank and Lindsey Nielsen

The Foundation for Interdisciplinary Research and Education Promoting Animal Welfare, USA

We examined the attitudes, perceptions and behaviors of both pet-abusing and non-pet-abusing perpetrators of family violence. Using data collected from victims residing at domestic violence shelters, results indicated that relative to their non-pet-abusing counterparts, pet-abusing batterers tend to less often show affection toward their pets, more often communicate with their pets only through commands and threats, more often view companion animals as property, are more likely to scapegoat their pets, and are more likely to have unrealistic expectations about their pets, more frequently punish their pets, and are more sensitive to stressful life events particularly those perceived to be caused by the pet. We also queried respondents about batterers' past history with pets, the frequency and type of abuse inflicted on animals, the number of batterers who hunt, the frequency with which children witnessed abuse of the family pet, the impact of animal guardianship on decisions to remain with or return to the batterer, and where companion animals ended up when victims fled the batterer.

Anthrozoos 17 (1) 2004

Self-care in adults with asthma: how they cope

The purpose of this study was to find out how well adult asthma patients in Finland cope with self-care in three areas of asthma treatment. The areas of physical, psychological and social asthma treatment were examined. Associations between demographic background data and self-care were also studied. Data (n = 130) for the study were collected using a questionnaire specially developed for this study. A deductive perspective was employed in data analysis. Respondents showed fairly good competence in self-care in all three areas of asthma treatment. However, up to 30% of the asthma patients had pets and 16% were smokers. Extra stress was reduced by exercise and positive thinking. Humour was also important in helping most of the respondents cope mentally. Social support played a significant part in fighting the sense of powerlessness which is caused by asthma. According to the results, women coped better than men in the social area of self-care.

Serum protein electrophoresis: potential test for use in geriatric companion animal health programmes

Batamuzi, E. K., E. Kristensen, et al. (1996)

Zentralbl Veterinarmed A 43(8): 501-8.

The electrophoretic patterns of 117 serum samples from 37 clinically healthy old dogs (age: 10.0 +/- 2.5 years, mean +/- SD) 47 old dogs (age: 9.7 +/- 2.0 years) with different diseases, 18 clinically healthy young dogs (age: 2.9 +/- 1.6 years) and 15 young dogs (age: 2.0 +/- 1.0 years) with different diseases were evaluated using agarose as a supporting matrix. Three major electrophoretic patterns were identified after densitometric scanning. The first pattern was a predominant pattern for the young healthy dogs (found in 67% of dogs in that group) and was considered normal for healthy dogs. The second pattern had relatively higher proportions of beta and gamma globulins (polyclonal immunoglobulinaemia) and was a predominant pattern among the old healthy dogs (found in 51% of dogs in that group). The findings regarding the second pattern appear to suggest that they had been exposed to antigens during their lives and that they had a well developed and responsive humoral immune response. The third pattern was characterized by high levels of alpha globulins, it was the most common pattern in the old diseased dogs (found in 70% of the dogs in that group). The third pattern was considered to indicate an inflammatory response among old dogs when compared to young dogs ($P < 0.01$). These patterns appear to suggest that because of aging and/or accumulated injury geriatric dogs will have high levels of polyclonal gamma-globulinaemia or acute phase reactants. The observed patterns, especially the one showing high levels of alpha-globulins, could be a valuable parameter in the search for individuals requiring special attention and thus for the establishment of health programmes for geriatric dogs. With further effort, serum protein electrophoresis might prove to be a useful test for the evaluation of geriatric companion animals for diagnostic, prognostic and therapeutic reasons.

Service dog selection tests: Effectiveness for dogs from animal shelters

Weiss, E., and G. Greenberg, 1997,

Applied Animal Behaviour Science, v. 53, p. 297-308.

Assistance dogs are trained to help people with various physical and mental handicaps and are selected using a test comprising several behavioral components. Anecdotal reports have shown that only about 50% of the dogs selected successfully complete training and become assistance dogs. Traditionally training centers had used puppies, but recently some trainers have begun to use dogs

from animal shelters and pounds. This study randomly chose 6 male and 3 female adult dogs of appropriate breed types, from a shelter environment and conducted an 11-item selection test on each. The dogs were then trained in both basic obedience and a retrieval task. No correlation between an animals' overall performance on the selection test and its ability to complete the retrieval task was found. Fear/submission behaviour traits, however, were predictable from the selection phase. It is suggested that further studies are needed to refine selection tests for adult dogs to be used as assistant dogs.

Seven cases of heartworm disease (dirofilariosis) in dogs in The Netherlands

Meyer, H. P., P. Wolvekamp, C. van Maanen, and A. A. Stokhof, 1994,

Vet Q, v. 16, p. 169-74.

We present here the clinical history, diagnosis, and treatment of seven dogs with dirofilariosis. All dogs were imported into the Netherlands after residing in an area in which dirofilariosis is endemic. In three of these dogs the infection was occult, for the serological test was positive but there was no microfilaraemia. Weight loss, coughing, dyspnoea, and decreased exercise tolerance were the most prominent clinical signs. Two of the dogs had the characteristic electrocardiographic and radiographic signs of enlargement of the right heart. Treatment with thiacetarsamide and ivermectin resulted in complete remission in six dogs. One dog died, presumably as a result of acute renal failure. In the past year (1992-1993) seven cases of canine dirofilariosis were diagnosed, nearly equal to the number in the preceding 10 years ($n = 9$). This most probably reflects the greater sensitivity of the serological diagnosis of dirofilariosis in comparison with identification of microfilariae in the circulation, but a real increase in the number of dogs with dirofilariosis as a result of growing international traffic of tourists accompanied by pets cannot be excluded.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=7871703

Should people with epilepsy have untrained dogs as pets?

Strong, V., and S. W. Brown, 2000,

Seizure, v. 9, p. 427-30.

We report 36 cases of pet dogs, who suffered significant adverse health effects as a result of spontaneously reacting to, or anticipating, epileptic seizures in their human owners. These included three cases in which the dog died, and 12 cases in which the dog exhibited aggressive behaviour towards humans. However, where dogs have been specially trained as Seizure Alert Dogs, these adverse effects have not been seen. As interest grows in the use of dogs to anticipate human seizures and support people with epilepsy, it is important to emphasize the need for specially chosen dogs to be used, and for them to be specially trained. This also raises concerns about potential use of untrained dogs as controls in future research using Seizure Alert Dogs.

2<Singly living people and their cats: a study of human mood and subsequent behavior>Dennis C. Turner" and Gerulf Rieger*

Zoology Institute, University of Zurich-Irchel, Switzerland, 1' Institute for applied Ethology and Animal Psychology, Hirzel, Switzerland

We sought to examine how cat owners' moods correlated with subsequent interactions with their cats. Such a relationship has not been previously documented. Data from 47 women and 49 men living

alone with their cats were collected. Participants were visited at their homes for one two-hour session each. Approximately five minutes before and after the observation period, the owners filled out a standard questionnaire (EWL, list of adjectives) to indicate their current mood. The EWL allowed the authors to later assign owner moods to one or more of 14 sub-scales. In this study, results on correlates of moods at the beginning and during the subsequent first half hour of interactions are presented. Multiple regression analyses showed that related mood sub-scales, e.g. anxiety and depressiveness, can influence human behavior in different directions, and that bipolar mood sub-scales, e.g. introvertedness and extrovertedness, do not necessarily work in opposite directions. Four human behaviors were related to mood: intents to interact, starts of interactions, and approaches and vocalizations while interacting. While the start of an interaction was influenced by eight different mood sub-scales, the others mentioned were only related to four sub-scales at most. The only recorded behavior of the cat that was significantly correlated with the owner's mood was approaches to the owner within an ongoing interaction.

Anthrozoos 14 (1) 2001

Social acknowledgments for children with disabilities: effects of service dogs

Mader, B., L. A. Hart, et al.

Child Development 60(6): 1529-34, (1989).

While service dogs are known to perform important tasks for people using wheelchairs, such as retrieving dropped items or pulling a wheelchair, they may also serve as an antidote for social ostracism. Adults in wheelchairs have been found to receive many more social acknowledgements when a service dog is present than when not. This study examined whether disabled children in wheelchairs with service dogs receive more frequent social acknowledgment than when no dog is present. Behaviors of passersby in response to children in wheelchairs were recorded in shopping malls and on school playgrounds. In both settings, social acknowledgments (e.g., friendly glances, smiles, and conversations) were substantially more frequent when a service dog was present. Social effects of the dog were more pronounced in shopping malls, typical of unfamiliar settings where the child would be likely to experience being ignored or overlooked. Service dogs may assist in normalizing the social interactions for children with disabilities producing social isolation.

Social Effects of a Dog's Presence on Children with Disabilities

Esteves, Stephanie Walters; Stokes, Trevor

Anthrozoos: A Multidisciplinary Journal of The Interactions of People & Animals, Volume 21, Number 1, March 2008 , pp. 5-15(11)

Productive and positive interactions between dogs and humans have been documented in studies using dogs trained as companion animals and as assistants for people with disabilities. In this study, the effects of the presence of a dog on social interactions between three 5-9-year-old children with developmental disabilities and their teacher at an elementary school were analyzed. A single-case experimental design with repeated measures and with replicated effects across participants was employed to assess changes in interactions from baseline to an intervention condition. During baseline, interactions were assessed in the social environment of a room adjacent to the classroom, which had a toy dog and other play materials, during time with the teacher. The experimental change introduced sequentially and systematically across the participants was the additional presence of an obedience-trained dog, a German Shepherd/Labrador Retriever cross. Interactions between the children and their teacher were examined during morning sessions using reliable direct observation interval recording procedures. All participants demonstrated an increase in overall positive initiated behaviors (verbal and non-verbal) toward both the teacher and the dog. The children also showed an

overall decrease in negative initiated behaviors. In addition, observational ratings showed positive generalization of improved social responsiveness by the children in their classroom following the completion of the experimental sessions. This study supports the position that children with developmental disabilities benefit from the use of skilled dogs as teaching assistants and therapeutic adjuncts.

Social interaction and blood pressure. Influence of animal companions

Friedmann, E., A. H. Katcher, et al.

Journal of Nervous & Mental Disease 171(8): 461-5. (1983)

The effect of the presence of a friendly animal on children's blood pressures and heart rates while resting and their cardiovascular responses to verbalization were examined. The presence of the dog resulted in lower blood pressures both while the children (N = 38) were resting and while they were reading. The effect of the presence of the dog was greater when the dog was present initially than when it was introduced in the second half of the experiment. We speculate that the animal causes the children to modify their perceptions of the experimental situation and the experimenter by making both less threatening and more friendly. This study provides insight into the use of pets as adjuncts in psychotherapy.

Socioeconomic status and indicators of asthma in children

Ernst, P., K. Demissie, et al.

Am J Respir Crit Care Med 152(2): 570-5.(1995).

Differential access and utilization of medical care by the poor and rich may contribute to differences in asthma prevalence. We therefore studied the relationship of socioeconomic status (SES) to various indicators of asthma in the Canadian context of universal access to medical care. Information on respiratory symptoms, demographics, and home exposures of 1,111 primary school children was collected by questionnaire. Parental occupation was used to establish SES. Exercise-induced bronchospasm (EIB) after a 6-min free-running test was our measure of airways responsiveness and was available for 989 children. As compared with children from the most advantaged homes, children from the least advantaged homes were more likely to present EIB (OR: 2.26, 95% CI: 1.12 to 4.58) and to report night cough (OR: 2.30, 95% CI: 1.04 to 5.06) and cough with mucus (OR: 3.15, 95% CI: 1.06 to 9.33), while there was no significant excess of the report of wheeze or diagnosed asthma. Among factors potentially linked to SES, the presence of a cat at home (OR: 1.63, 95% CI: 1.02 to 2.61) and lower respiratory infection before 2 yr of age were associated with an excess of EIB (OR: 1.71, 95% CI: 1.16 to 2.52). Our results suggest that unidentified environmental factors contribute to the excess asthma morbidity in poor children.

Some comments on context embodiment in zootherapy: the case of the Autidolfijn project

Servais, V., 1999,

Anthrozoos, v. 12, p. 5-15.

The Autidolfijn project undertaken in Bruges in 1991 assessed the affect of interaction with dolphins on the learning ability of autistic children. The validity of the methodology is discussed.

Species-specific differences and similarities in the behavior of hand-raised dog and wolf pups in social situations with humans

Gacsi, M.; Gyori, B.; Miklosi, A.; Viranyi, Z.; Kubinyi, E.; Topal, J.; Csanyi, V.;

Developmental Psychobiology. John Wiley and Sons, Inc, New York, USA: 2005. 47: 2, 111-122.

In order to reveal early species-specific differences, we observed the behavior of dog puppies (n=11) and wolf pups (n=13) hand raised and intensively socialized in an identical way. The pups were studied in two object-preference tests at age 3, 4, and 5 weeks. After a short isolation, we observed the subjects' behavior in the presence of a pair of objects, one was always the subject's human foster parent (caregiver) and the other was varied; nursing bottle (3 weeks), unfamiliar adult dog (3 and 5 weeks), unfamiliar experimenter (4 and 5 weeks), and familiar conspecific age mate (4 weeks). Dogs and wolves did not differ in their general activity level during the tests. Wolf pups showed preference for the proximity of the caregiver in two of the tests; Bottle-Caregiver at the age of 3 weeks and Experimenter-Caregiver at the age of 5 weeks, while dogs showed preference to the caregiver in three tests; conspecific Pup-Caregiver and Experimenter-Caregiver at the age of 4 weeks and dog-caregiver at the age of 5. Compared to wolves, dogs tended to display more communicative signals that could potentially facilitate social interactions, such as distress vocalization, tail wagging, and gazing at the humans' face. In contrast to dog puppies, wolf pups showed aggressive behavior toward a familiar experimenter and also seemed to be more prone to avoidance. Our results demonstrate that already at this early age - despite unprecedented intensity of socialization and the comparable social (human) environment during early development - there are specific behavioral differences between wolves and dogs mostly with regard to their interactions with humans.

Spontaneous trait transference from dogs to owners

Lynda Mae, Leah E McMorris and Jennifer L Hendry The University of Southern Mississippi, USA

This work found that participants attributed traits associated with breeds of dogs to their owners (indicating that a person may be perceived as more nervous if believed to own a Chihuahua, more heroic if believed to own a Collie, more aggressive if believed to own a Doberman, etc.). The findings further suggest that some people have folk theories that owners select breeds of dogs that resemble them dispositionally. When participants were unable to use this folk theory (when it was clear that the target people were not the dogs' owners and just randomly happened to share the same environment) those participants who owned dogs themselves still transferred traits; however those who did not own dogs themselves did not do so. These findings provide evidence of a novel associative effect in person impression and are discussed in terms of simple associative versus inferential processes. -

Anthrozoos 17 (3) 2004

Spouses and cats and their effects on human mood

Dennis C. Turner; Gerulf Rieger and Lorenz Gygax

Institute for applied Ethology and Animal Psychology, Switzerland, Department of Psychology, Northwestern University, USA. Swiss Veterinary Office, Switzerland

Abstract

Previous data indicated that cats influence the moods of singly living people only by decreasing negative moods, while not affecting positive moods. In this study, we asked if such an effect can be 1)

replicated, 2) is comparable to the effect of a human partner, and 3) related to the owner's attachment towards the cat. Two hundred and twelve couples with cats, 31 couples without cats, singly living people with cats (47 women, 45 men) and singly living people without cats (43 women, 9 men) volunteered to participate. We used a list of adjectives (the Questionnaire) to assess their mood, which they responded to on an evening of their choice. The Lexington Attachment to Pets Scale (LAPS) was additionally completed by the cat owners. Selected adjectives were reduced by factor analyses and labeled bad mood, activity, good mood, and seclusion, according to the highest loadings of mood items within each factor. Each mood factor was explained by cat ownership, presence or absence of a partner, and the person's sex. Further, sex, partner status and attachment towards cats explained moods amongst the cat owners. Only the partner, but not the cat, enhanced positive moods. Cats alleviated negative moods, and this effect was comparable to the effect of a human partner. This compensatory effect of cat ownership on negative moods was not comparable to a similar effect of degree of attachment towards the cat on human mood. Possible reasons for the unidirectional effect of cats on human mood are discussed.

Anthrozoos 16 (3) 2003

Stressful life events and use of physician services among the elderly: the moderating role of pet ownership

Siegel, J. M.

Journal of Personality & Social Psychology, v. 58, p. 1081-6. 1990

The physician utilization behavior of 938 Medicare enrollees in a health maintenance organization was prospectively followed for 1 year. With demographic characteristics and health status at baseline controlled for, respondents who owned pets reported fewer doctor contacts over the 1-year period than respondents who did not own pets. Furthermore, pets seemed to help their owners in times of stress. The accumulation of prebaseline stressful life events was associated with increased doctor contacts during the study year for respondents without pets. This relationship did not emerge for pet owners. Owners of dogs, in particular, were buffered from the impact of stressful life events on physician utilization. Additional analyses showed that dog owners in comparison to owners of other pets spent more time with their pets and felt that their pets were more important to them. Thus, dogs more than other pets provided their owners with companionship and an object of attachment.

Submit information about an upcoming conference>Please provide some details2<Successful and unsuccessful pet adoptions

Kidd, A. H., R. M. Kidd, and C. C. George, 1992,

Psychological Reports, v. 70, p. 547-561.

120 men and 223 women who were in the process of adopting a pet completed an inventory rating physical, emotional, and intellectual effects of roles that pets were expected to play. Ss who were parents also rated the expected roles of pets in their children's lives. Current or previous pet owners retained significantly more newly adopted pets than did Ss who never had pets. Men and parents rejected a significantly higher percentage of pets than did women and nonparents, respectively. Specific role expectations differed considerably between men and women, parents and nonparents, and retainers and rejecters. Ss held higher expectations for dogs than for cats. Suggestions are made for better preparation of future adoptive pet owners to reduce the number of adopted pets abandoned and euthanized.

Support for bereaved owners of pets.

Clements, P. T., Benasutti, K. M., & Carmone, A.

Perspectives in Psychiatric Care 39(2): 4-54, (2003).

TOPIC: The bond that exists between people and their pets and its impact on physical and mental health. PURPOSE: To review the current literature and explore the clinical implications of bereavement related to pets.

SOURCES: A comprehensive review of the bereavement, veterinarian, and agricultural literature related to attitudes and response patterns to pet and animal death.

CONCLUSIONS: The death or loss of a beloved pet can be a life-changing event.

Temperament and personality in dogs (*Canis familiaris*): A review and evaluation of past research

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Applied Animal Behaviour Science

Volume 95, Issues 1-2 , November 2005, Pages 1-53Ý

Spurred by theoretical and applied goals, the study of dog temperament has begun to garner considerable research attention. The researchers studying temperament in dogs come from varied backgrounds, bringing with them diverse perspectives, and publishing in a broad range of journals. This paper reviews and evaluates the disparate work on canine temperament. We begin by summarizing general trends in research on canine temperament. To identify specific patterns, we propose several frameworks for organizing the literature based on the methods of assessment, the breeds examined, the purpose of the studies, the age at which the dogs were tested, the breeding and rearing environment, and the sexual status of the dogs. Next, an expert-sorting study shows that the enormous number of temperament traits examined can be usefully classified into seven broad dimensions. Meta-analyses of the findings pertaining to inter-rater agreement, test-retest reliability, internal consistency, and convergent validity generally support the reliability and validity of canine temperament tests but more studies are needed to support these preliminary findings. Studies examining discriminant validity are needed, as preliminary findings on discriminant validity are mixed. We close by drawing 18 conclusions about the field, identifying the major theoretical and empirical questions that remain to be addressed.

