



Human-Animal Interconnections

ISAZ 2017

UC Davis, California



Thursday, June 22, 2017**TIME Gladys Valley Hall, Lobby**

17:00 - 19:00 Welcome Reception & Registration

Friday, June 23, 2017**TIME Gladys Valley Hall, Room 1020**7:15 - 8:15 *Continental Breakfast & Registration*

8:15 - 8:20 Welcome - ISAZ President Erika Friedmann

8:20 - 8:25 Greeting - Dean Michael Lairmore

8:25 - 8:35 New Fellows - ISAZ President Erika Friedmann

8:35 - 9:20 **Distinguished Anthrozoologist TBA**9:30 - 10:20 **DA Giles, PhD, Center for Whale Research, Friday Harbor Laboratories**
Killer whales: the human impact10:20 - 11:00 *Morning Break*11:00 - 11:50 **Diana Davis, DVM, PhD, UC Davis Department of History**
One world one health in the dry half of the world12:00 - 13:00 *Lunch*
Opportunities and Funding for Research in Human-Animal Interaction
Nancy R. Gee, PhD, Sandra McCune, PhD, and James A. Griffin, PhD
Gladys Valley Hall, Room 102013:00 - 14:50 Session 1A - Animals in Society I
Gladys Valley Hall, Room 1020(see page 3 for session details)
Session 2A - Research Methods
Gladys Valley Hall, Room 103014:00 - 17:00 Annual General Meeting for IAHAIO Members
Gladys Valley Hall, Room 104714:50 - 15:20 *Afternoon Break*15:30 - 17:20 Session 1B - Animals in Society II
Gladys Valley Hall, Room 1020(see page 4 for session details)
Session 2B - Animals and Children I
Gladys Valley Hall, Room 103017:30 - 19:30 Poster Reception
Gladys Valley Hall, Lobby
(see pages 14-16 for poster presentations)

****Participant in Student Competition**

Session 1A - Animals in Society I	13:00 - 14:50
Chair: Carri Westgarth	Gladys Valley Hall, 1020
Laura Reese --- CANCELLED	
Protectors, aggressors, and kinfolk: dogs in a tribal community Lori Jervis (University of Oklahoma), <i>Diane Warren, Emily Matt Salois, Gloria Tallbull, Scott Ketchum, Paul Spicer</i>	
The debate over White House squirrel relocation: a snapshot view of attitudes towards squirrels and other wildlife in the United States of the 1950s Helena Pycior (University of Wisconsin-Milwaukee)	
Perceived "naturalness" of animals: the impact of domestication, captivity, and genetic modification Harold Herzog (Western Carolina University), <i>Christopher J. Holden</i>	

Session 2A - Research Methods	13:00 - 14:50
Chair: Kristen Jacobson	Gladys Valley Hall, 1030
**Inter-rater reliability, structure, and construct validity of the Observation of Human-Animal Interaction for Research, Version 3 (OHAIRE-V3) Noémie A. Guérin (Purdue University), <i>Robin L. Gabriels, Monique M. Germone, Sabrina E. B. Schuck, Marguerite E. O'Haire</i>	
Text analytics provide panorama of HAB research Jane Kinkus Yalcilla (Purdue University Libraries)	
Alexandra Horowitz --- CANCELLED	
Describing the use of animals in animal-assisted intervention research Zenithson Ng (University of Tennessee), <i>Julia Albright, Ann Viera, Marcy Souza</i>	

Session 1B - Animals in Society II

15:30 - 17:20

Chair: Harold Herzog

Gladys Valley Hall, 1020

**The links between personality, empathy and animal cruelty attitudes and behaviour: a cross national comparison

Emma L. Hawkins (University of Edinburgh), *Roxanne D. Hawkins*, *Lina M. Cáceres Castellanos*, ***Joanne M. Williams*** (presenter change)

**The dog person scale: development and validation

Molly K. Crossman (Yale University), *Alan E. Kazdin*, *Angela Matijczak*

Unpacking the dimensions of social identification with animals and their distinct roles in predicting attitudes and behaviors toward animals

Catherine Amiot (University of Quebec in Montreal), *Brock Bastian*, *Ksenia Sukhanova*

The 'Responsible Dog Owner': The construction of responsibility

Carri Westgarth (University of Liverpool), *Robert Christley*, *Garry Marvin*, *Elizabeth Perkins*

Session 2B - Animals and Children I

15:30 - 17:20

Chair: Jim Griffin

Gladys Valley Hall, 1030

Changes in adolescents' moment-to-moment cortisol levels inform positive and negative emotion in response to mounted equine facilitated learning (EFL) activity

Patricia Pendry (Washington State University), *Alexa M. Carr*

Effects of animal-assisted intervention on biobehavioral stress responses in hospitalized children: an exploratory randomized control study

Sandy Branson (The University of Texas Health Science Center at Houston), *Lisa Boss*, *Nikhil Padhye*, *Thea Troetscher*, *Duck-Hee Kang*, *Alex Ward*

Dog-assisted intervention in schools for children with special needs

Mirena Dimolareva (University of Lincoln), *Kerstin Meints*, *Nancy R. Gee*

Dog-assisted intervention in mainstream schools

Victoria Brelsford (University of Lincoln), *Kerstin Meints*, *Nancy R. Gee*

NIH Funding Opportunity



On 21 March 2017, the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development (NICHD) issued three Program Announcements focusing on human–animal interaction (HAI) research. This opportunity is made possible by the Public-Private Partnership formed between the NICHD, Mars Petcare, and WALTHAM™. Additional information can be found by navigating to the addresses below:

PAR-17-229

Human–Animal Interaction (HAI) Research (R21)
<https://grants.nih.gov/grants/guide/pa-files/PAR-17-229.html>

PAR-17-230

Human–Animal Interaction (HAI) Research (R03)
<https://grants.nih.gov/grants/guide/pa-files/PAR-17-230.html>

PAR-17-231

Human–Animal Interaction (HAI) Research (R01)
<https://grants.nih.gov/grants/guide/pa-files/PAR-17-231.html>

DEADLINES:

Applications must be received by: **27 June 2017; 30 March 2018; 30 March 2019**

CONTACT:

If you are planning to submit an HAI application to the NICHD, please contact Dr. Layla Esposito at Layla.Esposito@nih.gov.

Saturday, June 24, 2017

TIME	Gladys Valley Hall, Room 1020
7:30 - 8:30	<i>Continental Breakfast & Registration</i>
8:30 - 10:20 (see pages 7 & 10 for session details)	Session 3A - Animals and Psychology I Gladys Valley Hall, Room 1020
	Session 4A - Animals and Children II Gladys Valley Hall, Room 1030
	IAHAIO Program Gladys Valley Hall, Room 1047
10:20 - 11:00	<i>Morning Break</i>
11:00 - 11:50 (see pages 7-8 & 10 for session details)	Session 3B - Animals and Psychology II Gladys Valley Hall, Room 1020
	Session 4B - Animals and Education I Gladys Valley Hall, Room 1030
	IAHAIO Program Gladys Valley Hall, Room 1047
12:00 - 13:00	<i>Lunch</i>
13:00 - 14:50 (see pages 8 & 10 for session details)	Session 3C - Human-Animal Response Gladys Valley Hall, Room 1020
	Session 4C - Animals and Education/College Students I Gladys Valley Hall, Room 1030
	IAHAIO Program Gladys Valley Hall, Room 1047
14:50 - 15:20	<i>Afternoon Break</i>
15:30 - 17:20 (see pages 9 & 10 for session details)	Session 3D - Service Animals Gladys Valley Hall, Room 1020
	Session 4D - Animals and Education/College Students II Gladys Valley Hall, Room 1030
	IAHAIO Program Gladys Valley Hall, Room 1047
17:30 - 19:30	Art Reception John Natsoulas Gallery 521 First Street, Downtown Davis

Session 3A - Animals and Psychology I		8:30 - 10:20
Chair: Zenithson Ng		Gladys Valley Hall, 1020
Do men underreport and mask their attachment with animal companions? How precarious masculinity influences males to show less affection toward their dogs	Chris Blazina (New Mexico State University), <i>Lori Kogan</i>	
The influence of dogs on perceptions of dating profiles: the moderating role of target gender	<i>Molly K. Crossman</i> (Yale University), <i>Alan E. Kazdin</i> , <i>Jocelyn T. Jones</i> , Shawna Bush (University of Connecticut)	
Effects of dogs, cats, and human partners on women's sleep habits and sleep quality	Christy L. Hoffman (Canisius College), <i>Kaylee Stutz</i> , <i>Terrie Vasilopoulos</i>	
Demystifying zoophilia: clinical psychological aspects of sexual relationships between humans and animals	<i>Lisa Klamert</i> , Birgit U. Stetina (Sigmund Freud University, Vienna, Austria)	

