The Addictive Neurochemistries of Human-Animal Bonds: From Brain Opioids to Oxytocin, Jaak Panksepp, Dept. of VCAPP, College of Veterinary Medicine, Washington State University, Pullman, WA

Mammalian brains contain a fundamental emotional substrates for positive social feelings and behaviors that promote social bonding and friendly playful activities. Pre-eminent among them are endogenous brain opioids and oxytocin neural systems that reduce the psychological pain of social isolation while promoting confidence. Such primal emotional systems are shared by all mammals and they are currently of foremost importance for understanding human and animal social motivations as well as psychiatric disorders that arise from faulty attachments. Through the study of these ancestral affective forces of the social mind, we are currently developing novel new therapeutics for humans as well as other animals. Indeed, through the neuroscientific understanding of separation-distress, social bonding and play we are beginning to understand the neural foundations of many other social motivations of human and animal minds.

Dr. Jaak Panksepp
Professor, Veterinary & Comparative Anatomy, Pharmacology & Physiology, College of Veterinary Medicine, Washington State University

Dr. Panksepp’s present research is devoted to the analysis of the neuroanatomical and neurochemical mechanisms of emotional behaviors (in the emerging fields of affective and social neurosciences), with a focus on understanding how various affective processes are evolutionarily organized in the brain, and look for linkages to psychiatric disorders and drug addiction. He and his colleagues research on the brain "instinctual" mechanisms of fear, anger, separation distress (panic), investigatory processes an anticipatory eagerness, as well as rough-and-tumble play. They are especially interested in how various brain neuropeptide systems regulate emotional feelings and social bonds. Prior to the ongoing work on emotional systems, they studied hypothalamic mechanisms of energy balance control and neural regulation of sleep-waking states. In addition to 300+ scientific articles (see CV below), Dr. Panksepp has co-edited the multivolume Handbook of the Hypothalamus and of Emotions and Psychopathology, a series in Advances in Biological Psychiatry and most recently a Textbook of Biological Psychiatry (Wiley, 2004), His other textbook, Affective Neuroscience: The Foundations of Human and Animal Emotions (Oxford, 1998), has helped inaugurate
a new field of inquiry which attempts to probe the affective infrastructure of the mammalian brain. The working assumption is that all of consciousness was built on affective value systems during the long course of brain evolution.

Dr. Panksepp’s research orientation is that a detailed understanding of basic emotional systems at the neural level will highlight the basic sources of human values and the nature and genesis of emotional disorders in humans. In the 1980s he helped developed the still controversial opioid-antagonist therapy for autistic children based on pre-clinical investigations into brain circuits that control social behaviors as well as the use of melatonin in regulating common sleep-waking problems in pervasive developmental disorder. He is pursuing new therapies for the treatment of Attention Deficit/Hyperactivity Disorders (ADHD), and depression. Many of the findings from animal models are ready to be evaluated in human psychological research. Accordingly, he is seeking to facilitate the development of new depth-psychological perspectives to understanding the human. The Center for the Study of Animal Well Being and People-Pet Partnership Program are devoted to the study and improvement of animal emotional well-being.

- 2 sentence description: This presentation will summarize brain-evolutionary continuity in the primary-process emotional systems of the mammalian brain, with a summary of some of the key chemistries of social-emotional systems.

- 2 behavioral objectives:
  
  i) To describe the brain system for instinctual action patterns of the basic emotions.
  
  ii) To highlight neurochemical controls of emotional system that may have practical implications for various emotional problems.

Abstract Stephen Porges

Human-Animal Interactions: A neural exercise supporting health

The presentation will introduce the Polyvagal Theory as a new perspective to understand the health benefits of human-animal interactions. The theory identifies neural circuits involved in the regulation of autonomic state and interprets the behaviors that parallel shifts in autonomic state as adaptive and potentially flexible. The theory enables the investigation of new questions, paradigms, and explanations regarding the role that autonomic function has in the regulation of social behavior between humans and other mammals. Foremost, the theory emphasizes the importance of the neural structures regulating the heart and how the phylogenetic shift in the neural regulation of the heart provides insight into the adaptive function of physiological state and behavior in mammals. The theory identifies a biobehavioral social engagement system that functionally down regulates defensive strategies and stress-related reactivity in mammals. Thus, human-animal interactions can be conceptualized as a bi-directional “neural exercise” in which the bio-behavioral features expressed and elicited reciprocally between both partners support mental
and physical health. Features of the Polyvagal Theory provide insights into improving the outcomes of mammals following veterinary procedures and a plausible mechanism to explain positive outcomes observed in humans following Animal-Assisted Activities (AAA), Animal-Assisted Pedagogy (AAE) and Animal-Assisted Therapy (AAT).

**(Shortened) Biography:**

**Stephen W. Porges, Ph.D.**

**Professor of Psychiatry**

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Drew University, June, 1966 (Psychology) Michigan State University, December, 1968 (Psychology) Michigan State University, June, 1970 (Psychology)

**Professional History:**

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Director, Institute for Child Study, University of Maryland Adjunct Scientist, Laboratory of Comparative Ethology, National Institute of Child Health and Human Development Professor, Department of Human Development, University of Maryland Director of Laboratory for Developmental Assessment and Intervention, Institute for Child Study, University of Maryland Professor, Program in Neural and Cognitive Sciences, University of Maryland Department Affiliate, Department of Psychology, University of Maryland Head, Division of Developmental Psychology, Department of Psychology, University of Illinois at Urbana-Champaign Professor, Institute of Aviation, University of Illinois at Urbana-Champaign Professor, Department of Medical Information Sciences, University of Illinois Medical School at Urbana-Champaign

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Professor, Department of Psychology and Program in Neural and Behavioral Biology, University of Illinois at Urbana-Champaign

Professor, Program in Psychophysiology, Department of Psychology, University of Illinois at Urbana-Champaign Visiting Scholar, Department of Physiology, Stanford University
Abstract  Rebecca Johnson, PhD

One Health: Dog Walking in an Era of Overweight and Obesity: Strategies for Both Ends of the Leash

A large share of the industrialized world is recognizing and struggling to address an epidemic of overweight and obesity which has also extended itself to companion animals. Creative strategies are needed that transcend species and help to facilitate physical activity. The nature of human-animal interaction (HAI) as a key facilitator of physical activity for both ends of the leash will be explored. In particular, what components of HAI and the human animal bond are most likely to facilitate cross-species physical activity, what role dog walking can play when it is incorporated into treatment plans for people and companion animals, and what are the theoretical and empirical bases for advocating dog walking? The potential for dog walking as a communities-wide intervention and its applicability across cultures will be discussed. Attention will be paid to clinical implications around dog walking and its potential for advancing One Health practice in a variety of disciplines.

Rebecca A. Johnson, PhD, RN, FAAN

Rebecca Johnson completed graduate research training with her masters of philosophy degree from University of Edinburgh, Scotland (as a Rotary Ambassadorial Scholar), and her Ph.D. from University of Iowa. She is the Millsap Professor of Gerontological Nursing & Public Policy at University of Missouri where she holds a joint appointment in the College of Veterinary Medicine for her research on human-companion animal interaction. She is the President of the International Association of Human Animal Interaction Organizations, which consists of over 40 member organizations globally, working to facilitate research, education and practice in the area of human-animal interaction. She founded and directs the Research Center for Human Animal Interaction (ReCHAI) at the MU College of Veterinary Medicine. ReCHAI’s mission is to conduct and facilitate research on human-animal interaction and to educate students and the public about it. Her research led to her induction into the American Academy of Nursing (FAAN). In 2009, her undergraduate course, entitled “Human-Companion Animal Interaction” won the Humane Society of the U.S.’ 11th Annual “Animals and Society” Distinguished Established Course Award. Author of many publications in peer reviewed journals, and other publications, she has two books out from Purdue University Press in 2011, “Health Benefits of Dog Walking,” and “Walk a Hound, Lose a Pound.”

Program
Dr. Johnson’s externally funded program of research merges her earlier work on promoting wellness during older adults’ life transitions with the benefits of human-companion animal interaction. Her research shows that companion animals may provide a unique source of social support and facilitate motivation for exercise and other wellness-promoting behaviors. Most recently, her research demonstrates that human-companion animal interaction may be a powerful motivator for physical activity through dog-walking. This work has been highly successful in underserved populations such as those residing in public housing and also older adults. Presently
she is conducting a two-site clinical trial testing the effects on physical activity levels and Post Traumatic Stress Disorder of pairing recently returned U.S. military veterans with shelter dogs for walking and training activity.

**Impact**
Despite the extant knowledge of the global consequences of sedentary lifestyles and the obesity epidemic (now also occurring in dogs), existing models have been of limited success in changing lifestyles to promote physical activity. The innovativeness and timeliness of Dr. Johnson’s research program testing the simple intervention of dog walking has the potential to help reduce the enormous costs of obesity-related illness in human health and national health care expenditures.

**Abstract**
Dr. Elizabeth Ormerod, president SCAS

The human-animal bond (HAB) can confer many health and social benefits and is an important aspect of public health. Vulnerable groups can benefit from Animal Assisted Intervention (AAI) programmes in institutional settings. These require careful planning utilising a multidisciplinary approach, including veterinary involvement.

Increasing awareness of AAI leads to greater demand and therefore risks of facilities introducing poorly planned programmes with potential for negative consequences. The Society for Companion Animal Studies (SCAS) has developed training courses in AAI for health and social care professionals and volunteers. The SCAS Code of Practice for AAI provides standards for UK organisations. Another SCAS initiative, the Pet Friendly Care Kit also promotes good practice in AAI. SCAS delivers introductory lectures on HAB and AAI to veterinary students.

Veterinarians should be involved in programme planning; animal selection; care protocols; and supervision. Great care must be exercised in animal selection and in devising protocols to minimise stress. All involved in delivery of AAI should receive training with a major emphasis on animal welfare including stress recognition.

Training in AAI also helps to ensure greater client benefits through better understanding of the bond and helps to ensure programme sustainability. The importance of recognising stress in animals cannot be overemphasised.

**Elizabeth Ormerod BVMS MRCVS FRSA**

Elizabeth is a Scottish veterinary surgeon with 37 years’ experience in companion animal practice. She became attuned to the importance of the human-animal bond (HAB) in 1975 whilst managing the University of Glasgow’s inner city charity clinic. In 1984 she and her husband, a veterinary pathologist, purchased a companion animal practice. Strategies were developed to assess, support and strengthen clients’ human-animal bonds, creating a bond-centred practice. As a Churchill Fellow and during subsequent study trips Elizabeth has had opportunities to visit outstanding AAI programmes in USA, Europe and Japan.
Working with colleagues from the other health and social care professions, she has introduced Animal Assisted Intervention (AAI) programmes to schools, nursing homes, hospitals, psychiatric facilities, sheltered housing and prisons. Elizabeth is co-founder of Canine Partners, the UK assistance dog programme, is a visiting lecturer on the HAB at UK veterinary schools and is a trainer on AAI courses offered by The Society for Companion Animal Studies (SCAS). She is the current chairman of SCAS (www.scas.org.uk), an international, interdisciplinary HAB membership organisation, the first to be established in the world and the largest outside North America.

ABSTRACTS PLENARY TALKS AND POSTER PRESENTATIONS

Facilitation of Social Positive Behaviors of Children with Autism Spectrum Disorder through dog assisted activity -Clinical observation and Quantitative Analysis Using a Wearable Device
Category: Biological (Physiological) Responses in Human-Animal Interactions and Human Animal Bond

Atsushi FUNAHASHI, Anna GRUEBLER, Hideki KADONE, Takeshi AOKI, Kenji Suzuki. 1Department of Education and Social Service, Institute for Developmental Research, Aichi Human Service Center, Kasugai, Aichi, Japan, 2Graduate School of Systems and Information Engineering, University of Tsukuba, Tsukuba, Ibaragi, Japan, 3Center for Cybernics Research, University of Tsukuba, Tsukuba, Ibaragi, Japan, 4Chubu Animal assisted TTherapy Association, Nagoya, Aichi, Japan, 5Japan Science and Technology Agency, Tokyo, Japan

In this study, we quantitatively analyzed the smiles of children with autism spectrum disorder while they participated in dog assisted activity (DAA) and examined the smile and the behaviors that occurred in a synchronized way during the DAA session. The experiment was approved by the institutional ethical committee. Smiles were recognized from distal electromyographic signals, using a wearable interface device on the side of the face. The smiles were also coded from video by an examiner. Then, the video-recorded positive behaviors (social behaviors:SB) and socially negative behaviors of the children with autism spectrum disorder were carefully analyzed. We showed that the computer can recognize the smiling expression of an child with the autism spectrum disorder with an accuracy of 91.42% in the testing set during the DAA session. We also showed that the SB of the children with the autism spectrum disorder increased as the amount of smiles increased, whereas the negative behaviors of these children decreased during the DAA session (9 months). Therefore, most children with autism spectrum disorder became able to touch the dog voluntarily. Some children could perform a much higher level of the SB such as holding the dog. It is suggested that the occurrence of pleasant emotions in the children with autism spectrum disorder during the DAA may facilitate the social behaviors and also decrease the socially negative behaviors of these children.

Our Ethical and Moral Responsibility: Ensuring the Welfare of Therapy Animals
Category: Responses to Human-Animal Interactions and Human Animal Bond
The field of AAI has experienced explosive growth and significant popularity in recent years. Only recently have the proponents of AAI focused efforts to ensure and protect the welfare of these animals. In some cases these efforts have been undertaken without a systematic or empirical evaluation of the potential risks to animals imposed by current practices. In fact, little has appeared in the peer-reviewed literature regarding the welfare of the animals incorporated in AAI and the challenges they may experience in their work with various specific populations.

The session has two primary goals. The speakers will provide the delegates with an awareness of the challenges that AAI providers must consider. Ethical issues as welfare concerns will be highlighted and addressed. The session will also include descriptions of some of the current approaches that have been used to evaluate the impact of AAI on therapy animals. The need for objective evaluation protocols will be discussed to help the delegates become more aware of possible assessment procedures, and their obstacles. The suggested protocols will identify selected stress measures including biomedical (e.g., cortisol and oxytocin levels, and heart rate) and behavioral measures (e.g. surveys and videotaping).

For AAI to achieve its maximum efficacy, the clinical community must become more aware and respectful of the quality of lives of animals being used to support the well being for their human clients and patients. Not only will the therapy animals benefit from this orientation, but the effectiveness of the therapy will be improved.

The relationship between pets and multiple child health indicators
Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

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Since June 2012, parents of children, ages 4 to 10 years, coming to Pediatric Clinic for an annual well child visit are asked to complete the DartScreen, a web-based, comprehensive pre-visit well child screener that is accessed at the point of care via an iPad. The screener domains include body mass index (BMI), asthma, allergies, nutrition, physical activity, screen time and mental health. Insertion of pet related questions into the DartScreen enables us to perform a cross sectional analysis of how pets may affect child mental and physical health indicators. The first question in the pet module asks about a pet in the home. If the parent selects "yes", then the screener branches to what kind of pet. If dog(s) is selected, the screener branches to more detailed questions about the dog with whom the child spends the most time. This module includes the dog's Body Condition Scale to allow comparison with the child's BMI. The Companion Animal Bonding Scale (CABS) was included to
compare the child's CABS score to child mental health indicators (SDQ-9 Impact, PSC-17, SCARED-5, child's history of mental disorder). To date, 130 children have been enrolled (targeted sample size = 500). To test our model of how pets, and dogs specifically, may influence child physical and mental health, analysis will include comparisons between pet ownership and/or dog interaction and somatic and mental health indicators, calculated BMI, physical activity and screen time. Lastly, we will develop an intervention prototype to be given to parents that imparts a balanced appraisal of the risks and benefits of pet dog ownership.

Initial Development and Validation of a Newly Constructed Pet Attachment Scale
Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

Aki Sato, Todd Little *The University of Kansas, Center for Research Methods & Data Analysis, Lawrence, KS, USA*

In the past two decades, several scales have been developed to measure pet attachment. However, those scales often lack evidence to support their construct validity. The present study aims to provide data on the initial construct validation of a newly developed pet attachment scale.

This 24-item Likert-Style pet attachment scale consisted of 4 sub-concepts: Proximity Seeking, Separation Distress, Safe Haven, and Secure Base. Each item was developed to measure the strength/quality of pet owners’ attachment to their pets in accordance with attachment theory. Seven items from two standardized scales were integrated in the pet attachment scale.

Six hundred seventy five (675) respondents in the U.S. met inclusion criteria: agency-employed social workers who owned pets in adulthood. The vast majority of the sample were white (90.5 %) and female (82.0 %) with mean age of 50.3 (SD=10.8).

The exploratory factor analysis (EFA) with principal axis factoring extraction method and promax rotation was used to establish the construct validity for the pet attachment scale. Eigen value analysis indicated that a 2-factor structure was retained, which explained 65.2 % of variance and fit the data well. These 2 factors were named "Emotional/Physical Support from Pets (n=16; M=3.23, SD=.56)" and "Trust to Self/Others (n=8; M=2.69, SD=.68)", showing high internal consistency (.96 and .94 respectively). The results suggest that this pet attachment scale effectively measures the strength/quality of pet attachment. It will also help scholars precisely measure its impact on empathy development, humane attitude toward animals, and evacuation efforts in emergency.

The Impact of Two Bactrian Camels at a Residential Treatment Center for Children through the Application of the Sanctuary® Model.

Category: Social and Sociological
Michael Kaufmann, Miyako Kinoshita *Green Chimneys School/Green Chimneys Institute, Brewster, NY, USA*

When we accepted 2 Bactrian camels to our animal assisted education/interaction program our approach was to apply the principles of the Sanctuary® model* to facilitate healthy and meaningful relationship with these animals and to
establish mutually beneficial interaction respectful of both human and animal behavior. Bactrian Camels as a species were new to our staff, it was important to find an effective, safe and ethical method of exploring their potential and shaping their role in our program.

Green Chimney's primary mission is to enhance education, socialization and treatment of children with psychosocial disabilities ages 5-18 years of age. Our secondary mission is to model best practices in innovative animal assisted activities and therapies.

The camels created opportunity for applying the seven commitments of Sanctuary®: Democracy, Non Violence, Emotional Intelligence, Social learning, Social Responsibility, Open Communication, and Growth and Change, and offered an innovative programmatic approach for introducing and viewing animals in relationship.

We will present how this model became the basis of approaching, handling, training and integrating the camels and how applying a trauma-informed human interaction model into the evolving relationship with two non-traditional animal partners has offered insight worth consideration and may provide replication potential for other human/animal interaction contexts.

*Note to Reviewers: The Sanctuary® Model is being used across a wide range of settings, including: residential treatment, juvenile justice, drug and alcohol treatment, school and community-based programs, partial hospitals, domestic violence and homeless shelters. New York State Office of Children and Family Services gave a grant to organizations like Green Chimneys to receive training and implement it in 2009. (source: http://www.thesanctuaryinstitute.org/about-us/the-sanctuary-model)

**Effects of Equine-Assisted Therapy in Mother-Child Dyads with Insecure Attachment**

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

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Based on attachment theory, the effects of an eight week equine-assisted therapy (EAT) for mother-child dyads (children aged 12-24 months, mothers aged 19-46) with mothers from high-risk backgrounds or children with behavioral dysregulation were investigated in a randomized controlled study. EAT (n=10 dyads) was compared to a play-based intervention (PBI/control group, n=10). Both interventions aimed at improving maternal caregiving, in particular sensitivity. Data on attachment of mother (Adult Attachment Projective) and child (Ainsworth Strange Situation Test) and their interaction (CARE-index) were collected before and after the intervention. Both interventions were found to significantly (p<.01) improve maternal global caregiving, sensitive caregiving and to decrease controlling caregiving (CARE-index). The infants significantly (p<.05) improved in cooperative interaction with their mothers and showed less difficult behavior. There were no significant differences
between groups. EAT was more beneficial (positive effect sizes) in maternal provision of proximity (modified caregiving questionnaire, $d = 0.33$), in reducing problem behavior of the child (abbreviated CBCL, $d = 0.29$) and reducing disorganization in children’s attachment behavior (ASST, $d = 0.52$). In other areas, PBI showed advantages. In the subgroup of mothers with no previous therapy experiences ($N = 8$) EAT enhanced maternal provision of proximity in caregiving (modified caregiving questionnaire) significantly ($p<.05$) more than PBI. EAT appears to be a low-threshold intervention for at-risk mothers who are difficult to reach with traditional approaches. However, positive effects emerged predominantly in dyads with better pre-conditions. For addressing more severe problems in mother-child-interaction and attachment more than eight weekly sessions seem indicated.

**Children with behavior problems open up more in an Equine Assisted Intervention**

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

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In contrast to non-animal assisted interventions, Equine Assisted Therapy might have the potential to activate the oxytocin-system via physical contact with the horse and thus to promote trust and openness in the therapeutic context. Sixteen male children age 9-11 with behavioral and emotional disorders and insecure attachment representations participated in weekly sessions of either an Equine Assisted Intervention (EAI, n=8) or a balance parcours intervention (BPI for comparability of physical activity level, n=8) over the course of eight weeks. After 30 minutes of intervention the children were asked to tell a story about a picture addressing an attachment-relevant theme such as loss or separation (from the SAT, Separation Anxiety Test). While during the first five sessions no significant differences between groups were found ($p<.01$, Mann-Whitney U-Test), children in EAT showed more secure attachment strategies in their stories in session 6, 7, and 8 ($p=.065$), and less resistance and more emotional openness in session 7. In addition heart rate (HR) and heart rate variability (HRV) was assessed during the entire sessions (via Polar-RS800CX). In session 2 to 8, the minimum HRV was significantly higher and the maximum HRV significantly lower in EAI in contrast to BPI, pointing towards a buffering of stress in the emotionally challenging picture tasks and during the actual horse interaction. Behavior observations coded from video, showed that the children in EAI were significantly more active, had more nonverbal contact (eye contact, touch) with the therapist during the first therapy session, indicating a further therapeutic advantage.

**Psychophysiological Effects of an Attachment-Based Equine-Assisted Intervention in Insecure Mother-Child Dyads**

Category: Biological (Physiological) Responses in Human-Animal Interactions and Human Animal Bond
Effect of a therapy dog on the language development of preschoolers.
Category: Responses to Human-Animal Interactions and Human Animal Bond

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Animal-Assisted Therapy (AAT) is "a goal-directed intervention in which an animal that meets specific criteria is an integral part of the treatment process." (Delta Society) AAT is directed or delivered by a licensed professional with specialized expertise, and within the scope of practice of her profession. AAT is designed to promote improvement in human physical, social, emotional, and/or cognitive functioning. AAT is provided in a variety of settings and may be group or individually administered. The key features of AAT include specified goals and objectives for each individual and measurement of progress.

The present study quantitatively measured the effect of the presence of a certified therapy dog and handler team on the language of typically-developing three year olds during low-structured play. Five typically-developing three year old children participated in two sessions, one without the dog, and with the therapy dog. The dependent variable was language performance as defined by analysis of language
complexity and identification of speech acts and their frequency. The independent variable was the presence of a dog/handler team. Language samples were collected and analyzed using the Structured Analysis Language Transcripts (SALT) (Miller, & Chapman, 1985) and variety and frequency of illocutionary acts were calculated. Results revealed a significant increase in the overall use of morphological features (complexity) and communicative intent (speech acts).

Safeguarding the Needs from the Other End of The Therapeutic Leash: Pet Assisted Therapy - Welfare Assessment Tool (PAT-WAT)
Category: Responses to Human-Animal Interactions and Human Animal Bond

Jose Peralta, Aubrey Fine, Sabrina Schuck  
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The efficacy of Animal-Assisted Intervention (AAI) needs to not only monitor and address the impact of the intervention on the humans that receive services but additionally evaluate the impact of these services on the therapy animals involved.

The Pet Assisted Therapy – Welfare Assessment Tool (PAT-WAT) is an instrument developed to assist those involved in canine-assisted therapy in the determination of the impact that the participation of the animal in therapy has on the animal.

The entire PAT-WAT Assessment Battery has three major components. The first aspect of the instrument is a self-administered questionnaire. It allows the assessor to record the observation of certain behavioral cues that the animal shows during or after a given therapy session. The answers to these questions can be graded depending on how mild or severe a certain behavior is displayed and that permits for a numerical analysis of the findings.

The second component of the PAT-WAT incorporates the analysis of video recordings that monitor for the presence of signs of stress or discomfort during the actual intervention. Attention in this presentation will be given to discuss the training that has been integrated to develop appropriate inter-judge reliability.

Finally, the last component of the PAT-WAT incorporates a bio-medical measure. Voided urine or saliva samples collected from therapy dogs are used for cortisol analysis.

The Pet Assisted Therapy – Welfare Assessment Tool is a valuable instrument that allows for a self-administered assessment of the well-being of the dog.