2<Testing a return-anticipating dog, Kane>Rupert Sheldrake and Pamela Smart

20 Willow Road. London, UK. 173 Kay Brow, Ramsbottom, Bury, UK

Many dog owners claim that their animals know when a member of the household is coming home, typically showing their anticipation by waiting at a door or window. In previous trials with a dog called Jaytee, recorded on videotape, it was found that he anticipated his owner's arrival more than ten minutes in advance, even when she was returning in unfamiliar vehicles such as taxis, when the people at home did not know when to expect her, and when she set off at randomly-selected times. This paper describes the results of a pre-planned series of ten videotaped trials with a dog called Kane, a Rhodesian ridgeback, who was said to wait by a window while his owner was on the way home. The window-area was filmed continuously while the dog's owner went to places more than 8 km away and came home at a variety of non-routine times, some of which were selected at random

and communicated to her by a telephone pager. The time-coded videotapes were scored blind by a third party. In nine out of ten trials Kane spent most time at the window when his owner was on the way home. On average he was at the window 26 percent of the time while she was returning, and only one percent of the time throughout the rest of her absence. This difference was highly significant statistically. Possible explanations for this behavior are discussed.

anthrozoos 13 (4) 2000

The 'Furry Ceiling:' Clinical Psychology and human-animal studies.

Raupp, C. D. (2002).

Society & Animals 10(4): 353-360.

Historically, animals other than human made few appearances in the clinical psychology literature except in association with fetishes, phobias and research models of human disorders. Today, most clinically relevant research efforts in Human-Animal Studies are directed toward understanding animal cruelty's connection with psychopathology and toward developing therapeutic human-animal interactions in service settings. Although animal studies has broadened our understanding of clinical issues and opportunities in our relationships with other animals, it remains separate from mainstream clinical psychology.

The Animal-Human Boundary

A. N. H. J. Creager, W. C., 2002

University of Rochester Press

The way in which humans articulate identities, social hierarchies, and their inversions through relations with animals has been a fruitful topic in anthropological and historical investigations for the last several years. The contributors to this volume call attention to the symbolic meanings of animals, from the casting of first-year students as goats in medieval universities to the representation of vermin as greedy thieves in early modern England. But the essays in this volume are also concerned with the more material and bodily aspects of animal-human relations, like eating regulations, aggression, and transplanting of animal organs into human beings (xenotransplantation). Modern biologists have increasingly problematized the human-animal boundary. Researchers have challenged the supposedly unique ability of humans to use language. Chimpanzees and gorillas, it has been argued, have learned to communicate using American Sign Language. In addition, some scientists regard the sophistication of modes of communication in species like dolphins and songbirds as undermining the view of humans as uniquely capable of complex expressions. As studies of nonhuman primates threaten to compromise the long-held assumption that only humans possess self-awareness. The question becomes: How can one firmly differentiate human beings from other animals? Contributors include Piers Beirne, Richard W. Burkhardt, Jr., Mary E. Fissell, Paul H. Freedman, Ruth Mazo Karras, Susan E. Lederer, Rob Meens, John H. Murrin, James A. Serpell, and H. Peter Steeves. Angela N. H. Creager and William Chester Jordan are associates of the Shelby Cullom Davis Center for Historical Studies, Princeton University.

The behavior of visitors towards dogs housed in an animal rescue shelter

Deborah L. Wells and Peter G. Hepper

School of Psychology, Queen's University Belfast, UK

The behavior of visitors towards dogs housed in rescue shelters has been subject to little research. This study explored the behavior of 76 visitors to a rescue shelter in Northern Ireland as they toured the dogs' kennels. The number of dogs that visitors stopped to look at, the nature of all interactions that visitors initiated with the dogs and the outcome of the visitors' tour of the shelter, were examined. The influence of the visitors' sex and the size of the group touring the kennels, on the visitors' behavior was also explored. On average, the visitors stopped to look at 29% of the total number of dogs available for purchase. Dogs housed in cages closest to the shelter entrance were more likely to attract attention from the visitors than those housed further away. When they stopped to look at a dog, visitors spent an average of 70 seconds in front of the animal's cage. Thirty-one of the visitors initiated an interaction with a dog, which lasted for an average of 20 seconds. Three visitors purchased a dog at the end of their tour of the shelter. Individuals who purchased a dog spent significantly more time standing in front of their future pet's cage, and engaged in more interactions with this animal, than dogs that they did not purchase. The size of the group touring the shelter was significantly related to the visitors' behavior. Individuals touring the shelter alone stopped in front of more dogs' cages, spent more time in front of the dogs' enclosures, initiated more interactions, and purchased more dogs, than those visiting in pairs or groups. The visitors' sex was unrelated to their behavior. The findings suggest that visitors to rescue shelters only show an interest in a small proportion of dogs available for purchase. Elucidating exactly what factors influence visitors' perceptions of, and behavior towards, sheltered dogs may further our understanding as to why so many animals are overlooked for purchase every year.

Anthrozoos 14 (1) 2001

The benefits of pet ownership - news from across the world

Recent research has compared Australian pet owners to pet owners in Germany and China, and found that the health benefits of pet ownership for the general community exist in the populations of all three countries, particularly for the long term pet owners.

A presentation by Melbourne University political scientist Professor Bruce Headey at the international conference on Human Animal Interactions in 2004 analysed the relationship between pet ownership and human health in Germany, Australia and China. The research was conducted in collaboration with scientists from all three countries, supporting the theory that it is long term pet owners who gain the most benefit from their animal companions.

The German, Australian and Chinese data indicate that pet owners make fewer annual doctor visits than non-owners, and that the relationship remains statistically significant at the 0.05 level after controlling for gender, age, marital status, income and other variables associated with health.

The German and Australian data were drawn from longitudinal panel surveys in which large national representative samples were asked about their health, annual doctor visits and pet ownership in 1996 and again in 2001. The Chinese survey was more exploratory, and was cross-sectional not longitudinal, comparing the health of 'empty-nester' pet owners and non-owners in Beijing. China has only recently embraced pet ownership, and so research into the human animal bond is also relatively new in that country.

Importantly, the German and Australian results are the first national representative surveys to show that (1) people who continuously own a pet are the healthiest group (2) people who acquire a pet after not previously owning one are the second healthiest group and (3) people who cease to have a pet or never had one are the least healthy groups. Most previous studies were cross-sectional (one-off) and so were open to the objection that pet owners may have been healthier in the first place, rather than having become healthier due to owning a pet.

This new study does not explore the mechanisms through which pets contribute to improved human health. Finding the reasons for the effect will keep researchers occupied for many years to come, but it

is generally agreed that the health benefits of pet ownership come in different forms for different people. For some it is companionship, others it is exercise inducement, and others it is the stress relieving and blood-pressure lowering effects of patting a favourite cat or dog.

So, not surprisingly, the results suggest that having pets as companions throughout our entire lives has greater benefits to people than never having a pet, or only having a pet for a short time. It also adds another meaning to the expression 'a pet is for life...'

The benefits of the Assisted Animal Therapy: a bibliographic review. [Portuguese]

Pereira, M. J. F.; Pereira, L.; Ferreira, M. L.;

Saude Coletiva. Ferreira & Bento do Brasil Ltda, 2007. 4: 14, 62-66.

Animal Assisted Therapy (AAT) has been used as one more instrument in the promotion of health and treatment of some diseases. This bibliographic review highlights the benefits derived from AAT. Although the use of animals in therapy has been mentioned since the 19th century, only in 1962 was a documentation on the benefits of AAT in psychology performed. It was noted that AAT was first applied in patients with cardiovascular diseases, in operating rooms prior to the actual surgical operation, in intensive care units, in paediatric centres, and in psychiatric patients with dementia and Alzheimer's disease.

The diagnostic value of pet-facilitated therapy with dogs: an observation study of child-dog interaction in child and adolescent

A. Prothmann, A., Schaumberg et al, 2004

SCAS Journal, 16,

Pet-facilitated therapy using domestic dogs (*canis familiaris*) is one of the therapeutic techniques used in the Leipzig University Clinic for Child and Adolescent Psychiatry. This article presents the results of a pilot study of 18 children and adolescents (the subjects) in pet-facilitated therapy sessions. The therapy sessions were recorded on videotape. Assessments were made of the behaviour of both subjects and dogs during the therapy session and again later, using the video recordings. A number of the subjects with similar biographical and medical histories showed parallel patterns of communication and interaction with the dogs. The significant patterns observed in the subjects were: failure to set limits for the animal, fear of the animal, pseudo-communication, premature breaking-off of the relationship. The dog's behaviour mirrored that of the subjects, seeming to reflect back to the subjects their own patterns of communication. Play with a dog can be assessed and used as an additional diagnostic tool. The non-judgmental and emotionally open behaviour of the animals towards the different subjects seems to be particularly valuable in assisting young people to open up naturally and rapidly.

The domestic dog: its evolution, behaviour and interactions with people

Serpell, J., ed.,

Cambridge, Cambridge University Press. 1995,

By any standards, dogs are extraordinary animals. They have been part of human society for longer than any other domestic species. They exist in a greater variety of different shapes and sizes, and they

occupy a wider ecological niche, from pampered pets and faithful servants to feral scavengers. Even our attitudes to dogs seem to oscillate between extremes - on the one hand, the dog is man's best friend, on the other, he is the despised and degraded outcast. This unique book seeks to expose the real dog beneath the popular stereotypes. Its purpose is to provide a comprehensive, state-of-the-art account of the domestic dog's natural history and behaviour based on scientific and scholarly evidence rather than hearsay. Anyone with a serious interest in *Canis familiaris*, its evolution, behaviour and its place in our society, will find *The domestic dog* an indispensable and fascinating resource.

The educational benefits of a ten-week home-based wild bird feeding program for children

Alan M. Beck*, Gail F Melson, Patricia L. da Costa' and Ting Liu

This study evaluated a ten-week educational home-based program for feeding wild birds, intended to increase elementary school age children's knowledge about birds, especially those wild birds commonly encountered at outdoor home feeders. We measured changes from pre to post-program in 65 seven- to 12-year old children's knowledge about wild birds, as well as in environmental attitudes. The goal was not only to increase bird knowledge in the target child but also to involve other family members in home-based nature education activities. After the program, seven- to nine-year old boys and girls showed significant gains in bird knowledge, but older children (10-12 years) did not significantly improve. Children's increased knowledge was positively associated with parental education. There was no systematic change in environmental attitudes. Parents identified family involvement as a particularly beneficial aspect of the program, and 90% of contacted families were still feeding birds one year after program termination.

Anthrozoos 14 (1) 2001

The effect of pet ownership on the risk of allergic sensitisation and bronchial asthma

G. Liccardi, G., D'Amato et al.

Journal/Respiratory Medicine, 99, 2005.

An increasing volume of evidence suggests that early contact of children with the allergens of furred pets (especially those produced by cats) may determine a lower risk of developing allergic sensitisation to these materials. A possible explanation of this data is that an early inhalation of high levels of the major cat allergen Fel d 1 includes the production of IgG and IgG4 antibodies with a "protective" effect. Other authors have shown that the prevalence of allergic sensitisation to cats, in adults, is reduced in those patients exposed to the lowest and highest levels of the allergens. On the contrary, the risk of developing sensitisation to cats is significantly higher when patients were exposed to intermediate levels of Fel d 1. Moreover, epidemiological studies have demonstrated a relatively low prevalence of cat allergy (about 10%) in some countries where rates of cat ownership are high. This data confirm the role of indirect exposure to pet allergens in inducing allergic sensitisation. Clothes of pet owners have been indicated as the carriers for the dispersal of these allergens in pet-free environments. However, it is important to point out that exposure of highly sensitized patients to relevant amounts of pet allergens (such as in a pet show/shops) may determine a dramatic exacerbation of nasal and/or bronchial symptoms.

The effect of signals from experienced and inexperienced dog handlers on the behaviour of dogs

Lyngø, H.; Ladewig, J.

European Journal of Companion Animal Practice. Federation of European Companion Animal Veterinary Associations (FECAVA), Paris, France: 2005. 15: 1, 67-72.

A dog handler's behaviour is important for a dog's performance during training, yet a systematic analysis of which signals are important has, to our knowledge, not been published. We therefore observed the interaction between experienced versus inexperienced dog handlers and dogs, analysed which signals were used or not used, and measured their effect on the dogs. Eight dogs, eight inexperienced and eight experienced handlers participated in the study. Video recordings were made while the dogs were walked around a triangular path. The results showed that experienced handlers were better at keeping the attention of the dogs. They used treats more often, spoke with an encouraging high-pitched voice, and used less physical punishment than inexperienced handlers. Consequently, when walked by experienced handlers, dogs showed the desired behaviour (i.e. to heel) more often and undesired behaviour (e.g. to pull the lead) less often. Apart from showing which signals are important, something that can help instructors teaching lay people how to train dogs, the study demonstrates that it is possible to subject the human-animal interaction to a systematic analysis to improve the interaction, an approach that could be useful for evaluating management of other domestic animals, such as horses and farm animals.

The effect of stockpeople's personality and attitudes on dairy cow milk yield

D. Hanna, Sneddon, I.A., & Beattie, V., 2005

ISAZ 14th Annual Conference,

For abstract go to <http://www.vetmed.ucdavis.edu/CCAB/isaz2005.pdf> and see page 14
<The effect of swimming with dolphins on human well-being and anxiety> Nichola L. Webb and Peter D. Drummond

School of Psychology, Murdoch University, Australia

The present investigation aimed to explore the psychological effects for humans of swimming with dolphins as opposed to swimming in the ocean without dolphins. It was hypothesized that people swimming with dolphins would experience significantly greater levels of wellbeing and reduced levels of anxiety than those who swam without dolphins. Participants were sampled from Perth's UnderWater World marine park and at the Bunbury Dolphin Discovery Centre, Australia. Participants completed well-being and anxiety measures before and after their swim. Well-being was greater in participants who swam with dolphins than in those who did not, both before and after their swim. However, well-being increased to the same extent in both groups. In contrast, anxiety decreased for participants swimming with dolphins but not in those who swam without dolphins. The findings suggest that anticipation of a new and exciting experience, and swimming, itself increase well-being. In addition, swimming specifically with dolphins may lower anxiety. Whether these effects are responsible for the therapeutic benefits associated with human-dolphin interactions requires further investigation.

Anthrozoos 14 (2) 2001

The effectiveness of a citronella spray collar in reducing certain forms of barking in dogs

Wells, D. L., 2001,

Applied Animal Behaviour Science, v. 73, p. 299-309.

This study examined the effectiveness of a citronella spray collar in reducing barking in 30 dogs which wore the collar continuously, i.e. every day for 30 min, or intermittently, i.e. every other day for 30 min, for a period of 3 weeks. Owners rated the frequency of their dog's barking on a scale ranging from 1 (very infrequent) to 5 (very frequent) before the study began (pre-treatment condition) and at the end of every week that the collar was worn (treatment condition). A further evaluation was made at the end of week 4, following 7 days of collar deprivation (post-treatment condition). Dogs exhibited a significantly lower frequency of barking during the treatment and post-treatment conditions compared to the pre-treatment condition. Barking was most effectively reduced when dogs wore the collar intermittently. However, barking increased over the period of time the collar was worn, particularly in those dogs which wore the device every day. Barking continued to increase when the dogs stopped wearing the collar, albeit at frequencies lower than pre-treatment, particularly in those animals which had worn the collar continuously. The collar was more effective at reducing travel related barking than television or traffic related barking. Findings indicate that dogs generally habituate to the citronella spray collar irrespective of how the animal is exposed to the device. A longer period of efficacy occurs, however, if the collar is worn intermittently. This may appeal to owners who are concerned about their pet having to wear the collar for long periods of time.

The effects of animal-assisted therapy on anxiety ratings of hospitalized psychiatric patients:

Barker, S. B., and K. S. Dawson, 1998,

Psychiatric Services, v. 49, p. 797-801.

OBJECTIVE: Animal-assisted therapy involves interaction between patients and a trained animal, along with its human owner or handler, with the aim of facilitating patients' progress toward therapeutic goals. This study examined whether a session of animal-assisted therapy reduced the anxiety levels of hospitalized psychiatric patients and whether any differences in reductions in anxiety were associated with patients' diagnoses.

METHODS: Study subjects were 230 patients referred for therapeutic recreation sessions. A pre- and posttreatment crossover study design was used to compare the effects of a single animal-assisted therapy session with those of a single regularly scheduled therapeutic recreation session. Before and after participating in the two types of sessions, subjects completed the state scale of the State-Trait Anxiety Inventory, a self-report measure of anxiety currently felt. A mixed-models repeated-measures analysis was used to test differences in scores from before and after the two types of sessions.

RESULTS: Statistically significant reductions in anxiety scores were found after the animal-assisted therapy session for patients with psychotic disorders, mood disorders, and other disorders, and after the therapeutic recreation session for patients with mood disorders. No statistically significant differences in reduction of anxiety were found between the two types of sessions.

CONCLUSIONS: Animal-assisted therapy was associated with reduced state anxiety levels for hospitalized patients with a variety of psychiatric diagnoses, while a routine therapeutic recreation session was associated with reduced levels only for patients with mood disorders.

The effects of animal-assisted therapy on loneliness in an elderly population in long-term care facilities

Banks, M. R. B., W. A., 2002,

BACKGROUND: Animal-assisted therapy (AAT) is claimed to have a variety of benefits, but almost all published results are anecdotal. We characterized the resident population in long-term care facilities desiring AAT and determined whether AAT can objectively improve loneliness.

METHODS: Of 62 residents, 45 met inclusion criteria for the study. These 45 residents were administered the Demographic and Pet History Questionnaire (DPHQ) and Version 3 of the UCLA Loneliness Scale (UCLA-LS). They were then randomized into three groups (no AAT; AAT once/week; AAT three times/week; $n = 15/\text{group}$) and retested with the UCLA-LS near the end of the 6-week study. **RESULTS:** Use of the DPHQ showed residents volunteering for the study had a strong life-history of emotional intimacy with pets and wished that they currently had a pet. AAT was shown by analysis of covariance followed by pairwise comparison to have significantly reduced loneliness scores in comparison with the no AAT group.

CONCLUSIONS: The desire for AAT strongly correlates with previous pet ownership. AAT reduces loneliness in residents of long-term care facilities.

The effects of behavioral therapy on dog phobia response patterns

Willem A. Hoffmann and Johannes S.J. Odendaal

Phobic fear can be regarded as an emotional response syndrome consisting of three groups of response patterns, namely cognitive-affective, motor-behavioral and physiological. In the present study, female students were assigned to two groups: an experimental group consisting of participants suffering from dog phobia, and a control group. The study consisted of three stages: the resting stage measured baseline values, while the pre- and post-intervention stages measured values in the presence of a dog stimulus. Cognitive-affective aspects were assessed by an anxiety scale and post-study questionnaire. Motor-behavioral aspects focussed on dog approach termination distances and the observation of non-verbal communication cues during behavioral approach tests. Physiological aspects were measured in terms of plasma adrenocorticotrophic hormone (ACTH) levels. Systematic desensitization therapy was found to be effective in alleviating motor-behavioral and cognitive-affective aspects, while its effect on plasma ACTH levels was inconclusive. No significant plasma ACTH level changes occurred in the experimental group during the study. When comparing the experimental and control groups, the only significant difference was a lower plasma ACTH level in the control group during the post-intervention stage. Total stressor schedule values suggest that participants in the experimental group had a predisposition to be generally more anxious and fearful than participants in the control group "

Anthrozoos 14 (1) 2001

The effects of dog obedience training and behavioural counselling upon the human-canine relationship

Clark, G. I., and W. N. Boyer, 1993,

Applied Animal Behaviour Science, v. 37, p. 147-159.