Session 4A - Animals and Children II		8:30 - 10:20
Chair: Layla Esposito		Gladys Valley Hall, 1030
**Companion animals and child/adolescent development: a systematic review of the evidence	Rebecca Purewal (University of Liverpool), <i>Robert Christley</i> , <i>Katarzyna Kordas</i> , <i>Carol Joinson</i> , <i>Kerstin Meints</i> , <i>Nancy Gee</i> , <i>Carri Westgarth</i>	
Does the brain perceive pets as family members? An fMRI study in dog-owning children	Kristen C. Jacobson (University of Chicago), <i>Eryka Nosal</i> , <i>Sarah Keedy</i>	
One of the family? Measuring early adolescents' relationships with pets and siblings	<i>Matthew T. Cassels</i> (University of Cambridge), <i>Naomi White</i> , Nancy Gee (SUNY, Fredonia), <i>Claire Hughes</i>	
Childhood attachment to pets: exploring socio-demographics and the links between attachment and compassionate and humane behaviour	<i>Roxanne Hawkins</i> , Joanne M. Williams (University of Edinburgh)	

Session 3B - Animals and Psychology II		11:00 - 11:50
Chair: Birgit Stetina		Gladys Valley Hall, 1020
The neuroticism facet, anxiety, predicts human attachment to cats	Mikel M. Delgado (University of California, Berkeley), <i>Gretchen M. Reeve</i>	
Vehicular heatstroke in dogs: a case of cognitive error	Emily Patterson-Kane (American Veterinary Medical Association), <i>Kelly Arthur</i> , <i>Kim May</i>	

Session 4B - Animals and Education I	11:00 - 11:50
Chair: Beth Daly	Gladys Valley Hall, 1030
Does spending structured school time with dogs improve reading ability or executive functioning in children aged 6 to 8 years? Pauleen Bennett (La Trobe University), <i>Oriane Landry, Chantelle Connell, Deanna Tepper</i>	
Preventing cruelty and promoting compassion to pets through the 'Pet Welfare' educational iPad game Roxanne D. Hawkins (University of Edinburgh), <i>Joanne M. Williams</i>	

Session 3C - Human-Animal Response	13:00 - 14:50
Chair: Mariko Yamamoto	Gladys Valley Hall, 1020
Salivary oxytocin and vasopressin in domestic dogs: methodological validation and response to human-animal interaction Evan L. MacLean (University of Arizona), <i>Laurence R. Gesquiere, Nancy Gee, Kerinne Levy, W. Lance Martin, C. Sue Carter</i>	
Multi-site validation of a Structured Adopter-Dog Interactions (SADI) intervention to increase adoption rates in dogs Alexandra Protopopova (Texas Tech University), <i>Nathaniel J. Hall</i>	
**Systematic review of rat tickling: a human-animal interaction technique Megan R. LaFollette (Purdue University), <i>Brianna N. Gaskill, Sylvie Cloutier, Marguerite E. O'Haire</i>	
**Are dog owners able to correctly identify primary and secondary emotions in their canine companions based on dog vocalization and body language? <i>Christabel Castro</i> (New Mexico State University), Gaylene Fasenko (presenter change), <i>Michael C. Hout, Claren Wilson</i>	

Session 4C - Animals and Education/College Students I	13:00 - 14:50
Chair: Sandra Barker	Gladys Valley Hall, 1030
Promoting animal welfare in schools: evaluation of a humane education intervention in Kenya Stephen Albone (Society for the Protection of Animals Abroad), <i>Maryanne Kagai, Dennis Makau</i>	
Fostering agents of change: laying the foundations for professional advocacy through participation in an undergraduate course on human-animal interactions Christine Tardif-Williams (Brock University), <i>John-Tyler Binfet, Camille Xinmei Rousseau</i>	
The more the merrier? Associations between pet ownership, perceived stress, and social support in a sample of nontraditional college students Jessica Jimenez (National University)	
College students' beliefs about end-of-life decisions for companion animals Linda Kline, Robert J. Liedtke (California State University, Chico)	

Session 3D - Service Animals

15:30 - 17:20

Chair: James Serpell

Gladys Valley Hall, 1020

The impact of service dogs on caregivers and family members' psychosocial well-being

Jessica Bibbo (Purdue University), *Kerri E. Rodriguez, Marguerite E. O'Haire*

Attitudes toward guide dogs in Japan: descriptive analysis of comments on Twitter

Ryota Takahashi, Mariko Yamamoto (Teikyo University of Science)

Psychosocial effects of service dog ownership for individuals with physical disabilities

Kerri E. Rodriguez (Purdue University), *Jessica Bibbo, Marguerite E. O'Haire*

Military veterans & shelter dogs: one rescue at a time

Eleni Padden, Megan Payton, Cheryl Krause-Parello (University of Colorado, Denver)

Session 4D - Animals and Education/College Students II

15:30 - 17:20

Chair: Pauleen Bennett

Gladys Valley Hall, 1030

Themes and codes capturing the quality of Human Animal Interaction (HAI) during Animal-Assisted Activities with University Students

Patricia Pendry, Stephanie Kuzara (Washington State University), *Nancy R. Gee*

Reducing university students' stress through a drop-in canine-therapy program

John-Tyler Binfet (University of British Columbia), *Holli-Anne Passmore, Alex Cebry, Kathryn Struik, Carson McKay*

A complicated passion: a qualitative study of first year veterinary students' relationships to animals and humans

Nadine Dolby (Purdue University)

Association between a canine-assisted activity and college students' perceived family supports and stressors

Sandra B. Barker (Virginia Commonwealth University), *Randolph T. Barker, Nancy L. McCain, Christine M. Schubert*

IAHAIO Program

Gladys Valley Hall, 1047

8:30	Welcome and Introduction - IAHAIO President Marie-Jose Enders-Slegers
8:45	Launch of new IAHAIO and ISAZ platform of collaboration between practitioners and researchers - IAHAIO President Marie-Jose Enders-Slegers and ISAZ President Erika Friedmann
9:00	Outcome of first survey of IAHAIO international task force: Standards of Best Practice for AAI Programs and Practitioner - Brinda Jegatheesan and Elizabeth Ormerod
9:45	Kathy Alm, Path International AAI best practice special forces: horses
11:00	Miyako Kinoshita, Green Chimneys AAI best practice special forces: farm animals
11:30	Jennifer Henley, San Francisco SPCA AAI best practice special forces: dogs and cats
13:00	Announcement of winner of IAHAIO digital photo contest
13:10	Introduction to workshops - Marie-Jose Enders-Slegers
13:20	Workshops
15:20	Workshops
16:00	Sandra McCune, Waltham Centre for Pet Nutrition, Kathy Alm, Jennifer Henly, & Miyako Kinoshita Panel discussion
16:45	Next steps - Marie-Jose Enders-Slegers

Sunday, June 25, 2017

TIME	Gladys Valley Hall, Room 1020
7:15 - 8:15	<i>Continental Breakfast & Registration</i>
8:15 - 8:30	Greeting & Announcements
8:30 - 9:20	John Madigan, DVM, MS, DACVIM, UC Davis School Veterinary Medicine Newborn horses - a model for Autism Spectrum Disorder?
9:30 - 10:20	Paul Mundell, CEO, Canine Companions for Independence Assistance dogs for children
10:20 - 10:30	<i>Morning Break</i>
10:30 - 11:00	Layla Esposito, PhD, National Institutes of Health (NIH/NICHD) & Leonard J Abbeduto, PhD, UC Davis MIND Institute Panel on research needs for children & autism
11:00 - 12:00	ISAZ Annual General Meeting
12:00 - 13:00	<i>Lunch</i> (ISAZ Brief Board Meeting)
13:00 - 14:50	Session 5A - Therapy Animals I Gladys Valley Hall, Room 1020
(see page 12 for session/panel details)	Scholarly Resources Panels Gladys Valley Hall, Room 1030
	Service Dog Panel Gladys Valley Hall, Room 1047
14:50 - 15:20	<i>Afternoon Break</i>
15:30 - 17:20	Session 5B - Therapy Animals II Gladys Valley Hall, Room 1020
(see page 13-14 for session details)	Session 6A - Animal Welfare Gladys Valley Hall, Room 1030
	Session 7A - Training & Pet Care Gladys Valley Hall, Room 1047
18:00 - 21:00	Closing Banquet Dinner Gladys Valley Hall, Patio Announcement of Student Awards Announcement of Silent Auction Bid Winners

Session 5A - Therapy Animals I

13:00 - 14:50

Chair: Lisa Gunter

Gladys Valley Hall, 1020

Karin Hediger --- CANCELLED

The curious incident of the mechanical cat: staff perceptions of animals in a nursing home

Tia G. B. Hansen (Aalborg University), *Chalotte Glintborg, Karen Thodberg*

The psychosocial effects of animal-assisted intervention for pediatric oncology patients and their parents: a multi-site, randomized control trial