One Health: Linking Human and Animal Health Policy and Practice Options in Switzerland - with a special focus on the Human-Animal Bond
Category: Social and Sociological

Andrea Meisser, Jacob Zinsstag Swiss Tropical and Public Health Institute SwissTPH, Basel, Switzerland
The preparedness for transdisciplinary collaboration of all relevant professionals in
the sense of One Health is closely related to the emergence of threatening pandemics such as avian flu (1997), SARS (2002) and, at a lower extent, H1N1 (2009). Nevertheless, the momentum of the mutually achieved success in surveillance and control of these diseases seems to quickly fade out in the absence of imminent dangers and hence attract the respective specialists to back down into the shelter of their intimate silos. This 'no-problem problem', as we call it, appears as the most important barrier towards an implementation of the One Health concept in industrialized countries. Therefore, the main focus of our activities is set on the creation of motivation and incentives by evaluating policy and practice options to elaborate appropriate projects for a transdisciplinary One Health co-operation. The mutual development of One Health proposals and action plans for the Swiss cantons of Ticino and Basel unveiled the fact that the Human-Animal Bond's important though still underestimated public health-relevance attracts wide interest and enables a broader access to the vision of One Health. The level of the cantonal administration has been chosen according to its intermediate position between federal and communal governments. Thanks to a far-reaching autonomy in health governance, new approaches can be implemented in due time. Stimulating practical examples that have been developed in this joint project of the Swiss Tropical and Public Health Institute and the two cantonal governments will be presented.

What would have Freud said (on the human-animal bond)? A fictional "symposium" on human-animal bond with psychology's most influential minds.

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

Sarit Lev-Bendov Oranim College, Kiryat Tivon, Israel

Would you be surprised to learn that the greatest minds in psychology addressed the subject of human-animal bond? Well, they have. The emotional and psychological basis for the human-animal bond is usually very clear to us as practitioners in the field. We understand it intuitively, professionally, but mostly on a personal level, due to our own emotional experiences with animals. But these feelings are not just our own; they have a substantial theoretical basis - a basis that was first addressed by psychology's thought leaders. In this presentation I will "invite" Freud and Jung (classical psychoanalysis), Winnicott (object relation approach), and Thomas Ogden (Inter-subjective approach) to form a symposium and present their views on the human-animal bond. The goal of this presentation is to deepen the theoretical foundation and the psychological legitimacy of human-animal bond and Animal Assisted Therapy. Among the topics I will explore are: What do Freud and colleagues think of the human-animal bond? How does each of them characterize it? How do they view the emotional role animals play in our lives? What do they believe are this bond's limitations? And - did any of them raise animals or incorporate them in their clinical work? A special focus will be given to love, the most basic emotion in human-animal connection that, in the eyes of our distinguished "guests", is the most controversial one. The presentation is based on original writings of Freud, Jung, and Winnicott, and a unique correspondence with Thomas Ogden, granted especially for this presentation.

Synchronization of parasympathetic activity between owner and dog?
Evidence from heart rate and heart rate variability.
Category: Biological (Physiological) Responses in Human-Animal Interactions and Human Animal Bond

Iris Schöberl1,2, Manuela Wedl1,2, Kurt Kotrschal1,2 1Konrad Lorenz Research Station, Grünau im Almtal, Austria, 2Department of Behavioural Biology, University of Vienna, 1090, Vienna, Austria

Humans and dogs engage in mutual social relationships, potentially resulting in physiological effects and health benefits for both partners. The quality of such a partnership is also characterized by the mutual effects of "emotional social support", i.e. the stress dampening effect due to the presence of the partner during a stressful situation, which may be manifested in heart rate (HR) and heart rate variability (HRV). Thus 120 owners, aged 18 to 60 years, with their intact dogs 1.5 to 8 years of age, were tested during and after a mild threat situation. HR and HRV were measured from owners and dogs by using non-invasive HR monitoring belts (Polar-RS800CX). To measure owner personality we used the NEO-Five Factor Inventory. We investigated whether there is a synchrony in owner and dog HR and HRV and how owner personality influences both. Owners and dogs positively correlated in their decrease of HR after the threat situation (Pearsons: r=0.716, p=0.02). The higher the dogs' SDNN before and during the threat situation, the higher was the owners' increase of SDNN after the threat situation (Pearsons: r=0.740, p=0.014 and r=0.685, p=0.029). Conscientious owners further had higher pNN50 values during the threat situation (Spearmans: rs=0.646, p=0.044), their dogs had higher SDNN values during the threat situation (Pearsons: r=0.670, p=0.034). Our results support the idea that owners and dogs can be synchronized in their stress coping during an emotional arousal and that owner personality plays an important role. Further results, including owner-dog relationship and interactions will be presented.

Pet adoption triggers empathy in individuals with autism spectrum disorders
Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

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Alteration of social interactions is one of the characteristics of autism. Numerous strategies or therapies are used to improve communication skills or at least to reduce social impairments. Animal-assisted therapies are used widely but their relevant benefits have never been scientifically evaluated.

Here, we evaluated the link between the presence or the adoption of pets in families with an individual with ASD and the changes in his or her prosocial behaviors. Of 260 individuals with autism, two groups of 12 individuals and two groups of 8 individuals were assigned to:

- study 1 (pet adoption after age of 5 versus no pet) and

- study 2 (pet versus no pet).
Evaluation of social impairment was assessed at two time periods using the ADI-R algorithm and a parental questionnaire about their child-pet relationships.

The results showed that 2 items changed positively between the age of 4 to 5 and time of assessment in the pet adoption group (study 1): “offering to share” and “offering comfort”. Interestingly, these items reflect empathy. There seemed to be no significant changes for the other groups. The interactions between individuals with ASD and their pets were more reported in the situation of pet adoption than pet presence since birth.

These findings open further lines of research on the impact of pet's presence or adoption in families with individual with ASD. Given the potential ability of individuals with ASD to develop empathy, related studies are needed to better understand the mechanisms involved in the development of such child-pet relationship.

Multiple sclerosis and Horse: from a recreational activity to a self care (therapeutic educational) program
Category: Biological (Physiological) Responses in Human-Animal Interactions and Human Animal Bond

Cecile Cardon, Didier Vernay, Melanie Martin-Teysserre Auvergne University, Clermont-Ferrand, France

Multiple sclerosis (MS) is a common disabling neurological disease affecting young adults. We have developed a special program where horseback riding is associated with a self care approach. It provides patients and their family an opportunity to learn about their illness and share experiences with others.

Objectives: the purpose of this program is to give patients with multiple sclerosis the opportunity to practice recreational horseback riding and help them understand their illness better, accept it and live with it.

Method: Two groups of 5 and 7 patients are offered a weekly equestrian activity during a year. These patients go through several evaluations; neurological (Expanded Disability Status Scale), disability (Functional Independence Measure) and quality of life (Sort Form-36/SEP-59) at the beginning and end of the year; in addition for each session there is a functional scoring and the patients report back on their experience. Patients, volunteers and equine instructors are invited to get to know the horses, the illness and its consequences and the strategy to cope with it.

Once a month the neurologist explores with the patients symptoms identified before and during the session and potential strategies to help improve their lives.

Results: We have observed a steady participation and involvement from all the
patients. Patients show significant progress on several levels i.e. physical (walking, balance, spasticity, coordination), cognitive (spatiality, dual task) and psychological.

**Conclusion**: This program allows an extensive implication of everyone and contributes to an important improvement in the patients' quality of life.

**The Adolescent and Dog-Walking Instrument: Theoretically Based Survey Development**

Category: Biological (Physiological) Responses in Human-Animal Interactions and Human Animal Bond

Coley Vitztum, Peggy Ward-Smith *University of Missouri-Kansas City, Kansas City, Missouri, USA*

The topic of this presentation focuses on shelter dog-walking, as a type of human-animal interaction (HAI), to increase physical activity (PA) among adolescents with a restrictive orthopedic condition.

**Background** literature has identified an inverse relationship between increases in obesity, cardiovascular disease, diabetes, and PA. Thus, adolescents with restrictive orthopedic conditions are vulnerable to these outcomes. HAI, in the form of shelter dog-walking, has been proposed as an effective means of increasing PA commitment and adherence. Despite this perception, there is a paucity of research evaluating this approach and a lack of qualitative methods to evaluate this particular intervention.

The **purpose** of this presentation is to describe the development and initial testing of a 15-item Likert-response instrument which allows the adolescent to self-describe their experience. The Adolescent and Dog Walking Instrument (ADWI) employs the constructs of self-efficacy, purposeful activity, and perceived emotional support to assess the effectiveness of shelter dog-walking as an intervention to increase PA.

Research **methods** included face and construct validity testing. These determined the ADWI has a reliability of 0.74, amenable to being completed in less than 10 minutes, and clear to the participant.

In **conclusion**, the ADWI is capable of providing quantitative, longitudinal data which reflects the ability of a HAI intervention to improve PA among this population. Rigorous testing, using pre and post intervention timeframes, is planned. (238 words)

**Comparison between a Cognitive Behavioral program and a Cognitive Behavioral Program supported by Dog Assisted Therapy to reduce stress in adults**

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

Xóchitl Ortiz-Jiménez, Mónica Teresa González-Ramírez, René Landero-
The benefits of pets on health and stress levels have been well documented, as well as the effectiveness of Cognitive-Behavioral Therapy (CBT) in stress management; nevertheless it is necessary to know if a Cognitive-Behavioral Program supported by Dog Assisted Therapy is more effective than the traditional Cognitive-Behavioral Therapy. The objectives are to analyze the effect of dog-assisted therapy on stress and psychosomatic symptoms in a group of adults participating in a CBT and compared them with a group participate in traditional CBT. The sample will be recruited from the Psychological Clinic of the University, and each group will have 10 people. All participants will respond the Perceived Stress Scale and will be randomly assignment to one of the groups, looking for an equivalency between them. Both groups will attend 5 sessions of stress management, based on stress inoculation training and including relaxation techniques, cognitive restructuring and problem solving techniques; one of the groups will include the participation of therapy dogs. Dogs will take a leading role in the development of each session. Results will be analyzed using Mann-Whitney U Test to compare groups and Wilcoxon signed-rank test to evaluate modifications in stress and psychosomatic symptoms in each group. We expect a further decrease of stress and psychosomatic symptoms in the group assisted by dogs.

**Differences between dog owners and no-owners in perceived stress and mental health**

Recently, the evidence regarding the health benefits of pet ownership has had an increase; nevertheless, some of the studies showed inconclusive findings; thus, it is important to develop more controlled researches. The objective of this study was to compare mental health and perceived stress between dog owners and non-dog owners. The sample consisted of 602 individuals, aged 16 years or older, 337 dog owners and 225 non-dog owners. These two groups were equivalent in age, gender, educational level, marital status, employment, parental status, and the presence of chronic illness. All participants respond the Perceived Stress Scale to measure stress and the Short Form Health Survey (SF-12) to evaluate mental health. To compare differences between groups in stress and mental health, a Mann-Whitney U statistical test was used. Nonparametric test was used because a Kolmogorov-Smirnov test indicated that the variable scores were not normally distributed (p < .01). Results showed that dog owners' scores were significantly lower for stress (Z = -3.385; p = .001), higher for general health (Z = -2.309; p = .021) and higher for mental health (Z = -2.061; p = .039), compared to the non-dog owners. In conclusion, dog owners are less stressed and have better mental health than non-dog owners.

**Animal Assisted therapy; part of a comprehensive health care program provided to a broad range of patients at Philippe Pinel-psychiatric hospital.**

Animal Assisted therapy; part of a comprehensive health care program provided to a broad range of patients at Philippe Pinel-psychiatric hospital.
The project "dogs in hospital" was proposed in 2010 by a psychiatric male-nurse with a degree in psychology; he is also an expert dog trainer. The project has been fully approved by the hospital's management and subsequently the "Canine therapeutic activity- ACT" was adopted as a full time occupation for the nurse. ACT can address a wide range of mental pathologies.

ACT and its four trained dogs proposes a range of activities (both indoor and outdoor, there are also specifically psycho-geriatric activities and animal care in shelter) focusing on socialization, self-awareness, locomotion, emotional support and education.

The methodology is supported by the following: a doctor's prescription, activity report and follow up form for each session, medical form for liaison with medical staff and an individual evaluation scale.

Medical staff observations and the individual evaluation scale confirm the patient's positive improvement; additionally ACT gives doctors and nurses new insights into their patients.

Case studies concerning the first 50 beneficiaries show that there is a lasting positive effect for most of these patients.

Over the last 30 months, 25 doctors have made an AAT recommendation for 150 patients, representing 65 different prognostics. ACT has conducted 3,000 hours of interaction with dogs.

ACT is perceived as a valuable tool to maintain and improve patients' health conditions, cognitive abilities and social skills.

Setting a solid framework and following it rigorously clearly demonstrates that ACT is an effective part of a comprehensive healthcare program.

Rapport between Master and Golden Eagle: Current Kazakh Falconry and Falconers in Altai Pastoralist Society in Western Mongolia

Category: Social and Sociological

Takuya Soma National University of Mongolia, Ulaanbaatal, Mongolia

Background: This study reports current indigenous arts of Altai-Kazakh falconry in western Mongolia. Falconers show unique cultural and historical attachment for how to coexist with Golden Eagles. Their traditional falconry aimed mainly at hunting foxes on horseback with tamed female Golden Eagle. Still more than 150 falconers are recognized to preserve this living tradition among local pastoralist communities. Their falconry hunting has been succeeded not only for hunting, but also for ethnic representation on behalf of deep association with an initiation to adulthood, ethnic cloth production, and succession of ethnic tradition. This research focuses on ethnography about traditional knowledge for taming, training and hunting art with
eagles by local falconers. **Methodology:** Basic ethnographic documentation and survey have been carried out (1) to ascertain whereabouts of tamed-eagles and falconers, and (2) to specify local arts for taming, training and hunting, for 15 months at Sagsai, Tolbo, and Altai village in Bayan-Ulgii Prefecture. This zoo-antropological data collection is mainly based on participant observation, interview and own experience to tame Golden Eagle with home stay together with a local falconer family. **Result & Scope:** Concentrated fieldworks clarify distinctive art and knowledge for manning process, and its inseparable bonds with Golden Eagle created in their socio-cultural domain. This research also intends to contribute to HAI and HAB studies with two aspects, (1) to lay a scientific groundwork with specific ethnographic documentation for further studies, and (2) to establish academic criteria for cultural sustainability and future preservation of Altaic Kazakh falconry.

**Camargue horses meeting with inmates: A psycho-anthropological study on equine mediation's therapeutic aspects in a prison setting**

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

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In France, the inmates' population has doubled over the last twenty years. This population is also changing with an increasing number of sexual offenders, drug addicts and mentally ill. Together with the inmates' psychological and social disorders there are problems linked to imprisonment and solitary confinement, especially for those serving long sentences in Arles state prison.

It is in that place that has been launched this original equine mediation program "Camargue horses and Men". With the help of partly free roaming horses, a therapeutic intervention has been developed; it is part of a global and systemic management of long sentences. There is no horseback riding in that equine mediation program. It is rather a face to face encounter with the animal, giving the prisoner the opportunity to cope with his own situation and to get involved in a psycho-social rehabilitation process.

A psycho-anthropological study is being conducted to concretize the uniqueness of that program within the prison system and put it in perspective with Anglo-Saxon studies concerning animal mediation program in prisons.

Using researchers' observations, extensive questionnaires and videos-records, the study focuses on the role of equine mediation in prison and how it could introduce many changes: individual changes, a new way to look at long sentences prisoners (in particular from the guards 'angle), and a different approach to conduct the psycho-social rehabilitation of these convicts.

**The Presence of Animals in Animal-Assisted Psychotherapy as a Facilitator of the Therapeutic Alliance and Emotional Availability with At-Risk Children**

Category: Psychological Responses in Human-Animal Interactions and Human
Animal Bond

Nancy Parish-Plass1, 2 1AHAVA Emergency Shelter for At-risk Children, Kiryat Bialik, Israel, 2University of Haifa, Haifa, Israel

Research in the field of psychotherapy has repeatedly found that the client-therapist therapeutic alliance, if established strongly and early in the therapy process, is a prominent factor related to and perhaps predicting positive therapy outcome. These results span many psychotherapy modes, theoretical approaches, populations and ages. There seems to be little chance of positive outcome in psychotherapy without the establishment of a therapeutic alliance. This is particularly problematic in the case of at-risk children, whose past experiences have often caused them to feel that they have good reason not to trust adults, thus preventing the establishment of the therapeutic alliance. Suspiciousness of the intentions of adults, together with a resistance to entering into therapy (or high drop-out rate) among at-risk children has proven to be a troublesome issue throughout the welfare system. AAP (animal-assisted psychotherapy) may serve as a unique and effective facilitator for the establishment of a strong therapeutic alliance early in the therapy process with at-risk children who otherwise may refuse to participate in the much needed therapy process. A brief explanation of AAP will be presented, together with delineation of the mechanisms by which AAP may facilitate the establishment of the therapeutic alliance, especially in therapy with children who have suffered from abuse and neglect. A research-based model will be presented which may explain why the presence of animals in the psychotherapy setting contributes to the emotional availability of the client for the psychotherapy process and as a factor encouraging self-disclosure, especially critical for at-risk children.

Dog ownership in Japan, communication tool for isolated elderly in the community
Category: Social and Sociological

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Purpose

Recently, elderly Japanese seem isolated within the community. Pet ownership leads to interaction with others. Therefore, we wanted to compare the differences between community interaction when people are “dog walking” and “not dog walking”.

Methodology

By using an internet survey in March 2012, we targeted a specific group of retired dog owners, and gathered information using a questionnaire. We focused on demographics as well as friendships in dog related activities. We also inquired about their reaction to various other people while “dog walking” and “not dog walking”.

Results
380 mostly male dog owners throughout Japan answer all questions. Around 80% of them walked their dog daily in the community. Using SPSS Statistics for Survey 17.0, we found categorical differences ($p < .05^*$, $p < .01^{**}$) between "dog walking" and "not dog walking". "Dog walking" created the opportunity for dog owners to interact with others**, even strangers**. When dog owners were not walking their dogs, they avoided interaction with people*, even acquaintances*.

Conclusion

Dog walking is persuading owners to be more extroverted, and participate in relationships with others. Through dog walking, people have a better chance to get to know someone in the community compared with non-dog walking activities. It is suggested that activities related to "dog walking" provide more social opportunities and longer lasting relationships for the elderly in the community. For Japanese, especially the elderly, the social structure is somewhat introverted, so dog walking activities overcome these obstacles and act as an effective communication tool.

A Projective Approach to Measure Human-Dog Attachment

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

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Relationship quality is linked with the positive effects of human-animal interactions. Attachment theory is frequently employed to assess this quality, mainly via questionnaires, which however, only capture conscious representations and are susceptible to social desirability. Therefore, we aim at developing a semi-projective attachment test (PAHDA) to capture mental representations along the principles of the "Adult Attachment Projective" (AAP, George & West 2011). Twelve silhouette drawings of attachment-relevant situations (e.g. separation, loss, threats) were presented to 36 dog-owners (39% male, 61% female, age 18-82, M=45,4) with the instruction to tell a short story about what is happening in the situation. These narratives were coded for indicators of secure, avoidant, and preoccupied, attachment and unresolved attachment trauma/disorganization, based on the coding system of the AAP: the defensive mechanisms deactivation, and indicators of attachment security like connectedness, synchrony and agency. A reliable AAP-coder (AB) classified the transcripts of these narratives. Of the 36 owners, 8% came out as avoidant, 39% as secure, 3% as preoccupied, but 50% showed some indicators of unresolved attachment traumata. Eight pictures elicited stories with a good variation in these parameters. For these, pre-formulated answers with endorsement on 5-point-Likert-scales were produced based on the narratives and presented as a semi-projective test to 60 dog-owners. Test results will be validated via behavior observations of the human-dog dyads in different attachment-relevant situations.

Acknowledgements: For financial support of the project we thank WALTHAM® (FA 566001) and the Austrian Science Fund (FWF: P 23345-B17) and Sarah Prettner for producing the line drawings.
Changes in Aberrant Behaviors and Attitudes toward Household Pets following 10-week involvement in Therapeutic Horseback Riding in Children and Adolescents with Autism Spectrum Disorders
Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond
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Background: Therapeutic horseback riding (THR) is frequently sought to address behavioral disturbances impairing quality of life for individuals with autism spectrum disorder (ASD). Pilot data and theories suggest THR organizes the ASD child’s sensory system to calm and interactions with animals may improve attitudes towards pets.

Purpose:
2. Evaluate whether subjects show improvements on parent-report measures of attitudes towards household pets (Lexington Attachment to Pets Scale and the Children’s Attitudes and Behaviors towards Animals scale).

Methodology: Data from a subset of subjects (ages 6-16) with ASD from the THR arm of a four-year randomized controlled study who have completed the 10-week THR intervention will be presented. Parents reported subjects’ aberrant behaviors within one-month pre- and post-THR intervention phase, weekly during intervention, and six months post-intervention. Pet attitude questionnaires were completed within one-month pre- and post-intervention phase and six months post-intervention.

Statistics/Results: Preliminary analyses of ABC-C post-THR scores show statistically significant improvements by the 3rd week of intervention and persisting, although diminished at 6th month follow-up. Data regarding changes in attitudes towards household pets are forthcoming.

Conclusion/Implications: Determining if and how the human-animal interaction via THR is helpful to individuals with an ASD has far-reaching implications for the ASD population. THR is less invasive than the use of medications to treat aberrant behaviors, critical issues that affect quality of life and ability to function in the community.

Psychological evaluation of a dog-assisted program in a prison by inmates and handlers
Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond
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A dog-visiting program was conducted for inmates in a Japanese prison for the first time as a rehabilitation program for stress management and communication training. This study investigated the psychological effects of the program and the features of its evaluation. Seventy-two male inmates with mental retardation and/or psychiatric problems were divided into 8 groups, and interacted with dogs and people once a week for 12 sessions. In each session, 3-7 dog-handler pairs (48 handlers in total) interacted with the inmates. To assess the program, we conducted questionnaire surveys regarding the inmates' mood before and after sessions, and handlers' rating evaluation about each inmate after sessions. The handlers positively evaluated inmates' interactions with dogs and other people. The handlers also reported that the inmates' interaction skills improved longitudinally without differences in diagnoses (ANOVA). When the handlers made the overall evaluation of each inmate, they regarded the facial expressions of the inmates as the most important indicator, followed by indicators of the humane treatment of the dogs and definite behaviors such as quantity of talking and willingness to contact with dogs (multiple regression analysis). The inmates reported that their mood improved after sessions, especially for inmates with psychiatric problems (chi-square test). The overall evaluation by the handlers was positively related to the inmates' mood (ANOVA). These results indicated that both the inmates and handlers evaluated the program as effective. Moreover, the handlers' evaluation was valid because of its positive relation with the inmates' mood.

Attitudes of farmers towards responsible dog ownership
Category: Social and Sociological

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Responsible dog keeping in the community is necessary, e.g., picking up feces during the dog walk. However, some keepers allow their dogs to foul in public places, including around farmland, and leave the feces. Studies are scarce about leaving dog feces along paths on farmland, while there are some studies in parks and streets. Dog keepers might think that paths in farming areas are good places for dog-walking, but then farmers might consider the places as a part of their lots. This study elucidated the attitudes of farmers towards the leaving of dog feces to help solve the dog feces problem. A semi-structured visit-interview was conducted in the countryside of Gunma Prefecture, Japan. Forty-eight farmers who managed farmland participated in the survey. As many as 78% of the respondents encountered the dog feces around their farmland. More than half of the respondents considered that dog feces are dirty and a hazard to public health. Furthermore, 43% of the respondents insisted that picking up the dog feces is responsibility of dog keepers. Therefore, the farmers thought not only that dog feces are dirty, but also that the leaving of dog feces is caused by the dog keepers' lack of responsibility, similar to public attitudes towards other nuisances in society. The effective education of dog keepers is important to maintain good relationships between dogs, communities, and the countryside.

The Zootherapy as non pharmacological therapy in elderly with Alzheimer disease
The etiology of the Alzheimer disease is not known but it is known that it is a progressive, irreversible and primary dementia due to progressive atrophy of the cerebral cortex with loss of cholinergic neurons. This study was aimed to evaluate if the Zootherapy is a co-therapy can synthesize itself therapeutic interventions non-pharmacological already in use in Alzheimer’s disease. We prefer zootherapy instead of pet therapy to define the method developed at the Faculty of Veterinary Medicine, University of Naples Federico II. In fact, our insight comes from the observation that the zootherapy allows to stimulate cognitive, affective and motor areas during a rehabilitative multi-strategy intervention. Patients involved in our study were 6, 4 men and 2 women, aged 70-80 years, all diagnosed with mild-moderate Alzheimer’s (PET, Vineland Adaptive Behavior Scales, CIBIC-plus). During the activities carried the affective-empathic component was the most important aspect emerged in all patients because part of the relationship with the animal. Furthermore, following the work has been observed an increase in socialization and the rule of attention/concentration, and memory was preserved. From our observations, it appears that the zootherapy, understood as a non-pharmacological therapy, is designed as a complete therapeutic coverage, synthesis of unconventional treatments already in use, which can stimulate and strengthen at the same time, through the presence of the animal, the three areas of the brain affected: cognitive, motor and affective areas. Our studies about Alzheimer disease suggest that the zootherapy as valid summary of all non-drug therapies currently in use.