Thirty adult participants provided perceptions of their dog's behaviour and were then randomly assigned to 1 of 3 groups: the Obedience group, which received obedience training and canine behaviour counselling; the Time Instructed group, which was asked to spend 20 min a day interacting with their dog; the No Instruction group, which did not receive any instructions. After assignment, the Obedience group completed an 8-week obedience and canine behaviour counselling class where all

the participants again provided information about their dog's behaviour. In addition, all participants were also asked to keep daily logs of the time spent with their dogs in training, play, exercise and other activities. A video-camera was used to obtain pretest and posttest measures of obedience behaviour, proximity, tactile behaviour and separation anxiety exhibited by each dog. Results indicated that the Obedience group showed the most improved obedience behaviour and the highest improvement in the human-canine relationship. The Obedience group also showed lower separation anxiety than the No Instruction group. The Time Instructed group also displayed improvement in obedience behaviour and improvement in the relationship and showed lower separation anxiety than the No Instruction group. The No Instruction group showed higher separation anxiety, no improvement in obedience and no change in the relationship. Results were interpreted in terms of positive interaction and quality time.

The effects of pet therapy on the social behavior of institutionalized Alzheimer's clients

Kongable, L. G., K. C. Buckwalter, and J. M. Stolley.

Archives of Psychiatric Nursing, v. 3, p. 191-8, 1989.

Twelve (N = 12) Alzheimer's (AD) residents of a Special Care Unit in a large midwest Veterans' Home were observed for the effects of the presence of a pet dog on eight social behaviors: smiles, laughs, looks, leans, touches, verbalizations, name-calling, and others. Observations took place on three separate occasions (absence of dog, temporary presence of the dog, and permanent placement of the dog) in both group and individual settings. The results showed that the presence of the dog increased the number of total social behaviors of the AD clients, but no differences were found in behaviors between the temporary and permanent placement of the dog.

The effects of service dogs on social acknowledgments of people in wheelchairs

Eddy, J., L. A. Hart, et al.

Journal of Psychology 122(1): 39-45, (1988)

Able-bodied people often exhibit behaviors that show them to be socially uncomfortable upon encountering a physically disabled stranger. These behaviors include less eye contact, gaze avoidance, greater personal distance, and briefer social interactions. This study examined whether persons in wheelchairs with service dogs receive more frequent social acknowledgement from able-bodied strangers than people in wheelchairs without dogs receive. Behaviors of passersby were recorded by an observer who followed a person in a wheelchair at a distance of 15 to 30 feet. Observations were made in public areas amid pedestrian traffic, areas such as shopping malls and a college campus. The behaviors of passersby to the person in a wheelchair, with or without a service dog, were recorded, including smiles, conversation, touch, gaze aversion, path avoidance, or no response. Results indicated that both smiles and conversations from passersby increased significantly when the dogs were present. These findings suggest that the benefits of service dogs for their owners extend beyond working tasks to include enhanced opportunities for social exchange. The service dogs substantially reduced the tendency of able-bodied people to ignore or avoid the disabled person.

The effects of small dogs on vital signs in elderly women

N. A. Nuzzo and J. E. Luptak, 2003

Journal of Geriatric Physical Therapy., 26,

Purpose: The emotional benefits of animals to humans are something that nearly every pet owner will

attest to. But do the benefits extend beyond the emotional level to the extent that they affect physiological measures such as blood pressure or heart rate? The purpose of this study was to examine the effects of nonbonded (unknown to subject) dogs on vital signs [blood pressure (BP), heart rate (HR), and oxygen saturation (SpO_2)] in elderly women. This study was a pre-post test design. Methods: Fifteen females (83 ± 3.5 years) who reportedly enjoyed dogs volunteered to participate in the study. The women were randomly broken into 3 groups of 5. Each participant had a resting BP, HR, and SpO_2 recorded. Two dogs were then brought into the testing room where the subjects held and passed around the dogs. After 10 minutes, a second reading was taken. The dogs were then removed from the room and the subjects sat quietly for another 5 minutes. After this time, their BP, HR, and SpO_2 were taken for a final time. Results: The blood pressure of 13 out of 14 subjects decreased after interacting with the dogs (1 subject's blood pressure was not able to be recorded). A statistically significant decrease in systolic blood pressure was observed, while a trend toward significance was found for diastolic blood pressure. Heart rate also showed a trend toward significant decrease following the interaction. No significant change in oxygen saturation was noted. Conclusion: This study suggests that dogs may have a beneficial effect on the BP and HR in elderly women.

http://www.findarticles.com/p/articles/mi_qa3953/is_200403/ai_n9357997#continue

The effects of the presence of a companion animal on physiological arousal and behavioral distress in children

Nagengast, S. L., M. M. Baun, M. Megel, and J. M. Leibowitz.

Journal of Pediatric Nursing, v. 12, p. 323-30, 1997.

The purpose of this study was to examine the effects of the presence of a companion animal on physiological arousal and behavioral distress exhibited by preschool children during a routine physical examination. A within-subject, time-series design was used to study 23 healthy children ages 3 years to 6 years during two physical examinations, with and without a dog. Statistically significant differences were found with greater reductions in subjects' systolic and mean arterial pressure, heart rate, and behavioral distress when the dog was present. Findings support the use of a companion animal in reducing stress experienced by children during a physical examination.

The efficacy of collar-mounted devices in reducing the rate of predation of wildlife by domestic cats

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Applied Animal Behaviour Science

Volume 94, Issues 3-4, October 2005, Pages 273-285

Volunteer cat owners from across the UK were recruited to take part in two trials designed to test the efficacy of collar-mounted warning devices in reducing cat predation rates of native wildlife. Cats equipped with a bell returned 34% fewer mammals and 41% fewer birds than those with a plain collar. Those equipped with an electronic sonic device returned 38% fewer mammals and 51% fewer birds compared with cats wearing a plain collar. There was no significant difference in prey return rates by cats wearing collars equipped with one bell, two bells or the sonic device. Warning devices mounted on quick-release collars are recommended as an effective way of reducing wildlife kill rates by domestic cats. Future research and development aimed at further improving the efficacy of sonic devices is recommended.

The end of a relationship: coping with pet loss

J. C. McNicholas, G.M., 1995

Journal/The Waltham Book of Human-Companion Animal Interactions, Pergamon Press

The author provides brief annotated references of basic resources on the 'human-animal bond,' the relationship between people and pets ('companion animals?') throughout history. Types of human-animal relationships are very diverse, and the author offers examples of many, including animal-assisted therapies, pet-keeping, and training styles.

The epidemiology of dog bite injuries in Switzerland - characteristics of victims, biting dogs and circumstances

U. Horisberger; K D. C. Stark; J. Ru fenacht; C. Pillonel and A Steiger *Federal Veterinary Office, Bern, Switzerland t Institute of Animal Genetics, Nutrition and Housing, Division of Animal Housing and Welfare, Bern, Switzerland

Dogs are a potential source of several health hazards for humans. Public attention has recently focussed on dog bites, and different prevention strategies have been suggested. As few data on dog bite epidemiology are available, a prospective study was conducted in family practices (FP) and emergency departments (ED) in Switzerland. The objectives of this study were to estimate the incidence of dog bites receiving medical treatment and to identify possible risk factors. An annual dog bite incidence rate of 180/100 000 population was estimated. The highest incidence rates were found in children, young adults and dog owners. While head and neck injuries were most common (37% of FP and 45% of ED cases) amongst children and these tended to have more severe sequelae, adults' injuries most commonly involved the extremities. Victim-dog interactions prior to the incident often were observed in children, particularly in infants (82% of 0-4-year-old cases) and in family dog bites (88%). Biting dogs were most commonly medium or large in size, male, and aged < 5 years. The three most popular breeds (Shepherd, Retriever Dogs and Swiss Mountain Breeds) also were the three most common biters. However, Shepherd dogs and Rottweilers were more common among biting dogs. No difference in bite risk was found between pure-bred and cross-bred dogs. Results of this study suggest that dog bites are a common event in the community. A multifactorial approach to dog bite prevention is recommended.

Anthrozoos 17 (4) 2004

The epidemiology of dog walking: an unmet need for human and canine health

Bauman, A. E.; Russell, S. J.; Furber, S. E.; Dobson, A. J.
Medical Journal of Australia. Australasian Medical Publishing Co., North Sydney, Australia: 2001.
175: 11/12, 632-634.

Abstract Objective: To describe the prevalence of dog walking in New South Wales (NSW), Australia, and to identify potential health gains if more dogs were walked. **Design:** A cross-sectional analytical survey. **Setting and participants:** 894 adults in NSW in 1998 (among the owners of approximately two million domestic dogs in NSW who were potential participants in dog-walking behaviours). **Main outcome measures:** Dog walking hours per week; other DogEpi concepts to illustrate the public health gains include the DAF (dog attributable fraction), and the BBR (benefits to bites ratio). **Results:** The response rate to the survey was 74%. Forty-six percent of households in NSW had a dog and, overall, dog owners walked 18 minutes per week more than non-dog owners.

However, more than half of dog owners did not walk their dogs, and were less likely than non-owners to meet recommended levels of physical activity sufficient for health benefits. If all dog owners walked their dogs, substantial disease prevention and health care cost savings of \$175 million per year might accrue. Conclusions: There are potential benefits of dog walking for human health; currently, among dog owners, much of this benefit remains to be realized. There are also likely benefits for canine health. Dog walking should be promoted through national strategies recommending "Walkies for all by the year 2010".

The epidemiology of walking for exercise: implications for promoting activity among sedentary groups

Siegel, P. Z., R. M. Brackbill, and G. W. Heath

American Journal of Public Health, v. 85, p. 706-10. 1995

The relative contribution of walking to overall leisure-time physical activity participation rates was studied among respondents from the 45 states that participated in the 1990 Behavioral Risk Factor Surveillance System (n = 81,557). The percentages of low income, unemployed, and obese persons who engaged in leisure-time physical activity (range = 51.1% to 57.7%) were substantially lower than the percentage among the total adult population (70.3%). In contrast, the prevalence of walking for exercise among these sedentary groups (range = 32.5% to 35.9%) was similar to that among the total population (35.6%). Walking appears to be an acceptable, accessible exercise activity, especially among population subgroups with a low prevalence of leisure-time physical activity.

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The evolution of domestic pets and companion animals

Young, M. S., 1985,

Veterinary Clinics of North America - Small Animal Practice, v. 15, p. 297-309.

The process of domestication, which began 12,000 years ago, before the beginnings of agriculture, continues as humans and domestic animals coexist, interact, and profoundly influence the shape of each other's social spaces. Although its beginnings were simple, this process has become increasingly complex. Attention to relationships between humans and companion animals commonly focuses on dogs and cats; however, companion animals and pets take various shapes in numerous places with and have diverse, overlapping functions and specializations.

The experience of pet ownership as a meaningful occupation

This qualitative study examined the experience of pet ownership in the everyday lives of seven men with human immuno-deficiency virus or acquired immune deficiency syndrome. Interviews and field observations were analyzed using a grounded theory approach. The findings demonstrate that the experience of pet ownership is both typical of any pet owner and yet profoundly impacted by the illness of the owners. The results of this preliminary study indicate pet ownership can be a highly valued occupation for some, and thus has implications for occupational therapy intervention.

The facilitation of social interactions by domestic dogs

Deborah L Wells School of Psychology, Queen's University Belfast, Northern Ireland, UK

Research suggests that dogs can facilitate social interactions, which, in turn, may promote psychological health. This study explored the ability of dogs to facilitate social responses relative to other accompaniments and investigated whether the social catalysis effect is generic or influenced by the appearance of the dog. The behavior of 1800 pedestrians approaching a female experimenter was recorded as a function of the presence of three dogs (Labrador Retriever pup, Labrador adult, Rottweiler adult) and two neutral stimuli (teddy bear, potted plant). The behavior of pedestrians approaching the woman whenever she was alone (control) was also explored. Information was collected on the passers-by' gender, number of people in the party, type of acknowledgement elicited and length of conversations. More people ignored the experimenter whenever she was alone or with the teddy or plant, than whenever she was walking a dog. The Rottweiler resulted in more nonresponses than the puppy or adult Labrador, who in turn elicited more smiles and verbal responses. Females, and those alone, elicited more smiles and conversations than males, or those in pairs. It is concluded that dogs can facilitate social interactions between adults better than other accompaniments; however, the social catalysis effect is not generic, but dog specific.

Anthrozoos 17 (4) 2004

The factor structure of horse personality

P. H. Morris, A. Gale and S. Howe

Two hundred and ten owners or carers completed a specially modified version of the NEO-Personality Inventory-Five Factor Inventory (NEO-PIFFI, a well established personality questionnaire for humans) for their chosen horse. Three and five factor Principal Components Analysis (PCA) solutions are reported and compared with published studies on the factor structure of human personality. Participants were asked how confident they were in using each of the different Big Five scales in describing their horse: neuroticism and extraversion were rated with most confidence and openness to experience with least confidence. Taking both our own factors above and the NEO scales, some comparisons between the working roles of the horse were significant; for example, horses used for teaching were less extraverted than show jumpers. Sophistication of working role also related to personality; for example, international horses were less extraverted than novices. We conclude that the study provides some evidence for cross-species similarity in the structure of personality.

Anthrozoos 15 (4) 2002

The frequency of Toxocara infection in mental retarded children.

M. Kaplan, Kalkan, A., Hosoglu, S., Kuk, S., Ozden, M., Demirdag, K., & Ozdarendeli, A., 2004

Human toxocariasis is commonly seen in places where stray and *Toxocara canis*-infected dog population is high. There is a strong correlation between frequency of *Toxocara* infection, life style, and infection risk. Institutionalization of mental retarded patients increases to risk of toxocariasis. In this study, we aimed at investigating the frequency of *Toxocara* infection among children with mental retardation not requiring institutionalization. The study included 96 cases, who had educatable mental retardation and 85 healthy subjects who comprised the control group. Anti-*Toxocara* IgG or IgM antibodies were investigated in all serum samples, using ELISA method. The frequency of *Toxocara* infection was found significantly higher in mental retarded cases than in those in the control group (18.8% and 7.1% respectively) ($p < 0.05$). There was no significant difference between mental retarded children and the control group in terms of mean age, age groups, gender, owning dogs and cats and duration of their ownership, socio-economic level and behavioural factors, and personal hygiene ($p > 0.05$). We did not find any significant difference between *Toxocara* seropositive and seronegative mental retarded children in terms of demographic factors and epidemiological factors that could increase the risk of *Toxocara* infection ($p > 0.05$).

The present study is the first seroprevalence study carried out with a mental retarded group not requiring institutionalization. Determination of high frequency of *Toxocara* infection suggests that these subjects constitute a risk factor for *Toxocara* infection, which may be attributed to their behavioural patterns.

<http://memorias.ioc.fiocruz.br/992/4909.pdf>

The healing power of dogs: Cocoa's story

Cangelosi PR, Embrey CN.

College of Nursing and Health Science, George Mason University, Fairfax, VA, USA.
pcangelo@gmu.edu J Psychosoc Nurs Ment Health Serv. 2006 Jan;44(1):17-20.

Animals bring a sense of "at homeness" and even normalcy to people who are hospitalized or live in health care facilities. Illnesses, separation from family, fear, loneliness, and even depression may be lessened for those who receive a therapy dog visit by providing a welcome change in routine and something to look forward to. Individuals are often more active and responsive during and after a visit. Just stroking and petting a dog requires the use of hands and arms, as well as the motions of stretching and turning. Dogs are also unconcerned with age or physical ability; they accept people as they are. This alone causes many to reach out and interact with dogs. Animals provide a focus for conversation and a common interest. As Cocoa's human partner can attest, a pet also makes it easier for strangers to talk. Cocoa is known by so many people at the facilities she visits that residents' family members often stop to talk with "Cocoa's mom" when they meet her in the community, asking questions about how Cocoa is doing. When Cocoa is no longer able to perform her services, many in her community will mourn. Cocoa's story, as well as the limited research literature, supports the positive physical and psychological effects of animals, but continued research on the effect of therapy animals on health outcomes is needed. As advocates for clients, nurses are in key positions to facilitate the inclusion of animals in clients' care. Although not for everyone, including those who react negatively to animals or who are allergic, pet therapy offers important possibilities for providing holistic care that extends not only to clients, but also to family members and staff, and to the pets themselves.

The Health Benefits of Pets

The Health Benefits of Pets,

Health, N. I. o., 1987, Place

http://odp.od.nih.gov/consensus/ta/003/003_statement.htm#1_The_Rol

The human animal team approach for children with emotional disorders. Two case studies.

L. G. Kogan, B. P et al, 1999

Journal/Child and Youth Care Forum, 28,

Abstract The therapeutic potential of animal-assisted therapy (AAT) was assessed in two case studies of emotionally disturbed children. Two boys (11 and 12 years of age) participated in weekly AAT sessions for 12 weeks. Progress of individual goals was assessed through The ADD-H Comprehensive Teacher Rating Scale (ACTeRS), direct observation and videotapes of the therapy sessions, Individual Education Plans (IEP), and post-intervention interviews with the participants, their families, and educational professionals. Data analysis revealed progress in most identified goals.

The Human Canine Bond: Closer than Family Ties?

Sanda B Barker, Randolph T Barker

Using the Family Life Space Diagram, th authors found the human-canine relationship to be as close as any human-family member relationship.

In recent years, considerable attention has been given to animal-facilitated therapy and the human-pet bond.Ÿ Studies have documented the beneficial effects of pets on the emotional and physical health of th elderly (Corson & Corson - 1981; Finlayson, 1982; Ryder, 1985; Tolliver, 1984; Wilson 1986) of the handicapped (Ulery, 1985; Dismuke, 1984; Hampton, 1983; Hattop, 1984; Ross et al, Strand, 1983;) and of prison populations (Hines, 1983; Hines & Bustad; 1986).Ÿ Research has shown interaction with pets to be positively associated with the survival rate of coronary care patients (Friedman, Katcher, Lynch & Thomas, 1980) to result in reduced blood pressure (Bath, Bergstrom, Langston, & Thomas, 1984; Friedman, et. al., 1980, Katcher, 1981) and reduced anxiety levels (Katcher, Segal & Beck 1984)

The Human-Animal Bond: Increasing Depth

The 1995 American Animal Hospital Association (AAHA) National Survey of People and Pet Relationships found a tightening of the human-animal bond and an increase in the number of people (62.5% of the sample) who regard their pets as children (DVM January 1996). The survey was sent to a random sample of 500 AAHA members who were asked to present it to 10 clients each. AAHA received 1,019 responses between July and October 1995. This method does not produce a random sampling of pet owners and, thus, the results cannot be extrapolated either to the general pet-owning public or to the subsample of pet owners who take their animals to a veterinarian at least once a year.

The signs of a deepening human-animal bond include the following:

57% of clients would want a pet as their only companion if deserted on an island;

79% gave their pets holiday or birthday presents:

33% talk to their pets through the phone or the answering machine;

55% of pet owners consider themselves to be Mom or Dad to their pets;

and

62% of pet owners often sign letters or cards from themselves and their pets.