Amy McCullough, Ashleigh Ruehrdanz (American Humane Association), *Molly A. Jenkins, Marguerite E. O'Haire, Noémie Guérin*

Pets and older people: addressing challenges to companion animals in housing to avoid painful separation and trauma

Elizabeth Ormerod (IAHAIO, SCAS), *Brinda Jegatheesan*

Scholarly Resources Panels

Gladys Valley Hall, 1030

Chair: Lynette Hart

13:00 - 13:50

Mary Christopher, *Frontiers in Veterinary Science*

Anthony Podberscek & Andrea Ptak, *Anthrozoös*

Geoffrey Wandedforde-Smith, *Journal of International Wildlife Law & Policy*

Lori Kogan & Phyllis Erdman, *American Psychological Association HAIB*

Panel on journals for Anthrozoology publications

14:00 - 14:50

Deanna Johnson, Librarian, UC Davis Health Sciences Library

Panel on searching research literature

Service Dog Panel

Gladys Valley Hall, 1047

Chair: Cheryl Krause-Parello

13:00 - 14:50

Bonnie Bergin, Bergin University of Canine Studies

Clarissa Black, Pets for Vets

Pam Cohen, Staff Attorney, Sacramento Regional Office

Megan Payton, University of Colorado Denver

Kerri Rodriguez, Purdue University

Panel on veterans & service dogs

Session 5B - Therapy Animals II

15:30 - 17:20

Chair: Marguerite O'Haire

Gladys Valley Hall, 1020

The measurement of hair cortisol to assess welfare state in therapy dogs
Zenithson Ng (University of Tennessee), *Bess Pierce*, *Cynthia Otto*, ***Virginia Buechner-Maxwell*** (University of Pennsylvania), *Stephen Were*

Perceived benefits of U.S. veterans participating in a therapeutic horseback riding program
Gretchen K. Carlisle (University of Missouri), *Rebecca A. Johnson*, *Jessica L. Bibbo*, *Sandra H. Crowder*, *David Albright*, *Hayley Yaglun*, *James Marzolf*, *Karen Grindler*, *Nathan Harms*, *Sandy Rafferty*, *Connie Crumpton*

**Assessing whether proximal effects of an animal-assisted intervention translate to distal clinical outcomes in a family preservation program – the Savio study
Erin Flynn (University of Denver), *Julia Roguski*, *Phil Tedeschi*, *Kevin Morris*

Assessing the behavioral and physiological stress of canines who participate in animal-assisted interventions in pediatric oncology settings
Amy McCullough, ***Molly A. Jenkins*** (American Humane Association), *Ashleigh Ruehrdanz*, *Marguerite E. O'Haire*, *Cynthia Hellman*

Session 6A - Animal Welfare

15:30 - 17:20

Chair: Lynette Hart

Gladys Valley Hall, 1030

**Evaluating the effects of a temporary fostering program on shelter dog welfare & prediction of future behavior in adoptive homes
Lisa Gunter (Arizona State University), *E. Feuerbacher*, *C.D.L. Wynne*

The 'link' between child abuse and animal abuse: a challenge for veterinarians and strategies for collaborative partnerships for preventive, protective, and healing interventions
Brinda Jegatheesan (University of Washington, Seattle), *Marie-Jose Enders-Slegers*

Race and ethnicity are not primary determinants in utilizing veterinary services in underserved communities in the United States: a retrospective database analysis
Jessica L. Decker Sparks (University of Denver), *Philip Tedeschi*, *Kevin N. Morris*

Feline behavior training – a pilot study exploring clicker training for cats
Cheryl Kolus (Clicker Learning Institute for Cats and Kittens), *Lori Kogan* (Colorado State University)

**Clicker training: backed by science?

Lynna C. Feng (La Trobe University), *Tiffani J. Howell, Pauleen C. Bennett*

Food for thought: investigating horse owners' perceptions around horse health and wellbeing in relation to weight management

Tamzin Furtado (University of Liverpool), *Cathy McGowan, Elizabeth Perkins, Gina Pinchbeck, Francine Watkins, Rob Christley*

**How to say "spay": exploring methods for optimizing cat spay/ neuter campaign messaging to increase owner take-up

Cluny South (University of British Columbia)

Poster Presentations

****Participant in Student Competition**

The effects of interaction with dolphins on cerebral blood flow: a pilot study
 1 **Junko Akiyama** (Yamazaki Gakuen University), *Masafumi Takeno, Mitsuaki Ohta*

Evaluation of a university-based animal assisted intervention program: a preliminary study
 2 **Bridget Anderson** (Virginia-Maryland College of Veterinary Medicine), Virginia K. Corrigan, Virginia Buechner-Maxwell, Ariann Robino, Julee Farley

Determining compassion fatigue in animal care employees using behavioral, physiological, and subjective measures of stress and wellbeing
 3 **Allison Andrukonis** (Texas Tech University), *Alexandra Protopopova*

Therapy dog wellness: observations of therapy dogs' stress and affiliative behavior across time
 4 **Megan Arant** (Texas Tech University), *Sasha Protopopova*

**Pets' influence on older adults' decisions & chronic disease management
 5 **Basilina Basin** (Oregon Health & Science University)

An analysis of wolfdog behavior, wolfdog husbandry, and the human-wolfdog relationship
 6 **Nikki E. Bennet** (Canisius College), *Christy L. Hoffman*

Black vulture-cattle interactions in Virginia: assessing attitudes towards and risk factors for vulture predation
 7 **Taryn Bromser-Kloeden** (Canisius College), *Christy Hoffman*

Poster Presentations (continued...)	
8	<p>**Individual differences in adolescents' affective and physiological regulation in response to first mounted EFL activity informs behavior during program session Alexa M. Carr (Washington State University), Patricia Pendry</p>
9	<p>Do African elephants in a zoo and a sanctuary show a preference for certain keepers as measured by responses to olfactory and auditory cues? Catherine Doyle (Performing Animal Welfare Society), Christy L. Hoffman</p>
10	<p>Coursework in equine-assisted activities and therapies at universities and colleges in the United States: perspectives and recommendations Nina Ekholm Fry (University of Denver)</p>
11	<p>The introduction of autism guide dogs in the family: the effects on parents and children with autism M.J. Enders-Slegers (Open University), <i>I. Noback, Th. Verheggen</i></p>
12	<p>**The roles of dogs in young people's transitions to independent living and understanding of self Taryn M. Graham (University of Calgary), <i>Katrina J. Milaney, Cindy L. Adams, Melanie J. Rock</i></p>
13	<p>Applications of Kohlberg's theory of moral development in the training of service dogs: do service dogs reach Kohlberg's stage 4? <i>Emma K. Grigg, Bonnie Bergin</i> (Bergin University), <i>Adrienne Wisok, Lynette A. Hart</i></p>
14	<p>Use of clay modeling to teach human anatomy at the secondary school level: student viewpoints Emma K. Grigg (University of California, Davis), <i>Lynette A. Hart</i></p>
15	<p>Can the human-animal bond facilitate a healthy meditation practice and enhance mental health? <i>Elisabeth Gruskin, Lynette Hart</i> (University of California, Davis)</p>
16	<p>TTouch or Petitions for dogs and their owners--are they meaningful to anxious, fearful, or stressed dogs? Elisabeth Gruskin (University of California, Davis), <i>Abigail Thigpen, Lara Sirovica, Lynette Hart</i></p>
17	<p>Exploring the positive relationships between cats and children with autism spectrum disorder <i>Lynette A. Hart, Abigail P. Thigpen</i> (University of California, Davis), <i>Benjamin L. Hart, Irva Hertz-Picciotto, Leslie A. Lyons</i></p>
18	<p>**Dogs, smart phones, and sociability: effects on passerby greeting behaviors Martha Jenkins (Washington State University), <i>Hsin-Ya Liao</i></p>

Poster Presentations (continued...)