Ability of teachers to manage rabbits kept for educational use in Japanese kindergartens

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

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Traditionally Japanese kindergartens have kept small animals for educational use. Rabbits are the most popular animals at kindergarten (Mikami et al., 2008; Kawazoe et al., 2008). However, our previous study has found low standards of keeping rabbits in the premises. We assumed that teachers’ limited knowledge and poor handling skills of rabbits were responsible for poor animal well-being. The aim of our study was to assess the ability of teachers to manage rabbits kept at kindergartens. In the first place, questionnaires on the current conditions of keeping animals were
sent to 402 kindergartens in the western region of Japan. Then, both a quiz (behavior, physiology, nutrition and handling of rabbits, etc.) and a questionnaire (how rabbits were managed, etc.) were sent to the teachers to evaluate their knowledge and skills. A total of 285 kindergartens completed and returned the questionnaires (70.9% response rate). Of these, 59.5%, 47.9% and 33.7% kept rabbits, turtles and small birds, respectively. Most of the rabbits were mongrels but their pedigree was not traceable. The average number of rabbits per kindergarten was 3.2 (SD±4.0). Although the Japanese Veterinary Medical Association recommended kindergartens to keep less than 3 rabbits, about 20% of the respondents kept more than four rabbits. Based on the quiz and the questionnaire, the ability of teachers showed a tendency to be lower than the minimum standards in order to maintain the desirable well-being level of rabbits. Our urgent task is to develop teacher educational programs for managing rabbits at kindergarten.

The Effects of Dog Ownership on Social Cognition Skills
Category: Responses to Human-Animal Interactions and Human Animal Bond

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Research findings in the field of human-computer interaction suggest key differences in how dog owners interact with agentic computer systems such as on-screen characters and robots. The goal of this study is to better understand the factors that shape these different interactions by testing the following hypothesis: through experience, dog owners develop a greater sensitivity to reading socially relevant cues, which improves their social cognition ability with other agents. The study follows a three-by-two, between-participants design, with prior experience with dogs (low, owners, professionals; per Wan & Champagne, 2011) and short-term exposure to stimuli (dog, inanimate object) as independent variables and decoding ability as the dependent variable. In addition, a questionnaire measures personality and demographic characteristics such as depression and stress as covariates for analysis, as a preliminary survey with 80 participants (22 pet owners, 58 non owners) showed marginally lower levels of depression (F=3.21, p=.08) and stress (F=3.01, p=.08) among pet owners. In the study, the participants first interact either with a dog or solve a wooden puzzle. They then interact with a humanlike robot in four tasks that involve decoding cues from the robot's verbal and nonverbal behavior. Data analysis includes two-way fixed-effects analysis of covariance (ANCOVA) tests with the independent variables as fixed effects, personality and demographic characteristics as covariates, and decoding ability as output variables. Data collection is ongoing and final results will be presented at the conference in July 2013.

Renting with pets: finding, keeping and affording pet friendly housing in Sydney, Australia
Category: Social and Sociological

Emma Power University of Western Sydney, Penrith, Australia
For people renting with pets the search for adequate and affordable housing is fraught. Media reports suggest it is difficult for pet owners to secure appropriate accommodation and that this can trigger pet relinquishment, an observation supported by scholarly research. However, while much research addresses the
animal welfare outcomes of pet-restrictive housing, there is little understanding of social experiences and outcomes for pet owners. This paper speaks to this gap through research about pets in the rental market in Sydney, Australia. This is the first substantive Australian study of pets and renting.

The paper presents the first results, drawing from a survey and in-depth qualitative interviews with pet owners. The survey (currently underway) investigates renters' experiences seeking rental housing, interactions with real estate agents, tenancy agreements relating to pets, housing affordability and pet relinquishment. In-depth interviews examine these experiences in-depth. Survey data is being analysed in SPSS; verbatim transcripts of interviews are thematically analysed using QSR N*Vivo.

Data suggests that renters are seen as less responsible pet owners than people who own their own home and that they face distinct challenges finding appropriate housing. Low income renters are at particular risk and report feeling forced into sub-standard, high-cost housing. Keeping pets illegally, notifying landlords of pets after approval is granted and offering additional bond payments (illegal under tenancy legislation) were three strategies used by renters to secure accommodation. Some described the experience in language of discrimination. People renting in apartments appear particularly vulnerable and subject to eviction if neighbours complain.

**Dancing program with animals (Doggie Doggie Dance) for retarded children as Animal Assisted Therapy**

Category: Responses to Human-Animal Interactions and Human Animal Bond

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The goals of "Doggie Doggie Dance program" which established in 2009 and performing various shows was to increase retarded children's self-confidence through leading the animals and to progress emotional and physical ability affected by handicap

We organized the group which consisted of 6 elementary-level students with mental retardation in Kyung-buk Young-kwang school of special education, a special school in South Korea. They did not have any repulsion to assistance animals and were recommended by special education teachers and their parents.

To establish a rapport, the students with mental retardation lived with assistance animals such as dogs, birds, and mini pigs daily. To perform a showing, we taught them basic animal contact methods, training and dancing with diverse music one or two hours once a week.

After the activities of group for four years from 2008, students' overall ability was improved across emotional and physical aspects compare with other mental retarded students. The most effective emotional aspect was consideration of others. By spending time with animals, the use of abusive language decreased and the students cared others as they think and consider animals first. Thus, the spirit of team work was improved naturally because they had to perform together with other members
and animals.

The most noticeable feature in physical aspect was increased flexibility. In addition, reflex was improved by preparing for the unexpected moment on the stage and spatial/perceptual ability which is for understanding bilateral symmetry is also improved through progress in balance of body.

Animal-assisted activity with a dog and robot-assisted activity with the robot seal Paro in health promotion for elderly with dementia at nursing homes. Category: Responses to Human-Animal Interactions and Human Animal Bond

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Fall accidents are an important cause of disability and mortality among elderly, and a reduction in factors related to the risk of falls could be of substantial value. The overall research aim of this study is to investigate effects on measures related to risk factors of falls among elderly with dementia at nursing homes participating in animal-assisted or robot-assisted activity. The study is planned as a prospective and cluster randomized multicenter trial. A total of ninety elderly at twelve nursing homes in three counties in Norway will be recruited. Inclusion criteria are age over 65, and a diagnosis of dementia or having a cognitive deficit measured as a score less than 25 on Mini-Mental State Examination. After recruitment the participants at each nursing home will be randomized to one of the following conditions; animal-assisted activity, robot-assisted activity, or a control group with treatment as usual. The intervention will consist of 30 minutes sessions two times a week for 12 weeks in groups of 4-6 participants. Cornell scale for depression, The Brief Agitation Rating Scale and Dementia Care Mapping will be assessed before the intervention starts, during intervention, and at the end. A follow-up will be carried out three months after. Two of the sessions will be video-recorded to investigate contact with the animal or the robot, and social interaction in the group. Physical activity during day time and quality of sleep will be measured using actigraphy. Practical implementation of the intervention will start during the first quarter of 2013.

A comparison of people with their guide dogs or companion dogs: daily walking and dogs' social interactions

Category: Responses to Human-Animal Interactions and Human Animal Bond

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Benefits of dog-walking are well documented, but there is scarce research focusing on physical activities of people with assistance dogs. Further, besides the healthful effects the people receive, the assistance dogs’ welfare is less documented. Some people even criticize that assistance dogs have too little freedom.

We conducted a web-based survey to investigate: the participants' walking time and perceived psychological benefits from their dogs, and their dogs' physical activities
and social interactions. The differences among the groups: guide dogs (GD; n=230), large companion dogs (51+lbs, LCD; n=329), and small companion dogs (under 51lbs, SCD; n=236), were analyzed using Kruskal-Wallis tests, and Mann-Whitney tests (Bonferroni correction, significance level: \( p<0.017 \)).

The participants' total walking time (with and without a dog) was significantly longer in the GD group compared to LCD and SCD groups. The GD group felt their dogs lessened their discomfort when meeting people in public more often than the SCD group. The GDs spent significantly more time with the main guardian, and met more people per day, while spending less time walking or playing with other family members compared to LCDs and SCDs. There were no differences among the groups in the number of other dogs the dogs greet per day, and the frequency of going to dog parks or open areas where dogs can run free.

The results indicate that GDs facilitate the physical activities of their partners even more than CDs do, and that GDs have a level of physical activities and social interactions similar to CDs.

**Construction of Children's Canine Care and Welfare knowledge Scale; Understanding the Link between Canine Welfare Knowledge in Children and their Perceptions of Dogfighting to Inform Responsible and Caring Canine Ownership Education Interventions.**

Category: Social and Sociological

Maria Iliopoulou, Rene Rosenbaum  
*MSU, East Lansing, MI, USA*

In Michigan, dogfighting is thriving. In Detroit it appears that the increase in the prevalence of the illegal blood sport seems to be associated with a lack of appropriate resources, interventions and education aiming to prevent and combat dogfighting and the associated animal cruelty. To deter dogfighting, there is a need to develop valid methods to assess canine care and welfare knowledge and its relation to how children perceive the canine abuse associated with dogfighting to inform educational interventions. Humane education has been employed to educate children for more than one hundred years. However, the research linking canine care and welfare knowledge in children to how they perceive the treatment of dogs has not been used to develop educational interventions or to evaluate their effectiveness. The purpose of this cross-sectional study is to inform education interventions and evaluations by developing a valid and reliable scale that measures the level of canine care and welfare knowledge in children. Additionally we will investigate how children’s perceptions of dogfighting as animal abuse are influenced by demographic factors such as their family’s perceptions, socioeconomic status, dog ownership status, sex, and age. We hypothesize that children’s perceptions of dogfighting as animal abuse are positively related to high level of canine care and welfare knowledge. The study population will be 500 children of the ages of 11 to 19 years old from the Youth Center and School located at YouthVille, Detroit and other schools in Michigan.

**Vets in the city: how better advocacy and collaboration by veterinarians - and other companion animal professionals - to protect dog-friendly greenspace is good for business, good for animal welfare and good for the human-animal bond.**
Stephen Jenkinson1,2 1Access and Countryside Management, Orkney, Scotland, UK, 2The Kennel Club, London, UK

Many social, health and behavioural benefits of the human-canine bond are dependant on sufficient dog-friendly greenspace in town and country, especially when off-leash exercise is permitted.

Yet across the globe, dog walkers are being forced into ever smaller greenspaces, due to urbanisation and concerns about conflicts with wildlife and other interests. This has acute implications for animal welfare and the pet care industry.

In a 2012 survey of 1,161 dog carers in England, 28% said they would walk their pets less frequently, and 16% said they would be less likely to get another dog, if dog-friendly access was further curtailed.

Rarely are greenspace restrictions built on robust evidence about impacts, or collaborative approaches to resolving conflict. A 2011 review of leash law proposals in the United States, highlighted how they can become polarised, undemocratic political squabbles that divide communities and overlook the societal benefits of dog ownership.

The involvement of veterinarians and other companion animal professionals can bring legitimacy, influence and scientific rigour to the provision and protection of dog-friendly greenspace, for the benefit of all concerned, as well as their businesses.

Case studies from 3 continents illustrate both missed opportunities and how companion animal professionals can be a catalyst for positive collaboration with wildlife, farming and civic interests, in one case positively changing greenspace legislation against the ruling Government’s wishes.

This presentation will inspire delegates about how it makes good business sense to become authoritative, proactive advocates for their clients’ greenspace needs, and so enhance the human-animal bond.

**Therapists’ Approach to Animal-Assisted Therapy for Children and Adults with Attachment Avoidance and Anxiety**

**Category:** Psychological Responses in Human-Animal Interactions and Human Animal Bond

Sigal Zilcha-Mano Interdisciplinary Center (IDC), Herzliya, Israel

**Background:** Based on empirical findings showing that animals can serve as attachment figures and fulfill people’s attachment needs (Zilcha-Mano et al, 2011a, 2011b, 2012), it has been suggested that attachment theory may serve as a useful theoretical framework for Animal-Assisted Therapy (AAT; Zilcha-Mano et al., 2011b).

**Purpose:** To examine how an attachment-oriented therapist should approach the facilitation of therapeutic change with the client in the Animal Assisted Therapy.

**Methodology:** Interviews were conducted with therapists (N = 25) and included a list
of open-ended questions asking how therapists would approach clients described in brief vignettes as having attachment problems.

**Statistics/Results:** A coding team qualitatively analyzed the data, using a thematic analysis approach (see Braun & Clarke, 2006, for more details).

Findings demonstrated the importance of the attachment towards the therapeutic animal within AAT as a primary catalyst for change. Specifically, skillful therapists were able to facilitate the formation of attachment relationships with the therapeutic animals, providing a secure base and safe haven for clients. Moreover, the findings show that with the mediation of the therapist, secure attachment to the therapy animal may provide a corrective emotional experience through which a client eventually comes to rely more on security-based strategies to regulate affect, and develops more effective emotional competencies to form satisfying attachments with others.

**Conclusion/Implications:** The findings demonstrate how attachment theory can be used to gain a better understanding how therapeutic change can be facilitated in AAT.

**Do people form an internal emotionally secure script in their attachments to animals?**

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

Sigal Zilcha-Mano Interdisciplinary Center (IDC), Herzliya, Israel

**Background:** Secure-base script represents the ability of an individual to see a significant other as a secure figure providing a safe haven and secure base. While at least some people form secure attachment with their animals (Zilcha-Mano, Mikulincer, & Shaver, 2011a, 2011b, 2012), there are no studies assessing the secure-base script in attachments towards animal.

**Purpose:** To examine whether a secure-base script, which is the basis for healthy emotionality, can be formed in people’s relationships with animals.

**Methodology:** 250 animal owners completed the Pet Attachment Questionnaire (PAQ; Zilcha-Mano et al., 2011), a measure of attachment anxiety and attachment avoidance towards the animal. They were shown two 3-picture sequences that schematically depicted the three major components of the secure-base script, as adapted to the emotional relationship with animals—distress, receipt of support, and relief from distress—and asked to write stories that described the circumstance in each sequence.

**Statistics/Results:** Two independent judges read participants’ stories and rated the secure-base scriptedness of their narratives. A series of multiple regression analyses predicting the judges’ scores of each story were conducted. Results showed that a secure-base script can be formed in people’s relationship to animals and that attachment security was associated with higher levels of secure-base scriptedness.
Conclusion: Relatively secure individuals in the relationship with their animals found to have a more accessible and richer secure-base script than less secure people have; they are “experts” in the use of the emotional relationship with their animal to provide a safe haven and secure base.

Minding the animal side - therapy dogs' welfare in animal-assisted interventions

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

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Over the past decades, the use of animals for human benefit has become popular in mental health institutions. To date, research is primarily centered on human physical and psychological health rather than animal welfare. Thus, the main purpose of our study was to evaluate the physiological and behavioral effects of animal-assisted interventions (AAIs) on therapy dogs (n = 21). The dogs participated in weekly group therapy (8-10 patients) sessions in adult mental health care. We determined home and pre-post session levels of salivary cortisol, a glucocorticoid hormone which fluctuates with psychological stress and arousal. Moreover, video recordings were analysed to monitor dogs' motion (lay, sit, stand, walk and run) and specific behaviors (yawning, lip licking, paw lifting, body shake and body stretch). We found that salivary cortisol levels do not increase during AAIs in certified, experienced therapy dogs or therapy dogs in training. However, in dogs that are off the lead, working cortisol levels significantly decreased in comparison to dogs on the lead. In addition, there was no difference between baseline samples taken at work or at home. Video analysis of five dogs' motion and specific behaviors during five subsequent AAI sessions indicated no differences in frequency or duration of target behaviors, but negative correlations of lip licking and cortisol were detected. The results of this investigation shall provide insights into the physiological and behavioral welfare of dogs in AAIs. In a follow up study, we included additional measures of stress (salivary IgA and alpha-amylase).

What's Working: Successful Practices of a Local AAI Organization

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

Janelle Nimer, Debbie Carr, Stacy Grover Therapy Animals of Utah, Salt Lake City, UT, USA

Therapy Animals of Utah, an affiliate of Pet Partners, formerly the Delta Society, recently celebrated its 15 anniversary. During this time it has built a strong reputation
for excellence in training, skilled handlers with loving, appropriate animals of many species, and positive support to solve member and facility problems.

The mission of Therapy Animals of Utah is to bring love, comfort, hope and healing to those in need through the miracle of the human-animal bond. It has approached this mission through training of new Pet Partner handlers, team evaluations, mentoring and on-going support of working teams, facility assessment and staff training, and public education.

In this presentation, we will share more specifically the teamwork, expertise, and tools we have developed for each step of the process of bringing skilled human-animal therapy teams together with professionals and their clients. We will describe and show photos of the new Pet Partners handler training core course that our instructors helped to develop. We will share the benefits and organization of training teams and evaluation teams. We will describe our site assessment process and demonstrate the computer-based staff training that we provide for the staff of facilities we serve. Those who attend our session will be able to discuss our mentoring process, view the mentor checklists we developed, and hear how our staff continues support of our members. We will briefly describe our public education efforts in cooperation with the University of Utah.

**Does charging contribute to reducing pet abandonment in Japan?**
Category: Social and Sociological

Yuki IWAKURA Sapporo University, Hokkaido, Japan

In Japan, pet owners take their pets to local government shelters when they can no longer keep them. Because only a few of these pets find new homes, most of them are killed. There are three ways to decrease the number of kills at shelters: 1) increase adoptions, 2) increase animals' time at the shelter, or 3) reduce the number of animals taken to the shelter. An increasing number of shelters have begun to charge for taking pets in by way of attempting to make it more difficult for people to abandon their pets. Charges range up to 3500 yen per animal, but price determinants are unclear. This study, which focuses on reducing the number of animals taken to shelters, examines the pricing mechanisms and charging incentives of those shelters that charge, attempting to verify whether charging reduces pet abandonment. The perspective examined in this study is that of the management. The advantages and disadvantages of charging are weighed and a before-and-after comparative analysis done on shelters that have begun to charge. Problems stemming from charging are examined and shelters that have reduced the number of animals taken in are analyzed. According to the findings, attempting to persuade people to keep their pets when they bring them to the shelter may be effective. Charging is not the ultimate solution, as one negative aspect is the possibility of causing a "rebound phenomenon"—that is, a subsequent increase in instances of pet abandonment.

**Dog-handler teams evaluation in Animal Assisted Interventions (AAI)**

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond
The evaluation of animal-handler teams is essential to warrant the effectiveness of Animal Assisted Interventions (AAI) and the wellbeing of all members involved (Fredrikson et al. 2010, Butler 2004). Despite there are protocols to assess animal-handler teams (i.e Pet Partners, Delta Society), these are not scientifically standardized and are centered on animals' skills and temperament, without deepening human handlers' competences and setting's variables (Serpell, 2001).

This study aims at creating a standardized screening procedure to evaluate pet therapy teams, appraising both dog's sanitary, behavioral and educational features, and handler's personality, theoretical and practical knowledge.

Sixty couples till now were exposed to different kind of assessments and divided into three experimental groups: experts, beginners and non-professional, basing upon their expertise in AAI. Handlers were tested using personality questionnaires (BFQ-2, EQ-i) and an ad hoc questionnaire to measure their knowledge about AAI and dog management. The couples were observed during a role-playing that simulated a pet therapy session, presenting various conditions and unexpected stimuli that could occur during clinical experiences. Informed consent was obtained and the couples were video recorded. Videos were coded and analyzed using the OBSERVER-XT. The results show no significant differences between the three groups in the questionnaires but the role-playing suggests that professional handlers are more capable to organize the environment respecting both dog's and humans' wellbeing and safety and have a better control over their dog's behavior. Even if further work is needed, this evaluation protocol seems to be useful to identify qualified pet therapy teams.

The qualitative evaluation of stimuli derived from a cat with using a functional near infrared spectroscopy.

Category: Biological (Physiological) Responses in Human-Animal Interactions and Human Animal Bond

Ai Kobayashi, Teppei Maruko, Nobuyo Ohtani, Mitsuaki Ohta Azabu University, kanagawa, Japan

Many studies showed that animals had effects on human physical and mental health (Wells, 2009). Although, for example, in horses riding and dogs walking induced advantage to body function and mental condition (Sterba et al., 2002; Johnson and Meadows, 2010), there are few studies about the mechanism how cats effect on human health. The aim of this study is to investigate the effect of touching a cat on human brain by using the functional near infrared spectroscopy (fNIRS). Subjects were 32 undergraduate students (7 males, 25 females, mean age = 20.13 ±1.24 years, all right-handed). We set five tasks to investigate the effect of common
interaction; watching a cat in video, watching a real cat, touching a doll cat, touching a short-haired cat, touching a long-haired cat. The mean of oxy-Hemoglobin changes during a task, in previous study termed 'activation values', were calculated and used all statistics analysis (Aoki et al., 2011). As a result, the activation of blood flow in prefrontal cortex (PFC) was not shown in watching video but partly shown in watching the real cat. Although the touch movement widely increased the blood flow in PFC, the activation values of touching the short and long-haired cats were significantly greater than those of doll cat in right inferior frontal gyrus (IFG). Because it is known that this region concerns the emotional empathy and social communication (Simone, 2009; Delia et al., 2012; Grosbras, 2012), human might communicate with a cat as with other human.

Measuring the Well-being of Therapy Dogs: Regulatory and Practical Experiences in Two Settings
Category: Responses to Human-Animal Interactions and Human Animal Bond

Julia D. Albright, John C. New, Jr. College of Veterinary Medicine, Knoxville, TN, USA

Although many believe that most therapy dogs enjoy their work and such interactions provide enrichment for the dogs, some therapy animals may be burdened by this type of work. This session has two goals. The speakers will provide the delegates with 1) descriptions of some of the current approaches that have been used to evaluate the impact of AAI on therapy dogs including the benefits and challenges of each approach, and 2) share experiences in measuring the well-being of dogs visiting children receiving outpatient treatment for chronic diseases and children in classrooms. We used a systematic and empirical evaluation of the potential risks to dogs imposed by current practices and will review our experiences with Institutional Animal Care and Use Committees (IACUC), Institutional Review Boards (IRB - human subjects), and issues with volunteer perception and compliance. We will present preliminary canine behavioral and biomarker data from the hospital and school settings, including the varying environments and stresses that are unique to each setting. The need for objective evaluation protocols will be discussed to help the delegates become more aware of possible assessment procedures, and their obstacles. For Animal-Assisted Therapy to achieve its maximum therapeutic efficacy, the clinical and research community must become more aware and respectful of the quality of lives of animals being used to improve the well-being for humans. Not only will the therapy animals benefit from this orientation, but the effectiveness of the therapy will be improved.

Psychophysiological effects of a dog’s presence on children’s attention and concentration performance as well as learning.
Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

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Several studies have already investigated the positive influence of dogs on human
attention and concentration, but none of them has found an effect that was directly measurable in an attention or concentration test.

The present study therefore examines the question if interacting with a dog influences children's measurable attention and concentration abilities as well as memory. 24 children between 10 and 14 years old without any attention problems were investigated in a randomized, controlled and blind cross-over design. The children completed a memory task as well as three neuropsychological attention tests twice, but a week apart, and could interact with a dog or a dog robot (AIBO®, Sony) for 15 minutes before the tests. During the attention tests frontal brain activity was assessed via pIR-HEG (passive infrared hemo-encephalo-graphy). Statistical analysis was performed using paired t-tests or Wilcoxon signed-rank tests as well as beta regression coefficients.

In the memory task as well as in the attention tests an increase of performance was found after the interaction with and during the presence of the dog. In addition, the reduction of the frontal brain activity during the AIBO condition in the last task was prevented in the presence of the real dog.

The results show that contact with a dog and the presence of a dog during concentration and attention tests, but also for memory functioning, are not a distractor and can even lead to better results.

Cognitive Predictors of Assistance Dog Success
Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

Evan MacLean, Brian Hare Duke University, Durham, NC, USA

Assistance dogs perform a variety of roles that enrich the lives of people worldwide. As the demand for these dogs has risen, the supply of dogs has fallen far short of societal needs. One factor limiting the rate at which assistance dogs can be placed with clients is high attrition rates from training programs. Consequently there is an urgent need to develop screening criteria capable of identifying dogs likely to succeed in assistance dog training programs. While many studies have addressed the physical or temperamental requirements for success, we know relatively little about the cognitive skills of successful assistance dogs. To address this need, we have developed a test battery designed to measure dogs' cognitive skills in a range of contexts relevant to assistance dog work. Specifically, the Dog Cognition Test Battery assesses skills relevant to social cognition (e.g., communication, intention reading), physical cognition (e.g., navigation, spatial memory) and domain general processes (e.g. inhibitory control, working memory) using short-format behavioral tests based on previously published studies of dog cognition. We have administered this test to a group of dogs being trained for assistance roles and have analyzed which cognitive skills characterize the most successful dogs. Our results indicate a subset of cognitive skills that are correlated with assistance dog success. Tests for these skills can now be integrated with current medical and temperamental screening processes to help identify the dogs most likely to succeed in assistance dog training programs.

Behavioural reactions of elderly people during bi-weekly visits with either a
**dog, a robot seal (PARO) or a soft toy cat**
Category: Responses to Human-Animal Interactions and Human Animal Bond

Karen Thodberg¹, Janne Winther Christensen¹, Poul Videbech²
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The use of animals, especially dogs, for pleasure or as a therapeutic tool in nursing homes is becoming more widespread. Previous studies suggest that contact to dogs can have positive effects on elderly people, but there is a lack of knowledge about specific pathways of such effects.

The present study compared acute behavioural effects of bi-weekly visitors accompanied by either a dog, a robot seal (PARO) or a soft toy cat, to investigate whether type of visit affected the receivers differently.