Of the respondents, 79% owned dogs, 55% owned cats, 13% owned birds, 5% owned reptiles, 5% owned pocket pets and 12% owned other pets (including fish and horses). The number of pets that are neither dogs nor cats has been increasing every year. Seventy eight percent of respondents reported that their pets were sterilized, 73% reported that their pets had not had chronic health problems, and 74% said that their pets had never been lost. When pets are left alone at home, 15% said they boarded an animal at a veterinary hospital, 11% boarded the animal at a kennel and 10% hired a pet sitter. Thirty eight percent of dog owners preferred to own a pure-breed, 17% a mixed breed and 46% had no preference. Only 9% of cat owners preferred to own a pure bred animal. Of the reasons for owning an animal, 80% selected companionship as the major reason for having a pet; 9% said they acquired the animal for their children and 5% 'cited security and protection. Only 1% acquired the animal to breed.

While people may value their pets highly once they have them, they do not spend much to obtain one: nearly two thirds of respondents spent \$100 or less in order to acquire their pets.

The human-companion animal bond and the veterinarian

Bustad, L. K., L. M. Hines, and C. W. Leathers, 1981,

Vet Clin North Am Small Anim Pract, v. 11, p. 787-810.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=6977933

The human/animal bond as a correlate of family functioning

Cox, R. P., 1993,

Clinical Nursing Research, v. 2, p. 224-31.

This study investigated whether selected family characteristics are predictive of family functioning. The intent was to examine whether family cohesion and adaptability could be predicted from the characteristics of family education, income, marital status, and level of pet attachment. A survey research design was used to distribute questionnaires to families in therapy in six southeastern states. Findings indicated that 15% of the variance in family adaptability could be significantly ($p < .05$) accounted for by the combination of family education, income, marital status, and pet attachment. However, variance in family cohesion could not be significantly accounted for by this combination of variables. Family pet attachment was significantly ($p < .05$) correlated with both family adaptability and family cohesion. Clinical practice implications of these findings for nurses and other health care professionals are discussed, and recommendations for future studies are identified.

The impact of a resident dog on an institution for the elderly: effects on perceptions and social interactions.

Winkler, A., H. Fairnie, et al. (1989) *Gerontologist* 29(2): 216-23.

A longitudinal case study was made of a sub-unit of a nursing home to examine the perceptions and social interactions of patients and staff after introduction of a resident dog. A behavioral mapping procedure was used to determine staff and patient interactions 6 weeks before and 6 weeks and 22 weeks after the dog's arrival. Interviews were also conducted with patients and staff. Six weeks after the dog's arrival, a significant increase in frequency of interactive behaviors was seen for both staff and patients. By 22 weeks, behaviors for patients had reverted to base-line levels, while remaining high for staff.

The impact of an abusive family context on childhood animal cruelty and adult violence

A. C. M. Duncan.

Journal/Aggression and Violent Behavior, 7, 2002.

This paper reviews the literature that addresses the impact of an abusive family context on childhood animal cruelty and adult violence. In the first section, literature is presented that outlines possible abusive family contextual factors associated with childhood animal cruelty and adult violence. In the second section, theories presented in the literature conjecturing about the impact of an abusive family context on childhood animal cruelty and adult violence are reviewed. Section 3 addresses the predictive validity of an abusive family context on adult violence. In the final section, assessment measures and interventions of childhood animal cruelty are discussed. Such discussion focuses on the acknowledgement of an abusive family context in the assessment and intervention of childhood animal cruelty. Overall, the literature suggests that an abusive family context may be a better predictor of adult violence than childhood animal cruelty.

The impact of companion animals in later life and considerations for practice

Boldt, M. A., and M. Dellmann-Jenkins.

Journal of Applied Gerontology, v. 11, p. 228-239. 1992.

Interaction with companion animals, or pets, is increasingly recognized as a contributor to well-being in later life. This article focuses on the actual impact of animal companionship on older adults' (institutionalized and community dwelling) physical, social, and psychological health. Considerations for practice are discussed, with particular emphasis on professionals' recognizing the effect of multiple life-course factors that may moderate the therapeutic value of companion animals. Such factors include older persons' health, financial status, housing situation, and current and previous attitudes and attachments to pets.

2<The impact of guide dogs on the identity of people with visual impairments>Clinton R. Sanders

Department of Sociology, University of Connecticut, Storrs, Connecticut, USA

This paper explores the effect of peoples' association with guide dogs on how they understand and

feel about themselves and how they are regarded by those with whom they interact. The concepts of personal, collective, and social identity are used to situate the discussion. Of central importance is the way working with a guide dog shapes public interaction and how owner' self definitions and social identities are extended by being intimately involved in the owner-dog team.

Anthrozoos 13 (3) 2000

The impact of paternity and early socialisation on the development of cats' behaviour to people and novel objects

McCune, S., 1995,

Applied Animal Behaviour Science, v. 45, p. 1-2.

37 kittens, the offspring of an 'unfriendly' or 'friendly' father, were handled between 2 and 12 weeks of age (socialised) or received no handling (unsocialised); the response to a familiar person, a stranger and a novel object were tested when the kittens were 1 year old. Offspring from the friendly father and socialised cats were quicker to approach, touch and rub a test person, were more vocal and spent a greater total time within 1 m of them than unsocialised cats and those with unfriendly fathers. Cats with a friendly father were quicker to approach, touch, explore and remain in close contact with the novel object than were cats from the unfriendly father. Socialisation had no effect on the response to a novel object. Socialised cats and friendly-fathered cats were friendlier to unfamiliar people and less distressed when approached and handled by them than unsocialised and unfriendly-fathered cats.

The impact of pet ownership on health and health service use: Results from a community sample of Australians aged 40 to 44 years

Ruth A. Parslow and Anthony F. Jorm Centre for Mental Health Research (CMHR), Australian National University, Australia

Research on the extent to which humans derive health and social benefits from being with pets has produced inconsistent findings. We examined whether middle-aged adults who owned or cared for pets differed in mental or physical health or in use of general practitioner services. We obtained socio-demographic data and measures of mental and physical health from a random sample of 2,530 adults aged 40 to 44 years living in the community. For 1844 of these participants, we also obtained records on the numbers of general practitioner visits they had made over a 12month period. Compared with those without pets, pet owners were more likely to be female, married or in a de facto relationship, and in the workforce. Measures of physical and mental health, including use of general practitioner services, were not significantly affected by pet ownership and caring. However, we found that those who owned or cared for a pet used pain relief medications more frequently. We conclude that neither pet ownership nor caring for pets confers any health benefit in this age group. Our findings call into question the generalizability of previous studies that have suggested that higher levels of pet ownership could result in reduced health care expenditure.

Anthrozoos 16 (1) 2003

The influence of a stuffed and live animal on communication in a female with Alzheimer's dementia

Curtright, A., and G. S. Turner, 2002,

Journal of Medical Speech-Language Pathology., v. 10, p. 61-71.

Alzheimer's disease is a debilitating illness that impairs communication. The use of animal-assisted therapy (AAT) within long-term care facilities has been the center of promising research over the last decade (Thomas, 1994; Welker, 1995). Animals, either stuffed or live, are hypothesized to positively influence the communication ability of individuals with dementia of the Alzheimer's type (DAT). In this study, a stuffed and then a live animal were introduced into the environment of an individual with DAT. Conversations elicited in the presence and absence of the animals were analyzed to determine change in communication output. Conversations were grouped into information units and further described as complete, incomplete, and noninformation units. Complete information units representing a complete thought were, therefore, deemed most meaningful. Based on the results of the present study, the presence of both types of animals within the communicative environment of the individual with DAT was associated with a slight increase in total and complete information units and no change in incomplete and noninformation units. These findings were similar for both animal types. Based on these results, the presence of both stuffed and live animals appeared to have minimal impact on the communication of one individual with DAT. Future directions for research are recommended.

The influence of current relationships upon pet animal acquisition

R. M. Harker, G.M. Collis et al.

Journal/Companion Animals and Us, Cambridge University Press, 2000.

Over the past 30 years there has been a tremendous growth in interest in the multidisciplinary field of human-companion animal interactions and relationships. This is not surprising considering that pets are kept in at least half of the households in Western societies. What then, is so special about the relationships people have with their pets? Are we very different from our ancestors in the ways we feel about animals? What does pet-keeping tell us about ourselves and our relationships with people? Can pets be good for our health? Do they help promote empathy for other humans? These questions and more are explored in this book. Companion Animals and Us brings together some of the newest research from a wide variety of disciplines including anthropology, history, psychology, sociology, human and veterinary medicine. This book will make fascinating reading for anyone interested in understanding more about the human-pet relationship.

<http://www.cambridge.org/aus/catalogue/catalogue.asp?isbn=0521631130>

The influence of environmental change on the behaviour of sheltered dogs

Wells, D. L., and P. G. Hepper, 2000,

Applied Animal Behaviour Science, v. 68, p. 151-162.

The majority of sheltered dogs are overlooked for purchase because they are considered undesirable by potential buyers. Many factors may determine a dog's appeal, although of interest here are the dog's behaviour and cage environment which can influence its desirability. People prefer dogs which are at the front rather than the back of the cage, quiet as opposed to barking, and alert rather than non-alert. Potential buyers also prefer dogs which are held in complex as opposed to barren environments. This study examined the behaviour of sheltered dogs in response to environmental change, to determine whether it influenced dog behaviour in ways that could be perceived as desirable to potential dog buyers, and/or had any effect upon the incidence of dogs purchased from the shelter. 120 dogs sheltered by the Ulster Society for the Prevention of Cruelty to Animals were studied over a 4-h period. The dogs' position in the cage, vocalization, and activity were investigated in response to increased human social stimulation, moving the dog's bed to the front of the cage, or suspending a toy from the front of the dog's cage. Social stimulation resulted in dogs spending more time at the front of the enclosure, more time standing, and slightly more time barking. Moving the bed to the front of the

cage encouraged dogs to this position, but did not influence activity or vocalization. Suspending a toy at the front of the pen exerted no effect on dog behaviour, although its presence in the pen may help to promote more positive perceptions of dog desirability. The incidence of dogs purchased from the rescue shelter increased whenever the dogs' cages were fitted with a bed at the front of the pen, whenever the dogs were subjected to increased regular human contact, and whenever a toy was placed at the front of the enclosure. Findings highlight the important role that cage environment can play in shaping the behaviour of sheltered dogs and influencing whether or not an animal will be purchased.

The influence of hunger on object play by adult domestic cats

Hall, S. L., and J. W. S. Bradshaw, 1998,

Applied Animal Behaviour Science, v. 58, p. 143-150.

The hypothesis that object play by adult domestic cats may be indistinguishable from predatory behaviour at the motivational level was investigated by examining the effect of hunger on play. Cats were presented with either a large toy or a small toy, either 0 h and 16 h after their last meal. The small toy elicited more play overall. After the longer interval, play increased in intensity and avoidance of both toy sizes declined. The character of the play also changed as a function of the interaction between toy size and increased hunger. Cats performed more close contact play with the small toy after the 16 h interval than when they had just eaten. However, with the large toy they showed an increase in limited contact, exploratory behaviour patterns after the 16 h interval, compared with largely avoiding it immediately after a meal. These results are similar to those from a published study on the effect of hunger on the actual predatory behaviour of cats with hunting experience, in which the probability of a kill (possibly equivalent to contact play in this study) could be predicted according to the prey size and the hunger level of the cat. This suggests that object play and predation are similarly affected by hunger and the size of the toy/prey, and may therefore share a common motivation.

The influence of pet ownership on non verbal communication and social competence in children

Guttman, G., M. Predovic, and M. Zemanek, 1983,

The Human- Pet Relationship: International symposium on the occasion of the 80th birthday of Nobel Prize -winner Professor Konrad Lorenz, Institute for Interdisciplinary Research on the Human Pet Relationship.

The Influence of Pets on the Mental and Physical Health of Human

Fu Na & Zheng Richang

Chinese Mental Health Journal, Vol 17, Number 8, August 2003

On the whole history of human being, pets have been always bringing benefits to the human being. They are not only our assistants, but also companions. In fact, such companion relation between and pets has lasted for several thousand years, and is still prevailing in the different cultural communities worldwide. The habit of raising pets presents not only in the western world, also is popular in various different cultures. In China the population of raising pets is increasing continuously in recent years, and dogs and cats have become the most popular pets, are often called by people amiably as "companion animals". In recent years, people were showing increasing interest on the relation between pets and the mental and physical health of human. Researches indicated that raising of pets is helpful to draw the relation between people closer, enhance the sense of pride, improve the capability of independent living, and even reduce blood pressure and the cholesterol in blood (3). Such researches were mostly started in the recent 30 years.

The influence of urbanization on the behaviour of dogs in the Czech Republic Baranyiova

E.; Holub, A.; Tyrlik, M.; Janackova, B.; Ernstova, M.

Acta Veterinaria Brno. University of Veterinary and Pharmaceutical Sciences, Brno Czech Republic 2005. 74: 3, 401-409.

The aim of this study was to evaluate the influence of urbanization in the Czech Republic on the coexistence of domesticated dogs and their owners. The data from a questionnaire (distributed to dog owners) were divided into rural (R, n=164) and urban (U, n=132). The former group comprised of dogs living in family houses with yards/gardens, whereas the latter comprised of dogs kept in urban apartments without yards or gardens. The data were evaluated by chi-square test. The differences in living conditions of R and U dogs were derivative of the different structures of the respective households. In the R group, 3.7% of dogs lived in one-person households, 42.9% in two-person, and 53.4% in households with more than two persons. In U households, more dogs lived in one-person households (6.9%), 58.8% in two-member, and fewer (34.4%) lived in households with more members. In R households, it was observed that more frequently other dogs were also living in the household (R=60.1%, U=32.1%; $\chi^2=22.929$, 1; $p<0.001$), and a linear association was found with the larger number of children and cats and other animals in the house. Although the physical and social pressures upon the U group of dogs, based on permanent dwelling in small niches of urban apartments, were very strong (Czech apartments were comfortable, but smaller than in many other European countries), significant changes were observed in 23 (27.1%) of the 86 behavioural traits analysed. Among them, however, only 6 (14.6%) from among 41 traits concerned behaviours of dogs (using the furniture, sleeping in beds of family members, mounting people, growling at family members, perceiving the moods of owners, showing fear and destroying garden less frequently). The remaining 44 traits under study concerned the behaviour of owners/family members. In this category, 17 significant differences were observed. Their proportion was more than 2.5 times greater (i.e. 38.6%) than that of differences in the behaviour of dogs.

It was concluded that although the characteristics of coexistence of people and their dogs under study had a different biological significance, it was obvious that in the urbanized environment of the Czech society, as this coexistence became more intense, the contacts between people and their dogs became more intimate. Furthermore, household members changed their behaviour (i.e., showed more changes in their conduct) more than their dogs. Although there was a rapid urbanization of human society, dogs were still viewed as desirable and suitable companions for humans. This was observed, because dogs possessed an outstanding social cognition vis-a-vis people and even in an urban environment they were able to adapt and thrive under new conditions of the interspecies coexistence, i.e., contributing to the human-animal bond.

The Investigation of the Influence of Pets (Cat & Dog) upon the development of children's pro-social behaviour

Chen Xuefeng , Xie Tianren

China Children's Centre Psychological Development and Education Nov 2003, Vol 19 Suppl.

This research used the method of questionnaires to investigate the situation of keeping pets in one hundred families with 4-12 year old children. These one hundred families included 50 pet-keeping families and 50 non-pet-keeping families. The research found that children's sense of responsibility for pets would develop in the course of their growth. The major reason of keeping pets is to increase the happiness of families. The pro-social behaviour of those pet-keeping children was better than that of

non-pet-keeping children.

The life, history and magic of the cat

Mery, F. (1978)

New York, Grosset & Dunlap.

The cat is one of the most familiar and appealing yet enigmatic and mysterious of all animals. Loved, even, venerated, but very often feared, that cat has an engrossing history. This volume, one of the most comprehensive studies ever written, examines the role of the cat in civilization, culture and the arts from the origins of mankind to the present day. The derivation of the domestic cat is investigated first through wild cats, and the relation of these feral creatures to the tame cats of the ancient world. All the aspects of felines behaviour are discussed in this perspective analysis. The scientific guise of the cat - anatomy, physiology- are thoroughly covered as is the cat in the annals of medicine. te various breeds of cats - the exotic Siamese, Khmer and Burmese, the many and multi-coloured varieties of the regal Persian, the short-haired blues, the tailless Manx, the affectionate Abyssinian, the rair hairless and Rex-coated cats- are all here with detailed descriptions of their separate characteristics and qualities. As a figure of magic, the cat has been prominent throughout history; in Egypt it was ennobled as the cat-headed goddess Bastet; in the East, the souls of dead cats were enshrined by the Japanese; in Europe the cat became the emblem of black magic, the familiar witches. The cat has always been an inspiration.

The new European zoonosis legislation - relevant aspects

Cavitte, J. C.

Acta Veterinaria Scandinavica, Supplementum. 2004. Supplementum 100, 37-39.

As far as zoonoses legislation is concerned, Directive 92/117/EEC concerning measures for protection against specified zoonoses and specific zoonotic agents in animals and products of animal origin to prevent outbreaks of foodborne infections and intoxications has been replaced by Directive 2003/99/EC on the monitoring of zoonoses and Regulation (EC) No 2160/2003 on the control of Salmonella and other specified foodborne zoonotic agents. The Directive aims to improve and better coordinate data collection and reporting in order to better assess risks from zoonoses. The Regulation will strengthen control of a major foodborne pathogen, Salmonella at the primary production level and will enable taking further actions on other foodborne zoonoses and/or at other stages of the food chain. In cooperation with the Community Reference Laboratory (CRL) for the Epidemiology of Zoonoses located in Berlin, the Commission services have issued, since 1994, an Animal Report on Trends and Sources of Zoonotic Agents in animals, feeding stuff, food and man in the European Union (and more recently, Norway). The reports for 2002 and 2001 are placed on the European Commission website. The quality and quantity of information has improved over the years and the report draws increasing interest by different parties, including the Community scientific communities. However, data collection usually suffers from non-harmonized surveillance systems and different quality of contributions, rendering it difficult at present to draw precise conclusions on the trends of zoonotic agents within the EU.

The People, Pets and Planning Symposium

In the fast pace of modern life, humans are experiencing health challenges at an unprecedented rate. Disease as a consequence of lifestyle is now common and is predicted to steadily rise. Obesity, mental illness and physical inactivity are all creating an increasing burden on our economy. Turning this trend around will require new thinking.

Research in public health has shown that restoring our connections with each other and with our environment will have benefits for individual health and for the community as a whole.

We now know that some of the simplest pleasures in our lives are among the most important to our health and wellbeing. Walking in our neighbourhood, interacting with people and animals, enjoying the natural environment have all been shown to play a significant role in supporting physical and mental health.

The simple act of regularly taking a dog for a walk to a local park brings with it opportunities for reconnecting, strengthening communities and increasing trust. The physical aspects help to sustain wellbeing through managing body weight and cardiovascular health.

Pets have been shown to provide considerable health benefits through alleviation of stress, constant companionship, and encouraging play in children. Katcher and Beck wrote in 1996 that pets offer protection against stress and change by their constant nature and the positive feelings and actions they evoke in people. Our access to these simple pursuits can be eroded or enhanced, depending on the regulatory, physical or social environment we find ourselves in.