	Horses working in therapeutic riding programs: Cortisol, ACTH and glucose stress indicators
19	Rebecca A. Johnson (University of Missouri), <i>Philip J. Johnson, Dorothea V. Megarani, Sarita D. Patel, Hayley D. Yaglom, Catherine M. Vogelweid, Taryn M. Parker, Chyan K. Pascua, Sandra M. Crowder</i>
20	Best practices for screening and selection of potential therapy canine teams: Preliminary findings from a systematic review of U.S. and Canadian AAT programs Elizabeth Kjellstrand Hartwig (Texas State University), <i>John-Tyler Binfet</i>
21	**A recursive frame analysis of trauma-focused equine-assisted psychotherapy sessions Amanda K. Kruger (Our Lady of the Lake University)
22	Functions and organization of pointing by humans, and dogs' responses, during dog-human play between familiar and unfamiliar players Robert W. Mitchell (Eastern Kentucky University), <i>Emily Reed, and Lyndsey Alexander</i>
23	Cyborg insects: use or abuse? <i>V. Tamara Montrose, Grace A. Carroll</i> (Hartpury University Centre), Richard Smith, James A. Oxley
24	Dogs and military culture: companions in protection and healing <i>Eleni Padden, Megan Payton, Allison Boyrer</i> (University of Colorado Denver), <i>Cheryl Krause-Parello</i>
25	The impact on registered therapy dogs participating in animal-assisted therapy sessions with children with ADHD Jose M. Peralta (Western University of Health Sciences), <i>Aubrey H Fine, Larry Goldman, Ashley L Melco</i>
26	Listening ears (education and reading success): how does reading to rabbits affect the reading skills of third and fourth grade students? Annie Petersen (Association for Human-Animal Bond Studies)
27	**Evidence to action: integrating empirical evidence into a family-level equine assisted learning program Stephanie Roeter (Washington State University), <i>Patricia Pendry</i>
28	Mental and physical quality of life scores associated with pet ownership in attendees of a state fair Pamela J. Schreiner (University of Minnesota)
29	"Kacho Jaya": Exploring ancestor of the animal café in Japan Hisako Shimamori (Yamazaki Gakuen University), <i>Noriko Nijjima</i>
30	Social science-informed animal welfare - a case study within animal sheltering Sloane Smith (University of Denver), <i>Bridget Camacho, Philip Tedeschi & Kevin Morris</i>

Poster Presentations (continued...)

31 **Is it a man's world? Reviewing gender differences in AAI**
Birgit U. Stetina (Sigmund Freud University Vienna, Austria), *Julia Netousek, Zuzana Kovacovsky*

32 ****Considering the implementation of animal visitation programs (AVPs) on college campuses: a review of causal studies**
Jaymie L Vandagriff (Washington State University), *Patricia Pendry*

33 ****Assistance dogs for autism and psychiatric disabilities placed by ADI or IGDF accredited facilities, and by non-accredited U.S. facilities**
Sandra Walther (University of California, Davis), *Mariko Yamamoto, Abigail Thigpen, Anaissa Garcia, Neil Willits, Lynette A. Hart*

34 **Longitudinal study on personality dimensions of service-dog/human dyads**
Adrienne Wisok (Bergin University), *Bonnie Bergin, Emma K. Grigg, James Serpell*

35 **How many people have been bitten by dogs?: A cross-sectional survey of prevalence, incidence, and factors associated with dog bites in a UK community**
Carri Westgarth (University of Liverpool), *Megan Brooke, Robert Christley*

36 **The impact of a horse riding intervention on the social functioning of children with autism spectrum disorder**
Joanne M. Williams (University of Edinburgh), *Androulla Harris*



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Effective Options Regarding Spay or Neuter of Dogs Satellite Meeting

Monday, June 26, 2017

TIME	Gladys Valley Hall, Room 1020
7:15-8:15	<i>Continental Breakfast & Registration</i>
8:15-8:30	Greeting & Announcements
8:30-9:20	Ben Hart, DVM, PhD, DACVB, UC Davis School of Veterinary Medicine Giving the Owner Data-base Guidelines on When & If to Spay or Neuter a Dog
9:30-10:20	Anita Oberbauer, PhD, UC Davis Department of Animal Science Gonadectomy Effects on Dogs' Risks of Immune Disorders
10:20-11:00	<i>Morning Break</i>
11:00-11:50	Kate Atema, MS, International Fund for Animal Welfare Case Studies in Sterilization Policy & Practice from the Developing & Developed World
12:00-1:00	<i>Lunch</i>
1:00-1:50	Melissa Bain, DVM, DACVB, DACAW, UC Davis School of Veterinary Medicine Client Considerations Prior to Elective Surgeries
2:00-2:50	Gary Weitzman, DVM, MPH, CAWA, San Diego Humane Society Perspectives on Spay-Neuter from a Large Humane Society
2:50-3:20	<i>Afternoon Break</i>
3:30-4:20	Elizabeth Montgomery, DVM, UC Davis Community Surgery Preparing Veterinary Students in the Complex World of Spay-Neuter
4:30-5:20	Panel Discussion
5:30-7:30	Reception Gladys Valley Hall, Lobby



IFAW
International Fund
for Animal Welfare



**Human-Animal
Interconnections**
ISAZ 2017
UC Davis, California



**Animals Behaving Badly | Veterinary/Welfare Perspectives Improving
Client Compliance**
CABI Satellite Meeting

Tuesday, June 27, 2017

TIME	Location
	Gladys Valley Hall, Room 1020
7:15-8:15	<i>Continental Breakfast & Registration</i>
8:15-8:30	Greeting & Announcements
8:30-9:20	Alice Villalobos, DVM, FNAP, Animal Oncology Consultation Service Recruiting Engagement While Educating Stressed Clients
9:30-10:20	Melissa Bain, DVM, DACVB, DACAW, UC Davis School of Veterinary Medicine Effective Communication to Promote Client Compliance in Treatment of Pet Problem Behaviors
10:20-11:00	<i>Morning Break</i>
11:00-11:50	Gary Weitzman, DVM, MPH, CAWA, San Diego Humane Society From a Humane Society: Supporting Clients in Solving Behavior Problems
12:00-1:00	<i>Lunch</i>
1:00-1:50	Emma Grigg, PhD, CAAB, UC Davis School of Veterinary Medicine, Bergin University When Clients Have Disabilities and Perhaps Service or Emotional Support Dogs
2:00-2:50	Patrick Pageat, DVM, MS, PhD, Dipl ECAWBM-BM, HDR, Institut de Recherche en Semiochimie et Ethologie
2:50-3:20	<i>Afternoon Break</i>
3:30-4:20	Suzanne Kurtz, PhD, College of Veterinary Medicine, Washington State University Effective Client Communication for Improved Compliance
4:30-5:20	Panel Discussion
5:30-7:30	Reception Gladys Valley Hall, Lobby



**Plenary Speakers
Bios and Abstracts**



Giles (*she goes by her last name*) received her PhD from the University of California Davis in 2014, where she is a Lecturer and Research Associate in the Department of Wildlife, Fish, and Conservation Biology. Her dissertation focused on the federally listed southern resident killer whales. In 2009 Giles began working with Dr. Samuel Wasser and dog handler Elizabeth Seely from the University of Washington's Center for Conservation Biology utilizing a scat detection dog to locate floating killer whale scat to monitor the physiological health of

southern resident killer whales. Starting in 2010, Giles also began work with an ongoing collaborative project with Cascadia Research Collective and National Oceanic and Atmospheric Administration's National Marine Fisheries Service deploying acoustic suction-cup recording tags on killer whales to measure received noise levels by whales. Giles is a Scientific Adviser and Coordinator for the Orca Salmon Alliance, a program Advisor for Killer Whale Tales, and is on the Board of Directors for the Salish Sea Ecosystem Advocates.

E-mail: giles@whaleresearch.com



Diana K. Davis is a geographer and veterinarian who has conducted field research with Saharan nomads in southern Morocco and Afghan nomads in western Balochistan. She received her PhD in geography from the University of California at Berkeley and her DVM from Tufts University School of Veterinary Medicine. Her fields of interest include ethnoveterinary medicine, environmental change and public health, historical landscape change and the legacies of colonialism, political ecology, and pastoral societies and arid lands. She has conducted field and archival research with grants from the Guggenheim Foundation, Environmental Protection Agency (STAR), the Agence National de la Recherche (France), the Social Science Research Council (SSRC), the American Council of Learned Societies (ACLS Ryskamp), and the National Endowment for the Humanities (NEH). She is the author of the award winning *Resurrecting the Granary of Rome: Environmental History and French Colonial Expansion in North Africa* (*Ohio University Press, 2007*), which has been translated into French; *The Arid Lands: History, Power Knowledge* (*The MIT Press, 2016*); and the edited volume *Environmental Imaginaries of the Middle East and North Africa* (*Ohio University Press, 2011*) with Edmund Burke III. She has also published over 40 articles and book chapters. She is currently Professor of History and Geography at the University of California at Davis.

Diana Davis

Abstract: One World One Health in the Dry Half of the World

40-45% of our landmass receives less than 500 mm. annual rainfall. Droughts are common. Drylands provide a home for about 38% of our population. Many are herders with different cultural and economic norms. It is crucial for One Health approaches to understand the variability of these regions, their cultures and political-economies, and the mobility necessary to survive in these environments.



Dr. John Madigan is a distinguished professor of medicine and epidemiology at the UC Davis School of Veterinary Medicine and a diplomate of the American College of Veterinary Internal Medicine and the American College of Animal Welfare.

He is a clinician in equine medicine at the Veterinary Medical Teaching Hospital where he started the UC Davis Veterinary Medical Teaching Hospital Equine Neonatal Critical Care Unit in 1987. He co-leads the Comparative Neurology Research Group at UC Davis investigating neurological conditions of horses and humans. He is the director of the International Animal Welfare Training Institute and the Veterinary Emergency Response Team.