A total of 120 inhabitants from four Danish nursing homes were included after a declaration of informed consent had been signed. Each participant received a total of 12 visits, during which the behaviour, including interactions between the visitor and the accompanying “animal” were registered, using ethological methodology. Furthermore, a database was established containing data on age; gender; physical handicaps; diagnosed psychiatric diseases, including dementia; and number of visits from friends and relatives.

Data collection will finish by the end of October 2012. The behavioural data will be analysed in a mixed linear model with visit type as fixed effect; nursing home as random effect, and estimated degree of dementia, age, and social contacts as covariates.

The results will contribute with more knowledge specifically on how interactions with a dog compared with animal-like objects differ, and it is expected that effects differ according to the state of the person. Finally, these results will help target future programs for animal assisted interventions in nursing homes.

**Homeless with a dog: between marginalization and hope of rehabilitation**
Category: Social and Sociological

Christophe Blanchard
Université d’Evry Val d’Essonne, EVRY, France

Is homelessness well suited with dog ownership?

This provocative question hides a sad reality: Presently in France, due to the lack of adequate institutional and social solutions to take charge of the man and dog team, more and more of these vulnerable homeless dog owners are trapped in homelessness making it more difficult to get out of the situation. The Public is very suspicious of them and they are stigmatized. Nevertheless, these owners and their dogs have developed a very special and strong relationship. Then social workers could build up on this peculiar bond so that to facilitate the rehabilitation of these homeless dog owners.

Our research investigates the ins and outs of this new form of social marginalization induced by dog ownership. Furthermore, we shall present several innovative projects where canine mediation has been a key element for the successful social
rehabilitation of these people.

**Animal-assisted intervention for autism: A systematic literature review**

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

Marguerite E. O'Haire *The University of Queensland, School of Psychology, Brisbane, Queensland, Australia*

This paper presents a systematic review of the empirical research on animal-assisted intervention (AAI) for autism spectrum disorder (ASD). Following an exhaustive literature search, 14 studies published in peer-reviewed journals between 1989 and 2011 qualified for inclusion. Data extraction items were selected based on three specific aims: (1) describe the characteristics of AAI for ASD, (2) evaluate the state of the evidence base in order to provide recommendations for further research, and (3) summarize the reported outcomes of AAI for ASD. For Aim 1, key characteristics of each AAI were extracted, including terminology, animal, setting, facilitator, format, activities and duration. For Aim 2, methodological components were extracted, including sample size and characteristics, study design and controls, and assessment measures. For Aim 3, study outcomes were recorded and later organized into thematic categories. Results indicated that the presentation of AAI was highly variable, with no protocol replicated in more than one study. The evidence base was subject to many methodological weaknesses, such as small sample sizes, limited or absent controls, and the use of biased informants. However, reported outcomes for the reviewed studies were unanimously positive. They included improvements for multiple areas of functioning known to be impaired in ASD, namely increased social interaction and communication as well as decreased problem behaviors, autistic severity, and stress. Taken together, this review demonstrates that AAI is in the first phase of research as a new psychosocial intervention for ASD, in which initial studies provide “proof of concept” prior to technique refinement and manualization.

**The Pet Assisted Living intervention for functional status in assisted living residents**

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

Erika Friedmann, Elizabeth Galik, Sue A. Thomas, P. Sue Hall, Sandra McCune

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**Background**

In older adults decreased functional status requires relocation from home to the Assistive Living (AL) or increasingly care intensive, restrictive, and expensive environments. Studies of older individuals support positive effects of pets on their health and functional status.

**Purpose**

Purpose was to evaluate the effectiveness of the Pet Assisted Living (PAL) program
intervention to maintain physical, emotional, and behavioral function in AL residents with dementia.

Methods

40 residents in AL facilities with mild-moderate cognitive impairment and without known dog allergies/fears. Informed consent by legal representative; resident assent. Two 60-90 minute sessions (PAL or control)/week for 3 months.

In PAL(n=22) interventionist encourages residents to perform skills with the visiting dog including: Activities of Daily Living (ADLs), small and large motor skills, sequencing events, and social skills. In control(n=18) interventionist uses prompt materials to encourage participants to reminisce about their experiences. Monthly assessment of physical (amount of walking, gait and balance, ADLs), emotional (depression and apathy), and behavioral (agitation) function.

Results

All participants who remained in AL completed the study; 2 died of study-unrelated causes. Informal reports indicated residents enjoyed both groups. AL staff stated participants completed activities during PAL that they had not done previously.

Conclusion

Comparison of longitudinal changes in the outcomes between the groups using linear mixed models is underway. Data collection is ongoing and final results will be presented at the conference. The residents and staff are happy with the PAL intervention. It occupied the residents and gave them something to look forward to.

Animal use in animal-assisted interventions: A roadmap to ethical practice
Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond
Jennifer Pearson Institute for Human-Animal Connection, Graduate School of Social Work, University of Denver, Denver, CO, USA
Animal-assisted interventions (AAIs) are the deliberate inclusion of animals into a variety of therapeutic settings to promote human mental and physical health. Currently thousands of animals of numerous species around the globe are being utilized in this ever-growing modality, yet no cohesive code of ethics or standards regarding the welfare of therapy animals has been established. An exploratory qualitative study was conducted to assess the present state of animal use ethics for therapeutic applications and to determine crucial steps for the AAI field that can help promote best practice. Purposeful sampling was employed to target individuals who held leadership positions in national or international therapy animal organizations, in academic teaching positions and/or regularly conducted practitioner trainings, and had at least ten years’ direct practice experience in AAIs. Six participants were interviewed in a semi-structured guide format. Data were analyzed using a combination of in vivo coding, pattern coding and domain analysis. Main findings included key concerns and recommendations regarding welfare of the animal participants. Additionally, an emergent “roadmap” theme illuminated sequential steps that individuals and organizations may follow in order to ensure ethical use of animals in AAIs and maximize the benefits to human recipients of
these services. This “roadmap” indicates critical areas for further study in the field of AAIs.

How does Animal-Assisted Group Psychotherapy (AAGP) for children Work?
On the Way to Establishing Theory and Research
Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond
Orit Harel, Bar Ilan University, Ramat Gan, Israel
Group psychotherapy, a cost efficient therapy solution in institutions and found to be beneficial therapy for children suffering from a variety of problems, has been the subject of much research. Many studies have searched for the factors resulting in therapeutic change and success in group settings. Yalom has conceptualized 11 therapy factors, four of which have been ranked in research as top factors in child group psychotherapy: altruism, individualism, learning social skills, and group cohesion. Research in the field of the human-animal connection is replete with evidence that animals boost a sense of trust, intimacy, and enjoyment, as well as lowering stress. One may hypothesize that the addition of an animal to group psychotherapy will boost the functioning of the therapeutic factors which have been found to be important in groups of children. Lately, many schools in Israel have invested in the development of petting zoos and there is a growing phenomenon of AAGP, however each place has independently developed its own method since there is no organized theory of AAGP. The author is currently conducting a qualitative research study, interviewing clients and therapists of AAGP in order to conceptualize the theory of AAGP as it is developing in the field. This presentation will cover the relevant literature which serves as a basis for the research hypotheses and will present examples from therapy and interviews with therapists and clients. This is the first discussion of a group therapy for children, in the context of animal assisted therapy.

Changing conceptions of ‘health’ and ‘care’: the humanisation of the companion-animal human relationship
Category: Social and Sociological
Rebekah Fox, Sandra McCune, 1 Uppsala University, Uppsala, Sweden, 2 WALTHAM® Centre for Pet Nutrition, Waltham on the Wolds, Leicestershire, UK
The past 20-30 years have seen a profound shift in attitudes towards companion animals who have become re-positioned as individuals and sentient beings, worthy of study and attention. This shift has coincided with a massive commercialisation of the pet-keeping industry, with huge advances in animal medicine and nutrition, and all manner of luxury products and services becoming available. Such advances have brought vast benefits for both humans and animals in terms of longevity and quality of life, but have also led to new debates regarding appropriate treatment of animals. Where once animals were usually only taken to the vets in case of accident or illness, or for major procedures such as neutering, today there is an increasing focus on preventative treatment mirroring that available to human patients. Such changes have coincided with a massive increase in the uptake of products such as pet
insurance as ever more complicated and expensive treatments become available, but also a worrying rise in conditions such as pet obesity, closely following trends in human health. In-depth qualitative interviews will be conducted during 2012/13 with both pet-owners (n=20) and professionals involved in the British pet-keeping industry (n=20) and analysed using thematic analysis to explore the social, economic and health consequences of these new definitions of ‘love’ and ‘care’. Preliminary results show changes in both attitudes and spending on companion animals in an increasingly commercialised and medicalised western society, with pets often viewed as members of the family and incorporated in everyday human activities and consumption patterns.

**Enhancement of mentalization and mindfulness skills in patients with personality disorders through a horse-dog combined AAI.**

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

Géza Kovács Mental Health Care Cooperation Ars Curae, Amstelveen, The Netherlands

Objective:

*Mentalization* has been identified as an important process in treating various mental disorders, specially personality disorders. The concept of *mentalization* refers to the ability to be reflective on one’s and others thoughts, behaviour and feelings. Early disruption of affectional bonds in human life will increase the risk of later maladaptation through impaired mentalization.

*Mindfulness* refers to deliberate non judgmental attention to the here-and-now.

In this presentation we want to formulate how these complementary techniques help to identify how the interpretative character of experiencing the world is formed and how both techniques strengthen the capacity for self-and affect-regulation in *Equestrian Focal Psychodynamic Psychotherapy* (EFPP). EFPP is based on contemporary psychodynamic psychotherapy structures in which dogs and horses are included.

We hypothesize that enactments with dogs and horses in EFPP have a complementary function in increasing mentalization and mindfulness skills. Dogs can relate by its loyalty, playfulness and symbiotic stands to early developmental stages of humans. The horse can relate to later stages in human development: separation-individuation-stage.

Method:

We present a theoretical framework that incorporates the mentioned concepts. This framework helps us together with qualitative analysis of interviews (N=15) to explore how the included dog-horse combination benefits patients with personality disorders.

Results/Conclusion:

The intersubjective relationship between patient - dogs and horses provides access
to the dissociated parts of the patient’s self. Both animals encourage tactile and sensory experiences.

Dogs have a distinctive function for bonding and consolation that helps the patient to cope with the more confronting experiences with the horse.

If Equine Assisted Social Work is the answer what is the question? An exploratory study to investigate the role of Equine Assisted Social Work used as a complementary to residential treatment for girls with self harm problems and who can be suicidal.

Catharina Carlsson Linnaeus University, Kalmar, Sweden

Previous research in the field of Equine Assisted Social Work (EASW) has been almost entirely focused on effects and not on the process and the discrepancy between the qualitative studies and quantitative studies (Pauw, 2003) sparked the interest for what is in the black box in EASW. The study investigated the role of EASW used as a complementary to residential treatment to girls with self harm problems and who can be suicidal. At first interviews was made with 8 of the staff and 9 of the girls. 4 of the staff and 4 of the girls was observed followed by depth interviews. Constant comparisons between the girls, staff and between the staff and girls were made in the analysis. The results raises the possibilities to suggest that the question to the answer Equine Assisted Social Work is how can we make it easier to work with professionals and clients autentic emotions wich is a prerequisite for achieving relationships between client and staff, raised as the main ingredient in all human service work. One factor that contributes to this seam to be the horse's ability to obtain professional and client to be in the moment and the ability to read emotions and to provide direct feedback in a way that does not raise the defense of clients wich in turn could affect motivation. More research is needed to clarify the conditions required for using the horse effectively utilized as mirror for emotions wich the results in this study highlights.

Companion animals as a conduit for fostering social networks and social support

Lisa Wood1, Hayley Christian1, Andrea Nathan1, Claire Lauritsen1, Karen Martin1, Stephen Houghton1, Ichiro Kawachi2, Sandra McCune3 1The University Of Western Australia, Perth, Western Australia, Australia, 2Harvard University, Massachusetts, USA, 3WALTHAM Centre for Pet Nutrition, Leicestershire, UK

Background:

Growing evidence indicates loneliness and absence of social support are significant risk factors for poorer mental and physical health. Most research to date considers companion animals as being a direct source of support to their owners. This study looked beyond direct support and considered the broader ripple effects of companion animal ownership as a catalyst for friendship formation, social networks and social support.

Purpose:
To empirically examine the relationship between pet ownership, local social network ties and different forms of social support.

Methodology:

A random telephone survey of residents in one Australian (Perth; n=704) and three U.S. cities (San Diego, Portland, Nashville; n=700 each) was conducted in 2012. Differences between pet and non-pet owners were analysed separately for each city using chi square statistics, independent t-tests and logistic regression to adjust for demographics.

Statistics/Results:

Preliminary results indicate more Australian pet owners than non-pet owners had gotten to know new people in their area since moving (89% vs. 81%, p=0.003), dog walking being the third highest mechanism for friendship formation. Pet owners had greater network ties within their neighbourhood than non-pet owners (71% vs. 55%, p<0.001), 52% having met someone through their pet that could be approached for advice or a favour. U.S. data collection is ongoing and results will be compared in the presentation.

Conclusion/Implications:

Social isolation and a lack of social support are detrimental to both individual and community wellbeing. This research suggests companion animals may be an under-recognised mechanism for strengthening social networks and social support.

**Self-evaluations of relationships with animals by mentally disordered adolescents**

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

Sandra Wesenberg *TU Dresden, Dresden, Germany*

Each person experiences the interaction with a companion animal in a different way and individually appreciates this relationship. The potential benefits of human-animal-interactions are partly determined by these individual experiences. The purpose of the present study was to investigate self-evaluations of relationships with companion animals by comparing adolescents with and without mental disorders.

65 young people (25 with mental disorders, 40 without mental disorders), aged between 11 and 18, participated in this study and were evaluated based on several questionnaires, e.g. the Animal Relations Questionnaire (Beetz & Ascione 2004, Beetz n.d.). Mann-Whitney U test and the Fisher-Yates exact test were used for statistical analysis.

The results show distinct differences between the healthy subjects' relationships with pets and those of the adolescents with mental disorders, in terms of attachment behavior and quality of bond. Youth with mental disorders show significantly higher scores in "trust to animals" and attachment styles "caring" and "insecure-resistant". Furthermore they show significantly lower scores in attachment style "dismissing".
The present findings illustrate the importance of attachment to animals for adolescents with mental disorders. They have confidence in relationships with their pets and conscientiously take care of them.

**Group Agility – Animal-Assisted Therapy and Adolescents with Severe Mental Illness**

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

Mona Tellier1, Maribel Vila1, Eulalia Navarra0,2, Leticia Gimenez0,2, Alexandre Molero0,2 1Positivas Can, Manresa, Barcelona, Spain, 2Benito Menni CASM, Sant Boi de Llobregat, Barcelona, Spain

Project designed to determine whether AAT sessions, based on positive-reinforcement training and agility, will help create a relational framework which enhances the patients’ involvement and facilitates established therapeutic goals.

Patients’ group: 6 to 8 male and female adolescents, 12 to 18 years of age, with severe mental disorders. The AAT team is composed of two handlers and 3 to 5 trained dogs.

A semi-open regimen over the series is adopted in answer to the diversity in personal situations and abilities, with continuing patients mentoring newcomers.

**Specific AAT goals:**

- Frustration tolerance, impulse control.
- Improve social interaction and skills through group and teamwork.
- Improve adolescents’ interest and motivation.

**Methodology:**

Ten weekly sessions, 60 to 90 minutes long, in the unit’s gymnasium. Involves greetings, briefing newcomers, games and clicker training. Each patient is encouraged to execute the demonstrated agility technique with the dog of their choice. Wrap up with canine-related discussions.

**Observations:**

- Bonding with the dog leads to respect, responsibility and collaboration, in spite of early attitudes of disdain, lack of interest towards animals.
- Elevated self-esteem through increased skills and abilities.
- Cohesive-group dynamics led to increased acceptance and tolerance among participants.

**Overall results:**

Dogs' participatory attitude transmitted to teens, facilitating group activity and
relationships. Greater collaboration among participating patients with regards to their Personal Therapeutic Intervention plans. Recovery and maintenance of good habits and performance capabilities (cognitive, instrumental skills, responsibilities).

Since April 2011, three series of Group Agility – AAT sessions have taken place (total 41 adolescents).

**Effects of an animal-assisted intervention program on nursing home residents suffering from dementia**
Category: Social and Sociological

Sandra Wesenberg *TU Dresden, Dresden, Germany*

In dealing with the steadily increasing number of people suffering from dementia some recent studies provide interesting preliminary results and some evidence for the effectiveness of animal-assisted interventions in this field, but there is undoubtedly a need for more profound high-quality research on the effects.

The aim of the present study is to explore the effects of a structured animal-assisted intervention program on elderly people diagnosed with dementia. The program is based on an already established and verified AAI-program (*Pet Encounters*, Buettner 2008). For a period of six months, 18 participants attended weekly sessions (45 min) in small groups of up to five people. In addition, they participated in another intervention program with equal goals, conditions, frequency and period, but without a dog involved. Sessions in the first, third and sixth month were video-recorded and behavior-coded. The durations of observed social behavior, emotional expression and dementia-related behavioral symptoms were compared overtime and with respect to the two conditions – with and without the presence of a visiting dog.

Data analysis using Friedman rank test showed significantly longer periods of physical contact, verbal communication, attentiveness and positive affects for the AAI-program. Positive changes over time were observed under both conditions, but within the AAI-program participants benefit to a greater extent.

These results suggest that an AAI-program has a highly positive influence on the well-being of people diagnosed with dementia. The positive effects in the AAI-program occur faster and on a broader scale than in a comparable intervention program without dogs involved.

**Breed Stereotype and Effects of Handler Appearance on Perceptions of Pit Bulls**
Category: Social and Sociological

Lisa Gunter1,2 1Foothill College, Los Altos, CA, USA; 2Pawsitive Tails, San Francisco, CA, USA

Previous research has indicated that breed stereotypes exist and that a human handler alongside a dog can affect perceptions of the dog’s temperament. The present study looked at participants’ perceptions of a pit bull-type dog in comparison to a Labrador Retriever and Border Collie; and whether the addition of a rough adult male, elderly woman or male child influences the dog’s perceived characteristics of approachability, aggressiveness, intelligence, friendliness, trainability, or adoptability.
Results indicated that participants viewed the pit bull least favorably in all characteristics when evaluated with other breeds, confirming the presence of a negative stereotype. When comparing impressions of the pit bull alone versus alongside a handler, perceived friendliness and adoptability increased while aggressiveness decreased with the elderly woman and male child. These findings demonstrate how a human handler in photographs can influence temperament perceptions and suggest possibilities in positively affecting perceived qualities of pit bulls among the general population, particularly those who are considering adopting a dog.

**Pounding the pavement: Does dog walking influence perceptions of safety?**

Category: Biological (Physiological) Responses in Human-Animal Interactions and Human Animal Bond

Author's preference: Oral

Hayley Christian¹, Lisa Wood¹, Andrea Nathan¹, Karen Martin¹, Stephen Houghton², Ichiro Kawachi³, Sandra McCune⁴

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**Background:**

Dog walking is associated with increased physical activity. Emerging evidence suggests that dog ownership benefits the broader community and that the visible presence of people walking their dog may be important for collective safety.

**Purpose:**

To examine the relationship between dog walking, physical activity and perceptions of safety.

**Methodology:**

Telephone survey of a random sample of 704 adults (61% pet-owners; 44% dog-owners) from Perth, Western Australia. Data on dog walking, physical activity and perceptions of safety were analysed for non-owners, dog walkers and non-dog walkers using multinomial logistic regression and adjusting for socio-demographic factors.

**Results:**

Overall, 34% of dog owners walked their dog for an average of 95mins/week. Dog walkers walked more, achieved sufficient physical activity on more days/week and were more likely to walk in a neighbourhood park than non-dog walkers (all p<0.05).

A large proportion of dog walkers reported their dog encouraged them to walk (85%), walking their dog helps them feel safer (41%) and that they got to know their neighbourhood through walking their dog (76%). Dog walkers had marginally better perceptions of how safe their neighbourhood was for walking, compared with non-dog walkers and non-dog owners (p<0.05). These results will be compared with data
currently being collected from three US cities (San Diego, Portland, Nashville).

**Conclusions:**

The findings highlight the personal and collective safety benefit to the community from dog walkers being out and about in the community. Dog walking may be an important strategy for improving community perceptions of safety and general sense of community.

**A new paradigm for clinical research concerning animal mediation**

*Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond*

Jessie Ansorge-Jeunier *université Toulouse 2 le Mirail, Toulouse, Midi Pyrénées, France*

There are many methodological obstacles when it comes to assessing the effectiveness of a therapeutic program and that obviously applies to animal mediation. Despite the few systemic evaluations that exist, the format of the evaluation protocol generally concerns a too small number of individuals. There are respectable case studies but too many have a number of individuals insufficient to have a relevant multivariate approach.

Proposed samples are most often difficult to compare, as it is complex to form homogenous groups due to different pathology patterns, level of development, age, etc.

We then attempted to overcome these limitations with a research that sought more than 600 care facilities for inventory and also the follow up of 23 children with psychiatric disorders attending specialized institutions practicing equine mediation.

Using an ecological evaluation methodology, this research is based on the study of the proximal environment of the child (parents and caregivers) and on observations allowing detailed assessment of adaptive skills and identifying drivers of change.

By establishing homogeneous profiles (groups identified within a set of entities assumed to belong to different populations) based on adaptive skills, we were able to break away from diagnosis and focus on the clinical aspects of their disorder. This allowed us to overcome methodological obstacles typically associated with the comparison of different samples.

Thus, we will demonstrate that between the subjective experience alone and the randomized clinical trial, there are techniques combining both specific rigor and field constraints, therefore reaching a larger sample, while integrating individual complexity.

**Teaching Children and Adults Dogs' Body Language**

*Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond*

Kerstin Meints¹, Victoria Brelsford¹, Tiny De Keuster² ¹University of Lincoln, Lincoln,
UK, 2University of Ghent, Ghent, Belgium

For safe human-animal interaction, it is vital to interpret the animal's signalling correctly. However, it has been shown that children and adults often do not understand dogs' body signalling (Reisner & Shofer 2008). Without tuition, children look mainly at the dog's face and children often confuse a fearful or angry dog with a friendly one (Lakestani, 2006, Meints, Racca & Hickey, 2010). Using a cross-sectional with longitudinal design we are testing children from 3-5 years (24 per group) on their evaluation of dogs video-recorded in various situations and degrees of being distressed (e.g. licking nose, turning away, growling). We record children's eye-movements using a Tobii eye-tracker and ask for verbal evaluations in the initial baseline test-phase. We then teach the correct interpretation reusing the same videos, explaining the dog's signalling. After this, we re-test participants on novel videos with similar situations. We re-test again 6 and 12 months later. This design has the advantage that we can compare participants' explicit judgements with their looking behaviours and detect how these interact. We are also testing and educating parents using the same procedure and we gather information on bite incidents, family status, SES and parents' knowledge on dog signalling. First results are expected December 2012 and will establish how good or poor children and parents are at understanding dog signalling. By educating them, we can help children and parents interpret dogs' signalling better and enable them to interact with dogs more safely in future. Consequently, dogs' well-being will also be enhanced.

Children’s Visual Attention to Faces of Humans and Pet Animals: an Eye Tracking Study
Category: Responses to Human-Animal Interactions and Human Animal Bond

Marta Borgi1,2, Kerstin Meints3, Francesca Cirulli2 1Università di Firenze, Florence, Italy, 2Istituto Superiore di Sanità, Rome, Italy, 3University of Lincoln, Lincoln, UK

A number of authors suggest that children exhibit a natural interest towards animals and different intervention programs have shown the presence of an animal being able to increase children’s attentiveness and motivation levels in response to cognitive tasks and during social activities. Nonetheless, very little is known about children perception of animals and few research efforts have been devoted to the identification of specific animal characteristics able to attract and engage children. It has been hypothesised that the presence of infantile features (and their appeal for humans) forms the basis of our attraction to an animal and a preliminary study has shown children’s explicit preferences for faces of pet species (i.e. dogs and cats) with an infantile configuration. In the present study eye-tracking techniques are used to obtain direct and continuous measurement of visual attention in 3-5 year-old children (n=96) recruited in public schools. Stimuli presented consist of colour photographs portraying human infants, human adults, dogs, cats, puppies and kittens (either “high infantile” or “low infantile” according to facial characteristics previously measured). During Experiment 1 children are presented with a random sequence of the stimuli and they rate pictures for cuteness while attention to areas of interest (i.e. eyes, nose and mouth) is measured. In Experiment 2 children watch two side-by-side stimuli and we assess children’s looking preference for those pictures. The effects of factors such as gender, age, presence of animals at home on children’s response are investigated. Results and their implications for child-animal bond promotion will be
discussed.

A Systematic Review of the Reported Prevalence of Pet-Related and Owner-Related Reasons for Pet Surrender

Category: Social and Sociological

Kim Lambert, Jason Coe, Jan Sargeant University of Guelph, Guelph, Ontario, Canada

Homeless pets are a global issue and there is a need to understand the reasons why these pets are surrendered or abandoned. The issue has far-reaching implications on society and animal welfare including euthanasia of potentially healthy pets, free-roaming dog and cat populations, spread of zoonotic diseases and a lack of resources to manage the homeless pet population.