Finding ways to improve wellbeing through increasing levels of social capital and physical health is a long term goal for public health promotion. The stakes are high: lower levels of social trust have been associated with higher rates of most causes of death, including heart attacks, cancer, stroke, unintentional injury and infant mortality (Kawachi and Berkman 2001).

It may be possible that one way to improve wellbeing has been overlooked. Pets factor highly in the Australian way of life - two thirds of Australian households have some kind of pet - one of the highest rates of pet ownership in the world. The links between pets and individual health has been well established. This Symposium will present new research about the links between pets and community wellbeing.

The People, Pets and Planning Symposium aims to explore how we might restore community connections, reduce physical inactivity and improve wellbeing through simple means: planning for people, pets, and public open space.

The pet as an anxiolytic intervention

Wilson, C. C.

Journal of Nervous & Mental Disease, v. 179, p. 482-9, 1991.

The effect of a pet on psychological consequences of stress (i.e., state and trait anxiety levels) of college students was examined under three test conditions (i.e., reading aloud, reading quietly, and interacting with a friendly but unknown dog). A repeated-measures analysis of variance with three covariates was used to examine the effect of the treatment on each dependent variable (state and trait anxiety). Reading aloud differed from baseline measure under all treatment conditions (p less than .001). Reading quietly and interacting with the dog were slightly below baseline for variables, with more effect seen by reading quietly than by interacting with the dog. Examination of interactions among variables showed no significant differences. Effects upon state anxiety were significant, while trait anxiety levels remained fairly constant throughout the treatments. Baseline differences in trait anxiety scores indicate a potentially greater benefit for pet owners than nonowners. Selected social network and relationship data related to the role of the pet during anxiety-producing times were also analyzed. While interaction with the pet produced a decrease in anxiety level, pet owners did not report the use of their own pet as a social support (i.e., as confidant) significantly more than did previous owners. Results indicated that interacting with a pet for some individuals does affect both physiological and psychological responses by lowering response levels. However, a parallel effect was also seen by reading quietly. Given the effect of pet interaction upon selected social support indicators of health in well college students, these data suggest the importance of examining this treatment with an "at-risk" group in which it is possible to control for ownership characteristics.

The pet attitude inventory

Wilson, C. C., 1987,

Anthrozoos, v. 1, p. 76-84.

The role of pets in the lives of people has received much attention, however these studies have suffered through the lack of a measurement tool that could be used to evaluate pet ownership characteristics (demographics, attitudes towards ownership, attachment levels) consistently in any setting. Five possible instruments are described: (1) Bustad's Pets and Personal History Questionnaire; (2) the Ory/Goldberg Pet Inventory Assessment; (3) Lago et al., Companion Animal Project Survey; (4) Templer's Pet Attitude Scale; and (5) the Wilson/New/Netting Pet Attitude Inventory (PAI). Of these, only the Bustad and Templer instruments have been published. The PAI questionnaires are set out (pp.79-84).

The pet connection: pets as a conduit for social capital?

Lisa Wood, Billie Giles-Corti, Max Bulsara; School of Population Health, The University of Western Australia

Social Science and Medicine 61 (2005) 1159-1173

There is growing interest across a range of disciplines in the relationship between pets and health, with a range of therapeutic, physiological, psychological and psychosocial benefits now documented. While much of the literature has focused on the individual benefits of pet ownership, this study considered the potential health benefits that might accrue to the broader community, as encapsulated in the construct of social capital. A random survey of 339 residents from Perth, Western Australia were selected from three suburbs and interviewed by telephone. Pet ownership was found to be positively associated with some forms of social contact and interaction, and with perceptions of neighbourhood friendliness. After adjustment for demographic variables, pet owners scored higher on social capital and civic engagement scales. The results suggest that pet ownership provides potential opportunities for interactions between neighbours and that further research in this area is warranted. Social capital is another potential mechanism by which pets exert an influence on human health.

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Social Science and Medicine 61 (2005) 1159-1173

The pet dogs ability for learning from a human demonstrator in a detour task is independent from the breed and age.

Pongracz, P.; Miklosi, A.; Vida, V.; Csanyi, V.

Applied Animal Behaviour Science. Elsevier, Amsterdam, Netherlands: 2005. 90: 3/4, 309-323. 27

There are many indications and much practical knowledge about the different tasks which various breeds of dogs are selected for. Correspondingly these different breeds are known to possess different physical and mental abilities. We hypothesized that commonly kept breeds will show differences in their problem solving ability in a detour task around a V-shaped fence, and also, that breed differences will affect their learning ability from a human demonstrator, who demonstrates a detour around the fence. Subjects were recruited in Hungarian pet dog schools. We compared the results of the 10 most common breeds in our sample when they were tested in the detour task without human demonstration. There was no significant difference between the latencies of detour, however, there was a trend that German Shepherd dogs were the quickest and Giant Schnauzers were the slowest in this test. For testing the social learning ability of dogs we formed three breed groups ("utility", "shepherd" and "hunting"). There were no significant differences between these, all the breed groups learned equally well from the human demonstrator. However, we found that dogs belonging to the "shepherd" group looked back more frequently to their owner than the dogs in the "hunting" group. Further, we have found that the age of pet dogs did not affect their social learning ability in the detour task. Our results showed that the pet status of a dog has probably a stronger effect on its cognitive performance and human related behaviour than its age or breed. These results emphasize that socialization and common activities with the dog might overcome the possible breed differences, if we give the dogs common problem solving, or social learning tasks.

The Philadelphia Geriatric Center Morale Scale: a revision

Lawton, M. P.

Journal of Gerontology, v. 30, p. 85-9. 1975.

The 22-item Philadelphia Geriatric Center (PGC) Morale Scale was subjected to a series of principal component analyses utilizing different item pools and rotating differing numbers of factors. Subjects were 1086 tenants of federally-assisted housing for the elderly and older people living in the community. Results were compared with analyses of the PGC Scale done by Morris and Sherwood. Consideration of factors defined by the analyses suggested three consistently reproduced factors: Agitation, Attitude Toward Own Aging, and Lonely Dissatisfaction, utilizing 17 of the original items. These results were compared with other multi-dimensional measures of morale: the Bradburn Affect Balance Scale, and morale scales reported by Pierce and Clark, and Schooler. In addition to the dimensions derived from the current study related domains of self-rated health, social accessibility, generalized attitude toward aging, and positive affect were suggested as worthy of further exploration as dimensions of morale.

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The pleasures and problems of hearing dog ownership

Hart, L. A., R. L. Zasloff, and A. M. Benfatto, 1995,

Psychological Reports, v. 77, p. 969-70.

Emotional aspects of owning hearing dogs were explored in 38 hearing-dog owners and a control group of 23 prospective owners. Both groups listed companionship and hearing assistance as pleasant reasons for owning such dogs. Having a dog and personal independence were reasons mentioned only by prospective owners. Both groups mentioned travel complications as unpleasant problems. Owners referred to dogs' behavior problems significantly more often than did prospective owners who appeared to have unrealistic expectations that dog ownership would be problem-free.

The positive influence of animals: animal-assisted therapy in acute care.

Barba, B. E. (1995)

Clinical Nurse Specialist 9(4): 199-202.

Animal-assisted therapy is a therapeutic nursing intervention that brings animals together with persons with physical and/or emotional needs as a way of meeting those needs. It is based on the growing knowledge of benefits that animals provide to the sick, elderly, and isolated. A model for a responsible and outcome-oriented program in animal-assisted therapy in acute care settings is described in this article. Special areas include: types of therapy, specific treatment goals, patient and animal suitability, environmental considerations, and evaluation methods.

The Positive Influence of Dogs on Children in Divorce Crises from the Mother's Perspective

Tanja Hoff, Dipl-Psych., Reinhold Bergler, Prof. Dr. (Institute for Psychology at the University of Bonn, Germany). Presented at the 9th International Conference on Human-Animal Interactions, People and Animals, A Global Perspective for the 21st Century, Rio de Janeiro, Brazil, September 13-15, 2001.

The study examines the influence of a dog on 6-11 year-old children in phases of divorce from the mother's perspective and the quality of the child-dog relationship from the child's. 75 children with dogs were interviewed as well as their mothers, also 75 mothers of children without dogs. Demographically there were no significant differences between the two groups of mothers. Using standardized questionnaires mothers and children were interviewed on one occasion individually in confidential interview one year following the divorce. The statistic evaluation embraced mean value comparisons (t -test), factor and cluster analysis.

Results:

How deeply the mothers experienced the divorce from their perspective (accounted percent of total

variance): Factor I (35.9%) Loss of joie de vivre and self-confidence; resignation; Factor II (12.5%) helplessness, powerlessness; Factor III (8%) fears, loneliness, worrying about the child; Factor IV (6.8%) relief and independence. These factors define how the mothers subjectively felt and also indicated the child's critical situation during the divorce phase.

Mothers felt this phase was developmental crisis for their children involving a variety of symptoms with manifold risks: Factor I (31.7%) aggressive behavior, trying to draw attention to themselves; Factor II (11.1%) psychosomatic problems; Factor III (7.0%) fears of a broken home, nightmares; Factor IV (5.5%) stronger ties to mother; Factor V (5.4%) attempts to reserve parent's separation; Factor VI (5.0%) denial. Compared with the control group, if there was a dog in the home, mothers reported significantly less aggressive behavior towards self and others ($p \leq .1$) vandalism ($p \leq .06$), highly affective irritability ($p \leq .06$), and wanting to be the center of attention, clownish behavior ($p \leq .02$) in the children.

The potential support a dog gives the child as experienced by mothers with a dog or expected by mothers without a dog show the manifold psychological effects the dog has: Factor I (37.4%) loving distraction and understanding friend; Factor II (12.2%) listener and partner to discuss problems with; Factor III (10.4%) comforter, Factor IV (9.0%) buffer for aggression

Children said the quality of the child-dog relationship in the divorce phase is marked by the psychological significance of a dog being

a living companion indispensable in the crisis (95%);

a companion for unquestioning, loving attention (88%);

a companion to whom you can tell your problems, anger and rage (85%);

an important help when worried as the dog distracts joyfully and playfully (84%);

a retreat free from conflict when parents quarrel (77%);

a considerable help when overcoming loneliness in a broken home (77%).

The present study thus proves the positive preventive effect a dog has for children in a time full of crises when parents divorce from both the mother's perspective and the child's.

The Power of Pets: Health Benefits of Pet Ownership.

Australian Companion Animal Council, p. 6. 2000.

Research in the last few decades has indicated that an association with companion animals can have far reaching benefits on the health of their owners. Apart from the psychological benefits of companionship, research is making us increasingly aware of the physiological benefits attributable to pets. Anecdotal evidence that pets are good for us is now supported by scientific research.

The power of play

Leslie Irvine

This paper explores how peoples' play with companion dogs and cats can challenge the human-animal divide. Data from observation and interviews demonstrate how play honors animals'

subjectivity and communication skills, making this everyday activity an act of individualized resistance to human disregard for non-human life. While the notion of human supremacy prevails, this paper examines how interconnection with animals becomes possible - and political - through play

Anthrozoos 14 (3) 2001

The PPET study: people and pets exercising together.

Kushner, R. F.; Blatner, D. J.; Jewell, D. E.; Rudloff, K.

Obesity Research. North American Association for the Study of Obesity (NAASO), 2006. 14: 10, 1762-1770.

Objective: Obesity is a significant public health problem that is affecting people and their pets. The human-companion animal bond and the role of pets in providing social support provides a rationale framework for studying the effectiveness of a combined people and pets (PP) exercising together (PPET) weight loss program. Research Methods and Procedures: Thirty-six pairs of overweight or obese people with an obese pet (PP) and 56 overweight or obese people only (PO) participated in a 1-year prospective controlled weight loss study. In a group format, people received dietary and physical activity counseling, and dogs were fed a calorie-controlled prescription diet. Physical activity was recorded using the physical activity recall questionnaire. Results: Completion rates at 1 year were 61% for the PP group and 58% for the PO group. Mean weight losses at 12 months using last observation carried forward were 4.7% (PP) and 5.2% (PO). Mean weight loss among the dogs was 15%. Time spent in physical activity increased in both groups to 3.9 (PP) and 3.5 (PO) h/wk. Two-thirds of total physical activity in the PP group was spent with the dogs. Discussion: The PPET study is the first program to demonstrate the effectiveness of a combined PP weight loss program. This fresh approach to the dual obesity epidemic builds on the human-companion animal bond. Consideration of social support for weight loss of family members, friends, and coworkers should be extended to include pets.

URL <http://www.obesityresearch.org/cgi/content/abstract/14/10/1762>

The preadolescent/pet bond and psychosocial development

J. H. Davis and A. M. Juhasz, 1985

Journal/Pets and the Family, Haworth

Human/animal bond research has revealed that a pet's role in a human being's life are influenced by individual perception of the pet's attributes. By extrapolating from this conclusion, the companion animal's role in the preadolescent's psychological development is delineated. A pet is classified as a developmental resource during preadolescence since it is perceived as a responsibility and a friend. Perception of a pet is influenced by the demands of development and thus should change over time. A static relationship indicates cause for concern.

The proposed benefits of incorporating non-human animals into preventative efforts for Conduct Disorder

Gullone, E., 2003,

Anthrozoos, v. 16, p. 160-174.

Conduct disorder (CD) is among the most intractable mental health problems and has been found to be increasingly prevalent throughout childhood, and into adolescence. Although many of the

behaviors that comprise CD have been researched, there has been limited focus on preventative interventions for childhood conduct problems. This article reviews risk factors for the development of CD, which include the characteristics of early-starting conduct-disordered children, their parents and families. I then discuss directions for future preventative efforts with particular focus on the promotion of concern for others, and the development of positive interpersonal relationships. To this end, I provide a detailed rationale for the proposal that animal-assisted preventative efforts are an optimal vehicle for promoting positive functioning, and thereby interrupting the development of CD.

The Relation between Socio-Economic Status Concerns and Angry Peer Conflict Resolution Is Moderated by Pet Provisions of Support

The Relation between Socio-Economic Status Concerns and Angry Peer Conflict Resolution Is Moderated by Pet Provisions of Support

Bryant, Brenda K.; Donnellan, M. Brent

Anthrozoos: Volume 20, Number 3, September 2007

Conflict resolution is a critical skill required in peer relations, and anger retaliation is a problematic strategy for resolving conflict. Conflict resolution with peers in relation to socio-economic status (SES) concerns among boys was investigated. Of particular interest in this study was a test of the value of pet provision of feelings of importance and pride in relation to children's use of an aggressive style of conflict resolution with peers. One hundred and seven boys, in grades 3-7 (ages 8-13 years) participated in this study. Boys' self-reports of the extent to which their favorite pet made them feel important was of central interest. Three specific pet provisions of support were considered: a) a pet showing admiration and affection, b) a pet being an object of nurturance while providing companionship, and c) a pet providing an exclusive, intimate relationship by "listening" to a boy sharing of feelings. Results indicate that the pet provision of child self-enhancement provides a buffer to boys with SES concerns in relation to their use of anger retaliation with peers. Unlike pet provision of admiration with affection (i.e., child self-enhancement), pet provision of support as an "object" of child nurturance and enjoyable companionship was not related to anger retaliation among boys in general or among boys with SES concerns. This demonstration of differential effects of pet provisions of support attests to the importance of delineating what constitutes support and testing the function of different forms of support. Interpretation of findings include a discussion of theoretical perspectives proposed useful for understanding the role of pets in child development.

The Relationship Between Attachment to Companion Animals and Self-Concept: A Developmental Perspective

S. Lookabaugh Triebenbacher Ph.D., East Carolina University, Greenville, NC 27858, U.S.A.

(Paper presented at the 7th International Conference on Human-Animal Interactions, Animals, Health and Quality of Life, September 6-9, 1995, Geneva, Switzerland).

The relationship between attachment to companion animals and self-concept among children and adolescents ages 9-18 years was examined. Subjects included 436 students (204 females, 232 males) currently in 4th-12th grade within a public school system in a large metropolitan area. The sample included 365 Caucasians and 71 members of other racial groups, 388 pet owners and 48 non-pet owners. Attachment to companion animals was measured using the Companion Animal Bonding Scale (CABS) and attitudes towards pets in general was assessed using the Pet Attitude Scale (PAS). Self-concept was measured using the New York State Self-Esteem Scale (NYS) and The Personal Attribute Inventory (PAI) or The Personal Attribute Inventory for Children (PAIC). Data were collected using group administration of these 4 instruments in the classroom setting.

Reliability coefficients for the CABS, PAS, and NYS are: .78, .86, .82 respectively. Correlation coefficients revealed a significant positive relationship between the 2 measures of self-concept and 2 animal attitude/bonding measures ($p = .001$). Analysis of variance revealed that middle (grades 7-8) and high (grades 9-12) school students owning pets engaged in more activities and consequently greater attachment ($p = .008$) than elementary (grades 4-6) students.

No significant differences among the 3 groups were found on general attitudes toward pets or self-concept. Owners of dogs and cats at all grade levels conveyed more positive attitudes toward pets in general ($p = .04$) and attachment to pets ($p = .0001$) than students owning other types of pets as well as non-pet owning students.

These data suggest that pet ownership may not directly influence self-concept, but pet ownership does contribute significantly to positive attitudes toward and attachment to companion animals.

The Role of Companion Animals in Human Development

G.F. Melson. Ph.D., Professor. Department of Child Development & Family Studies, Purdue University.

(Paper presented at the 7th International Conference on Human-Animal Interactions, Animals, Health and Quality of Life, September 6-9, 1995, Geneva, Switzerland).

Summary

This paper considers the role of companion animals in children's development, with emphasis on how companion animals may affect quality of life for children. Because companion animals must be available to children in order to exert influence on their development, evidence for availability of companion animals is first reviewed. Then, a framework, derived from existing theories on human development, is applied to examine quality of life in children's development. Hypotheses about how companion animals might affect children's quality of life are advanced. Existing literature is examined as it bears on each of these hypotheses, and directions for future research are suggested. The major goals of this paper are: (a) to link research and theory related to human-companion animal relationships; (b) to apply broad, mainstream ideas about children's development to consideration of the role of companion animals; and (c) to suggest a programmatic, theory-based blueprint for future research.

Quality of life (OL), measured in adults by indicators of general well-being, subjective symptoms and feelings, and functional social status (Wilson, 1994), generally has not been applied to children's development. However, OL provides a useful umbrella construct that can be applied across the lifespan, including childhood. For children, QL may be defined as the perceived ability of the child to meet developmental challenges resulting in a sense of well-being. This definition, while consistent with the broader OL construct emphasizing subjective evaluation of well being, adds an emphasis on (a) quality of life as related to the developmental needs of children; and (b) developmental tasks associated with different developmental periods.

Erickson's life cycle theory and Bowlby's attachment theory are useful for describing developmental challenges, while ecological systems theory (Bronfenbrenner, 1986) suggests multiple levels of environmental influence and multidirectional pathways of influence, with children playing an active role in their own development.

The First Developmental Challenge: Secure Attachment or Basic Trust

The foundational developmental challenge of basic trust, the reassurance that one's needs will be met, leads the child to believe in the world as benign and hence, interesting. There is considerable evidence that basic trust stems from secure attachments to others, which particularly under stress, reassure the

child of her safety and provide a secure base. This suggests the first hypothesis: Companion animals may promote OL in children by forming secure attachment relations with the child and thereby contributing to the child's sense of basic trust. The methodologies developed by attachment theorists have not been utilized to examine the possible role of companion animals as a secure base for very young children, but studies of children age five and older (Rost & Hartmann, 1994; Melson & Schwarz, 1994; Bryant, 1985) suggest that many children turn to companion animals for reassurance when feeling stressed.