He has published over 175 peer-reviewed manuscripts. He is a recipient of a Bill and Melinda Gates Foundation grant with Stanford Medical School and UC Davis Medical School investigating transition of consciousness at birth in infants based on recent discoveries in neonatal foals.

Could recent veterinary discoveries involving the newborn foal provide insight into disorders of infant neurodevelopment and possibly links to autism spectrum disorder?

John Madigan DVM, MS, Diplomate ACVIM Diplomate ACAW

Abstract

We recently discovered that the altered consciousness in the neonatal foal with the condition known as Equine Neonatal Maladjustment syndrome is due to persistence of the hormones secreted in utero to keep the foal in a sleep like state. In other words, the foal has failed to transition consciousness at birth and the result is abnormal behavior including a failure to bond to the mother, failure to locate the udder for nursing, disorientation with the environment and aimless wandering. Brain modulating hormones termed neurosteroids are found in high levels in the maladjusted foal. Additionally we are investigating the events of birth and the role of birth canal pressures in triggering the switch from in utero brain and physiological function to post birth adaption. The process used world wide in newborn infants of skin to skin or kangaroo mother care produces dramatic improvements in premature infant survival and improves long term neurodevelopment. We explore the relationship of this procedure to the squeeze procedure used to wake up the maladjusted foal.



Leonard Abbeduto, PhD, is the Director of the MIND Institute, the Tsakopoulos-Vismara Endowed Chair, and Professor of Psychiatry and Behavioral Sciences at the University of California, Davis. He also directs the NIH-funded Eunice Kennedy Shriver Intellectual and Developmental Disabilities Research Center at the MIND Institute. Dr. Abbeduto's research is focused broadly on the development of language across the lifespan in individuals with neurodevelopmental disorders and the family context for language development. His research has been funded virtually continuously by the National Institutes of Health since 1985.

Dr. Abbeduto has published more than 140 articles, chapters, reviews, and books on fragile X syndrome, autism, Down syndrome, and other disabilities and on child development. His current research is focused on understanding variation in language outcomes in various neurodevelopmental disorders, the measurement of treatment effects in clinical trials, and the use of distance technology in behavioral treatment. Dr. Abbeduto has received numerous awards and honors, including the Kellett Mid-Career Research Award (2008) and Emil A. Steiger Award for Distinguished Teaching (1996) from the University of Wisconsin-Madison and the Enid and William Rosen Research Award from the National Fragile X Foundation (2010).

Dr. Abbeduto is a fellow of the American Association on Intellectual and Developmental Disabilities and of Division 33 (Intellectual and Developmental Disabilities and Autism Spectrum Disorders) of the American Psychological Association. He earned his PhD in psychology from the University of Illinois at Chicago in 1982.

Leonard Abbeduto, PhD

Abstract: PANEL ON RESEARCH NEEDS FOR CHILDREN & AUTISM

I will provide an update on current conceptualizations of autism spectrum disorder (ASD), with particular attention on the heterogeneity of the condition and the comorbid challenges associated with the condition. I will also describe current treatments and possible avenues for new treatment research involving animals.



Ben Hart is currently Distinguished Professor Emeritus at the UC Davis School of Veterinary Medicine. Entering veterinary school decades ago, he noticed that animal behavior was conspicuously absent from the teaching and practice within veterinary medicine. Following his interest in behavior, he pursued an advanced degree in animal behavior and neurobiology. With DVM and PhD degrees from the University of Minnesota, he joined the UC Davis faculty and shortly thereafter, developed the first comprehensive teaching and research program in veterinary behavior, mentoring PhD students and then residents in clinical behavior after the board-certifying college, which he helped develop, was established.

Pursuing new challenges, Ben has tackled the area of understanding the possible effects of early spay-neuter in increasing joint disorders and cancers in over 30 breeds of dogs and 5 mixed breed weight categories. His presentation will cover the wide range of effects from none to quite severe across various breeds.

Given the close attachment dog owners have with their canine companions, and devotion to their health and well-being, Ben's motivation in leading the team for data collection, and publication, along with Lynette Hart, is in giving the pet owners the information needed to make informed choices for the health and welfare of their beloved canine companions.

Ben was a founding member of ISAZ. He currently has a list of over 200 publications, and is a fellow of the Animal Behavior Society and the International Society of Anthrozoology. In 2013 he was recipient of the AVMA Bustad Companion Animal Veterinarian of the Year Award.

Giving the Owner Data-base Guidelines on When & If to Spay or Neuter a Dog

Benjamin L Hart, DVM, PhD, DACVB and Lynette A. Hart, PhD
School of Veterinary Medicine, University of California-Davis, Davis, California

Abstract

A broad overview, representing over 30 breeds will be presented. In essence, some breeds, including the Golden Retriever, Labrador Retriever, and German Shepherd Dog, have an increased risk of a joint disorder with spay/neuter before 1 year (early), ranging from 2 to 4 times that of neutering later. In small breed dogs, there is no increased risk. The increased risk for cancers, especially with lymphoma, occurs in several breeds with early spay/neuter.



Anita Oberbauer is a Professor of Animal Science at the University of California, Davis. She was appointed to the position of Chair of the Department in October, 2009. Oberbauer received her B.S. in Zoology at the University of California, Davis, and her Ph.D. in Animal Physiology at Cornell University in Ithaca, NY. She then completed post-doctoral fellowships in Perinatal Biology at Loma Linda University, Mineral Metabolism at Jerry L. Pettis VA Hospital, and in Biological Chemistry at University of California, Los Angeles prior to joining the faculty at UC

Davis in 1989. She studies two areas of research emphasis: growth and development focusing on skeletal growth and the genetic basis for canine health disorders. She serves on the OFA Board of Directors, authored over 100 peer-reviewed scientific publications, provided numerous invited talks, managed federal grant panels, and served as editor of various journals.

Oberbauer has been at the forefront of the move to incorporate companion animals into animal science curricula and research and she teaches two high enrollment courses on the topic annually. The campus recognized her exceptional teaching by honoring her in 2002 with a prestigious UC Davis Distinguished Teaching Award. Other awards include the American Society of Animal Science Corbin Award in Companion Animal Biology (2004) and the Distinguished Teacher Award for the Western Section of the American Society of Animal Science (2006) and the Outstanding Mentor Award from the UC Davis Consortium for Women & Research (2011).

Anita Oberbauer

Abstract: Gonadectomy Effects on Dog's Risks of Immune Disorders

Gonadectomy is common for dogs in the USA. Neutering reduces risk for some conditions, notably reproductive diseases, yet an increased risk is seen for structural disorders and neoplasias. Comparing prevalence and risk of immune conditions for intact and neutered dogs of both sexes revealed that neutering is associated with increased risk for several autoimmune disorders, most especially females.



Kate Natrass Atema is Director of the Global Companion Animal Program at the International Fund for Animal Welfare (IFAW), comprising community-based dog and cat welfare projects and campaigns in 13 countries on 6 continents. She also serves as Chairperson of the International Companion Animal Management Coalition (ICAM). Kate began her career at the Social Science Research Center of Berlin (WZB) in Germany, and holds a Master's degree

Animals and Public Policy from Tufts University, where she subsequently served as adjunct faculty and continues to enjoy mentoring students in global animal welfare policy and research.

Kate has published numerous articles in scientific and popular literature on topics ranging from Animal Law to community wellbeing, and regularly presents her teams' work internationally with emphasis on the impacts of animal welfare on communities and strategies for community engagement in animal welfare. Her work at IFAW focuses on the development and implementation of participatory processes for empowering communities to sustainably address both human and animal welfare development challenges.

Originally from California, Kate has lived in Berlin and the Hague, and currently resides in Falmouth, Massachusetts. She shares her unusual abode on Hunky Dory Farm Road with her husband, two sons, a dog who likes to sing the Canadian national anthem, and eight demanding chickens.

Kate Atema

Abstract: Case Studies in Sterilization Policy & Practice from the Developing & Developed World

Sterilization, or fertility control, is one of many popular tools often employed to manage dog populations humanely around the world. Although useful in many contexts, sterilization is often “oversold” as a solution on its own, without considering the local and cultural factors which play into the interactions between human communities and our dogs. This global perspective will use case studies from around the world, including developing and developed communities, to shed light on the benefits, risks and social impacts of using fertility control in dogs to promote the wellbeing of human communities and their animals.



Gary Weitzman, DVM, MPH, CAWA, joined the San Diego Humane Society as their President and CEO in 2012. He's a licensed veterinarian with more than 25 years of animal welfare experience. He is committed to collaboration to find solutions to do more for animals and their people. A significant focus for the San Diego Humane Society is a movement called Getting to Zero which involves a comprehensive plan to save the life of every healthy and treatable animal in San Diego Animal Welfare Coalition shelters.