The overall objective of this systematic review is to assess the reasons why owners surrender their pets and to determine if certain study characteristics affect the reported prevalence of reasons for surrender and explain any variation in the studies. The goal is to provide policy-makers with information that will guide decision-making for interventions directed at the issue of pet relinquishment and to identify knowledge gaps for future research.

A scoping review was conducted to identify all published research on pet relinquishment. A comprehensive search strategy was implemented in four online databases. From 5651 citations screened for relevance at the abstract level, 519 were considered potentially relevant and obtained as full articles for data characterization. This resulted in 104 primary research articles that were confirmed as relevant. These articles informed the current systematic review. The inclusion criteria selected articles that investigated the reasons why owners surrender their pets. Titles and abstracts were assessed by two reviewers and 36 relevant articles were identified. From here, data will be extracted to pool data to obtain a more precise estimate of the outcome measures and to investigate sources of heterogeneity. Final results will be presented.

A Conceptual Model for Implementing Canine-Assisted Intervention for Children with ADHD

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

Sabrina Schuck1, Aubrey Fine2, Natasha Emmerson1, Maryam Abdullah1 1UC Irvine, Irvine, CA, USA, 2California Polytechnic University, Pomona, Pomona, CA, USA

Over the past decade, there has been strong emerging interest in the role of human animal interactions (HAI) in promoting child health and understanding how HAI impacts specific populations. Attention Deficit/Hyperactivity Disorder (ADHD) is a common psychiatric disorder of childhood that puts children at risk for poor adaptive, social, and academic outcomes. There is an urgent need to understand how canine assisted intervention (CAI) can enhance therapeutic efforts and be feasibly applied in clinical practice. Empirical study should include a careful evaluation of the delivery, dose, and the overall effects of this novel intervention in improving outcomes. The
The primary purpose of this presentation is to discuss the rationale behind developing a CAI for children with ADHD. The authors will provide the delegates with the rationale for CAI as a viable complementary therapy for children with ADHD. Project Positive Assertive Cooperative Kids (Project P.A.C.K.), an NICHD-supported study, implements a 12-week (48.5-hour) curriculum based in social problem-solving and cognitive-behavioral strategies. During twice weekly child group therapy sessions, this CAI includes a humane education component and a specially designed dog-training module. Additionally, parents simultaneously participate in weekly parent group therapy sessions with lessons paired to the children's curriculum. This study aims to improve children's self-regulation and social skills, and thereby support self-esteem. Over four years, 108 children will be randomly assigned to one of two intervention groups, with and without CAI, to compare the effects of CAI to non-CAI.

Holy cow to healing dogs - An overview in the change of perception of the Human-Animal bond in India
Category: Responses to Human-Animal Interactions and Human Animal Bond

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The human-animal bond has been an old and accepted concept in India where children have always grown up with animals such as sheep, cows, chickens, dogs, cats or horses. However, while at one end animals such as cows or snakes are perceived as holy, at the other end animals (pets) are affordable only for the rich and otherwise perceived as being dirty. For a decade, Animal Angels Foundation has been India's only organization working towards making people realize the benefits of companionship with animals. It has been a constant struggle with changing people’s attitudes so that they accept animals as healing agents and creating professional acceptance amongst the mental health community. The HAI movement started in India with our first AAT project where Kutty, the first therapy dog was trained to work at a school for mentally challenged children in 2003. Since then we have answered questions like 'what is a therapy dog' and 'how does this really help people?' Our work has required breaking barriers of perception and introducing therapy animals in settings where no one would expect them in India - schools, cancer centers, hospitals, libraries etc. We have also undertaken trainings to create community based projects based on the concept of ‘Share your pet’ - making pet owners a part of this HAI movement. With our main focus on research, we are working to expanding awareness and acceptance of the benefits of HAI in India which we would like to share with the rest of the world.

Behavioral Training to Improve Handlers' Animal Advocacy in Animal-Assisted Interactions (AAI) Programs
Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

Ann R. Howie1,2 1Human-Animal Solutions, LLC, Olympia, WA, USA, 2University of Denver Graduate School of Social Work, Denver, CO, USA
Historically, handler training (if offered) has focused solely on how to interact with
clients. Yet animal-assisted interactions (AAI) programs need handlers to be proficient in handling their animals while at the same time interacting with clients effectively - two different skill sets. Whereas some handlers intuitively figure out how to balance their animal's needs with the needs of their clients, other handlers prioritize client need over their animal's needs. This leaves therapy animals vulnerable.

Through providing behavioral training to handlers, AAI program coordinators have a powerful tool to assure therapy animal welfare, which directly correlates with client safety. This training has been used by a hospital-based AAI program since 2007. Handlers who complete this training report increased awareness of their animal's signs of stress, greater confidence in their ability to protect their animal from undue stress, and an improved relationship with their animals (both working and non-working). In addition, the program coordinator reports increased confidence in the handlers' ability to effectively cope with the challenges inherent in handling therapy animals in AAI sessions.

This session describes four handling behaviors that can be taught by AAI coordinators as well as therapy animal trainers. These behaviors are given a detailed explanation in the soon-to-be-released book, *Teaming with Your Therapy Dog*.

**Stress responses to search simulation of a buried person in avalanche dogs**

Category: Biological (Physiological) Responses in Human-Animal Interactions and Human Animal Bond

Silvana Diverio¹, Olimpia Barbato¹, Gabriella Guelfi¹, Renato Zasso², Roberta Cavallina³, Gloria Massimo⁴, Walter Di Mari⁵, Michele Santoro⁶ ¹LEBA (Laboratory of Ethology and Animal Welfare), Department of Biopathological Science and Hygiene of Animal and Food Production, Faculty of Veterinary Medicine, via san Costanzo 4, 06126 Perugia, Italy, ²Agenzia Regionale per la Prevenzione e Protezione Ambientale del Veneto (ARPAV), Centro Valanghe di Arabba, Livinallongo (BL), Italy, ³Istituto Zooprofilattico Sperimentale delle Regioni Lazio e Toscana, Rome, Italy, ⁴Veterinary consultant, Rome, Italy, ⁵Direzione Veterinaria e Cinofili, IV Reparto, Comando Generale Guardia di Finanza, Rome, Italy, ⁶Centre for Dog Breeding and Training of the Guardia di Finanza, Castiglion del Lago (PG), Italy

Stress, in addition to some limiting factors, may delay the success of avalanche rescue operations. This is a critical situation because there is a precipitous drop in survivability during the first minutes the victim is buried under snow. Aim of this
A collaborative study was to evaluate how search operations affect dog’s welfare. 14 avalanche dogs were monitored during the search simulation of a buried person (SSBP) in artificial avalanche areas, specially equipped by the Alpine School of the Guardia di Finanza (TR). Heart rate (HR), body temperature (BT) and blood samples were taken at rest the day before the SSBP (T0) and during SSBP, immediately after the descent from a helicopter (T1), the discovery of the buried person (T2) and 2 hours later (T3). Cortisol, NEFA, AST, CK and LDH were assayed. Snow and environmental parameters were also monitored. Data were analysed by ANOVA. Research of dispersed person during the three-day search simulation seemed to have a similar impact on dogs, with the exception of HR and cortisol. All dogs successfully completed their search within 15 minutes. Significant increases with different timing were recorded for HR, BT, NEFA (P<0.01), CK and cortisol (P<0.05). However, changes tended to return to baseline values at T3. In conclusion, despite the extreme climatic and environmental conditions only a temporary physiological response to stress was recorded in the avalanche dogs. This could reflect good training conditions and a positive handler-dog relationship, predisposing dogs to good mental and physical wellbeing also in working situations.

Animal Assisted Programs in the treatment of behavioral problems in children with multiple disabilities

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

Mauro Mario Coppa¹, Erika Orena¹, Lorenzo Pergolini², Rino Reginella² ¹Lega del Filo d’Oro Onlus, Osimo (AN), Italy, ²Pet Village Cooperativa Sociale, Senigallia (AN), Italy

This study looks at the effectiveness of a therapy program assisted with the animals on self behavior in adolescents with disabilities plural characterized by self-and hetero aggressive behaviors. Were involved in the study three subjects aged between 14 and 17 years, characterized by significant visual impairment, hearing impairment and lack or absence of communication. The study has wanted to monitor, via the video analysis of randomized pattern of interaction with the dog in a structured setting, the frequency in the exhibition of behavior-problem buying the data with the detection behavioral learning in different situations. The results show that the presence of the animal within the educational setting causes a significant reduction in aggressive outcome has a positive effect on attention, motivation and communication skills. The study also showed, as in no case has been exhibited aggressive behavior towards animals.

Dogs and Children in a Northern Plains Tribe

Category: Social and Sociological

Paul Spicer¹, Lori Jervis¹, Gloria TallBull¹, Emily Salois¹ ¹University of Oklahoma, Norman, OK, USA, ²University of Oklahoma, Norman, OK, USA, ³University of Oklahoma, Norman, OK, USA
This presentation focuses on developmental research conducted as part of the Mars-Waltham/NICHD Research Consortium on human-animal interaction and children. This study began with questions about the status of the construct of pets in native communities with large populations of free-ranging canines that may become nuisances or threats. Already the research has emphasized the value of the construct despite this unique ecology. Observations underscore the participation of dogs in children's lives and the degree to which free-ranging dogs are relatively free of obvious signs of disease, injury, and malnutrition compared to those on those on some comparable reservations with high rates of poverty. Focus group discussions in the community with both parents and service providers emphasized the belief that this tribe has a unique spiritual and practical connection to dogs that preceded European colonization. Focus group members voiced concerns about canine overpopulation and aggressive dogs, but retained a high level of respect, love, and empathy toward the species and those dogs associated with one's community and family. Despite this relatively positive pattern, canine overpopulation remains a concern, as do the risks posed by aggressive dogs to both children and the elderly. Our partnership with a local, tribally operated humane society to develop humane education materials that emphasize cultural values and themes holds promise for improving the management of the canine population and improving children's interactions with dogs.

**Elements of a Successful Service Dog Partnership in the Workplace**

Category: Social and Sociological

Margaret Glenn *West Virginia University, Morgantown, WV, USA*

Expanded use of service animals to support people with disabilities in community participation and employment is fueling an interest in research to determine promising practices that will inform policies and procedures and possibly regulation. Data-driven approaches are needed to navigate the expectations of defining reasonable accommodation in the workplace, a significantly under-researched phenomenon in service dog utilization. The goal of this project is to create a foundation for understanding the role of service animals in the lives of people with disabilities and the practices that may allow for appropriate access and positive outcomes in the workplace. This is accomplished through Concept Mapping/Pattern Matching, a mixed methods form of structural conceptualization used to assess complex issues from the perspective and needs of a diverse group of stakeholders and generates a graphic depiction of major concepts.

The project is convening people familiar with the subject including those who use service dogs in their workplace, service dog trainers, employers, vocational rehabilitation counselors and other related health care professionals. They will engage in group processes (brainstorming, sorting, rating, and interpretation) to answer the question: What elements are present in the process of creating a successful service animal partnership with a person with a disability in the workplace? Then they rate their importance to the overall process and need for research. Those processes are combined with the multivariate statistical methods of multidimensional scaling and hierarchical cluster analysis to result in a pictorial graph that can be used to guide planning, evaluation, and research.
Human postural stability during dog walking

Category: Biological (Physiological) Responses in Human-Animal Interactions and Human Animal Bond

Bruna Carla Périco, Eliane Mauerberg-deCastro, Mayara Borkowske Pestana, Larissa Agnes Porto, Thaís Delamuta Ayres da Costa Sao Paulo State University, Rio Claro, Brazil

An individual, walking a dog, can exemplify how humans and animals interact during animal-assisted activity/therapy. When a person walks a dog with a leash, both person and dog influence one another's posture, as they sustain a coupled relationship for motor coordination and control. The purpose of this study was to assess adult humans' motor performance and stability while dog walking. The adults walked on a narrow balance beam while holding a leash that was attached to a dog that walked on a parallel narrow bench. The task manipulations included walking with normal vision and while blindfolded, and walking with and without a dog. We predicted that holding a leash attached to a dog would improve walking temporal parameters by decreasing variability in the gait relative phase, as well as by improving performance (walking duration), especially while walking blindfolded. A group of eight young adults (23.5 years old) performed six trials of walking on a balance beam: 1) without a dog, with normal vision; 2) with a dog, with normal vision; 3) without a dog, blindfolded and 4) with a dog, blindfolded. Preliminary results showed that the duration of walking decreased by 30% when the individuals walked with a dog, blindfolded, as compared to those without dog, blindfolded (p ≤ 0.01), and postural stability and gait regularity improved (p ≤ 0.01). It appears that individuals are able to detect haptic properties through a dog's leash in order to achieve postural control while walking blindfolded.

FAPESP, CAPES.

Emotional Labor and the Difficulties Faced by Veterinary Technicians in Animal Hospitals in Japan: Toward a Healthy Workplace

Category: Social and Sociological

Noriko Niijima Yamazaki Gakuen University, Hachioji, Tokyo, Japan

In Japan, veterinary technicians (VT's) act as a go-between for veterinarians and their clients (companion animal owners/ guardians). This is an occupation with a shorter career structure in comparison to other professions. In this research, the emotional difficulties faced by VT's will be indicated in the results of research interviews held with individual VT's currently working in animal hospitals in Japan. The ‘emotional labor’ referred to in the title, is a form of emotional regulation wherein workers are expected to display certain emotions as part of their job, and to promote particular organizational goals. The intended effects of these emotional displays are on other, targeted people, who can be clients, customers, subordinates or co-workers (Grandey, 2000). Semi-structured interviews were conducted by the presenter with fifteen VT's in Japan, from March to August of 2012. The results were analyzed using the KJ Method. Several case studies were collected to indicate: i) when VT's are forced to perform emotional labor, and ii) the ways in which VT's try to manage their difficulties (e.g. talks filling the gap between animal owners and veterinarians; way's
of simultaneously coping both with their own grief caused by the death of an animal client and with the bereavement of the animals owner). The backgrounds that produce these situations and the ways in which they are managed will be examined in this paper.


**Development of a Companion Animal (Dog) Attachment Scale for Schoolchildren.**

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

Sayoko Hamano *Teikyo University of Science, Adachi-ku, Tokyo, Japan*

The primary purpose of this study was to develop a scale which investigated the attachment between schoolchildren and their dogs in Tokyo. The secondary purpose of it was to examine the relationship between the scale and the biographical information. In this study, 674 students in the 4th, 5th and 6th grades from 3 elementary schools completed the questionnaire, and the data of 127 students who had a dog out of the participants was analyzed. The first section was biographical information such as gender, grades and place of keeping pets. The second section comprised of 16 questions asking about relationships between schoolchildren and their dogs. Questionnaire items from the previous study by Companion Animal Attachment Scale (CAAS) (Hamano, 2002) were used for the questionnaire. It was modified to fit this study for schoolchildren. The two main results were as follows: (1) Analyzing with factor analysis, 16 items yielded 2 factors were selected to complete the measurement of attachment to animals. These factors were labeled as psychological support and comfortable relationship. Cronbach's alpha coefficient were .93,.91. (2) The subscale scores served as the dependent variables. The principal independent variables were the biographical information. The analysis of variance of 2 factors (gender, grade) was calculated to prove difference of each group means. This analysis revealed statistically significant main effect for grade, F (2,118)=3.30, p<.05. The two means of 3.91 grade a and 3.27 differ significantly at the .05 level. The 4th grade leads to higher psychological support score than the 6th grade.

**Increasing dog's adoptability by working on emotions**

Category: Social and Sociological

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Emotions are immediate and adaptive responses, which animals use to interact with
Arousal is the gradient of emotional activation and expression determining the excitement degree, self-control and concentration of animals. In shelter dogs several factors could raise the arousal, promoting the possible development of problematical behaviors not very compatible to adoption. Aim of the study was to assess if the employment of a dog training protocol, adopting a cognitive approach, was effective to lower the arousal level in dogs. For the study, carried out by the LEBA and the ASL2 municipal dog shelter of Collestrada (Perugia), twenty-one dogs were trained for two weeks (three sessions/week). On each subject, during every session, the behavior and the heart rate were recorded. Data were analyzed by Mann Withney Test and Ordinal Logistic Regression. The results showed that as the sessions progressed, the excitement index decreased ($P<0.003$) and the animals tended to look more frequently at the operator (attention). No significant heart rate variations were observed. From a post-adoption questionnaire administered to the adopters of these trained dogs, emerged that these low level of arousal was maintained even after adoption. This was an aspect much appreciated by the owners. In conclusion, the cognitive dog training seems to be effective in promoting calm and attention in shelter dogs. Working on dog’s emotions can have positive repercussions on their welfare, enhancing their adoptability.

**Attitudes towards wolves (Canis lupus occidentalis) and dogs (Canis lupus familiaris) in Austria**

Category: Social and Sociological

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Humans live in more or less close contact with wolves and dogs since approx. 60 000 years. However, over human history, relationships to dogs and to their wild wolf ancestors have developed quite differently. Today, roughly 20% of Austrians share their lives with dogs, while wolves make a tentative comeback into this country, as they do elsewhere in the world. Sustainability of human-wolf cohabitation will depend on peoples’ attitudes towards wolves and finally, on the quality of conflict management. As hardly anything is known about attitudes of Austrians towards wolves and dogs, we applied a 63 item questionnaire (30 questions wolf, 33 dog), developed in collaboration with high school students, covering the domains knowledge, ecological/social roles, empathy, attachment and caregiving. We collected >2 000 responses by people living in urban and rural areas, dog owners and non-dog owners alike. Principal Component Analysis of a pilot sample of 408 questionnaires from mainly animal-friendly young people revealed fundamentally different attitude dimensions for wolves and dogs (KMOs 0.89 and 0.92, respectively; in both cases approx 60% variation explained). In wolves, the first three components were F1: Respect for wild wolves, F2: Empathic interest and F3: Rational appreciation of wolf ecology. In dogs, dimensions were more human-related; F1: Mutual and structured caring and support; F2: Dogs as empathic friends; F3: Dog welfare. This indicates, that socialization with, and exposure to, animals are more potent drivers of attitudes towards animals than mere phylogenetic closeness.
Are dogs (Canis lupus familiaris) more cooperative during leash walking than equally raised and kept wolves (Canis lupus occidentalis)?

Category: Biological (Physiological) Responses in Human-Animal Interactions and Human Animal Bond

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Due to domestication, dogs seem to be more willing to cooperate with humans as compared to wolves. To test the cooperative behaviour of equally raised and kept wolves and dogs with humans, we employed leash walking as an experimental paradigm. We expected less attentiveness to the human walker, more strained leash and more leadership conflicts with wolves as compared to dogs. Further we expected that cooperative performance of wolves would be more dependent on dyadic social relationship than in dogs. A total of 10 hand reared wolves and 14 hand reared dogs were walked on a 10m leash a number of times when they were approx. one year of age, by each of a number of colleagues, who were generally the hand raisers of these animals, but were differently acquainted with them. In each trial the walker lead the animals four times back and fourth along one of three 80m long standard tracks. Walkers were asked to behave “as usual” as they would on a routine walk with a wolf/dog on the leash and to make the animals “sit” or “down” two times each. Interactive behaviour of wolves/dogs with the walker were coded from video tape, with an emphasis on mutual attention, leadership, strained leash and the interaction style of the walker. Data were analysed by Linear Models. Results were generally in alignment with our expectations, but the differences between our equally raised and kept wolves and dogs were not as great as could have been expected.

Exploring objective approaches to measuring human physical activity in human-animal interaction research

Category: Biological (Physiological) Responses in Human-Animal Interactions and Human Animal Bond

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Background

Dog ownership positively associates with self-reported physical activity (PA). However, objective measures of PA are needed to validate such findings.

Objective

To investigate the potential of recording time-stamped continuous acceleration as an objective and innovative tool to measure health-enhancing PA in dog owners.

Methodology
A dog owner (female, 37 years) wore an activPAL™ monitor for 7 days, and completed a diary reporting timing of walking outdoors (with/without the dog). ActivPAL™ monitors classify acceleration into periods of sitting, standing or walking allowing outcome measures relating to the quantity, quality and patterning of PA, e.g. walking at a pace suitable for health. Walking events (continuous periods of walking) were coded into activity categories based on diary information. Duration of walking, number of steps, and mean cadence of walking events were compared across categories.

Results

On average the participant walked 2.3 hours/day, taking 12,118 steps/day, and walked the dog once/day. Mean walking event duration (72 vs. 33 s) and steps taken (127 vs. 54) were consistently higher when walking outdoors with the dog than without the dog. Cadence, however, was only marginally higher during dog walking (87 vs. 82 steps/min).

Conclusion

Clear differences were demonstrated in the accumulation of outdoor walking with and without the dog. This level of detail in the pattern of walking allows interpretation of whether the walking could be health enhancing. Furthermore, this methodology will allow differences in health enhancing PA between dog owners and non-dog owners to be investigated in future studies.

Patients and therapists view on animal-assisted therapy as supplement to ordinary therapy at a physical rehabilitation center

Category: Biological (Physiological) Responses in Human-Animal Interactions and Human Animal Bond

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The Norwegian government of health wanted to increase knowledge about animal-assisted therapy (AAT) and see if AAT could be beneficial for youth and young adults in particular. To examine whether and in what way AAT would influence the rehabilitation of youth and young adults, 13 patients aged 16-23 years with various diagnoses participated in three sessions of AAT per week for four weeks. Mean age 19.5 years, 10 females and 3 men. The animal assisted therapist attended the multidisciplinary meetings for each patient, and prepared an individual plan for the AAT. The sessions were documented by writing a log, which was summarized and evaluated afterwards. To determine the impact of the intervention, participants were interviewed both when they arrived at the rehabilitation center and when they were discharged. The interviews were transcribed and then analyzed by means of opinion densification. An ethogram was constructed and used during the observations. The ethogram was analyzed with Microsoft Office Excel 2007. The patients expressed that therapy with the dog increased motivation; it was easier to get out. The dog improved their daily life. 92 % became more physically active. A follow-up was carried out three months after end of intervention. Patients responded that the AAT had given motivation to keep up with the training even after they had returned home. The staff expressed satisfaction with the interventions as well, and would recommend AAT with dogs as therapy for
patients at rehabilitation centers as the Cato rehabilitation center.

**Veterinarian Perspectives of One Health: Opportunities and Challenges**

Category: Social and Sociological  
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Throughout history the division between human, animal and environmental health has become more distinct. Exploring the concept of ‘One Health’ this paper attempts to highlight how veterinarians figure in advancing an interrelated human, animal and environmental approach to health. Semi-structured interviews were conducted with fifteen veterinarians and three individuals whom work closely with veterinarians and the concept of One Health. Respondents spoke to the definition of One Health, explained challenges involved in operationalizing the concept, and offered solutions for advancing One Health. Our study highlights the socio-cultural importance of combined health practices and objectives. We apply a social determinates of health approach in order to demonstrate that veterinarians act as health educators and are important to promoting the cultural acceptance of One Health.

**Impact of Responsible Pet Ownership on Glycemic Control in Youth with Type 1 Diabetes Mellitus: a randomized controlled trial**

Category: Biological (Physiological) Responses in Human-Animal Interactions and Human Animal Bond

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Type 1 diabetes mellitus (T1DM) affects 151,000 children and adolescents in the United States. Youth with T1DM are at a high risk for multiple psychosocial comorbidities including poor health related quality of life (HRQoL) which is linked to medication non-compliance and increased risk for diabetes-related complications. Current standards for diabetes management reflect the need to maintain glucose control within a normal range, a task that is seldom attainable in youth. Family cohesion and positive coping strategies are found to favorably influence glycemic control. The presence of a companion animal, capable of enhancing the positive factors named above, could augment the array of tools available for the successful management of T1DM.

The specific objective of this proposal is to quantify the impact of responsible pet ownership on glycemic control and HRQoL in youth with T1DM. Youth (ages 10-17 years) with poorly controlled T1DM (HbA1c > 8%) will be randomly assigned to either the intervention group (care of a pet fish) or the control group (picture of a fish) and followed over 12 months to measure changes in (1) HbA1c, (2) ER visits, (3) hospitalizations, (4) self-management tasks related to diabetes care (questionnaire) and (5) HRQoL (questionnaire).

This research is currently in progress. To date we have enrolled four of our anticipated 80 participants. Successful completion of this study will provide a novel, simple and effective way that families can help their children with diabetes improve their glycemic control and HRQoL.
Does pet adoption improve wellbeing? Some surprising findings

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

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Background: A recent review has denied that there is any clear support for the assumption that animals have a general beneficial effect on people's wellbeing (Herzog, 2011). Specifically, inconsistencies exist regarding any differences in mental health in favor of pet owners and there is a dearth of research about the influences of pet adoption. We suggest that pets do not influence all people in similar ways, and that individual differences in attachment orientation moderate the influences of pet adoption on the individual.

Purpose: (1) To examine the effects of pet adoption (dogs, cats) on people's mental health and familial emotional environment, and (2) To examine any moderating effects of attachment orientation on the influences of pet adoption.

Methodology: Using a prospective longitudinal design, we followed people from the first day of pet adoption for 16 weeks, as well as a parallel control group.

Statistics/Results: Using hierarchical linear modeling (HLM) we found that pet adoption, when compared to the control condition, did not result in better outcomes. The positive effects of pet adoption were found to depend on the extent to which the pet is transformed into a secure attachment figure, which is in turn determined by the owners' attachment in interpersonal relationships.