However, it is presently unclear which children are most likely to derive emotional support from companion animals and what qualities of animals or interaction with them are most supportive. An additional important question is the possible link between attachment to a companion animal and attachment to humans. Finally, is the quality of attachment to a companion animal predictive of later competency? In general, an important direction for HCAB research that can link it more closely to basic developmental questions is the examination of the attachment relationship to companion animals in the context of human attachments.

The Developmental Challenges of Autonomy and Initiative

Reassured about their own basic safety through secure attachments, children then feel able to face the challenge of mastery over the physical and social environment through the development of self-control and independence. This is achieved in part through exploration of the expanding world through play, new relationships and testing the capacities of maturing bodies and brains. This suggests the second hypothesis: Companion animals may promote quality of life in children by facilitative play, exploration and independence. Considerable evidence documents children's perceptions of companion animals as play partners (Melson, Peet & Sparks, 1991; Rost & Hartmann, 1994).

Needed research directions in this area include: (a) more detailed descriptions of the form, content and quality of children's play with companion animals, particularly its similarities and differences to play with human companions; (b) examination of animal play partners in the context of human interaction, for example, the role of companion animals as social lubricants to adult-child or child-child play; and (c) attention to sources of individual differences in involvement with a companion animal as play partner.

The Developmental Challenge of Industry

The elementary school or pre-adolescent years are described by Erikson as focused on the developmental challenge of learning skills, of being industrious in the sense of deriving pleasure from completing tasks. The child's success in this domain is mirrored in feelings of self-competence, in being good at learning tasks. Influences on meeting the challenge of industry stem, not only from success at previous developmental challenges, but also from a variety of other environmental influences. Research has been informative about the role of authoritative parenting (a combination of warmth, firmness and acceptance), peer acceptance, and moderately challenging problems to solve. However, the role of companion animals in fostering learning skills and self-confidence has been little explored, and existing research does not point to consistent patterns. Hence, the third hypothesis-Companion animals may promote quality of life in children by aiding in learning and in acquisition of self-competence-remains to be tested. Future research might address the following questions: (a) By what process may animals facilitate learning? The use of classroom animals is widespread, but outcome-based process research, examining how they are used and employing outcomes to measure learning and feelings of competence, is lacking. (b) Why is attachment to pets linked to perceived competence in some children but not others? What processes underlie such a link?

Erikson describes the adolescent challenge as achieving a sense of personal identity. The process of identity search, involving reassessment of one's childhood in the light of one's future, is well known, but the role of companion animals in the context of this developmental challenge has not been studied.

Thus, the last hypothesis: Companion animals may promote quality of life by facilitating the process of identity development. One possibility is as social support, an echo of their attachment role as reassuring presences in times of stress. Warm, accepting relationships with parents and friends have been shown to predict positive identity exploration in adolescents, but the supportive function of companion animals during this process is unclear. Because of multiple influences on identity development, it is likely that companion animals play a peripheral role. However, one should explore the characteristics of adolescents for whom relationships with companion animals are particularly significant.

In summary, a focus on stage-related developmental challenges of childhood combined with examination of environmental influences provides a framework for a research agenda on the role of companion animals for children's quality of life.

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The role of donkeys in the commodity supply of a central Malian town

Wilson, R. T., 1987,

Anthrozoos, v. 1, p. 45-49.

Daily and seasonal activity patterns of donkeys were collected over a 9 month period in Niono, a government administrative centre and the commercial headquarters of a large parastatal irrigation scheme. The numbers of transport animals entering the town were noted, as were the species (donkey, horse, camel, ox) and loads (fuelwood, banco, bricks, grain, straw, vegetables, others). A total of 13 556 movements of transport animals into the town was recorded during the periods of observation. Donkeys were involved in 97.5% of all movements and 86.8% were by donkeys pulling carts, transporting mainly building materials and fuelwood. Overall, there were major peaks of activity during a five-hour period in the morning and a four-hour period in the evening with a two-hour reduction in the early afternoon, but patterns differed among days. Donkeys transporting fuelwood showed one major peak of activity in the late evening irrespective of the day of the week. Seasonal differences in activity were related to the requirement for donkeys in agricultural operations and to the unsuitability of the rainy season for the manufacture of bricks and for building operations.

The role of gonadal hormones in the occurrence of objectionable behaviours in dogs and cats

Hart, B. L., and R. A. Eckstein, 1997,

Applied Animal Behaviour Science, v. 52, p. 331-344.

This paper reviews laboratory studies and surveys of pet owners whose pets were castrated or spayed. The role of the placebo effect in the latter source of information is unknown. The information indicates that: (1) it is the sexually dimorphic behavioural patterns that are reduced or eliminated in males by castration; (2) not all males undergo a change in behaviour following castration; (3) experience and age at time of castration does not predict which males will be altered by castration; and (4) there are apparent species-specific differences between dogs and cats with regard to percentage of males showing a behavioural change related to castration.

The role of pets in child development

L. Ormerod, 2002

Journal/Society for Companion Animal Studies Journal,

The Role of Pets in Child Development was the theme of the SCAS Conference held in London at the HQ of WSPA on 5th October. Delegates representing many disciplines including medicine, education, psychology, social work, ethology and veterinary medicine heard papers from the UK, Europe and South America.

http://www.scas.org.uk/html/journal/pets_in_child_dev.htm

The Role of Pets in the Support Networks of People Recovering from Breast Cancer

2002, Delta Society

For abstract, go to <http://www.deltasociety.org/AnimalsHealthAdultsRole.htm>

The role of police dogs as companions and working partners

Hart, L. A., R. L. Zasloff, S. Bryson, and S. L. Christensen.

Psychological Reports, v. 86, p. 190-202, 2000.

Written responses to a questionnaire by 255 officers who used canines in police work were assessed. Almost all officers frequently played with, talked to, petted, and brushed their dogs and believed the dogs benefitted their health and well-being. Officers whose dogs slept indoors, often in the same bedroom, generally said they loved their dogs and they described their dogs as calm rather than active, as indicated by a multiple correspondence analysis. These 96 officers more than the 154 officers whose dogs slept outdoors or in kennels also planned to remain in canine work. Although departments often assumed responsibility for purchasing the dogs, the more experienced officers usually were involved in the final selection of dogs (logistic regression: $p < .0001$). Compared with 94 officers not involved in selecting their dogs, 106 officers with a specific role in selecting their dogs planned to stay in canine work, as shown by a multiple correspondence analysis. They believed the dogs had saved their lives ($p < .01$). Over-all, officers reported spending 4.1 hr. on-duty and 2.9 hr. off-duty per week training their dogs, and also played with them for 6.5 hr. per week, assuring a regular pattern of exercise for the officers. Virtually all officers valued canine service and believed the dogs enhanced the department's effectiveness. This study showed that both close companionship with the dog and involvement in selecting the dog were associated both with satisfaction with the dog and with working as a canine officer.

The role of the goat in society: past, present and perspectives for the future

Boyazoglu, J.; Hatziminaoglou, I.; Morand-Fehr, P.;

Small Ruminant Research. 2005. 60: 1/2, 13-23.

The goat was the first animal domesticated to produce for the consumer. The geographic occurrence of this phenomenon, combined with the location of the cradle of the first known civilizations (Mesopotamia), contributed to the direct connection of the goat to all phases of life of the people who created and developed civilization in the area now known as the Middle East. The presence of the goat in all sectors of ancient societies has continued to the present, particularly in religion, economy, nutrition and tradition. Breeding goats was important during Greco-Roman times, Middle Ages and the Renaissance. Goat farming reached a turning point in the 18th century in Europe when distinct populations emerged through selected breeding from the basic European, Asian and African goat populations. In the 19th century, a change in the social structure and in production methods was observed. Specialisation in agricultural production replaced traditional farming, aimed at supplying growing urban populations. Other historical events affected the process. Large imports of wool from the southern hemisphere forced prices down, frustrating sheep breeders in Europe many of whom switched to goat farming. Early in the 20th century, the goat population of Europe was forcibly reduced (except Greece) due, inter alia, to stringent laws that discriminated against goats, as 'a threat to the environment', particularly in forested areas. Conditions prevailing today are fairly complex. Problems and prospects vary by region, which consequently have different cultural and economic implications. Both global and regional approaches to livestock farming are important from the economic aspect of developed and developing nations. Rapidly increasing goat populations in developing countries, point to the goat assisting in solving some of the needs created by the rising human populations. Goat farming in Europe also has a more positive outlook after nearly a century of a negative reputation. Dairy-goat farming is significant to the economies of the Mediterranean countries. The goat is clearly not synonymous with under-development and poverty. Improving access to scientific information through research and extension services must benefit the goat industries of developing regions where the demand is increasing due to growing human populations and their associated needs. Consumer's acceptance of high quality goat products coupled to longstanding cultural traditions sets a positive outlook for the goat sector in the developed countries. It remains important though that appropriate policies are implemented for each situation.

The role of therapy dogs in speed and accuracy to complete motor skills tasks for preschool children.

Gee, NR; Harris, SL; Johnson, KL;

Anthrozoos. 2007. 20: 4, 375-386.

The purpose of this study was to determine whether the presence of a therapy dog would affect the performance of a set of gross motor skills tasks for a mixed group of language-impaired and typical pre-school children. The 14 children in the group were between four and six years old (four female and ten male); the two dogs were Miniature Poodles. The design was a two-way mixed model factorial, where a series of 10 gross motor skills tasks (e.g., long jump, high jump - labeled Type of Task) performed by the children served as one variable, and the presence or absence of the therapy dog (labeled Dog Presence) served as the other variable. In the dog-present conditions, the dog either performed the task immediately prior to, or at the same time as, the child. Time to complete each task and the accuracy of task performance as determined by a rating scale were determined from a review of experiment videotapes. The main effect of Dog Presence was significant ($F(1,36)=7.471$, $p<0.05$, $R^2=0.17$). As predicted, the children completed the tasks faster when the dog was present ($M=10.88$ s,

SD=9.84) than when the dog was absent (M=13.86 s, SD=12.64), but this effect was not present in the ratings data. This indicates that the presence of a therapy dog served as an effective motivator for the children, who performed faster, but without compromising accuracy, in all tasks but one. The interaction between dog presence and type of task was also significant ($F(9,71)=3.67$, $p<0.05$, $R^2=0.32$) in the ratings data, indicating that the presence of the dog increased performance accuracy in some types of tasks, while decreasing it in others. Based on these results and the strong connection between motor skills and language development, the authors recommend a role for therapy dogs in speech and language development programs for pre-school children.

The role of veterinary epidemiology in the study of free-roaming dogs and cats

Slater, M. R., 2001,

Preventive Veterinary Medicine, v. 48, p. 273-86.

Free-roaming dogs or cats are domestic dogs and cats that are not confined to a yard or house. Free-roaming dogs and cats have long caused major public-health problems and animal-welfare concerns in many countries. Free-roaming dogs have been considered to be more of a problem than cats for several reasons, but the literature addressing dogs focuses primarily on their role in rabies spread and control. Free-roaming cats are becoming more of an issue in countries where free-roaming dog problems are coming under control. The change in perception of pets, beyond their value as a commodity, has also contributed to the increase in concern and attention focused on free-roaming dogs and cats. Epidemiologists have contributed much to these studies of these populations and have potential to contribute even more. The epidemiologic methods and approaches, the experience of epidemiologists in interdisciplinary teams and the importance of considering the separate sub-populations in study design and analysis all are critical in designing and evaluating interventions for free-roaming dogs and cats. In this paper, I will (1) describe a set of useful definitions regarding free-roaming dogs and cats, (2) summarize past and present topics of study in free-roaming dogs and cats, using selected examples, (3) describe the limitations of existing work and how epidemiologists might strengthen and improve this work, and (4) outline areas needing more attention by epidemiologists and why these are important.

The socializing role of hearing dogs

Hart, L. A., R. L. Zasloff, and A. M. Benfatto, 1996,

Applied Animal Behaviour Science, v. 47(1-2) Apr 1996, p. US, www.

38 hearing dog (HD) owners and a control group of 15 prospective owners completed questionnaires to investigate the social consequences of HD ownership. The HDs fulfilled the owners' primary expectation of alerting them to sounds. A sense of security, their second highest concern, was also addressed. Owners felt safer when they were alone with their HD than before obtaining one. Companionship was the 3rd-rated reason for acquiring the HD and owners reported being significantly less lonely after receiving a HD. Most owners and prospective owners described a role of the HD as changing interactions within the family. Owners also felt that the HDs changed their interactions with the hearing community and neighbors, whereas few prospective owners foresaw this effect of the HD. Apparently stemming from the disability being more obvious, owners also scored lower on a life stress score than prospective owners.

The Steinfurt method of therapy support dogs: animal supported therapy and training [German]

Huck, D. and G. Huck (2003).

The presence of dogs has a positive effect on many people. The dog may either make a person more communicative or exert a calming influence which improves concentration. The authors developed the Steinfurt method of using support dogs through systematic observation and in cooperation with patients, physiotherapists, speech therapists and teachers. To illustrate the effects of animal supported therapy, they offer a series of encouraging case studies. In Muenster both train therapy support teams (human and dog).

The story of Michael and Niko

Michael, a 10-year-old Scituate, Massachusetts, boy with speech and learning disabilities and the cat that adopted him were at the center of a heated debate that took place this spring among a management company, lawyers, legislators, a school psychologist, the Archdiocese of Boston, and a group of neighbors (Boston Globe, May 4, 1992, and July 4, 1992). Kent Village, the public housing development where Michael lives, has a no-pets policy, and the family was being threatened with eviction by the management company if the cat was not removed from the home. However, Michael's mother reports that since the cat has been in Michael's life, he has become calmer and has fewer of the temper tantrums that used to occur as a result of his frustration at not being understood. It is claimed that the cat has facilitated better social relations between Michael and his peers and has enabled Michael to communicate more easily because he is much calmer. A school psychologist wrote a letter in support of the family keeping the cat, saying that the loss of the cat would be "a significant loss to a little boy with multiple disabilities."

A group of Kent Village residents began a campaign to change the management company's "no pet" policy. On April 1 they even testified at the State House on a bill that would allow pets in all publicly funded housing in Massachusetts. The Massachusetts Society for the Prevention of Cruelty to Animals (MSPCA) has suggested it would like to work with projects like Kent Village to help them set up appropriate guidelines and restrictions. In the end, the pressure from the campaign was too great and the management company told the family that they may keep the cat.

The Supportive Role of Pets in the Childhood of Sexual Abuse Survivors

S.B. Barker. Ph.D., R.T. Barker, Ph.D., K.S. Dawson, M.S., and J.S. Knisely, Ph.D. Medical College of Virginia, Virginia Commonwealth University, Richmond, Virginia, USA.

(Paper presented at the 7th International Conference on Human-Animal Interactions, Animals, Health and Quality of Life, September 6-9, 1995, Geneva, Switzerland).

Although research documents a child's need for social and emotional support and suggests that pets may help meet that need, little has been done to investigate the supportive role of pets for high risk children. This study used the Family Life Space Diagram (FLSD), previously validated in human-animal bond research, to examine the supportive-abusive roles of pets and humans identified as having a major childhood impact on the survivor of childhood sexual abuse.

Subjects were 40 sexual abuse survivors engaged in therapy at 5 outpatient sites. Subjects included 12 males and 28 females, ages 20 to 50, 12 of whom were black, 27 white, and 1 of other racial background. Subjects completed FLSDs using symbols to represent the persons and pets in their childhood having a major impact (positive and negative). They also rated on a 7-point scale the abusive/supportiveness of each person and pet drawn. Distances from the survivor to the persons and pets drawn were then measured and compared.

Results of repeated measures analysis of variance show 1) distances on the FLSD reflect the level of abusiveness supportiveness ($p=.0001$) of relationships, with persons and pets placed closer to the

survivor being more supportive, and 2) pets are placed closer to the survivor ($p=.001$) and are ranked more supportive ($p=.0001$) than humans.

The therapeutic use of companion animals.

Likourezos, A., O. R. Burack, et al.

Clinical Geriatrics. 10(4): 31-3. (2002).

This month's case report discusses the beneficial effects of prevention and treatment programs that provide animals to older adults who reside alone. This intervention has been shown to reduce anxiety and fearfulness in the elderly, while providing a source of constant companionship. Evidence also exists that pets not only provide gains in "quality of life," but can also improve measurable "quantity of life."

The use of a behaviour test for selection of dogs for service and breeding. II. Heritability for tested parameters and effect...

The use of a behaviour test for selection of dogs for service and breeding. II. Heritability for tested parameters and effect of selection based on service dog characteristics

Wilsson, E., and P. E. Sundgren, 1997,

Applied Animal Behaviour Science, v. 54, p. 235-241.

1002 German shepherds and 467 Labrador retrievers, bred by the Swedish Dog Training Centre (SDTC) during 1983-91, and 308 German shepherds and 330 Labrador retrievers, from private breeders, were subjectively scored on behavioural traits. The score for each trait were pooled to give an index value for each dog. The heritability for this index value was 0.24. Heritability was also calculated for 4 factors (mental stability, willingness to please, friendliness and ardour) derived from a factor analysis of the test results. Heritability estimates for these 4 factors were 0.15-0.32. From 1986, all breeding animals at the SDTC were recruited from litters where the mean index value was above average. By 1992, the average index value for male German shepherds had increased from about 8 units to 9 units. German shepherds bred by the SDTC had higher index values than privately bred dogs. Ways in which to collect information about dog behaviour are discussed and it is suggested that a subjective evaluation of certain behaviour characteristics is superior to a factual description of reactions. [For Pt. I see pp.279-295 of volume 53 of the same journal]

2<The use of a behaviour test for the selection of dogs for service and breeding, I: Method of testing and evaluating ...>The use of a behaviour test for the selection of dogs for service and breeding, I: Method of testing and evaluating test results in the adult dog, demands on different kinds of service dogs, sex and breed differences:

Wilsson, E., and P. Sundgren, 1997,

Applied Animal Behaviour Science, v. 53, p. 279-295.

Results of 1310 German Shepherds and 797 Labrador Retrievers, 450-600 days of age, were evaluated to investigate whether the tests could be used to select dogs for different kinds of work and for breeding. Ten behavioural characteristics were scored based on the dogs' reactions in 7 test situations. Marked differences in mental characters were found between breeds and sexes, and between various categories of service dogs. Regardless of differences in the behaviour profiles of each service category, there were marked similarities between service dogs compared with dogs found to be unsuitable for training as service dogs. To interpret the data, an index value was created, based on the test results for each dog. In both breeds males scored significantly higher than females for courage, prey drive and defence drive. In German Shepherds, males scored higher than females for

nerve stability and ability to cooperate. However, in Labradors, females had higher scores for ability to cooperate and there was no difference in nerve stability between the sexes. In general German Shepherds scored significantly higher for sharpness and defence drive and Labradors scored significantly higher for courage, nerve stability and reacted less to gunfire

The Use of the Family Life Space Diagram in Establishing Interconnectedness:

The Use of the Family Life Space Diagram in Establishing Interconnectedness: A Preliminary Study of Sexual Abuse Survivors, their Significant Others, and pets.