Prior to his current role, Gary was the President of the Washington Animal Rescue League, where he led a large, urban, shelter through a period of unprecedented growth. During his tenure there, he guided the organization to become a national resource for disaster and puppy mill rescues and a resource for other animal shelters nationwide.

Gary served in the U.S. Air Force and owned an animal hospital in Burlingame, CA. He earned a double BA in Biology and English from Colby, a Master's in Public Health from Boston University and got his DVM from Tufts University. He is a Certified Animal Welfare Administrator (CAWA), and is currently serving as Chair of the Board of the Society of Animal Welfare Administrators (SAWA). He also serves on the Mama Kitchen Board, a San Diego nonprofit that prepares and delivers nutritious meals to those struggling with AIDS or cancer who are too sick to shop and cook for themselves.

He has three books published by National Geographic, the first called "Everything Dogs", and two books on animal behavior called "How to Speak Dog," and, "How to Speak Cat," working on a fourth book titled "The National Geographic Guide to Pet Healthy, Behavior, and Happiness," which will be released in the Fall of 2018. He was co-host of The Animal House, a nationally distributed weekly program on public radio that explored the latest in animal science, pet health and behavior, and wildlife conservation.

Dr. Gary Weitzman

Abstract: Perspectives on Spay/Neuter from a Large Humane Society

Spay/Neuter has been a well-publicized and effective tool in the fight against pet overpopulation and homelessness. We've been arguing the merits for decades and yet that argument still seems to be falling on deaf ears in many of our target populations. Affordable and accessible spay/neuter programs are still far less available than most of us would like. This session will describe the experience of launching a brand new community spay/neuter (CSN) program, while addressing the innate challenges and barriers, and developing effective techniques for a high volume, high quality program from the perspective of one of the largest humane societies in the United States.

The San Diego Humane Society was founded in 1880 making it the oldest non-profit in San Diego and one of the oldest animal welfare organizations in the United States. In spite of that longevity, the organization did not have a community spay/neuter program until 2012, nearly 132 years after its founding. Within five years, the program had spayed or neutered more than 25,000 community owned animals on top of nearly 100,000 shelter animals. What led to the development of so obvious a tool in the fight against pet homelessness and how did this program achieve its results for its community? Coalition building, target analytics focused on the demographic demand for CSN, plus energetic fundraising changed the picture of accessible spay/neuter in San Diego County.

Dr. Gary Weitzman

Abstract: Supporting Clients in Solving Behavior Problems

There is little debate that shelter dogs and cats need enrichment and support during their stay in a shelter environment. Some need behavioral support, some outright behavior modification and others may need to remain at the shelter for longer periods before they are safely made available for adoption. With the increasing population of “difficult to place” animals—bully breeds, older dogs and cats, and behavior and medically treatable and even unhealthy animals—shelters are faced with a real need for behavior modification that may begin in the shelter but doesn’t end there. Adopters need assistance reinforcing behavioral work begun in the shelter, dealing with behaviors that arise once an animal is home, and shelters need to support the behavioral needs of clients in the community.

San Diego Humane Society opened its Behavior Center in 2014, hoping to increase the adoptability of many of the 18,000 animals entering its doors. To date, the Center has “graduated” nearly 2,000 animals, who would otherwise have been at risk of euthanasia. But the work doesn’t stop there. A team of ten trainers works with these dogs in the Center, and also continues it once an animal has gone home through shelter Wellness Center consults, community training classes, and one on one home consults. These tools not only keep adopters involved with the shelter but, more importantly, keep animals from returning to it after they have already found their new homes.



Associate Professor of Clinical Animal Behavior, Chief of Service

Dr. Bain is board-certified in veterinary behavior and is the Chief of Service of the Clinical Animal Behavior Service. She received her DVM from the University of Illinois in 1994. She then worked in a small animal exclusive veterinary practice in the Chicago suburbs for 1 1/2 years, as well as a mixed animal veterinary practice in rural Wisconsin for 2 1/2 years. After that she entered into the Clinical Veterinary Behavior Residency Program at the University of California - Davis in 1998, and became board-certified in 2001. In 2007 she received a Master's degree in advanced clinical research from the University of California, School of Medicine. She is a past-president of the [American College of Veterinary Behaviorists](#) and the [American Veterinary Society of Animal Behavior](#). Her responsibilities include student and resident education, clinical case management, and research. Her areas of research focus have been clinical domestic animal behavior problems and human-animal bond issues, including research on dog-parks and the effects of different training methods on the behavior of dogs. When not working, she enjoys spending time with her husband, son and 4-legged family members.

Melissa Bain, PhD

Abstract: CLIENT CONSIDERATIONS PRIOR TO ELECTIVE SURGERY

There are many surgical options that impact an animal's behavior. They can be utilized to manage a problem behavior. Surgical manipulations can also impact an animal's manner of communication. This talk will be a review of common surgical techniques and their consequences.

Melissa Bain, PhD

**Abstract: EFFECTIVE COMMUNICATION TO PROMOTE CLIENT COMPLIANCE
IN TREATMENT OF PET PROBLEM BEHAVIORS**

Client communication is an integral part of veterinary practice, and is very important in conveying important information to owners of pets with problem behaviors. There is a lot of emotion that comes out during discussions with clients, and this talk will summarize some background information and provide some tips on best practices.



Dr. Alice Villalobos, UCD, Class '72, DVM, DPNAP, is President Emeritus of the Society for Veterinary Medical Ethics and Fellow Emeritus of the National Academies of Practice. She is the recipient of the Leo Bustad Veterinarian of the Year Award and the UC Davis Alumni Achievement Award. She is a past president of the American Association of Human Bond Veterinarians (AAH-ABV), the Sierra Veterinary Medical Association (SVMA), and the South Bay Chapter of the Southern California Veterinary Medical Association (SCVMA). She served as editor-in-chief of the AAH-ABV newsletter for 10 years and the SVME for 4 years. She is President and Program Chair for the Veterinary Ski TIPPERS.

During veterinary school at UC Davis, she was mentored by and worked for Dr. Gordon Theilen, a visionary cancer researcher and the forefather of veterinary clinical oncology. Dr. Theilen put Alice through his first generation oncology residency training program and trained her to be a clinical scientist. After graduation, she went into private practice to bring oncology to the companion animal community. She established Coast Pet Clinic and Animal Cancer Center in 1974. The practice evolved into a multispecialty 24 hour hospital that offered the first radiation therapy facility for companion animals in private practice and a matching internship program for graduates. She sold the practice to Veterinary Centers of America in 1998.

She is currently Director of Animal Oncology Consultation Service in Woodland Hills, and Pawspice in Hermosa Beach, California. She lectures on quality of life, oncology, end of life care, and bioethics worldwide. Dr. Villalobos is a founding member of the Veterinary Cancer Society (VCS) and has contributed her editing skills in developing a historical account of the VCS. As a member of the AVMA Historical Society, she edited the AVMA's historical CD prepared by veterinary historian, Dr. Fred Born. She is also a founding member of the International Association of Animal Hospice and Palliative Care (IAAHPC) and currently serves on the IAAHPC Advisory Council.

Dr. Villalobos authored the text book, *Canine and Feline Geriatric Oncology: Honoring the Human-Animal Bond*, which was published in 2007 by Blackwell Publishing. This book established the concept of Pawspice and hospice in veterinary medicine. The text is currently distributed by Wiley of Hoboken, NJ.

Dr. Villalobos was asked to prepare a second edition, which will be published in late 2017. Villalobos authored popular columns for *Veterinary Practice News: Oncology Outlook*, *The Bond and Beyond* and *Dr. Alice at Large*. For over a decade, Dr. Villalobos has served on the Board of Directors of the Animal Health Foundation (AHF), a 501c3 that helps provide financial assistance to pet owners who need help from veterinarians of the Southern California Veterinary Medical Association via the Angel Fund. Dr. Villalobos is a member of the FEAR FREE Advisory Council organized by Dr. Marty Becker to reduce stress in animals visiting veterinary

clinics. She is also on the Advisory Board for Grey Muzzle and PawPrints Network, which specialize in end of life issues. She also served on the Board of Directors for The LA Pet Cemetery (SOPHIE) in Calabasas, CA for almost a decade.

In 1977, Dr. Villalobos founded the Peter Zippi Memorial Fund for Animals (PZF) to honor the memory of a young employee who worked at her clinic and wanted to be a veterinarian. The PZF has a very active volunteer club that routinely cares for homeless animals, helps in adoptions and participates in community events. Dr. Villalobos and her long time PZF Co Chairs, Leslie Neff and Linda Washburn, give presentations on companion animal care and adoptions at Kiwanis Clubs and Rotary Clubs, Chamber of Commerce events and local Schools and pet stores. The PZF has helped rescue, shelter, spay/neuter, and place over 15,000 companion animals, mostly feline.