Conclusion/Implications: As in relationships that individuals form with other people, human-pet relationships vary widely in closeness, warmth, commitment, and emotional involvement. These differences are translated into different outcomes of pet adoption to the owners and maybe also to the animals (in term of the animal abandonment).

Animal Welfare in Different Human-Animal Interactions: A Program of TVT (Veterinary Association for Animal Welfare), in Cooperation with the Foundation "Alliance Man and Animal"

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Animal Assisted Activity (AAA) and Animal Assisted Therapy (AAT) are becoming more and more attractive in Germany for people who always wished to "work with animals." In many cases they realize this idea without having sufficient knowledge about the animals they use for this purpose. This often results in stress and behavior or health problems of their animals. The TVT (veterinary association for animal welfare) consists of different working groups. Group 11 takes care of animals which are used for various human-animal interactions. Up to now the animals considered are: chicken, dogs, rabbits, cats, South American camelids, guinea pigs, horses,
sheep, pigs and goats. The program for the group was to create for each of these species a compact set of information sheets which supplies, in a condensed way, the most important facts based on recent scientific results about the behavior and requirements of the animals in question. These information sheets are available on the internet and are recommended as a check list for the animal owners and for the veterinary services. As an example for this program, the use of alpacas and llamas in social work, the problems caused by owners without sufficient knowledge about these species, and the content of the information sheets for these animals will be presented.

**Housing situations in Japan - what are happened when you want to live with dogs or cats?**

Category: Social and Sociological

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In Japan to get a good house living with dogs or cats are difficult. Most of apartments which are rent are inhibited living with cats or dogs and also apartments which are sold either. Most ristricted cases fishes in a small aquarium is inhibited. The begining of this type of rule is from 'Dnanchi' which were build by Jutaku Toshi Kodan or local government from 1950's. But these ten years or less this situation become changing and changing, because of current marcket needs of estate, most of apartments that are sold have new rules about dogs or cats. There are many variety of rules depending on apartments but about cats or dogs there are several patterns only. And one of the standard rule says 'one cat or dog only, and its size is under 10 kg or you can hold in public spaces of apartment, like stairs, elevators and so on'. In addition 'you do not put a cat or a dog in your terrace to prevent escape or go to next door' and 'take care its cry and fallen hair'. After enforcing Service Dogs act, there are several cases to add a new sentence that is 'A service dog is out of this rule'.

This situation is far from most countries in Europe and U.S.A. And from a view of Human Animal bond, it is not good situation. In this paper, first refer to the reason of this difference from historical point and propose how to change it from technical point of architecture and urban planning.

**Domestic violence and animal abuse in the Netherlands. An explorative study of the link between domestic violence and animal cruelty conducted among female victims of domestic violence**

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

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Public awareness of the link between domestic violence and animal cruelty is not very strong in the Netherlands. This study is designed to explore the link in the Netherlands and to raise awareness on the subject. In this study 162 female pet owners between the age of 20 and 59 years were interviewed using a translated and revised version of the Pet Treatment Survey (Ascione, 2011). Respondents were
recruited from battered women’s shelters (N = 51) and from the general population (N = 111). The results show that animal cruelty consists significantly higher (p = .00) among battered women compared to women from the general population. One third of the battered women (33%) report their abusive (ex-)partner has threatened to hurt the pet, and half (55%) state that their (ex-)partner has hurt or killed their pets. Furthermore, a large proportion of the battered women (41%) has postponed their flight to a shelter.

The study offers insight in the type, intensity and duration of animal cruelty in relation to domestic violence, the species of animals who run high-risk of becoming a victim and the consequences experienced by their female owners.

The results point to the need for domestic violence agencies to interface with animal welfare organizations with reference to expertise, prevention and care. The lack of opportunities to safely shelter the pets of domestic violence victims provokes dangerous situations in which women and children and pets are being forced to stay in an abusive and hazardous situation.

The role of human and dog personality in human-dog interactions

Category: Biological (Physiological) Responses in Human-Animal Interactions and Human Animal Bond

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Although dogs are mankind's closest animal companions, little is still known regarding the social core of this relationship which may vary widely between dyads. Our research aims at a better understanding of the relationship between humans and their dogs as a topic of considerable heuristic interest itself and as a model for exploring the basic rules of long-term vertebrate relationships (including human-human). Our recent pilot studies (Kotrschal et al. 2009, Wedl et al. 2011, Schöberl et al. 2012) suggested that owner personality, owner and dog gender, as well as owner attitude towards the dog affect dyadic interaction style and the operational functionality of a dyad.

In the present study we tested this human-dog social contingency model in a representative sample of 120 dyads, 30 for each owner-dog gender combination. Owner-dog behaviours and interactions were coded with the aid of The Observer XT. Owner personality was assessed via the NEO-Five Factor Inventory; dog personality via the revised Monash Canine Personality Scale (Ley et al. 2008, 2009). The human-dog relationship was measured via the Monash Dog Owner Relationship Scale (Dwyer et al. 2006). In addition, further dog owners completed our online-questionnaires. General and Generalized Linear Models were applied to investigate the effects of individual and dyadic factors affecting human-dog interactions and relationship. We will especially discuss the role of human and dog personality in human-dog interaction patterns. Project "Factors affecting human-dog-relationships" P23345 B17 funded by "Fonds zur Förderung der wissenschaftlichen Forschung" (FWF).
**Children's attachment to humans is reflected in their interactions with a dog**

Category: Biological (Physiological) Responses in Human-Animal Interactions and Human Animal Bond

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Human attachment representation is shaped in interaction with the primary caregiver and is generally transmitted to further bonding/social partners later in life. Towards companion animals, this transmission does not seem to occur. We previously showed (Beetz et al., 2011, 2012) that the interaction with a real dog rather than with a toy dog or with a friendly student lowered salivary cortisol levels during a stressful situation. In the present study we investigated how children with insecure-avoidant or disorganized attachment differ in behavior and interactions towards the dog before, during and after a stressful situation, while "supported" by a real dog. Our present data show that in this sample (n=24), the disorganized subjects (n=11) communicated more intensely than avoidant children (n=13) with both, the dog and humans. Boys with a disorganized attachment touched/stroked the dog for longer periods of time before and during the socially stressful situation than did boys with an insecure-avoidant attachment (before the stressful situation: p=0.041; during: p=0.022; Mann-Whitney-U-test). In addition, boys with disorganized attachment talked more to the dog during and after the stressful situation than did boys with an insecure-avoidant attachment (during: p=0.022; after: p<0.001). We conclude that against the assumption that attachment representations acquired with humans do not transmit to companion animals, our data indicate that at least some components of interaction styles, such as more avoidance in the verbal and tactile interaction, may be transmitted to animal partners also. Funded by IEMTs Austria and Switzerland and by Mars Petcare, Germany.

**A dog's presence during venipuncture in a pediatric hospital**

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

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Background: In recent years there has been increasing interest in psychological therapies for pain control. Among these, Animal-Assisted Interventions (AAIs) are being utilized more often.

Objectives: To evaluate the beneficial effects of AAIs on children undergoing a blood test in the hospital.

Methods: 102 children (3-12 years old) who had to undergo a blood test were randomly assigned to the experimental group (EG), where the presence of two dogs was included in the procedure, or to the control group (CG) where the venipuncture was carried out without the dogs and the children received routine medical care. Two
small mongrel dogs, both neutered, aged 3 and 6 years, were involved.

The instruments utilized were: A questionnaire composed ad hoc in order to collect demographic information; the State Trait Anxiety Inventory (STAI) for parent’s anxiety; the Brief Behavioral Distress Scale (BBDS) for children’s distress; the Wong-Baker Faces Pain Rating Scale for children’s pain; and a questionnaire for the health professionals’ opinion.

Data analysis: The association between the different variables was examined using Pearson’s correlation coefficient (r) and one-way analysis of variance (ANOVA) was used to compare the scores on the distress levels obtained from the 2 groups.

Results: Children assigned to the EG group reacted with less distress and pain than children of CG group. The staff was greatly receptive to this type of intervention, giving a definitely favorable opinion in this regard.

Conclusion: It appears that the presence of dogs during blood test reduces distress and sense of pain in children.

The interaction between the owner-dog relationship and behaviour problems, as measured with the MDORS and C-BARQ42 questionnaires

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

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Introduction: Behaviour problems have the potential to impact the quality of life of both owners and dogs. We attempted to quantify this relationship using the Canine Behavioral Assessment & Research Questionnaire (C-BARQ42) and the Monash Dog Relationship Survey (MDORS). Methodology: Eighty-six adult dog owners completed online presentations of Spanish language versions of the C-BARQ42 and the MDORS. Spearman non-parametric correlation was used to explore the relationship between C-BARQ42 and MDORS factor scores. Results: Significant correlations (r=0.36, p=0.0006 & r=0.30, p=0.0053 respectively) were found between C-BARQ42 factor 11 (attachment and attention seeking) and MDORS factor 2 (emotional closeness), and between C-BARQ42 factor 9 (touch sensitivity) and MDORS factor 1 (dog-owner interaction). Significant anti-correlations (r=-0.39, p=0.0002 & r=-0.29, p=0.0078 respectively) were found between C-BARQ42 factor 10 (separation related behavior) and MDORS factor 3 (perceived costs), and between C-BARQ42 factor 4 (dog directed aggression) and MDORS factor 1 (dog-owner interaction). Due to the calculation methods for factor scores in the MDORS, high scores for factor 3 (perceived costs) are indicative of a low perceived cost to the owner. Conclusions: Separation related problem behaviour has a measurable impact on owner-lifestyle. Attachment and attention seeking behaviours by the dog contribute to the owner’s sense of emotional attachment to the dog. These correlations are significant, as they have implications for behavioural therapy. Further research is needed, but reliable measurement of the dog-owner relationship could provide valuable information for the development of diagnostic and treatment
strategies, and the assessment of clinical cases.

**Animal-Assisted Interventions for Youth: A Critical Review**  
Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

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Animal-Assisted Interventions (AAIs) have been applied to a wide range of behavioral and health problems across age ranges, including youth. While these interventions appear promising, little research has addressed the efficacy of these approaches. It is important to prove these types of programs are effective before investing additional time and resources to the implementation. The purpose of this poster is to provide a critical review of AAI literature to inform the selection and implementation of such programs. This review will cover the various types of AAI. For instance, it will describe the types of animals used, duration of intervention, and descriptions of the intervention activities. The specific populations and problems targeted will also be described. Drawing from developmental psychology and social cognitive theories, an integrative model will be proposed that highlights several potential mechanisms through which AAIs may operate, including empathy development, self-efficacy, and more secure attachment. This model can be used to guide AAI development and outcome research that can be used in meta-analyses.

"The Link, One Health, and Social Capital: A New Strategy for Empathy Education and Human Services Training"
Category: Social and Sociological

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For 150 years, animal welfare and veterinary advocates have promoted a doctrine that animal welfare will be enhanced by teaching children kindness to animals and responsible animal husbandry practices. However, these efforts have been stymied by societal and professional perceptions that "animal" causes are less worthy than "human" services. Ten significant challenges have made it difficult for human-animal interactions organizations to gain access to public school, pre-professional and continuing education curricula. In a society that continues to prioritize humans' interests above animals', it is time to try a new approach that focuses on the human benefits of animal welfare. In particular, a five-part plan that emphasizes The Link between animal abuse and human violence, the physiological and mental health benefits of animal companionship, and the potential of pets to improve social capital and community well-being may hold keys to getting human-animal bond messaging more widely accepted in schools, universities, and professional training programs.

**Outcomes of Owner Visits to Hospitalized Dogs**  
Category: Responses to Human-Animal Interactions and Human Animal Bond
Owners' visits to hospitalized dogs are controversial. We present findings from two studies concerning dogs hospitalized in ICU: 1) dog owners' perspectives of visits, 2) clinical effects of visits on dogs.

Adult dog owners, participated whose dogs were hospitalized over 48 hours. Study 1: owners taking their dog home completed a questionnaire about visiting hospitalized dogs. Study 2: a one-group, pretest-posttest design identified effects of owner visitation on dogs' HR, BP/MAP, & pain.

Study 1: 52 of 100 owners visited their dog and spent time talking to (n=49), petting (n=48), comforting (n=42), praying for (n=26) or feeding (n=21) the dog. Owners believed visits let their dog know they cared (n=40), that it would be alright (n=23), and believed their dog perked up when visited (n=47).

Study 2: 41 visited dogs' HRs increased from baseline 5 minutes after visits began (Mean=96, 102 BPM, p=0.007), but decreases 5 minutes before owners left (Mean=99; p=0.61) and 5 minutes after visits (Mean=98; p=0.84) were non-significant. Dogs' BP/MAPs did not significantly change throughout or 5 minutes after the visit. Decreases in dogs' pain scores 5 minutes into visits approached significance (Mean=2.1; 1.3, p=0.07) and tended to stabilize 5 minutes before visits ended (Mean=2.0, p=0.09) but significantly increased after visits (Mean=1.9, p=0.035).

Dog owners perceived visits to be beneficial. Risks of dogs' HR/BPM increases may be condition-dependent. A tendency for dog's pain scores to improve was observed during the visit but they had increased by 5 minutes after the visit which may reflect activity level or distress.

Shelter Dogs Walking with Older Adults: Dog Outcomes
Category: Responses to Human-Animal Interactions and Human Animal Bond

Several million dogs are euthanized in animal shelters annually. Enrichment programs can increase dog adoption rate.

We hypothesized that shelter dogs participating in a walking program would have better behavior scores and rates of adoption, and euthanasia than control dogs. Dogs (12 months+) were pre-qualified through a standardized behavior assessment and matched with controls on height.

The experimental group walked with an older adult five days a week. The control dogs did not walk. Baseline and daily behavior scores were assessed for 84 dog pairs. Length of time in the shelter was recorded with adoption, move to foster care, release to a rescue group or euthanasia outcomes.

Outcomes for the experimental group: adoption n=58, to foster/rescue n=13,
euthanized n=7. For the control group: adoption n=26, to foster/rescue n=28, and euthanized n=20. A chi-square test showed that the experimental group had significantly more adoptions (p<0.0001) and fewer euthanasiast (p=.0063) than the control group. The control group had significantly more dogs that went to breed rescue networks (p=.00071) than did the experimental group. The control group had poorer behavior scores. The Wilcoxon rank sum test was used to compare the experimental and control groups on total behavior scores. Dogs in the experimental group had significantly more favorable behavior than dogs in the control group (p=<0.0001).

The dog walking program was associated with desired dog behavior outcomes, better adoption rates and lower euthanasia rates. Walking programs by volunteers such as this may be an effective tool for increasing adoption rates for shelter dogs.

Social Skills of Children with Autism Who Live in Families that Own Dogs  
Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

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One in 88 children are estimated to have Autism Spectrum Disorder (ASD), which is characterized by social skills deficits. One study found that children acquiring pet dogs after the age of five had fewer social skill deficits (p<0.0014).

The study identified whether children living with dogs would have greater social skills than those who did not, to describe children’s interaction with their dog, and examine their attachment to their dog.

This mixed methods cross-sectional, descriptive study used a telephone survey. Seventy parents/caregivers rated their child using the Social Skills Improvement System Rating Scale, and responded to open-ended questions regarding their child’s interaction with dogs. Children living with dogs completed the Companion Animal Bonding Scale (CABS). A two-sample t-test compared the social skills of children with and without dogs and attachments to their dog, and their social skills.

In seven of eight social skill areas, mean social skill scores of children with dogs were greater than those without dogs (Total Score: M=88.511, SD=14.421; M=86.348, SD=15.488; p=0.567). Ninety-one percent of parents with dogs described their child as “attached” or “very attached” to the dog, and children reported strong bonding using the CABS. Controlling for child age, the longer the family owned the dog, the greater the child’s social skills (p=0.0436) and the stronger the child’s relationship to their dog (p=0.064). Parents cited companionship, unconditional love, stress relief, and responsibility opportunities as benefits of dog ownership for their child.
These findings raise important issues around dog ownership for families of children with ASD.

**Preliminary findings from an RCT of an animal-assisted intervention with adjudicated youth**
Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

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Adjudicated adolescents residing in juvenile detention centers exhibit high rates of internalizing (e.g., anxiety, depression) and externalizing (e.g., aggression, acting out) behaviors. Intervention programs that promote prosocial skills in an experiential manner may provide these youth with the tools to better manage their own emotions and deal with others in a more appropriate manner, thereby preventing future problems. The purpose of this study is to test the efficacy of an AAI to improve internalizing and externalizing behaviors in adolescents residing in juvenile detention centers. We hypothesized that a 10-week AAI that teaches youth to train animal shelter dogs for adoption will promote empathy and reduce psychological distress. The study is ongoing but we present preliminary results based on a sample of 72 boys and girls aged 14 to 17 residing at two juvenile detention centers. The youth were randomly assigned to one of two groups: the AAI, which consisted of classroom education and dog training or a control group that also received the classroom education but that engaged in dog walking. The rigorous comparison allowed us to test the extent to which building a relationship through the AAI is more powerful than simple contact with a dog. Youth in both groups completed self-report and observational measures of internalizing and externalizing behaviors pre- and post-intervention. The results demonstrate the beneficial role of animals in child health and contribute to the development and dissemination of effective interventions for adolescents with behavioral and mental health problems.

**Depression and Anxiety in Caregivers who are Managing a Pet's Chronic Illness**
Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

Melissa Kelly University of Illinois at Chicago, Chicago, IL, USA

In contrast to the wealth of research on coping with pet loss, there is hardly any research focused on coping with a pet's chronic illness. Yet there are many conditions that underscore the need for this type of research, including the numerous chronic illnesses that afflict both pets and people and require the caregiver to administer a prescribed treatment regimen for the duration of the pet's life. Research on coping with human illnesses suggests that they can be stressful for both the
Aim of the present research, which is my dissertation study, is to examine whether these types of issues manifest themselves in the context of pet illness. Through structural equation modeling, the study tests a theoretical model of illness-related, intrapersonal, and interpersonal factors that are likely to influence a caregiver's adjustment to managing a pet's illness. Data collection through self-report questionnaire by caregivers is underway, and analysis will begin in December 2012. The results will be presented for the adjustment outcomes: depression and anxiety. Although the results are not yet known, there are implications for highlighting awareness of the issues that caregivers face in managing their pets' illnesses. Understanding these issues can help veterinary professionals to better address the emotional and psychological needs of their clients much in the way that understanding pet loss has helped veterinary professionals understand the needs of clients contending with end-of-life issues.

0150
Exposure of Self: a special journey between mentally challenged youths and disadvantaged youths together with animals and a camera
Category: Responses to Human-Animal Interactions and Human Animal Bond

Robin Zelcer, sharon pony beit rachel straus, jerusalem, Israel
Beit Rachel Strauss (BRS) is a school for mentally challenged youths. They often face rejection solely based on their appearances or "masks" that are painted on them by society. These masks enable people to see only the unpredictable movements, the drooling, and the unclear speech which do not reflect their personality, inner beauty or unique talents. Hoshen is an alternative school for disadvantaged youths. They, too, face rejection based on bias and masks that they themselves choose to create and wear in order to protect themselves from the cruelties of their reality. To remove one's mask and expose the "real me" can often be anxiety provocating and frightening; to discover what lurks behind and beyond a mask can also be frightening. Throughout the year, 10 youths from the two schools accompanied by Simi the dog, Paco the Jacko, Shuki the Parrot and other animals in the school, met. The animals helped to form a bridge between the two groups; a chance to interact and to get to know one another. The deep bond, trust and unique friendship that formed allowed them to remove their masks and expose themselves to a journey of self discovery, including the opportunity to contribute to society, be successful, as well as to discover their "goodness" for the first time. They recorded the process through their photographs of the animals they met on the way and the friends that accompanied them.

YOU CAN'T SUFFER FOR AN ANIMAL IF YOU WANT TO BECOME A REAL MAN: RISKS OF THE MYTH OF INSENSIBLE VIRILITY.
Category: Social and Sociological

Alessia Parrino Università degli Studi di Padova, Padova, Veneto, Italy
Working on my graduate thesis I started to study the important link between animal cruelty and interpersonal violence with the real hope to develop in my country, Italy, a new kind of education which will be able to develop in children the awareness of the
importance to protect every form of life, both human and non human.

Soon I realized that talking about an education approach to teach compassion toward animals in a country as Italy which also today it maintain a rural thought, will be hard.

Many clues gave me an intuition: there is a social idea that only women and children can show sensibility toward animals and that the permanence of storical idea of virility in men prevents them to show empathy toward other living creatures.

The aim of my research has become to investigate the possibility to liberate men from the cage which prevents them to suffer for an animal without undergo the social denial of their virility.

My research confirmed my intuition about the need of construction of a social shared idea of a real and strong man as a man who is compassionate toward the weaker and who feel the moral imperative to protect the weaker, but also a man who is ready to fight for the good of a weaker life as animal life is.

To realize this ideal man we must starting from the childhood, this is the only way to develop the social acceptance of this new kind of masculinity.

Living with two dogs and presence to the situation. Ethnography of patients / dogs interactions in a psychiatric ward

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

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The aim of the study is to finely describe and understand how two dogs’ presence on the one hand, and dog-centred activities on the other hand, can change the way in which resident psychotic patients are in touch with their (human and non human) environment. Our hypothesis is that the presence of the dogs alters the sensory and perceptive qualities of a situation, opening the way for different ranges of commitment and affectivity. More precisely, the dogs are considered as subjective agents that make people doing things and make the patients feeling specific emotions closely related to the position they have in the human-dog interaction. When the patients learn to cope with the dogs, or when they learn to train them, they get in touch with the dogs in an original way. With the repetition of specific gestures and postures during the dog training, the patients learn body techniques useful in the management of affect and communication. In order to investigate these points, we conducted an ethnographic study that lasted one year. The participant observer lived part of the time with the patients and accompanied them in their training sessions with the dogs. She focused her observations on qualitative descriptions of bodies, attention processes, body postures and verbal and non-verbal communication that occur in the presence of the dog and during the dog-training sessions. This allows her to document how the introduction of a dog might alter the way some psychotic patients relate to the world around them.
Positive planning for pets in new housing: how early engagement and new guidance for planners, architects and builders promotes the human-animal bond, while reducing negative impacts on the environment, wildlife and local residents.

Category: Social and Sociological

Stephen Jenkinson1,2 1Access and Countryside Management, Orkney, Scotland, UK, 2The Kennel Club, London, UK

Positive planning for pets in new housing developments can prevent many of the contentious problems currently faced by local councils and municipal agencies.

Apart from reducing conflict and needless stress for residents, wildlife, greenspace users and the companion animals themselves, positive planning can exploit the human-animal bond to promote wider social objectives for greener, healthier and more sustainable communities.

Causes of past - and ongoing - conflicts surrounding dogs and cats in urban communities can be traced back to insensitive home and garden design, compounded by insufficient or inappropriate nearby accessible greenspace.

This leads to pets and their carers being popularly perceived as the causes of conflict, when in truth they too are victims of poor planning, with consequential implications for veterinarians and human and animal health.

Case studies will show delegates how proactive planning for pets is now gaining momentum in Australia, the United States and the United Kingdom. England's first dog-friendly planning guidance was published in 2013 by the Whitehill and Bordon Eco-town and launched at Crufts dog show last March.

While administrative and cultural differences always require local sensitivity and community engagement, core principles from all the case studies will show delegates how early engagement in the land-use planning process can design out conflict from the start.

Moreover, this presentation will inspire delegates by showing how dialogue between vets and other animal care professionals with architects, town planners, builders and greenspace managers can better promote the many tangible social benefits of the human-animal bond from the outset.

Bovine pain scoring and empathy towards animals are linked among veterinarians

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

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Recognizing pain in animals is prerequisite for an effective treatment of animals and empathy is considered desired skill among health professionals.
The aim of this study was to investigate perception of cattle pain and attitude to treat bovine pain in Finnish veterinarians and students.

A web-based questionnaire was sent to veterinary students and veterinarians working with production animals. Opinions of disbudding and pain medication (using a five point Likert scale), pain scoring of cattle conditions and procedures (using an eleven point scale) and demographical questions were asked. Human empathy was measured with an Interpersonal Reactivity Index (human IRI). Subscales of human IRI, namely empathic concern and perspective taking, were reworded to measure empathy towards animals (animal IRI). The effect of education level, veterinarian’s working experience, age, sex, pet affection, human IRI, and family size on average pain scores and animal empathy scores were analyzed with linear mixed models.

The response rate was 40 %. Animal IRI was greater than human IRI and was affected by respondents’ empathy (P<0.005), family size (P<0.005), pet affection (P<0.005). Higher average cattle pain scoring was associated positively with animal IRI and age of respondents (P<0.005 for both) and higher average pain scores were associated negatively with working years as veterinarian (P<0.05).

The Finnish veterinary students and working veterinarians all scored higher on animal empathy than human empathy. The attitudes of veterinarians to pain treatment in animals were positive.

More conversations with veterinary students: Do objectification processes occur during veterinary education?