Sandra B Barker, Randolph T Barker, Kathryn S Dawson and Janet S Kniseley

A considerable amount of research documents the traumatic impact of childhood sexual abuse. Among the abuse sequelae commonly seen are substance abuse, dissociative disorder, borderline personality disorder and anxiety disorders (Courtois, 1988; Herman, 1992; Herman & van der Kolk, 1987).

Although the percentages vary, studies show that substantial numbers of adult psychiatric patients have histories of childhood sexual abuse (Carmen, Rieker & Mills, 1984; Chu & Dill, 1990; Doob 1992; Jacobson & Herald, 1990). Abuse survivors have also been found to exhibit higher rates of revictimization, suicide attempts, and other self-destructive behaviours when compared to individuals with no history of childhood sexual abuse (Briere & Runtz, 1986; Covington, 1986; Russell, 1986).

In the Adlerian literature, Slavik, Carlson, and Sperry (1993) related histories of childhood sexual abuse to two extreme lifestyles that may develop; the defeated and defiant personalities.

They describe guiding principles for those lifestyles that include avoidant behaviour, conditional relationships, and pessimism.

The value of cat ownership to elderly women living alone

Mahalski, P. A., R. Jones, et al.

International Journal of Aging & Human Development 27(4): 249-60. (1988)

A survey of elderly women was carried out to discover their attitudes towards pet cats. The women were living in publicly-owned pensioner housing in two New Zealand cities. In one city cats were allowed in the pensioners' housing and in the other city they were not. Attitudes towards cats were more positive in the city where cats were allowed, and more positive if pensioners owned a cat, or wished to own one. As positive attitudes towards cats outweighed negative ones, the City Authority which had prohibited cats reversed its policy. There was conflicting evidence about the role of cats in reducing feelings of loneliness. It appears that "loneliness" signifies the loss of many aspects of social interaction and that pets may substitute for only some of these interactions.

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The value of service dogs for people with severe ambulatory disabilities. A randomized controlled trial.

Allen, K., and J. Blascovich,

1996,

JAMA, v. 275, p. 1001-6.

OBJECTIVE: To assess the value of service dogs for people with ambulatory disabilities. **DESIGN:** Randomized, controlled clinical trial. **SETTING:** Environments of study participants.

PARTICIPANTS: Forty-eight individuals with severe and chronic ambulatory disabilities requiring use of wheelchairs who were recruited from advocacy and support groups for persons with muscular dystrophy, multiple sclerosis, traumatic brain injury, and spinal cord injury. Participants were matched on age, sex, marital status, race, and the nature and severity of the disability in order to create 24 pairs. Within each pair, participants were randomly assigned to either the experimental group or a wait-list control group.

INTERVENTION: Experimental group members received trained service dogs 1 month after the study began, and subjects in the wait-list control group received dogs in month 13 of the study.

MAIN OUTCOME MEASURES: Dependent variables evaluated were self-reported assessments of psychological well-being, internal locus of control, community integration, school attendance, part-time work status, self-esteem, marital status, living arrangements, and number of biweekly paid and unpaid assistance hours. Data collection occurred every 6 months over a 2-year period, resulting in five data collection points for all subjects.

RESULTS: Significant positive changes in all but two dependent measures were associated with the presence of a service dog both between and within groups ($P < .001$). Psychologically, all participants showed substantial improvements in self-esteem, internal locus of control, and psychological well-being within 6 months after receiving their service dog. Socially, all participants showed similar improvements in community integration. Demographically, all participants showed increases in school attendance and/or part-time employment. Economically, all participants showed dramatic decreases in the number of both paid and unpaid assistance hours.

CONCLUSIONS: Trained service dogs can be highly beneficial and potentially cost-effective components of independent living for people with physical disabilities.

The view from all fours: a look at an animal-assisted activity program from the animals' perspective.

Hatch, A.

Anthrozoos. 2007. 20: 1, 37-50

In recent decades, animal-assisted therapy (AAT) and animal-assisted activity (AAA) programs have

gained in popularity. A growing literature documents the benefits of AAT/AAA for humans. The prevalent perspective for AAT/AAA research is "what can non-human animals do for us?" with no apparent consideration to what such programs may do for, or to, the animals involved. Ample research reveals that animals are minded actors with the capacity to feel complex emotions. Consequently, AAT/AAA programs should benefit the animals as well as the humans involved. Based on interviews with human volunteers in an animal shelter's AAA program and participant observation in the same program, this paper investigates the animals' experience in AAA. Specifically, this study discusses the use of shelter animals as "volunteer therapists" and concludes that AAT/AAA programs raise numerous concerns for the animals involved. These findings indicate the need for more attention to the experience of animals in AAT/AAA programs.

The well-being of older women: The importance of pet and human relations

Miller, M., and D. Lago.

Anthrozoos, v. 3, p. 245-251. 1990.

The present study sought to determine whether attachment to companion animals is significantly related to the physical and psychological well-being of older women. Network resources, network interactions, and perceived support available to the subjects were assessed and various health factors were measured for a sample of 53 elderly women. The average respondent was 73 years old and had one pet. Half were living alone. The women living alone were older, used more social services, and reported more doctor visits and use of over the counter medicines than did those living with others. While the sample is small for a multivariate study, a pilot analysis was undertaken and feelings of depression, and pet variables had relatively little impact on psychological or physical well being. The authors conclude that these data should not be interpreted as saying that pets are not important for some owners but that, even among this group of attached pet owners, there was not a strong enough effect of the pet to reach group significance. This group was a small, highly selected sample that may have been too homogenous, and/or the self-report measures may lack the sensitivity to detect differences

The Young Children's Empathy Measure: reliability, validity and effects of companion animal bonding

Poresky, R. H., 1990,

Psychological Reports, v. 66, p. 931-6.

The Young Children's Empathy Measure is a brief measure of young children's cognitive and affective perspective taking developed to assess preschool children's empathy. The Cronbach alpha coefficient of internal reliability for the empathy score was acceptable and interrater reliability across four rates was very high. The children's empathy scores were correlated with their ages and social development, but not with their IQs. Empathy toward children was correlated with empathy for pets, and children with a strong pet bond had higher scores on empathy for children than young children without pets.

Therapeutic applications of the human-companion animal bond.

Ormerod, E. J.; Edney, A. T. B.; Foster, S. J.; Whyham, M. C.

Veterinary Record. British Veterinary Association, London, UK: 2005. 157: 22, 689-691.

Better understanding of the human-companion animal bond (HCAB) has resulted in a number of initiatives to help people with diverse health and social needs. The authors of this article trace the

history of the HCAB, and discuss current programmes and key requirements for their success.

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Therapeutic Aspects of the Human-Companion Animal Interaction

Sandra H Barker Ph.D.

Although the majority of American households includes a pet, it is only recently that we have begun to explore the relationship between people and their pets and the possible physical and emotional benefits of that relationship. Early surveys reported a strong psychological and emotional attachment between people and their pets, and the term, human-animal bond emerged to represent this attachment. Studies revealed that most pet owners view their pets as both enhancing the quality of family life by minimizing tension between family members and enhancing their owner's compassion for living things. (Barker 1993; Pet Theories, 1983; Voith, 1985) Using a projective technique to investigate owners' closeness to their pet dogs, Barker and Barker (1988, 1990) found that dog owners were as emotionally close to their dogs as to their closest family member. They reported that more than one third of the dog owners in their study were actually closer to their dogs than to any human family member.

Therapeutic use of companion animals in health care

Jorgenson, J.

Image - the Journal of Nursing Scholarship, v. 29, p. 249-54. 1997.

PURPOSE: To explore research that lends credibility to the therapeutic use of animals in health care. By integrating research from other disciplines and applying it to nursing, the art of nursing is fostered through the creative application of knowledge to practice.

SIGNIFICANCE: Positive physiological and psychological benefits have been linked to the presence of companion animals. For example, researchers suggest that decreases in blood pressure, heart rates, and stress levels, as well as increases in emotional well-being and social interaction are benefits of the human-animal bond.

CONCLUSIONS: Compiling what has been learned in earlier scientific studies provides direction for future research in nursing to enhance nursing knowledge and expand nursing theory to improve care. Further investigation is necessary to clarify the concepts of animal assisted therapy (AAT) to build a body of useful knowledge for practice.

Therapeutic Value of Equine-Human Bonding in Recovery from Trauma

Yorke, Jan; Adams, Cindy; Coady, Nick

Although most human-animal bond research has focused on relationships between humans and pets, animals have been used for therapeutic purposes in a variety of settings. Therapeutic riding programs have demonstrated a positive impact on quality of life for people with disabilities. Equine-facilitated psychotherapy is a promising approach to address self-esteem, depression, and other emotional or psychological problems. Restoration of the trauma victim's capacity for recovery hinges on provision of safety and development of trust, self-esteem, and self-efficacy. Thus, recovery from trauma represents an ideal context for exploring the therapeutic impact of equine-human relationships. The six participants in this study recognized that their pre-existing relationships with horses were therapeutic during recovering from trauma, defined as sufficient to have caused significant change in the participant's life. Semi-structured interviews and video-tapes of horse-rider interaction were used to describe the nature of the equine-human bond and its contribution to recovery from trauma. The equine-human bonds described by participants have parallels both with important elements of therapeutic alliances between professionals and clients and with the positive impact of relationship factors on client outcome.

Therapy dogs: Training your dog to reach others

Davis, K. D., 1992,

New York, Howell Book House.

Just when it seemed that there were not many useful new roles a dog could fill in our society, those who worked with the elderly, the handicapped and the mentally disadvantaged began to witness a quiet miracle. They discovered that the presence of a dog could open a door to an autistic child, could rekindle long forgotten memories in the minds of the ageing and could provide bridges of love and trust for thousands who suffer from fear and isolation due to physical or mental illness.

The concept of the therapy dog caught on and today it is an important part of the treatment for a wide variety of conditions in which life casts shadows across the mind. More and more, dog owners who care about the less fortunate are devoting themselves and their dogs to therapy work to improve the quality of life for those who are so much in need.

Therapy dogs: Training your dog to reach others does what the subtitle says. Here is everything you need to train your dog and to develop it to work in a facility as a kind presence, an amusing diversion and an association with the larger world. This book is for all dogs and their owners. If you and your dog would touch a responsive chord, this book will show you how to be a part of the quiet miracle.

Title Prenatal exposure to mite and pet allergens and total serum IgE at birth in high-risk children.

Schonberger, H. J.; Dompeling, E.; Knottnerus, J. A.; Kuiper, S.; Weel, C. van; Schayck, C. P. van

Source Pediatric Allergy and Immunology. Blackwell Publishing, Copenhagen, Denmark: 2005. 16: 1, 27-31.

This study examined the relationship between prenatal exposure to mite, cat and dog allergens and total serum IgE at birth among neonates in Netherlands at high risk of asthma [date not given]. In the homes of 221 neonates with at least one first-degree relative with asthma, concentrations (ng/g dust) of house dust mite, cat and dog allergens were measured at the fourth to sixth month of pregnancy in dust samples from the maternal mattress and living room. At day 3-5 after birth, total IgE was measured in capillary heel blood. A total number of 174 blood samples were available (11 mothers refused neonatal blood sampling, and in 36 cases, the blood sample was too small for analysis). In

24% of the neonates, total IgE was elevated (cut-off value 0.5 IU/ml). A significant dose response relationship was found between increasing mite allergen levels (divided in quartiles ng/g dust (qrt)) and the percentage of elevated IgE: first qrt (0-85 ng/g) 13%; second qrt (86-381) 19%; third qrt (382-2371) 26%; and fourth qrt (≥ 2372) 42% ($p=0.01$). This relationship remained significant after adjusting for passive smoking, maternal and paternal mite allergy, sociodemographic factors, birth characteristics, and breast feeding practice in the first week of life. In high-risk neonates, prenatal exposure to mite allergens, but not to cat and dog allergens from dust of the living room and of the maternal mattress, was associated with total serum IgE at birth.

To soothe the savage breast

Rosenthal, T. L., 1993,

Behaviour Research & Therapy, v. 31, p. 439-62.

We review quite a range of procedures--some strange, some familiar--to calm, and spare fantasied harm. Drugs can help a whole bunch, but there is no 'free lunch.' Side-effects from long use, and the risk of abuse, make it wiser to find other means to 'unwind.' (Anxious folks spin a messful of thoughts that are stressful.) Against pressures that fluster, tranquil images muster a sense one is resting--rather than testing how much one achieves (while one's family grieves). Muscle programs to lower tense states, and pace slower, can bring manifold gains easing worry and pains. There are diverse connections among muscle flexions--however those function--that can serve as an unction. Movements practiced each night do more good than the 'right' exercises in theory, left undone by the weary. Thus give choice of routines as well as calm scenes: one might dodge heart attacks if one learns to relax. It will not cheer one's mood to review woes nor brood over future collusions, intrusions, confusions, perfection, rejection and other delusions. Like over-tight shoe points, loosen Puritan viewpoints because standards too stern make adrenaline burn. Teach instead: 'Mellow visions need not earn derisions. People who play more are invited to stay more.' Massages and dancing, gentle fiction entrancing or dulcet harmonics are suitable tonics. For self-damaging actions bring on wholesome distractions. There are so many names for so many games, from social adventures to buying debentures, trip-planning, food-canning and even gold-panning. Thus cease surplus panting but cultivate planting since turmoil may go when one makes flowers grow, or elsewhere embraces Nature's several faces: oceans, rivers, or canyons, mountains, redwoods or banyans, or (thanks to some vets), peaceful contacts with pets.

Tourists' effects on drivers of working Asian elephants

Hart, L. A., 1997,

Anthrozoos, v. 10, p. 47-49.

The experience and perceptions of 17 elephant drivers in Chitwan National Park, Nepal, with regard to approaching rhinoceros when transporting tourists, and the extent to which their preferences matched their perceptions of the tourists' desires are explored. In addition, whether the photograph equipment, particularly the power of camera lens, influenced the expectations of tourists when viewing a rhinoceros, is examined. According to the drivers, they preferred to be a longer distance from a rhinoceros than did tourists. Drivers described that some tourists wanted to get closer than was safe to rhinoceroses and other wildlife so as to take good photographs; some even wanted to be within touching distance. Drivers noted that tourists with long camera lenses did not seek or request to be as close to the rhinoceros as tourists with cameras with short lenses.

Trauma in dogs and cats: an overview

Kolata, R. J., 1980,

Veterinary Clinics of North America - Small Animal Practice, v. 10, p. 515-22.

Trauma is an important health hazard for dogs and cats. About 13 per cent of all patients seen in two large veterinary hospitals were for evaluation of injuries. Approximately 35 per cent of dogs and cats were injured severely, with an overall mortality rate of about 9 per cent from either spontaneous death or euthanasia. The major factor that influences an animal's chances of being injured is the owner's management of the animal's environment. Factors that influence the outcome of a traumatic event include the cause of injury, the amount of distribution of kinetic energy discharged into the animal, and the anatomic location of the injury. The veterinarian's role in dealing with trauma should be not only emergency resuscitation and definitive treatment of injured animals but also education of pet owners to the common environmental hazards that all too frequently affect their pets.

Two personality characteristics in adult pet-owners and non-owners

Martinez, R. L. and A. H. Kidd (1980)

Psychological Reports 47(1).

Hypothesized that adult pet-owners would score higher in self-esteem and well-being than nonowners. 99 Ss 18-65 yrs old, completed the Self-Acceptance and Well-Being scales of the California Psychological Inventory. The only significant difference found was that male nonowners scored higher on Well-Being than male owners. However, if those Ss who belonged to a multipurpose service club were removed from the analysis, this significant difference disappeared, suggesting that animal-human and human-human bonds may be interchangeable in some cases.

2<Understanding Dog Owners' Increased Levels of Physical Activity: Results From RESIDE>
American Journal of Public Health 66-69

January 2008, Vol 98, No. 1

Hayley Cutt, BSc, Billie Giles-Corti, PhD, Matthew Knuiman, PhD, Anna Timperio, PhD and Fiona Bull, PhD Hayley Cutt, Billie Giles-Corti, Matthew Knuiman, and Fiona Bull are with the School of Population Health, The University of Western Australia, Crawley. Anna Timperio is with the Centre for Physical Activity and Nutrition Research, School of Exercise and Nutrition Sciences, Deakin University, Burwood, Australia.

We examined the influence of dog ownership on physical activity, independent of demographic, intrapersonal, and perceived environmental factors, in a cross-sectional survey of 1813 adults. Although only 23% of the dog owners walked their dogs 5 or more times per week, the adjusted odds of achieving sufficient physical activity and walking were 57% to 77% higher among dog owners compared with those not owning dogs ($P < .05$). Dog ownership was independently associated with physical activity and walking. Actively encouraging more dog walking may increase community physical activity levels.

Understanding personality by understanding companion dogs.

Ley, J. M.; Bennett, P. C.;

Anthrozoos. 2007. 20: 2, 113-124.

The study of personality is well established in human psychology, with trait theory being perhaps the

most widely accepted of the personality theories. Animal personality research has utilized trait theory to identify personality factors in a wide variety of animal species. However, it has been somewhat hampered by attempting to apply human personality dimensions to animals rather than investigating the depth and breadth of personality in individual animal species. Research into animal personality offers human personality researchers the chance to explore the evolution and development of human personality. This can best be done by exploring the expression of personality in other species without restriction to human personality models. This paper suggests that the dog, *Canis familiaris*, is a suitable species to begin with because of its unique place in human society, its history and familiarity with humans, and its genetic plasticity. A potential structure of canine personality is proposed.

Understanding the human-companion animal relationship: A study of middle-aged women and their companion animals

Downey, D. A., 2002,

Type thesis, Fielding Graduate Inst., US, 1.

This is a qualitative study of 10 women, ages 40-45, that examines the significance of women's relationships with companion animals living in their homes during the midlife transition. The term 'companion animal' implies a mutual relationship and psychological bond. This study limits companion animals to cats and dogs, as they are the pets most often living in households. Six dimensions of relatedness emerged, five mirroring those of Josselson (1996). These dimensions are (a) attachment; (b) eye-to-eye validation; (c) mutuality and resonance; (d) holding; (e) tending and nurture; and (f) extension. This suggests that Josselson's dimensions create a meaningful dissection of relational space, even in the context of the human-companion animal relationship, and that her dimensional model is complex enough to accommodate the various facets of lived relationships. Pets met meaningful emotional needs, but these needs were not specific to a certain developmental age. Women without children reaped more benefits from companion animals than did those with children, primarily due to time management issues. The dimensions of relatedness found in the human-companion animal bond provide a framework from which we can begin to understand the depth and complexity of women's relationships with their pets in midlife, an area that researchers neglect. While all the participants were chronologically in midlife, few of them considered themselves middle aged. This suggests that middle age would best be viewed in future research as an aspect of events rather than age. Further studies that replicate the findings are needed to validate the relational themes and to provide broader information about the significance of the human-companion animal bond over the life span.

Use of a psychiatric service dog

Smith, M. J., Esnayra, J. & Love, C., 2003,

Psychiatric Services, v. 54, p. 110-111.

<http://psychservices.psychiatryonline.org>

Using a therapy dog to alleviate the agitation and desocialization of people with Alzheimer's disease

Churchill, M., J. Safaoui, B. W. McCabe, and M. M. Baun, 1999,

Journal of Psychosocial Nursing & Mental Health Services, v. 37, p. 16-22.

1. Short-term exposure to a therapy dog can reduce the number of agitation behaviors in institutionalized persons with Alzheimer's disease (AD), particularly during the period of agitation known as sundown syndrome. 2. The presence of a therapy dog can increase socialization behaviors

among a group of persons with AD. 3. A therapy dog can be used as an adjunct to other calming interventions for persons with AD.