Alice Villalobos

Abstract: Recruiting Engagement While Educating Stressed Clients

Achieving compliance with home care instructions and medical support may be the best and only medicine one can offer to help end of life patients. This lecture provides ideas for recruiting, educating and engaging stressed clients with the intricacies of palliative cancer management and end of life care. Compliance with these techniques may alleviate pain, and some cancer symptoms.



Emma K. Grigg, M.A., Ph.D., is a Certified Applied Animal Behaviorist (CAAB; Animal Behavior Society, U.S.), a Research Associate at the University of California, Davis, School of Veterinary Medicine, and a lecturer in canine behavior at Bergin University of Canine Studies in northern California. She was born in the United Kingdom, but has lived much of her life in the United States, with time spent living and working in Australia, Canada, Central America and the Caribbean. She has taught companion animal behavior, wildlife biology, and environmental studies in New York, California and St. Kitts, and has authored a number of scientific publications on canine, feline, and marine mammal behavior. Her first book, "The Science Behind a Happy Dog", co-written with fellow CAAB Tammy McCormick Donaldson, will be published in June of this year. Current research interests include treating behavior problems in dogs and cats, and influence of the human-animal bond on welfare of companion animals and their humans. Dr. Grigg lives in northern California with her husband, son, four cats, and one slightly neurotic but much loved 'Caribbean island dog'.

Emma Grigg

Abstract: When Clients Have Disabilities and Perhaps Service or Emotional Support Dogs

Despite increasing information on enhancing client communication and compliance, literature focusing on special cases remains limited: working with clients with special needs, challenges or disabilities, and/or when the patient is a service or emotional support animal. This presentation will provide practical suggestions on how best to build successful working relationships with these clients.



Patrick Pageat is one of the founders of the IRSEA. Born December 10th 1960 in Villepinte (France), he got his vet degree in 1983 from the Ecole Nationale Veterinaire de Lyon (France), and achieved a Master of Science in Insect Physiology in 1985. He initiated the consultation of behavioural medicine at the Ecole Nationale Veterinaire de Lyon in 1983, and at the Vet School of Alfort (Paris) in 1985. PhD in 1991, Museum National dâ Histoire Naturelle (Paris) about the predatory behaviour of the digger wasp *Philanthus triangulum*.

In 1995, he published *-Pathologie du Comportement du Chien-*, a book translated in Italian and Spanish, having its second edition in 1999. In 1996 he is one of the co-founders of the European Society of Veterinary Clinical Ethology and in 1998 of the European College of Animal Welfare and Behavioural Medicine. In 1995, he created the IRSEA (Institute of Research in Semiochemistry and Applied Ethology. He authored more than 350 international patents and more than 500 papers published or presented in international journals and congresses. Patrick Pageat is also Associate Professor in Applied Ethology and Animal at the Agronomy Faculty Purpan (Toulouse, France).

Patrick Pageat DVM, MSc, PhD, HDR, Dipl ECAWBM, Hon Dipl CLCVe

Abstract: PHEROMONATHERAPY IN CATS: CRITERIA TO SELECT THE MOST ACCURATE PHEROMONE AND DELIVERING METHOD.

During the last 20 years, the use of synthetic pheromones, in the treatment of behavioral problems, became one of the reference methods, and is now known as « pheromonotherapy ». Cats are the first species to be treated this way.



Suzanne M. Kurtz, PhD, is Professor Emerita, University of Calgary, Canada, where she served the Faculties of Education and Medicine (1976 through 2005), and directed the Faculty of Medicine's communication program for twenty-eight years. Beginning in 2006, she became Nestle© Purina Professor of Clinical Communication (2006-2011) and founding director of the Clinical Communication Program (2006-2015), College of Veterinary Medicine, Washington State University; she is a clinical professor in Veterinary Clinical Sciences and the Allen School of Global Animal Health.

Focusing her career on improving communication and educational practices in the professions and in the community and on developing communication curricula and assessments, she has worked with veterinarians and physicians across the specialties; students, residents, nurses, technicians, allied health professionals, educators and administrators in both disciplines; human patients and clients; industry partners, government agencies and professional organizations. She has been an invited visiting scholar at several universities.

Beyond the university, Dr. Kurtz has contributed to the work of numerous organizations. She co-designed and implemented Pfizer's FRANK program (2006 - 2011) and is a co-initiator/organizer of eight International Conferences on Communication in Veterinary Medicine. A consulting member of the Royal College of Physicians and Surgeons of Canada's national CanMEDS Communicator Role group since its inception through 2016, she also worked on its Train-the-Trainer program and its recent Milestones Project.

Dr. Kurtz has been advisor to Cancer Care Ontario's Communication Task Force and Health Canada's Canadian Breast Cancer Initiative. She was a member of the communication task force for the National Board of Medical Examiners and the working group that developed the National Board of Veterinary Medical Examiners Veterinary Clinical Skills Assessment. She serves currently on the Advisory Council of the Institute for Healthcare Communication, as a Distinguished Fellow and Vice-Chair of the Medicine Academy of the National Academies of Practice, and on the Management Council for the International Research Centre for Communication in Healthcare.

Working across diverse cultural and disciplinary lines, she has collaborated on projects in law, business, and global animal health, and was involved for many years in international development projects related to health and education in Nepal, Southeast Asia and South Africa. She continues to consult nationally and internationally at all levels of medical and veterinary practice and education.

In addition to numerous presentations, articles and chapters, her publications include several books: *Skills for Communicating in Veterinary Medicine*, co-authored with CL Adams (Otmoor Publishing and Dewpoint Publishing, 2017); two companion books co-authored with J Silverman and J Draper, entitled *Skills for Communicating with Patients*, 3e-2013, 2e-2005, 1e-1998, and *Teaching and Learning Communication Skills in Medicine*, 2e-2005, 1e-1998 (Radcliffe

Publishing, now Taylor and Francis); *Participatory Education in Cross-Cultural Settings*, co-authored with A. Chuchat, MP Carunungan, KJ Foreman, and BJ Spronk (1997, for the *Dialogues on Development Series*, published by the Division of International Development, University of Calgary, Alberta); and *Communication and Counseling in Health Care* (Charles C. Thomas, 1983), co-authored with VM Riccardi. *Skills for Communicating with Patients*, 3e, was awarded a High Commendation by the British Medical Association, 2014 Book Awards. Dr. Kurtz was recipient of the 2014 Distinguished Achievement Award from the Washington State Veterinary Medical Association and, along with co-authors Silverman and Draper, the 2015 Lynne Payer Award for outstanding contributions to literature on effective healthcare communication from the American Academy on Communication in Healthcare.

Suzanne Kurtz, PhD

Abstract: Effective Client Communication for Improved Compliance

Recent research reveals a lot about the impact of communication on client motivation and compliance in both small and large animal contexts. This presentation examines key findings from that growing body of research and translates findings into practical, evidence-based communication skills clinicians can employ to enhance client compliance with treatment plans and preventive medicine strategies.

**Scholarly Resources Panelists
Bios**



Dr. Mary Christopher is a Professor at the University of California-Davis. She obtained her DVM at Iowa State University and PhD at the University of Minnesota and is a board-certified clinical pathologist.

Dr. Christopher was Editor-in-Chief of Veterinary Clinical Pathology from 1997-2009 and is founding director of the International Association of Veterinary Editors. She served on the National Library of Medicine journal selection committee for MEDLINE and is a journal reviewer for PubMed Central. She teaches scientific writing and publishing at UC Davis and worldwide.

Dr. Christopher is the recipient of several teaching, research, and service awards and was a Fulbright Scholar. She currently serves as Field Chief Editor of *Frontiers in Veterinary Science* and also leads the journal's Veterinary Humanities and Social Sciences section.



Anthony Podberscek

I have a veterinary degree and Ph.D. (in animal behaviour and human–animal interactions) from the University of Queensland, Australia. From 1992 to 2015, I was a post-doctoral research associate in the Department of Veterinary Medicine at the University of Cambridge. Since January 2015, I've been an affiliate of the Sydney School of Veterinary Science, University of Sydney, working at the Charles Perkins Centre. From 1993 to 1999, I was editor of the ISAZ Newsletter, and since 1997 I have been the editor-in-chief of Anthrozoös.

My research interests include companion animal behaviour, the treatment of animal behavioural problems, attitudes to animals and animal welfare issues, and cultural aspects of human–animal interactions. I have published numerous papers and book chapters on these topics and have co-edited two books: “Companion Animals & Us” and “Bestiality & Zoophilia: Sexual Relations with Animals”.

Apart from being a Board member of the International Society for Anthrozoology, I am also Honorary Scientific Adviser to the Association of Pet Behaviour Counsellors and am a committee member of the Animal Ethics Committee at the University of Sydney.