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond
Author's preference: Oral
Nancy Clarke1 ,2, David Main0 ,2, Liz Paul0 ,2 1The World Society for the Protection of Animals, London, UK, 2The Animal Welfare and Behaviour Group, The School of Veterinary Science, The University of Bristol, Bristol, UK

Qualitative studies have examined medical students' and professionals' experiences and attitudes towards patients during medical education, indicating the existence of potentially damaging dehumanization processes. Similar socio-qualitative approaches are much needed for exploring veterinary students' views and experiences yet only a small handful of such studies exist. The present study aimed to use qualitative methods to investigate whether veterinary students objectify animal patients as part of their emotional and professional socialisation, and to establish which cognitive, affective and behavioural factors may be important in objectification processes. These issues were explored in relation three potentially emotive aspects of veterinary training: animal pain, animal euthanasia, and dissection. Forty-five semi-structured interviews with first- and final-year veterinary students were conducted at a U.K. veterinary school during the Spring term of the academic year 2010-2011. Evidence of objectification was found, with such experiences being described by participants within a framework of coping or social and emotional adjustment. Factors important in determining the extent to which objectification occurred included the whether the students were from farming backgrounds, as well as their gender, personal experiences and interactions with individual animals. Also important were the students' perceptions of how teaching staff interacted with them in situations with potentially emotive content. These findings indicate parallels between
the processes of the dehumanization in human medicine and objectification in veterinary medicine. The role objectification processes may play in enabling the increasingly female-dominated population of veterinary students to cope with aspects of their training and to ensure animal welfare are also explored.

The impact of Anthropomorphism and Zoomorphism on the human – animal bond.
Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

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Introduction

The use of animals for companionship has increased in popularity during the past fifty years and the utility of animals within the domestic setting has changed in its function (Nast 2006). Affective changes in the human-animal bond show an improvement in human well-being and animal welfare (Podberscek, 2006).

However, we suggest that affective, emotional attachments (Tomkins 1995) may explain the emergence of anthropomorphic and zoomorphic behaviours, which can detrimentally affect well-being, welfare and the human – animal bond.

Anthropomorphism

Anthropomorphism in pet ownership may be contrary to good animal welfare, for example overfeeding, the proliferation of dressing up ‘fashion clothes’ and the use of pet toys which would be more in keeping with human babies and children. We also discuss the use of the term Pet Parent, whereby pet owners refer to themselves as “Mummy” or “Daddy” rather than Pet owner and refer to their animals as “fur-kids” rather than pets.

Zoomorphism

Research on Zoomorphic behaviour and in particular, people who identify with the attribution of animal traits in human beings and those who dress like and assume characterisations of animals (furries), has shown strong associations with anthropomorphic behaviours (Gurely, 2001 & Gabasi et al 2008), this is contrary to previous scientific studies on anthropomorphism alone.

Conclusion

We suggest that rather than viewing anthropomorphism and zoomorphism as opposing psychologies, they are parallel and often seen as combined behaviours in animal ownership, this may have a negative effect on the welfare of animals and the human-animal bond.
Attitudes towards animal sentience during veterinary education: Cross-sectional and longitudinal findings
Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

Nancy Clarke1,2, David Main0,2, Liz Paul0,2. 1The World Society for the Protection of Animals, London, UK; 2The Animal Welfare and Behaviour Group, The School of Veterinary Sciences, The University of Bristol, Bristol, UK

Between 2001 and 2011, two studies were conducted at one British university assessing veterinary students’ beliefs about the sentient capacities of non-human animals. In Study 1, a Belief in Animal Sentience (BIAS) questionnaire was used to sample eleven consecutive cohorts (n = 1045) of first-year veterinary students’ beliefs about the sentience of ten species: Dogs, rats, bees, sheep, rabbits, lions, chickens, spiders, cats and pigs. In Study 2 the BIAS questionnaire was used longitudinally to measure the relationship between belief in animal sentience amongst four different cohorts of veterinary students during their first and final years of study (n = 241). In both Study 1 and 2, students’ beliefs in animal sentience varied in accordance with each species position on the phylogenetic scale and their morphological similarity to humans. In Study 1, female first-year veterinary students, relative to their male counterparts, had significantly higher sentience beliefs for all animal species. Year of enrolment was also found to have a highly significant effect on veterinary students’ belief in animal sentience, highlighting the need for caution when interpreting the results of cross-sectional studies. In Study 2 the results of longitudinal, repeated-measures data indicated that veterinary students’ belief in animal sentience does not change significantly with progression through veterinary education for the majority of the species included. Overall these findings increase understanding of how belief in animal sentience amongst veterinary students at one university may vary according to gender, pet ownership experience, year of enrolment and with progression through veterinary education.

Missouri Moving Out in Front: HAI for People in Transition

Category: Responses to Human-Animal Interactions and Human Animal Bond

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In 2012 the Missouri Statewide Human-Animal Interaction (HAI) Task force was convened and created the Human-Animal Interaction for People in Transition (HAIPT) project. The aim of HAIPT was to develop a multi-faceted program serving Missouri citizens in transition (e.g. individuals with physical, psychological, and/or emotional challenges, veterans, prison inmates) and shelter dogs or abandoned animals, with the ultimate goal of providing increasing partnerships for research and program implementation. Phase one identified existing HAI programs, and isolated those that could serve as potential implementation sites for subsequent phases of the project. An assessment instrument was created to collect information from these organizations and facilities in a standardized manner and an HAI program scoring instrument was developed to systematically rank the programs. Statewide and regional statistics were simultaneously collected to identify needs of communities.
One hundred-eight HAI organizations were identified: 37 AAA/AAT, 9 animal shelters / humane societies, 13 dog training centers, 20 equine assisted therapy, 19 prison shelter dog programs, and 10 wildlife centers / zoo societies. Twenty five programs were determined to be potential implementation sites based on the developed instrument. In phase two the we visited and/or interviewed these organizations and ranked them for viability of collaborative research and programs. The results led to the recommendation of five HAI providers as potential research and program collaborators with the ultimate goal of identifying participants' outcomes across organizations.

The Clinical Applications of a Multi-Species Animal Assisted Therapy Program in a Residential School Setting for High Risk Youth: Mechanisms for Change in Attachment and Emotional Outcomes
Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

Kirby Wycoff, Diane Teske, Rachel Teller The Milton Hershey School, Hershey, PA, USA

There is increasing interest in the fields of psychology, social work and education regarding the utility of incorporating Animal Assisted Therapy Services in youth programming. Historically, the research regarding effectiveness in AAT interventions for youth has been somewhat inconsistent. This is, at least in part due to weak research methodology, poor study designs and small sample size. Even more notable is the lack of consistent understanding across fields for the mechanisms of change in Animal Assisted Therapy. While there are a number of residential programs throughout the country that employ AAT models, there has been little systematic evaluation of AAT group modalities in the literature. Finally, while most AAT programming discussed in the literature focuses on domestic animals like dogs and horses, there has been little research addressing the utility of farm animals in programming. This study examines the outcome data collected from a pilot program and three year expansion of a multi-species, AAT program at a residential school for high risk youth. From both a program development perspective, as well as assessing emotional outcomes of participants, this study seeks to better articulate the mechanisms for change, particularly related to the human-animal relationship and bond. Further, the study design and development parameters as well as future directions for research are considered. Finally, highlighted throughout the program is the interdisciplinary collaboration of psychology professionals and animal science professionals working together to address all aspects of well being for humans and animals and the "one health" system in which they both exist.

"The effect of horse-assisted activities on adolescents' experience of mastery and perceived self-efficacy, self-esteem and social support"
Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

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Background

Little research has been conducted on equine-assisted activities for adolescents without any behavioral problems. To investigate the impact of activities with horses on normal adolescent's mastery of tasks, self-efficacy, self-esteem and social support an intervention study with a cross-over design and control group was initiated.

Methodology

This 3-year project investigated psychological effects of a 4-month intervention once a week in which young adolescents were working with horses and riding at farm-based stables. The study comprised 75 adolescents from a normal group of Norwegians aged 12-15. The adolescents were given standardized questionnaires on perceived social support, self-efficacy and self-esteem as well as self-report of learning to handle the horse. Half of these adolescents functioned as a control group before they were given their intervention. In addition the adolescents were video-recorded early and late in the intervention to investigate adolescent's behavior towards the horse and the horse's response.

Results

Perceived social support was found to increase throughout the intervention when compared to the control group. No effect was found on general self-efficacy or self-esteem. From early to late in the intervention period we found an increase in mastery of tasks in relation to the horse through video-recordings. Pearson correlation and analysis of regression was used to find that perceived social support was important for development of mastery of the horse measured by both questionnaires and video-recordings.

Conclusion

This intervention study combining different methodologies showed that equine-assisted activities might have a positive psychological effect on a normal group of adolescents.

Animal Assisted Theraphy Practices in Nursing Home in Turkey

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

Author's preference: Oral

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Background: Rapid growth in elderly population will require far-reaching economic, social and health adjustments. Researchers have begun to recognize the relaxing effect of pet attachment for older adults. Cortisol levels are valuable measure of stress and collection of salivary cortisol is a simple, noninvasive, and sensitive
method to measure cortisol.

**Purpose:** The purpose of this study was to test the effectiveness of Animal Assisted Therapy (AAT) in nursing home residents by using stress indicator cortisol.

**Methodology:** AAT team (5-year-old female golden retriever and owner) visited nursing home residents once a week for six weeks for 15 minutes. Participants were men and women over the age of 60. Group size ranged weekly between 11 and 5. Salivary samples were taken before, and after the AAT sessions from participants and control group. Saliva was collected by oral care bar. Participants chewing this bar and then spit into a centrifuge tube. Tubes were centrifuged and after the bars removing they stored until the day of analysis. After collecting all samples cortisol levels evaluated by Salivary Cortizol Eliza Kit.

**Statistics/Results:** Data statistically analyze with SPSS (13.0) program. Except one week group mean cortisol levels in samples taken after the sessions was lower than predecessors and control group. There were significant changes recorded ($p<0.05$) for the last week.

**Conclusion:** According to the results of this study it can be said that AAT applications decrease the stress levels of older adults in nursing home but more research is needed in this area with large sample size.

**Returning Our Veterans to Employment and Reintegration: The NIOSH ROVER Project**

Category: Responses to Human-Animal Interactions and Human Animal Bond

Oliver Wirth¹, Margaret Glenn², Joseph Scotti², Matthew Wilson², Anne Foreman¹, Lindsay Parenti¹, Richard Gross², B. Jean Meade¹ ¹National Institute for Occupational Safety and Health, Morgantown, WV, USA, ²West Virginia University, Morgantown, WV, USA

The Health Effects Laboratory Division of the National Institute for Occupational Safety and Health (NIOSH) in collaboration with West Virginia University has initiated a program to evaluate the efficacy of using service dogs to assist veterans with posttraumatic stress disorder (PTSD) return to work. These studies will test the hypothesis that Veterans with PTSD, who are assisted by service dogs, are better able to cope with stress and the typical demands of employment. This poster describes the main goals and objectives of this research program, which will be accomplished through three major activities: (1) facilitated focus groups and a national survey of Veterans to understand work-related barriers associated with PTSD, including triggering events and associated emotional and physiological symptoms, (2) a national survey of service dog training organizations to identify current trends in services provided to Veterans, and (3) several laboratory-based work-simulation studies to assess the efficacy of service dogs in ameliorating specific physiological and psychological stress and startle responses, which may present barriers for Veterans returning to work. Results are expected to contribute to the expanding body of empirical evidence associated with the therapeutic benefits of human-animal interactions. This work addresses the current return-to-work goals of the NIOSH Total Worker Health™ program and the Military to Civilian Workforce Transition Initiative. Long-term goals of these studies include informing work related
service dog training practices, demonstrating therapeutic efficacy of service dogs in the workplace, and guiding public policy pertaining to access and workplace accommodations for service dogs.

**Can pets relieve elderly’s stress and prevent dementia? - A survey focused on Japanese elderly**

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

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**Background:** Now Japan faces the super aged society, thus, the number of dementia patients is increasing. In spite of the small number of children, the number of pets is increasing. In Western countries, many studies have investigated the health benefits of pet ownership. Recently also Japan has noticed pets’ values for elderly’s QOL. Although western countries have produced many studies, the results lacked coherence because of cross sectional studies. Some studies showed that ATT improved cognitive function of dementia patients in care house. However, few studies have explored the relation between pets and the onset of dementia.

**Purpose:** We examined the relation between pet ownership and cognitive function (by testing MMSE), and psychological problems (by testing GDS, SF8, and POMS). We will conduct a longitudinal study in future. This time we report a setback from the start.

**Methodology:** Self-administered questionnaires were distributed to 80 subjects over 65 years (patients and families without dementia) in Yokufukai hospital in Tokyo. After that, we conducted above psychological tests. X² and U tests were used for analyses.

**Results:** Eighteen subjects owned their pets (22.5%); they owned dogs or cats. U tests showed that pet owners tended to report physical problems (p<0.05).

**Conclusion/Implications:** To more accurately examine the relation between pet ownership and cognitive function and psychological problems, we need to recruit more subjects and conduct a longitudinal study. The result that pet owner tended to report physical problems implied that we need to investigate subjects’ attachment to pets.

**Advances in Human-Animal Interaction Research Require a Universally Accepted Taxonomy**

Category: Responses to Human-Animal Interactions and Human Animal Bond

B. Jean Meade, Lindsay Parenti, Anne Foreman, Oliver Wirth National Institute for Occupational Safety and Health, Morgantown, WV, USA

The widespread acceptance of animal assisted therapy and animal assisted activities will require multidisciplinary research to demonstrate therapeutic efficacy and the underlying mechanisms of action. Research begins with a review of the relevant
literature, which to date is complicated by a lack of a standardized nomenclature. Confusion arises when multiple labels are used for animals performing the same function, or when labels are misleading or do not clearly specify the assistive function of the animal. Following a review of the literature, and attempting to be consistent with established vocabulary where possible, this paper proposes a standardized taxonomy for assistance animals. Six categories are proposed: (1) service animal, (2) public service animal, (3) therapy animal, (4) visitation animal, (5) sporting or working animal, and (6) support animal. Factors used to differentiate the categories include: (1) whether the animal performs work related to an individual's disability, (2) the level of skill required by the animal, (3) whether the animal is used by public service or health professionals, (4) whether training certifications or standards are available, and (5) the existence and scope of legal public access protection for the animal and handler. Acceptance of a universal taxonomy is essential to allow for communication among researchers and the translation of their findings into therapeutic protocols and public policy. This work is relevant to the current return-to-work goals of the NIOSH Total Worker Health™ program and the Military to Civilian Workforce Transition Initiative.

**Canines and Childhood Cancer: Can the Power of the Human-Animal Bond Help Children and their Families Cope with the Distress Associated with Childhood Cancer and its Treatment?**

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

Kevin Morris, Amy McCullough, Molly Jenkins, Ashleigh Ruehrdanz American Humane Association, Denver, CO, USA

The Canines and Childhood Cancer (CCC) study seeks to examine the health, well-being and distress-related impacts that animal-assisted therapy (AAT) may have on pediatric patients with acute lymphoblastic leukemia (ALL) and their families, as well as the therapy dogs who visit them. Through collaborative funding from Pfizer Animal Health, this study addresses two crucial research gaps within the Human-Animal Interactions field:

- Is the incorporation of animals into clinical settings and systems scientifically efficacious?
- What are the effects of these interactions on both the people and the therapy animals involved?

This presentation will focus on the psychological findings and lessons learned from the study's pilot, ending in April 2013. The pilot study utilized a three-site, randomized control design over a three month data collection period to address the following hypotheses:

- Pediatric cancer patients with ALL who receive AAT will experience less psychological distress throughout the course of their treatment sessions than patients who do not receive AAT, as measured by the Observational Scale of Behavioral Distress.
- Parent(s)/primary caregivers of pediatric cancer patients with ALL who receive AAT will experience less psychological distress throughout the course of their
child's treatment sessions than parent(s)/primary caregivers of patients who do not receive AAT, as measured by the State Trait Anxiety Inventory and the Pediatric Inventory for Parents.

- Therapy dogs will exhibit minimal distress over the course of the study, as measured by handler self-reports, canine salivary cortisol, and observer ratings of videotaped canine behavior, via a validated AAT ethogram.

The Canines and Childhood Cancer Study: Examining the Physiological Impacts of Human-Animal Interactions for Children with Acute Lymphoblastic Leukemia, their Parents/Caregivers, and Therapy Dogs

Category: Biological (Physiological) Responses in Human-Animal Interactions and Human Animal Bond

Kevin Morris, Amy McCullough, Ashleigh Ruehrdanz, Molly Jenkins American Humane Association, Denver, CO, USA

The Canines and Childhood Cancer (CCC) study seeks to examine the physiological and psychosocial effects that animal-assisted therapy (AAT) may have on children with acute lymphoblastic leukemia (ALL), their parents/caregivers, and participating therapy dogs. Through collaborative funding from Pfizer Animal Health, this innovative study builds upon current knowledge to rigorously address the following:

- Is the incorporation of animals into clinical settings and systems scientifically efficacious?
- What are the effects of these interactions on both the people and the animals involved?

This presentation will focus on the physiological findings from the pilot study, ending in April 2013. The pilot was a three-site, randomized control design, with a three month data collection period. The following physiological hypotheses were addressed:

- Pediatric cancer patients with ALL who receive AAT will experience less physiological distress throughout the course of their treatment sessions than patients who do not receive AAT.
- Parent(s)/primary caregivers of pediatric cancer patients with ALL who receive AAT will experience less physiological distress throughout the course of their child's treatment sessions than parent(s)/primary caregivers of patients who do not receive AAT.
- Therapy dogs will exhibit minimal physiological and behavioral distress over the course of the study, as measured by salivary cortisol, handler self-reports, and observer ratings of videotaped canine behavior, via a validated AAT ethogram.

Heart rate variability was measured with the Polar RS800CX and serves as the primary physiological distress indicator for both the child patients and their parents/caregivers. Blood pressure was also measured for the child patients.

Enhancing Physical Rehabilitation Through Animal-Assisted Therapy
Category: Biological (Physiological) Responses in Human-Animal Interactions and Human Animal Bond

Callandre Cozzolino1, Melissa Kelly2,1 1Canine Therapy Corps, Chicago, IL, USA,
For individuals undergoing rehabilitation from major surgery, serious illness, or traumatic injury, recovery can be fraught with physical and emotional pain and other challenges. They may have to learn or relearn how to walk and communicate and may also have limited hearing, vision, cognitive and language capabilities. Three of Canine Therapy Corps, Inc.'s (CTC, a non-profit organization) programs are comprised of physical rehabilitation patients. For this population, traditional forms of therapy may have proven less effective, or some patients may have difficulty maintaining the motivation necessary to continue the rehabilitation process. By fostering the animal-human bond in a positive, therapeutic environment, CTC's goal-directed animal-assisted therapy programs motivate participants to work toward strengthening their physical, and overall, health.

These programs are goal-oriented and focus on gains in physical, cognitive, social, and emotional functioning. Specific goals for individuals may target increased motor skills, improved speech, and improved short-term memory. To help the patients achieve their goals, the programs actively engage participants in a variety of structured activities through interactions with certified therapy dogs and handlers. These activities are drawn from a wide repertoire of inventoried skills that have been honed by the therapy dogs and handlers and are tailored to the specific needs of each patient. Anecdotal evidence, consisting of feedback from the patients, their therapists, and CTC volunteers, suggests that these interactions promote patient recovery, and evaluation efforts are ongoing to provide formal evidence that the programs support the individual patient's goals for improved physical, cognitive, social, and emotional functioning.

Introducing a pet dog to families of children with ASD improves family quality of life

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

Hannah Wright1, Daniel Mills1, Annette Hames1, Jessica Hardiman1, Richard Mills2, PAWS PAWS Project Team3 1University of Lincoln, Lincoln, UK, 2The National Autistic Society, London, UK, 3Dogs for the Disabled, Banbury, UK

The benefit of dogs for children with ASD has received much attention in recent years, with research focusing on direct affects on the child. Anecdotal reports suggest that dogs may also provide benefits for the parents and family as a whole, for example by reducing stress and improving family functioning.

53 families with a child who has ASD were followed through the process of acquiring a pet dog. In each family, the parent considered to be the main carer of the child was interviewed by telephone at three time points: Baseline (0-20 weeks before addition of a pet dog), post intervention (4-10 weeks post addition of a pet dog) and follow up (30-40 weeks post addition of the dog). Each interview involved the administration of three scales: Parental Stress Index (PSI), FAM-III General Scale (FAM-III GS), and the Child Family Provisional Normalcy Rating Scale (CFPNRS). A control group of 30 families with a child who has ASD who did not acquire a pet dog also completed the interviews at matched timescales.
Significant reductions were identified on all PSI subscales, the FAM-III General Scale and the CFPNRS from baseline to post-intervention for families in the intervention group. These lowered scores remained at the follow up sampling point. No significant changes were identified on any of the scales for the control group.

**An scenario-based investigation of the underlying individual difference mechanisms influencing perceptions of companion animals.**

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

Heather Lum¹, Maurina Grandinetti¹, Shane Halse¹, Valerie Sims⁰,² ¹Penn State Erie, The Behrend College, Erie, PA, USA, ²University of Central Florida, Orlando, FL, USA

The “Black Dog” syndrome is a phenomenon in which black dogs and cats are seen as less desirable, less adoptable, and are more subjected to abuse as well as euthanasia. Similarly, larger pets are typically adopted less and are returned to shelters at a larger rate than smaller pets. The purpose of the study was to examine how individual differences of both the human and the dog may influence both the perceptions of and attitudes toward a pet. Specifically, researchers manipulated the age of the child and the size and age of the dog in a scenario where a dog bites the child. A mixed ANOVA statistical method was conducted on the questions of who was to blame for the incident, what the dog’s outcome should be (euthanasia, rehoming, etc.), and punitive damages. Results indicate there are indeed differences on the questions posed above, dependent on both the size and color of the dog as well as the age of the child. The results of this study will allow researchers to gain a better picture of the underlying prejudice that may exist for certain pets based on both color and size. By researching this, we will be one step closer to answering the question of why some dogs and cats are perceived as more aggressive or less desirable than others. This knowledge may allow for us to create programs targeting these issues and allowing ultimately for better adoption rate and lower euthanasia rate for these animals.

**“Practicing Social Work in a Veterinary Setting- Quantitative and Qualitative Data results from 10 years of practice”**

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

Elizabeth Strand University of Tennessee Colleges of Veterinary Medicine and Social Work, Knoxville, TN 37996, USA

As a One Health practice example, social work in veterinary medicine applies the paradigm of social work practice to all the human needs that arise in the veterinary setting. This practice, however, is not a one-way street. Social workers benefit from the unique access veterinarians have into the lives of people- access through the human-animal relationship.

This presentation will review the quantitative and qualitative results of a social work practice in a veterinary medical and educational setting over the past 10 years. Data sources come from an annual stratified random sample survey of faculty, staff, and
students with average response rate of 49% as well as clinical practice records, and service based evaluation data.

Based on findings, this presentation will review the types of human needs that arise in the veterinary setting to include: grief and bereavement, interpersonal and animal violence, compassion fatigue, stress management, mental illness, substance abuse, suicidal ideation, euthanasia decision making, conflict resolution, and communication skills. The frequency and efficacy of applying social work skills in these areas will be discussed using both quantitative and qualitative data. Case examples will be used to facilitate understanding of the types of issues that arise for social workers in veterinary settings. Over the last 10 years, in response to the question, “Do you think veterinary social work is beneficial,” yearly “yes” responses for this social work program have never fallen below 90%. Guidelines for developing successful cross-disciplinary relationships between social work and veterinary medicine will be offered.

**Impact of Responsible Pet ownership on Glycemic Control in Youths with Type 1 Diabetes Mellitus: two observational studies**

**Category: Social and Sociological**

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Type 1 diabetes mellitus (T1DM) is a chronic disease caused by an immunologic destruction of the pancreatic β-cells, resulting in an absolute insulin deficiency. It requires conscientious medical care and patient self-management education to prevent acute complications and to reduce the risk of long-term sequelae. Current standards for diabetes management reflect the need to maintain glucose control within a normal range. Family cohesion and adaptability, positive coping strategies, younger age of onset, social support and adequate self-regulatory behavior are found to favorably influence glycemic control. Our hypothesis is that the presence of a companion animal is associated with the successful management of a chronic illness such as type 1 diabetes. We are carrying out two independent observational studies to answer our research question:

1) a case-control study, where existing cases of pediatric type I diabetes mellitus are enrolled on the basis of their glycemic control and queried about their contact with pets.

2) a cohort study, where incident cases of pediatric type I diabetes mellitus are enrolled on the basis of their pet ownership at the time of diagnosis and interviewed for the duration of the study about their diabetes management.