Using complementary and alternative therapies to promote comfort at end of life

Brenner, Z. R. and M. E. Krenzer (2003).

Critical Care Nursing Clinics of North America. 15(3): 355-62.

Dying is a journey for all involved. We have been fortunate to work in a hospital with both an ICU and a palliative care/hospice unit. We have transferred patients for whom care was withdrawn and who were still alive on the next day to the palliative care unit and have found the transfer to work to maximize comfort in dying. For many patients and families who have developed relationships with the staff in their ICU, the combination of established relationships, traditional therapies, and CAT maximizes the comfort during the dying process.

Vaccination against *Helicobacter pylori* - an old companion of man

Keller, W. C., and P. Michetti, 2001,

Expert Opin Biol Ther, v. 1, p. 795-802.

Helicobacter pylori infection induces an important systemic and mucosal antibody response and a predominant Th1 cellular response. These immune responses, although powerful, fail to eliminate the infection. Studies in animals have shown that prophylactic and therapeutic immunisations are efficacious, although complete protective immunity has usually not been achieved. Initial human trials with recombinant urease showed that a mucosal immune response can be obtained following immunisations, with a decrease in bacterial density, but successful immunisation is still awaited. Progress is being made in several areas of vaccine design. A human vaccine against *H. pylori* would be favourable in terms of health benefits and costs in developed and developing countries.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=11728215

Values and limitations of pet ownership

Selby, L. A., J. D. Rhoades, J. A. Irvin, G. E. Carey, and R. G. Wade, 1980,

Journal of the American Veterinary Medical Association, v. 176, p. 1274-6.

A questionnaire was used to collect information concerning the values and limitations of pet ownership. The major reasons given for nonownership were housing limitations, emotional dissatisfaction with animals, destructive habits of pets, and a transient household status. Various stages of the family's "life cycle" had a role in determining pet ownership. The pet's agreeable temperament (eg, intelligence, gentleness, and playfulness) was considered to be the major advantages of pet ownership. The major negative characteristics of pet ownership were the destructiveness and overaggressiveness of the pet.

Veterinarians and successful pet adoptions

Kidd, A. H., R. M. Kidd, and C. C. George.

Psychological Reports, v. 71, p. 551-557, 1992.

A. H. Kidd et al (see record 1992-34949-001) identified owners' ignorance of species-specific animal

behaviors and their unrealistic expectations regarding the pet as reasons why many cats and dogs were adopted from humane societies and then rejected. The present study assessed whether better education (i.e., via their veterinarian) of prospective adopters increased retention of pets. 75 adults who had acquired new pets through a veterinarian completed a demographic questionnaire and an inventory rating the physical and emotional impact of roles pets are expected to play in their lives; 5 fathers and 26 mothers also rated the expected roles of pets in their children's lives. Follow-up phone calls after 6 mo revealed that Ss rejected significantly fewer pets and had fewer unreasonable expectations for pets' roles in their own and their children's lives than did humane society adopters from the Kidd et al study.

Veterinary practitioners in rural Australia: a national survey

Heath, T. J. and G. E. Niethe

Aust Vet J 79(7): 464-9, (2001).

OBJECTIVES: To assess the attitudes of Australian veterinarians to issues related to rural veterinary practice.

METHODS: A questionnaire was completed by 1367 AVA members, and the data were analysed using the SAS System for Windows 7.0.

RESULTS: The country lifestyle and the type of work were seen as major advantages for rural practitioners, and long working hours and after hours demands coupled with sexist attitudes in the case of women, were seen as the main disadvantages. Remuneration, the tiring and often dangerous nature of the work, and social and professional isolation were also seen as major disadvantages. Personal qualities, including the ability to relate to rural people and to fit into rural communities were seen as the most important qualities for a veterinarian in rural practice. The future of rural practitioners was seen to be closely linked to their ability to contribute to the financial viability of the whole animal enterprise and to the fortunes of the rural industries. Companion animals were also seen as a key part of the future work of rural practitioners.

CONCLUSIONS: Rural practitioners are characterised by a strong commitment to rural life and work, and they will increasingly be required to contribute to the financial viability of the whole animal enterprise. The full range of professional skills required are likely to be beyond the scope of the undergraduate veterinary course, but the internet and other modern forms of distance education should help practitioners to acquire relevant skills

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=11549044

Volunteers, animals, and butterflies equal good therapy

Harris, M. D., and J. Levicoff, 2003,

Home Healthcare Nurse., v. 21, p. 769-73.

A home care agency should facilitate agency programs to meet patients' physical and psychosocial needs. The Animal-Assisted Therapy program described in this article has been in place for almost 13 years and has become an important aspect of the volunteer program that contributes to patients' wellness and recovery.

Walking for healthy hearts: dog walk program

R. Johnson, McKenney, C., et al, 2005

For abstract go to <http://www.vetmed.ucdavis.edu/CCAB/isaz2005.pdf> and see page 17

Welfare in a shelter dog rehomed with Alzheimer patients

Journal of Veterinary Behaviour: Clinical Applications and Research

Volume 3, Issue 2, Pages 87-94 (March 2008)

Elisabetta Piva, DVMab, Valentina Liverani, DVMc, Pier Attilio Accorsi, DVMd, Giuseppe Sarli, DVMe, Gualtiero Gandini, DVMf

This study evaluates whether a shelter dog could be rehomed successfully into a facility for people suffering from Alzheimer's disease (AD). The goal was to assess the effect on animal welfare of this form of pet ownership and of individual sessions of animal assisted activity (AAA) with some pre-selected patients. After the enrollment of a suitable shelter dog, the dog was introduced gradually into the facility. Upon adoption, the dog's welfare was monitored during the first 6 months by integrating indirect assessment (18-item questionnaire) with direct observations of behavioral and clinical responses (31-item score system table), and with an assay of hormonal changes. Only descriptive statistics were done on the questionnaire data. The findings suggest a progressive positive integration into the new environment. The qualitative data using direct observations were analyzed with the Spearman Rank order correlation test. Some data showed significant variation during the period of observation, suggesting a gradual reduction of the dog's stress during AAA sessions. The hormonal trend, especially for cortisol measured in hair, seemed to correlate with the clinical and behavioral findings.

Whale shark tourism in Ningaloo Marine Park, Australia

Davis, D., 1998,

Anthrozoos, v. 11, p. 5-11.

Surveys conducted among whale shark tourists in Ningaloo Marine Park, off the coast of Western Australia, yielded 464 responses in 1995 and 376 in 1996. Multivariate analysis of variance (MANOVA) is used to compare attitudes towards management questions relating to human-to-shark separation distances, swimmers making contact with sharks, satisfaction with the experience, and the numbers of swimmers in the water. While the rules on separation distances were changed between the years, statistical analyses indicate that satisfaction with the experience did not change. Resulting from the rule changes, swimmers did not get so close to sharks in 1996, nor were they as concerned about the number of other people in the water. It is concluded that a simple change to the regulation on separation distances resulted in improved human experiences and potentially less interference with the animals.

What Australians think about their pets. A Study of Our Attitudes to Cat and Dog Ownership

MacCallum, M. and H. Mackay (1993).

Melbourne, Petcare Information and Advisory Service.

<http://www.petnet.com.au/mccallum/index.html>

What clients want from veterinarians following the death of their companion

Bobby died, what now?

Winius, E. E. and N. Endenburg.

Tijdschr Diergeneeskd 121(9): 250-4, (1996).

The aim of this investigation is to determine whether Dutch people would appreciate support, either from or via veterinarians following the death of a companion animal. In general, clients believe both local practitioners and specialists, even though they might not have seen the animal more than once, should offer some form of support. Being called by the veterinarian in question, a few days after the death of the animal, was the option that was most appreciated. Twenty one respondents (15%) wished to be able to attend a pet loss support group or call a hotline, following the death of their companion animal. The need to have questions answered by the veterinarian and the role the respondents thought the veterinarian should play following pet loss, were significant factors determining whether use would be made of support offered to them. Other factors included in the survey, such as age, sex and social status were not significant.

What do children think animals need? Aesthetic and psycho-social conception

O. E. Myers, C. D. Saunders et al, 2003

Journal/Environmental Education Research, 9,

Children's spontaneous understandings of animal's needs were investigated to determine how they develop and how they contribute to values underlying environmental care. Children of ages 4 to 14 (n=171) were interviewed as they drew a favorite animal and what it needs. Certain types of understanding regarding physiological, ecological and conservation needs are described elsewhere (Myers, Saunders & Garrett, 2002). In this article, we present qualitative and quantitative analyses of three additional ways that some children thought about animals' needs, which involved aesthetic, anthropomorphic, and psycho-social dimensions. The aesthetic orientation is shown by concern about animals' bodily coherence, and about the completeness and wholeness of its surroundings. The anthropomorphic framework, which characterized some less-experienced children, contains the important feature of awareness of the other's similarity to the self. This awareness attains more accurate and nuanced expression in the third conception, the psycho-social. Children typifying this latter view emphasized the subjective experience of the animal, and/or its need for companions. Both aesthetic and psycho-social conceptions were related to objective ecological needs. More importantly, all three conceptions are fundamental to the value components of biocentric environmental care. Curricula could help children of all ages be more aware of, articulate about, and able to balance these values. The perception of what animals need is a rich nexus for environmental education.

What Happens to Shelter Dogs? An Analysis of Data for 1 Year From Three Australian Shelters

Linda C. Marston, Pauleen C. Bennett, and Grahame J. Coleman Department of Psychology Monash University

Annually, welfare shelters admit many dogs, including those whose caregivers surrender them or dogs who are strays. This article analyzes admission data from 3 metropolitan Australian shelters. The study collected data for a 1-year period and analyzed them to identify the characteristics of the typical shelter dog; patterns of relinquishment, sales, reclamation and euthanasia; and duration of stay and reasons underlying euthanasia, relinquishment, and postadoptive return. The study tracked more than 20,000 admissions during this period. To facilitate reclamation, the local Code of Practice requires a

mandatory holding period for stray dogs; assessment for suitability for rehoming then occurs. Dogs failing the assessment are euthanized. Surrendered dogs can be assessed immediately. The Code of Practice also recommends that unsold dogs be euthanized 28 days postassessment. Typically, shelter dogs in Melbourne are strays, sexually entire, adult, small, and-usually-male. The majority of admissions are reclaimed or sold. Most reclamations occur within 4 days, and postadoptive return rates are low. That current desexing messages do not appear to have reached the owners of stray dogs to the same extent as they have other dog owners is a major finding, suggesting that a targeted education campaign may be required.

Dogs are integral to contemporary society, providing companionship, security, and nurturing experiences for many, particularly the vulnerable and isolated in our community (Albert & Bulcroft, 1987, 1998). Despite the generally positive

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What Happens to Shelter Dogs? Part 2. Comparing Three Melbourne Welfare Shelters for Nonhuman Animals

Linda C. Marston, Pauleen C. Bennett, and Grahame J. Coleman Department of Psychology Monash University

Although the characteristics of dogs admitted to animal welfare shelters have been described previously, few studies have compared the statistics of different welfare shelters. The existing studies compare shelters that differ operationally and philosophically on factors such as whether they perform euthanasia or whether the shelter receives both impounded and relinquished animals. This study aims to determine whether differences in admission and outcome data exist between shelters when these issues are constant. The study sampled 3 metropolitan Australian shelters over a 12-month period. All shelters sampled serve both as municipal pounds and welfare shelters, perform euthanasia as required, and operate within the relatively small, culturally homogeneous environment of Melbourne. The study observed significant differences between shelters regarding the admission characteristics of the dogs, length of stay, and outcomes. The identification of these differences may enable us to establish "best-practice" procedures capable of implementation elsewhere. The differences identified in the reasons given for relinquishment between locations also may have policy and educational implications for animal control agencies.

In today's western society, dogs who are companion animals (pets) provide humans with companionship in at least 40% of Australian, 38% of American, and 34% of British homes (BIS Shrapnel Global Marketing Intelligence and Forecasting, 1999, pp. 9-15). Unfortunately, problems of dog overpopulation, straying, and canine behavior problems accompany such widespread dog guardianship (ownership). In many countries, there is a vocal antidog lobby. Straying

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What's in it for the Companion Animal? Pet Attachment and College Students' Behaviors Toward Pets

Elsie R. Shore, Deanna K. Douglas, and Michelle L. Riley

Research on the human-nonhuman animal bond has focused primarily on its advantages to the human. The purpose of this study is to investigate behaviors of caregivers (owners) of companion animals (pets) and to examine the relationship between such behaviors and scores on a pet attachment scale. Participants were 501 largely nontraditional (older, married, employed full-time) college students living with a pet dog or cat. The study categorized owner behaviors as essential, standard, enriched, or luxury care. Almost all participants reported engaging in essential care behaviors, with numbers declining from category to category. Pet attachment scores appeared related to standard and enriched care behaviors but not to essential care. Too few participants reported doing luxury care behaviors to link them to attachment. The results suggest that even pet owners reporting low attachment provide beneficial care and attention to their pets and that pet attachment may be of limited use when looking at the benefit of the human-animal bond to the companion animal.

The American Veterinary Medical Association defines the human-nonhuman animal bond as "a mutually beneficial and dynamic relationship between people and other animals that is influenced by behaviors that are essential to the health and well being of both" (Wollrab, 1998, p. 1675). Most of the research in this area has focused on the benefits of the relationship to humans. Studies have linked companion animal guardianship (pet ownership) with increased survival after heart attack (Friedmann, 1995; Friedmann, Katcher, Lynch, & Thomas, 1980; Friedmann, Thomas, & Eddy, 2000) and decreased risk of cardiovascular disease (Anderson, Reid, & Jennings, 1992). Experimental studies have found

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When a pet dies: Religious issues, euthanasia and strategies for coping with bereavement

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Sixty-eight people from a variety of religious backgrounds and who had experienced the death of a companion animal were interviewed. Questions covered their personal experience of their pet's death, the role that their religion played in this experience and factors affecting how well they coped with the death. Individuals varied widely in their emotional response to the death of their pet. Demographic variables were relatively weak predictors of the distress experienced, the strongest predictor of distress being whether or not the animal was euthanized. Religion did not affect the level of distress that participants reported or the veterinary treatment, including euthanasia, that they considered appropriate. Nevertheless, 56 percent of participants believed in an afterlife for their pet and generally found this belief comforting. Having someone to talk to, and being included in decision-making were also reported to be helpful.

Anthrozoos 16 (1) 2003

Whose Pet? Comment on Timothy Eddy, "What is a Pet?"

Sanders, C. R., 2003,

Anthrozoos, v. 16, p. 114-117.

Comments on an article by Eddy (see record 2004-10234-001), which explored concepts of pets. The current author suggests that researchers' definitions are, in many respects, beside the point and not especially productive for acquiring an understanding of the everyday relationships between people and animals.

Why children keep pets: the influence of child and family characteristics

Paul, E. S., and J. Serpell, 1992,

Anthrozoos, v. 5, p. 231-244.

Two separate but complementary questionnaire surveys were undertaken to assess the relationship between various demographic and family variables and individual variation in levels of childhood pet ownership. The first survey investigated pet ownership levels in a cross-section of families with school-aged children. In the second, a large sample of university students were invited to report retrospectively on the pets they and their families had owned during their childhood. Results from both surveys showed that age, gender, sibling status and number, and parental attitudes toward pets were all significantly related to levels of childhood pet ownership. The number of children in the family, and parents' attitudes toward pets, were also found to be significantly related to levels of family ownership.

Why do people love their pets?

Evolution and Human Behaviour

Volume 18, Issue 4, Pages 237-259 (July 1997)

John Archer

The evidence that people form strong attachments with their pets is briefly reviewed before identifying the characteristics of such relationships, which include pets being a source of security as well as the objects of caregiving. In evolutionary terms, pet ownership poses a problem, since attachment and devoting resources to another species are, in theory, fitness-reducing. Three attempts to account for pet keeping are discussed, as are the problems with these views. Pet keeping is placed into the context of other forms of interspecific associations. From this, an alternative Darwinian explanation is proposed: pets are viewed as manipulating human responses that had evolved to facilitate human relationships, primarily (but not exclusively) those between parent and child. The precise mechanisms that enable pets to elicit caregiving from humans are elaborated. They involve features that provide the initial attraction, such as neotenous characteristics, and those that enable the human owner to derive continuing satisfaction from interacting with the pet, such as the attribution of mental processes to human-like organisms. These mechanisms can, in some circumstances, cause pet owners to derive more satisfaction from their pet relationship than those with humans, because they supply a type of unconditional relationship that is usually absent from those with other human beings.

Why the wild things are: Animals in the lives of children

Melson, G. F., 2001,

Massachusetts, Harvard University Press.

Whether they see themselves as King of the Wild Things or protector of Toto, children live in a world filled with animals-both real and imaginary. From Black Beauty to Barney, animal characters romp through children's books, cartoons, videos, and computer games. As Gail Melson tells us, more than

three quarters of all children in America live with pets and are now more likely to grow up with a pet than with both parents. She explores not only the therapeutic power of pet-owning for children with emotional and physical handicaps but also the ways in which zoo and farm animals, and even certain purple television characters, become confidants or teachers for children - and sometimes, tragically, their victims. Yet perhaps because animals are ubiquitous, what they really mean to children, for better or for worse has been unexplored territory. *Why the Wild Things Are* is the first book to examine children's many connections to animals and explore their developmental significance. What does it mean that children's earliest dreams are of animals? What is the unique gift that a puppy can given to a boy? Drawing on psychological research history and children's media. *Why the Wild Things Are* explored the growth of the human-animal connection. In chapters of children's emotional ties to their pets, the cognitive challenges of animal contacts, animal symbols as building blocks of the self, and pointless cruelty to animals. Melson shows how children's innate interest in animals is shaped by their families and their social worlds, and may in turn shape the kind of people they will become.

Women, children and animals last: connections between animal abuse and family violence

C. Flynn, 2005

ISAZ 14th Annual Conference,

For abstract, go to <http://www.vetmed.ucdavis.edu/CCAB/isaz2005.pdf> and see page 4.

You and Your Pet. Waltham: Pets and You

You and Your Pet. Waltham: Pets and You,

Eliot, G., 1995,

Place Published, Waltham.

<http://www.waltham.com/pets/you/py.htm>

Young Children's Recognition of Commonalities between Animals and Plants

Kayoko Inagaki, Giyoo Hatano

Child Development, Vol. 67, No. 6 (Dec., 1996) , pp. 2823-2840

In 4 experiments, we examined whether young children have grasped commonalities between animals and plants as one of the essential components of an autonomous domain of biology. Experiment 1 revealed that by age 5, children distinguished both animals and plants from nonliving things in terms of growth (i. e., changes in size over time). Experiments 2 and 2A indicated that a considerable number of 5-year-olds, when given brief vitalistic descriptions about properties of all living things, constrained inductive projections of these properties using the category of living things. They attributed not only growth but also taking food/water and being taken ill to both animals and plants only. In Experiment 3, when 5-year-old children were asked directly whether plants or nonliving things would manifest phenomena similar to those observed for animals, they responded affirmatively for plants and could offer specific phenomena for growth, feeding, and aging/dying in support of their answers (e. g., watering for plants as analogous to feeding for animals). Overall, contrary to Carey, children as young as 5 years have an integrated category of living things. The possibility that early

biology is established around taking food/water and growth is discussed.