Preliminary logistic modeling shows an association between self care and care for a pet. We are encouraged by 1) our success at recruiting youths, who have had a very positive response to our study; and 2) with our preliminary findings that appear to confirm our hypothesis.
ANIMAL-ASSISTED PHYSICAL ACTIVITY: A NEW RESOURCE TO AID IN OBESITY TREATMENT
Category: Biological (Physiological) Responses in Human-Animal Interactions and Human Animal Bond

Maja Kraguljac, Yana Silva, Aline Melo, Riclayne Silva, Luana Aureliano, Pedro Carlota, Larissa Bastos, Louise Borner, Lucas Caldas, Rafael Pedri Centro Universitário CESMAC, Maceió, Alagoas, Brazil

The studies published during recent years dealing with the A/TAA (Animal-Assisted Activity and AA Therapy) demonstrated that the company of these living beings can decrease stress and anxiety in human patients. Current study aims to promote psychomotor development of the participants and animal-human interaction, for improvement in those volunteers health and quality of life. Physical exercises organized with any age female volunteers, belonging to the group for obesity treatment at parent institution were promoted. The weekly sessions of exercises with 90 minutes duration occurred during six month period with the constant monitoring with previously selected and trained dog therapists participation. The volunteers had their systolic and diastolic blood pressure (SBP/DBP) measurements realized before and after exercise and after relaxation with the dog, heart rate (HR) controlled continuously during the sessions and values of handgrip strenght measured before and after exercises. Dogs had their heart rate (HR) and respiratory frequency (RF) controlled during the sessions. It was noticed that the mean SBP at rest and after exercise became significantly lower in human volunteers after six months considered in the study. At the same time, comparing the volunteers initial SBP with the SBP after relaxation within the animal presence in the same session the values were also significantly lower (p less 0.05). Currently, the study in question is in continuity with a larger number of participants. Until now, it was noticed that, besides the physiological benefits acquired, animal therapists cause in human volunteers involved greater welfare for them attested.

Effects of Animal Assisted Therapies on Reading Activities in Bursa
Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

Turel Ozkul1, Esra Ozkan2, Zeynep Cetintas3, Leman Kaya4 Uludag University Veterinary Faculty History of Veterinary Medicine and Deontology Department, Bursa, Turkey, 2Yeni Gun Special Education and Rehabilitation Center, Bursa, Turkey, 3Yeni Gun Special Education and Rehabilitation Center, Bursa, Turkey, 4Yeni Gun Special Education and Rehabilitation Center, Bursa, Turkey

Background: Animals provide significant motivation in learning. Children with a dog present be more focused, more aware of their social environment and lessons.

Purpose: The purpose of this study was to test the effectiveness of Animal Assisted Therapy (AAT) in children with reading and spelling difficulties by using language and development tests.

Methodology: AAT teams, 5 year old female Golden Retriever and 3 year old...
German Shepherd Crossbreed and owners visited the 4-6 years old children with reading and spelling difficulties individually last 15 minutes of their lessons. Study was started with 12 children but ended with 8 children because of the changes in curriculum and parents’ reluctance. Visits started at 02.08.2010 and ended at 17.20.2012. Before and after the visits; Denver Developmental Screening Test (DENVER II), Portage Test (A model for early childhood education), Turkish Pronunciation and Grammar Test (TPGT) and Turkish Early Language Development Test (TELDT) applied to both control and test group.

Statistics/Results: Evaluating the results of Denver II and Portage tests are not completed. The results of (TPGT) and (TELDT) analysed by SPSS (13.0) statistic program. The group mean scores rise 15.8750 to 19.1250 in TPGT and 16.8750 to 20.8750 in TELDT. These scores in control group were respectively 16.8750 to 18.8750 and 15.7500 to 18.2500.

Conclusion: According to the results there is no statistically significant change but when comparing the rise in mean scores of test and control group, it can be seen that AAT visits lead to an increase in positive in both tests.

Child and Adolescent Functioning Outcomes After Six Months of Trauma-Focused Equine-Assisted Psychotherapy

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

Amanda Kruger1,2 Texas State University-San Marcos, San Marcis, TX, USA, Our Lady of the Lake University, San Antonio, TX, USA

Trauma such as severe neglect or abuse incurred during critical developmental periods such as childhood and adolescence may create negative and pervasive effects in behavior and emotion. Previous scholarship has demonstrated that animals can provide therapeutic benefits for trauma victims, both as companions and in various psychotherapies. Recent research suggests that the addition of equines to the psychotherapy process may beneficial for those who have experienced repeated traumatic stress. Trauma-Focused Equine-Assisted Psychotherapy (TF-EAP) focuses on using horses to help clients consistently regulate their own physiology and psychology. The current study examines the effects of six months of sessions of TF-EAP on children and adolescents that had experienced severe abuse or neglect. Child and Adolescent Functional Assessment Scale (CAFAS) scores were analyzed for 15 youths (mean age = 11.1 years) at the start of TF-EAP sessions and again after 6 months of treatment. The CAFAS captures 8 domains of youth functioning, with subscales including school, home, community, behavior towards others, moods/emotions, self-harmful behavior, substance use, and thinking. Results from the Related-Samples Wilcoxon Signed Ranks Test found significant differences ($p < .05$) from initial assessment to follow up in the overall total scores in five out of the seven scales analyzed, including school behavior, home behavior, behavior towards others, community behavior, and moods/emotions. This research contributes to the emerging literature supporting the use of horses as an enhanced therapeutic medium, particularly for children and adolescents who have experienced complex or developmental trauma.
"Communication or just sheer luck? Ethological-linguistic study of human-horse interaction in therapeutic and leisure riding"
Category: Social and Sociological

Nataliya Berbyuk Lindström1, Margareta Haakanson1, Anna Lundberg2, Jens Allwood1 1SCCIII Interdisciplinary Center, University of Gothenburg, Gothenburg, Sweden, 2Swedish University of Agricultural Sciences, Skara, Sweden

Interaction with horses is often presented as beneficial for human well-being. However, few scientific studies analyze human-horse interaction with focus on both human and horse interactive behavior. The aim of the study is to describe and to analyze human-horse interaction by combining ethological and linguistic methods.

Child and adolescent riders and their horses were observed and video-recorded during therapy/leisure riding activities. Semi-structured interviews were conducted to get the riders’ views on their interaction with horses. The heart rates and the behavior of the horses were recorded during the communication situations to get data on their reactions.

The recordings were transcribed and synchronized with the horses’ heart rates data. Then the recordings were analyzed using activity-based communication analysis and ethograms focusing on both verbal and bodily aspects of interaction. Such features of interaction as gestures, eye contact, touch (for both humans and horses), feedback and speech acts (for humans) were analyzed. The interviews were analyzed using simple content analysis. The analysis of recordings, interviews and heart rates were combined to get a complete picture of the interactions.

The result is a description and analysis of human-horse communication. A horse-rider vocabulary is developed, which contains information about both human and horse behavior.

The study makes contribution to the fields of ethology and communication and also to development of methods for studying human-horse interaction. The results spread light on how to enhance communication between horses and humans in therapy or leisure activities, thereby reduce risk factors for riders and enhance animal welfare.

Impact of a Canine-Assisted Intervention on Social Skills and Problem Behaviors in Children with ADHD

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

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Attention-Deficit/Hyperactivity Disorder (ADHD) is one of the most prevalent psychiatric disorders of childhood with pervasive symptoms associated with chronic functional and social impairments, particularly peer rejection. While there is growing interest in the use of therapeutic human-animal interventions for youth, evidence-based information about treatment efficacy is lacking. Toward further systematic investigation of the effectiveness of canine-assisted interventions (CAI), this study examined the efficacy of a 12-week cognitive-behavioral social skills intervention
facilitated by therapy dogs relative to a waitlist (WL) condition in symptom severity, social competence, and problematic behaviors among children with ADHD.

Thirty-five children (75.6% male) ages 7-9 years (M=8.16, SD=.80) enrolled in Project Positive, Assertive, Cooperative, Kids (P.A.C.K.). Severity of ADHD symptoms was assessed via clinicians' interviews with parents. Parents rated children's social skills and problematic behaviors using the Social Skills Improvement System Rating Scales. All measures were collected at pretreatment and post-wait/treatment.

Attrition during treatment was low (5%) compared to the WL period (19%), with high rates of treatment attendance (95.7%). Results from mixed model analyses indicated that, adjusting for pretreatment scores, children in the CAI treatment showed significant improvements in ADHD symptom severity (p< .001), social skills (p< .001), and problematic behavior (p< .01) ratings compared to the same WL pre-post assessments. These findings offer preliminary support for the efficacy and acceptability of a novel CAI intervention for reducing behavioral and social impairments among children with ADHD.

Associations Between Momentary Emotion, Basal Cortisol Production and Reactivity, and Observed Behavior in a Sample of Normal and At-Risk 5th Through 8th Grade Children During Their First Mounted Equine Facilitated Learning Activity
Category: Biological (Physiological) Responses in Human-Animal Interactions and Human Animal Bond

Patricia Pendry, Alexa Carr, Annelise Smith, Stephanie Roeter Washington State University, Pullman, WA, USA

We examined links between cortisol levels and momentary emotions of 5th-8th grade children (N = 59, N_boys = 28; M_age = 11.15) in response to their first mounted Equine Facilitated Learning (EFL) activity. To ascertain children's current emotional state, they completed two, one-minute surveys - immediately before mounting and after dismounting - containing 11 questions on the extent to which they felt embarrassed, nervous, happy, proud, frustrated etc., resulting in a negative (α =.73) and positive emotion factor (α =.67). We collected 4 salivary cortisol samples at the end of children's school day (3.00 pm), 25 minutes after completing their pre and post-ride ESM surveys, and 35 minutes after mounting. Participants' positive (e.g., following direction, accepting feedback) and negative behaviors (e.g., argumentative, fidgeting) were rated on a 6-point scale (AAT-PSF; Chandler, 2005) by three observers (r_intraclasse=.829, p <.001). Multivariate regression results showed that pre-ride cortisol levels predicted children's negative emotion in anticipation of riding (β = .283, p = .037). Higher levels of cortisol during riding predicted lower levels of positive emotion (β = -.543, p = .002) and higher levels of negative emotion (β = .405, p = .001) after riding. Children's momentary emotions and cortisol reactivity (i.e., change) in response to riding for 10 minutes predicted negative behavior, suggesting a need for increased awareness about the influence of children's physiological stress-system functioning on their emotional and behavioral responding during novel and/or challenging EFL activities.
The effect of social network on the efficacy of an AAI for troubled youth.
Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

Danielle Lambert1, Annmarie Cano1, Rita Casey1, Amy Johnson2, Dana K. May 1Wayne State University, Detroit, MI, USA, 2Teacher's Pet: Dogs and Kids Learning Together, Macomb, MI, USA

As an adjunct therapy, animal-assisted interventions (AAIs) offer a way to improve the psychosocial adjustment of adjudicated youth. However, AAIs may be more effective for some youth compared to others. For instance, research suggests that children view dogs as non-judgmental and have received benefits from this kind of non-threatening relationship. Therefore, it is expected that the AAI would be more beneficial to youth with poor social ties. The purpose of this project is to test whether AAIs are beneficial to adjudicated youth depending on the youth’s gender, social network size, and duration of stay at a juvenile justice center. Participants are 72 boys and girls in the age range of 14-17 who are residing at a juvenile detention facility. Participants were randomly assigned to an AAI group that involved hands-on dog training or a dog-walking group. At baseline, participants were asked to indicate their social network size, how many adults with whom they would share a secret and how many close friends with whom they could share a secret about themselves. Participants and their case managers also completed Achenbach Youth Report Forms and Teacher Report Forms, respectively, at baseline and immediately post-treatment (10 weeks later). Moderator analyses will be conducted using hierarchical multiple regressions to determine the extent to which social network predicts improvement in psychosocial adjustment in both groups. The findings from this study may help tailor future AAIs to maximize the benefits of AAIs for troubled youth.

Responses of non-human animals to loss of an attachment figure.
Category: Social and Sociological

Leticia Fanucchi1, Ruth C. Newberry1 1Dep.of Animal Sciences, Washington State University, Pullman, Wa, USA, 2Dep.of Animal Sciences, Pullman, WA, USA

Grief refers to the negative feelings generated by the long-term loss of a significant social companion, usually due to death. The concept of grief is typically reserved for humans who are able to understand the permanence of the loss and its implications for the survivor’s future life. The more general terms, separation distress and depression, have been applied to feelings generated by social loss in non-human animals, although acceptance that non-human animals are capable of such feelings is far from universal. We hypothesize that separation distress and depression are widespread in social vertebrates and that, additionally, some non-human animals are capable of learning the significance of death. Furthermore, we hypothesize that, when non-human animals form cross-species attachments to humans, they can experience separation distress and depression when parted, and that some animals are capable of experiencing grief upon death of a human. In this paper, we review evidence for social attachment and social-loss-induced distress and depression-like
Mastery, Empathy and Social Conscience through AAT (MESCAAT): I, 2012
Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

Jennifer Emmert San Francisco SPCA, San Francisco, USA

In 2009 I designed and piloted our newest AAT program: Mastery, Empathy and Social Conscience through AAT (MESCAAT). The program augments treatment and maintenance plans for people whose mental health concerns could result in diminished capacity for establishing and sustaining social connections that cultivate a sense of community membership. That sense of inclusion and actual participation in a supportive structure can be a significant factor in life outcome.

In 2012 we worked with a local facility that offers a full range of residential and day services for children aged 11-17 in need of moderate to acute psychiatric treatment. We served 25 children (5 per 5-week series) with concerns that include schizophrenia, depression, anxiety, behavioral and developmental disorders and post-traumatic stress disorder. We rotated 10 sturdy, mostly medium to large, dogs throughout the year--three terriers, two retrievers, two Goldendoodles, an English Springer Spaniel, a French Bulldog, and an Australian Shepherd. All dogs had been evaluated for therapy work through the SF SPCA AAT Programs and had experience visiting a variety of mental and physical healthcare facilities with their guardians.

Child-dog "teams" were pre-set by AAT staff using clinicians' notes on participants. Each session in the series' was 60-90 minutes total and included training, journaling and interactive play. Participants were introduced to a variety of activities that emphasize reciprocity and build self confidence. We stressed the importance of learning about your canine teammate, identifying needs, acknowledging limitations and accommodating them. After four training sessions, the child-dog teams conducted a group AAT visit at one of our local residential senior centers.

Physical prompts to anthropomorphism of the domestic dog
Category: Social and Sociological

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Morphological qualities could be instrumental to when and why humans anthropomorpheize dogs. This study contributes to the investigation of the physical prompts for anthropomorphizing dogs by exploring human preference for specific
physical attributes. One hundred twenty-four human subjects participated in an aesthetic preference test in which they viewed 80 matched image-pairs of mixed-breed adult dogs. Both instances of the image-pairs had a single feature—such as eyes, jowls, and nares—that was modified in size to create a difference of 15% between the two images. The chosen features were those customarily associated with neoteny, ostensible human similarity, symmetry, size, and dog health. The images of each pair thus differed slightly, nearly imperceptibly, in order to explore the contribution of particular physical attributes to humans’ avowed preference for one dog over another. Subjects evinced a preference for human-like attributes and some, but not all, reported aspects of neoteny. By contrast, subjects showed no preference for attributes relating to size, symmetry or well-being. In some cases, subjects’ selections were not uniform and varied by perceptions of and life experiences with animals. The findings suggest that a long-theorized human behavior—anthropomorphizing animals—can be systematically investigated and tested not only in connection to behavior, but also in regards to morphological attributes. Additionally, we show that neoteny does not consistently explain subjects’ preferences; nor are other theories sufficient. The present study lays the foundation for exploring the meanings humans assign to dogs and their morphologies.

Category: Social and Sociological

Gaylene Fasenko1, Jay Lillywhite2, Jennifer Simonsen2 1Department of Animal and Range Sciences, New Mexico State University, Las Cruces, New Mexico, USA, 2Department of Agricultural Economics and Agricultural Business, Las Cruces, New Mexico, USA

The human-dog bond is complex: while recent research has attempted to quantify the factors influencing this relationship, few studies have explored the human-dog bond on a national (U.S.) scale. In this research an internet-based panel survey of 698 U.S. dog owners was used to collect data regarding the demographic characteristics of owners, dogs, and the owner-dog bond. The human-dog bond was measured using a modified Lexington Attachment to Pets Scale, which asked respondents to rate 15 statements related to their dog's nutrition, care, and socialization using a Likert scale (with 1 being "strongly disagree" and 5 being "strongly agree"). For the purposes of this study, respondents who rated 13 or more of the 15 statements a 4 or higher were considered "highly bonded" with their dog (52.9% of respondents). Chi-square tests were used to determine differences among specific variables. Differences in bonding level (highly bonded v. not highly bonded) were higher in women versus men. Owners of purebred dogs also were more highly-bonded versus owners who had mixed and "designer" mixed breeds. Bond level did not appear to relate to the owner's income, environment growing up (rural v. urban), age, marital status, or childhood experience with dogs. Almost one-third (29.7%) of respondents adopted their dog from a rescue group or animal shelter. Additional characteristics of U.S. dogs, their owners, and their impact on the human-dog bond will be explored in greater detail in this research presentation.
Dog breed stereotypes and the influence on human social interaction.
Category: Social and Sociological

Gaylene Fasenko Department of Animal and Range Sciences, New Mexico State University, Las Cruces, NM, USA

Previous research has shown that the presence of a dog can act as a social bridge between strangers. However, the effect of the dog's breed on the ability to facilitate positive social interaction is not well researched. This study focused on human stereotypes about certain dog breeds and the effect of these preconceived attitudes on the willingness of people to bridge social gaps. A survey instrument was developed by undergraduate students in a Human Companion Animal Bond class at New Mexico State University. The survey was distributed by the students to acquaintances throughout the Southwest U.S. Pictures of an American Cocker Spaniel, a Golden Retriever, a Chihuahua and an American Pit Bull Terrier were included. These breeds were selected based on their popularity in the southwest U.S. as well as possible breed stigmas. A 90% response rate was obtained with 56% of the participants being female and over 75% of the participants owning at least one dog. A total of 51% of those surveyed agreed that they would be more willing to talk to someone with a dog versus without a dog and 35% said they would trust someone with a dog more. Fifty percent chose the Golden Retriever, followed by the Cocker Spaniel as the best companion. The Pit Bull and Chihuahua were split almost equally as the third best companion animal. The relationship of other demographic data to people's perceptions of the ability of dogs to facilitate social interaction will be provided in this research presentation.

Freeing the dog from the box and letting the cat out of the bag. Development of a companion animal program at New Mexico State University to improve knowledge of companion animals and to strengthen the human-animal bond.

Category: Social and Sociological

Gaylene Fasenko Department of Animal and Range Sciences, New Mexico State University, Las Cruces, NM, USA

Currently there are only a handful of universities in the U.S. not affiliated with Veterinary medical schools that provide comprehensive curricula on companion animals. One of the focuses of land grant universities is to educate the public. While land-grant universities have traditionally done an excellent job providing instruction on livestock species, companion animals, despite their growing popularity and changing roles in society have been largely left out of the curricula. With that in mind, The College of Agricultural, Consumer and Environmental Sciences at New Mexico State University chose to break relatively new territory and develop a companion animal program. Over the past three years a companion animal program has been developed and delivered in the Department of Animal and Range Sciences. The curricula was developed to educate not only aspiring Veterinarians but also animal science students with an interest in other companion animal related professions. The curricula also serves to educate future paraprofessional and professionals from other science and social science disciplines who may ultimately want to incorporate companion animals into their careers. Instead of the public basing companion animal husbandry, care,
behavior and training on anecdotal information this program is educating students based on the latest scientific based information. The development of this program including challenges faced will be discussed.

An Investigation of Muslim American Preschool-aged Children's Views on Animal Wellness and Ethics

Category: Social and Sociological

Brinda Jegatheesan UNIVERSITY OF WASHINGTON, SEATTLE, USA
Children's attitudes towards companion animals are significantly influenced by their cultural and religious beliefs. The purpose of the study was to ascertain how Muslim preschool children conceptuallyize companion animals (cats and dogs) in critical situations (e.g., neglected, involved in a road accident) in general, what attitudes and helping behaviors they hold towards each of these kinds of animals. Twelve preschool children participated in the study. The method used was a combination of drawings of equal number of cats and dogs that served as a projective image and interview questions in connection with the drawings. Interview questions probed how children perceive the animals in the picture, and what actions, if any, children would take to help the animal in need. Interview questions also examined children's emotions in relation to the images. A family information questionnaire that consisted of standard demographic questions was completed by the parents. Analysis was done using the constant comparative method. The interviews were transcribed verbatim and coded using the open-coding system. This study is based on children's descriptions of how they would view and respond to companion animals in need, in their words.

Animal-assisted educational activities at CLAW, South Africa: Holistic impacts on community welfare

Category: Social and Sociological

Cora Bailey1,2, Kate Nattrass Atema, Hanna Lentz1
1International Fund for Animal Welfare (IFAW), Yarmouthport, MA, USA, 2Community Led Animal Welfare (CLAW), Roodepoort, South Africa

In the townships around Soweto, South Africa, the welfare of dogs and cats is intimately linked to the welfare of the communities in which they live. The Community Led Animal Welfare program (CLAW) - a project of the International Fund for Animal Welfare (IFAW) - recognizes this link and delivers a holistic program to provide affordable health care for animals, educate communities about animal welfare, and develop programs engaging youth and community members in humane behaviors. A key component of this work is the "Saturday Program", an education program which offers a positive introduction to animals and their welfare to local children, as well as a safe environment where children, their pets, and CLAW staff engage in educational activities focused on, and involving, the clinic's healthy animals. Initially created as an alternative intervention for youth convicted of criminal
cruelty, we have observed numerous cases in which children, specifically those at high risk of criminal behavior, dramatically changed their behavior toward both animals and their communities after program attendance. Sustained attendance also improves animal welfare in the communities as children share lessons about responsible pet ownership at home and become active monitors in their communities, diligently reporting cases of animal neglect and abuse to CLAW staff. We will discuss program engagement methods and individual case studies of both children and impacted communities which indicate that positive human-animal interactions, with a particular focus on at-risk youth, can result in sustained improvement in the welfare outcomes of humans and animals in communities.

**Do Archaeological Specimens Reflect Distant Historical Aspects of the Human-Animal Bond?**

Category: Biological (Physiological) Responses in Human-Animal Interactions and Human Animal Bond

Dennis Lawler1 1Illinois State Museum, Springfield IL, USA, 2Pacific Marine Mammal Center, Laguna Beach CA, USA

Culture-related influences on the welfare of domestic animals are important components of the human experience. Selective breeding of domesticated animals as human companions, work partners, and food producers, reflect genetically manipulated outcomes that influence longevity and quality of life. Positive trends (sheltering, nutrition, population health) and negative influences (crowding, industrialization, human behaviors) are similarly influential.

What morphological evidence exists for the age and early nature of the human-animal bond? The earliest evidence of dog domestication in North America occurs at the Koster archaeological site in western Illinois. Strata from this hunter-gatherer, pre-agricultural site date from ~9800 years ago to the recorded human historical period. Koster domestic dog specimens reveal pathology that is observed in modern domestic dogs, and that appear to have cultural implications. For example, evaluations of major diarthrodial joint surfaces (shoulder, elbow, hip, stifle), summarized here, revealed definable abnormalities in 33% of 36 forelimb surfaces, and in 40% of hind limb surfaces. Southern Illinois' Modoc archaeological site, also a very old hunter-gatherer site, revealed evidence of deliberate care of a small dog with a fractured forelimb and hip damage. Importantly, except for the fracture, the observed joint pathologies generally were relatively mild, and there was minimal evidence of known disorders involving quantitative genetic causes.

This presentation will examine cultural implications of the human-animal bond, dating from hunter-gatherer, through post-agricultural, and into 20th century human societies, demonstrating photographically and numerically the nature of judicious and injudicious human behaviors.

**The evolution of the cognitive dog.**

Category: Psychological Responses in Human-Animal Interactions and Human Animal Bond

Brian Hare, Evan Maclean Duke University, Durham North Carolina, USA

Two questions regarding the human mind challenge evolutionary theory: (a) What
features of human psychology have changed since humans’ lineage split from that of the other apes such as chimpanzees and bonobos? And (b) what was the process by which such derived psychological features evolved (e.g., what were the selection pressures)? Studying domestication and its effect on psychology provides a potential window into the process by which problem solving can evolve. Comparisons between dogs, wolves and foxes suggest that selection on emotional-reactivity can shape social problem solving skills. I will review the work with canids that suggests the emotional-reactivity hypothesis while presenting findings of comparisons between bonobos and chimpanzees that supports the hypothesis that bonobos - like dogs - have been shaped by selection on emotional reactivity. As a result, I will argue that studies of dog psychology have already shaped current thinking regarding the evolution of problem solving skills and that future research with dogs will provide a powerful, affordable and ethical way to continue studying cognitive evolution – including the process that shaped the psychology of our own species. The knowledge we gain from this work will also be applied to improving our ability to recruit and train service and companion dogs that are playing an ever growing role in helping those with mental and physical disabilities

**College Students "Paws To Relax" During Final Exams**

Category: Social and Sociological

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Final exams are a major stressor for most college students. In response, many academic libraries have expanded their traditional focus on scholarly pursuits to include in-house programs that support students' personal growth and development. With a little creativity and planning, some academic libraries have had a positive impact on student well-being by utilizing animal assisted activities (AAA).

Since May 2010, the University of Connecticut's Babidge Library has run a program called "Paws To Relax". AAA teams visit during the week of final exams to provide an opportunity for students to take a break and unwind with some fur therapy. During these AAA sessions hundreds of college students are able to experience the benefits of interacting with dozens of AAA teams.

College students are 'naturals' for AAA. After all, they are away from family and friends, living in an institution, and many have left pets behind. Plus they face all of the other stressors that being a college student entails. For the AAA teams, the students are a wonderful group to work with. College students aren't frail and susceptible to injury as are the elderly and they are not as impulsive or unpredictable as young children and most handlers can easily relate to test anxiety.

The use of AAA programs for college students is a fairly new concept, but one that is easy and inexpensive to implement and extremely popular with students, staff, and AAA teams.