Andrea Leigh Ptak

Doing business as Communicating Words & Images, I am an independent publications specialist with 40+ years of experience in the industry. A graduate of Rochester Institute of Technology, I excel at design, layout, production, and project management. I have been responsible for production of Anthrozoös since 1994, taking the journal into the full realm of the digital age.

My company name, Communicating Words & Images, defines my philosophy. The words—the message—matter. The visuals—the typography, layout, images, and colors—all work together to enhance the message.

From 1974–81, I worked for a variety of firms in the communications industry, including a local newspaper, three advertising agencies, a corporate in-house agency, and a large commercial printing company. This experience gave me the skills to strike out on my own in 1981, when I opened a six-person, full service design and photography studio in San Antonio. In 1993, with my industry fully revolutionized by the computer, I moved to Seattle and downsized to a home office.

I continue to stay abreast of technical developments in my industry and in 2014, completed the requirements to receive a professional certificate in digital publishing from the University of Washington. This technical background and diverse wealth of experience give me the perfect blend of old-school knowledge and digital technology to insure that my work meets the highest level of quality.

As a designer, I excel at text-intensive projects like books and journals, in addition to complex publications for non-profits and professional organizations where much of the content comes from staff and volunteer writers. My left and right brains work in tandem to organize the materials and produce a finished product designed to guide the reader through the text and images. My typography is top-notch as I give a great deal of attention to details like kerning and text flow. You'll find no widows, orphans, rivers, or strings of multiple hyphens in my work.

I am also a nationally published writer and editor, allowing me to offer a full range of publishing services to my clients. In addition to writing promotional copy, magazine articles, and profiles for my clients, I have written for both regional and national publications such as ParentMap, Stars and Stripes, and American Girl Magazine. My specialties include parenting, pets, gardening, and the natural world. In my spare time, I blog on sustainable living as the Green Queen of Moderation.

The combination of writing, design, production, and organizational skills gives me the perfect toolbox to be an efficient and effective publishing project manager. My work experience includes stints as a production manager at a national advertising agency and a large commercial printer. In both cases, I was responsible for a team of designers, typesetters, and outside contractors like photographers and illustrators. In the course of the workweek, I juggled a number of projects, both large and small, through the print process. I continue that process managing my own, and my clients' projects today.

A complete list of services and samples of my work can be viewed at my website at www.andrealeighptak.com.



Geoffrey Wandesforde-Smith is Senior Editor of the Journal of International Wildlife Law & Policy, a Taylor & Francis/Routledge publication now in its twentieth year and based at the Stetson University College of Law in Florida.

He is Emeritus Professor of Political Science at the University of California, Davis. Collaborations in recent years have yielded both individual papers and special issues of the Journal on topics of interest and relevance to ISAZ members, and these will be introduced at the conference.



Lori Kogan, Ph.D. is a Professor of Clinical Sciences for the College of Veterinary Medicine and Biomedical Sciences at Colorado State University and a licensed psychologist. She is the editor of the Human-Animal Interaction Bulletin, an open-access, online publication supported by Division 17 (Counseling Psychology) of the American Psychological Association. She is also the founder/director of Pets Forever, a non-profit program and service learning course designed to help low income elderly and disabled pet owners.

In addition, Dr. Kogan has years of experience providing individual and couples counseling to veterinary students, faculty and staff. She has published numerous journal articles, co-authored book chapters, and given invited presentations on topics related to human animal interactions in both psychology and veterinary medicine venues. She is currently engaged in several research projects pertaining to the intersection of the human animal bond and veterinary medicine.



Phyllis Erdman, Ph.D. is a Professor in the Counseling Psychology program and Executive Associate Dean for Academic Affairs in the College of Education at Washington State University. Dr. Erdman has conducted research in parent/child relationships and human-animal interaction (HAI), specifically looking at the effectiveness of equine facilitated activities. She is past-chair of the Section on Human-Animal Interaction, Society of Counseling Psychology, American Psychological Association.

She served as a consultant on a \$100,000 NIH grant in 2010-2012 to measure the impact of an equine facilitated program on children's stress levels and social competence development. She also completed studies on the impact of equine programs on social skill development for children on the autism spectrum. She works with the PATH Therapeutic Riding Program at WSU and provides programs in equine activities directed at youth, parent child teams, and veterans. She also works closely with colleagues in the College of Veterinary Medicine at WSU, particularly focused on pet loss/grief and infusing the human-animal bond into veterinary practice. She has created an online non-credit course at WSU entitled Human-Animal Interaction: What we know and what we don't know. Her goal is to promote the field of human-animal interaction within a multidisciplinary framework.



Deanna Johnson is Research Support Services Librarian at the Carlson Health Sciences Library, University of California, Davis. Deanna supports faculty, student & staff activities within health sciences, including veterinary medicine; providing collection, reference & educational services. In addition to her library degree, Deanna has a BS in zoology, with a great interest in animal behavior. She works with bibliographic resources daily, and is well acquainted with EndNote and familiar with other bibliographic management software such as Papers and Mendeley.

**Service Dog Panelists
Bios**



Dr. Bonita (Bonnie) Bergin invented the concept of the Service Dog to assist people with mobility limitations in 1975. Through inspiration and trial and error, she developed a system for finding the best canine match for people with physical and mental disabilities.. At that time, she founded Canine Companions for Independence (CCI), the first nonprofit to train and place Service Dogs.

After leaving CCI In 1991, Dr. Bergin founded the Assistance Dog Institute, which was formally designated a university in early 2004. Today, Bergin University of Canine Studies is young and growing. Dr. Bergin's unique and positive training style prepares dogs, starting as young as 3-4 weeks old, to learn over 100 commands over the approximate two years that it takes to become a finished assistance dog ready to be paired with its human companion.

Dr. Bergin has been honored with numerous awards including Oprah Winfrey's "Use Your Life Award"; Presidential Points of Light Award; "What Matters" HBO TV; Council on Disability Rights Individual Achievement Award; and Alumni of the Year Sonoma State University.



Megan Payton graduated cum laude earning her BA in English with a concentration in language, writing and rhetoric from North Carolina State University in 2014. She joined the C-P.A.W.W. team as a professional research assistant in July of 2016. She is currently working towards her Bachelor's degree in nursing with the hopes of continuing to participate in Animal-Assisted Intervention (AAI) focused research.

Megan is the daughter of an active duty Marine and is passionate about helping to improve the mental health of the veteran population. When Megan worked as caretaker for service dogs at Freedom Service Dogs of America in 2015, she realized her desire to help serve the veteran community.



Kerri Rodriguez is a Ph.D. candidate in the Center for the Human-Animal Bond at Purdue University. Kerri earned her Bachelor's at Duke University and her Master's degree at the University of St Andrews in Scotland. Prior to starting her Ph.D. at Purdue, Kerri served as a research coordinator for the Duke Canine Cognition Center examining the cognitive and behavioral factors leading to success as an assistance dog with Canine Companions for Independence. Her dissertation research now focuses on the psychosocial effects of service dogs with both individuals with physical disabilities and military veterans with PTSD. Kerri and her advisor Dr. Maggie O'Haire have recently been awarded NIH funding to conduct a multi-year longitudinal trial examining the efficacy of PTSD service dogs for military veterans.

**Podium Presenters
Abstracts and Bios**

Multi-site validation of a Structured Adopter-Dog Interactions (SADI) intervention to increase adoption rates in dogs

Protopopova, A., Hall, N. J.

Texas Tech University

The need for behavioral interventions that increase adoption rates are crucial to animal shelters. A recent intervention, based on each dog's preference for toys in addition to structuring the first interaction between the dog and adopter was successful in increasing adoption rates by 68% in one municipal shelter site. The benefits and feasibility of this intervention remained to be established using a large-scale randomized and controlled multi-site study. Ten animal shelters in 5 states in the US were enrolled into a multiple baseline design. Each shelter was randomly assigned to 2-4 months of the baseline condition, in which they continued their current unstructured adoption counseling program, followed by 2-4 months of the experimental condition (total of 6 months each). During the experimental condition, the staff were asked to conduct the intervention. Throughout the study, data was recorded using automated equipment that tracked the number of adopter-dog interactions and the number of interactions that resulted in an adoption. Data from the initial shelter showed that play with specific toys in the preference assessment predicted play in more naturalistic settings ($\chi^2 = 10.50$, $P < 0.001$, $n = 20$) and that dogs in the experimental group were 2.49 times more likely to be adopted than dogs in the control group. Preliminary data from the multi-site study revealed different methodological constraints depending on shelter type. The successful development of the automated data tracking device and an alteration to the procedure to reduce staff effort has allowed for circumventing these constraints. Data on adoption rates within each shelter is forthcoming. The successful multi-site validation of the SADI intervention will result in an immediate benefit to shelter dogs; this provides a robust behavioral treatment package that can be implemented at various shelters to increase adoption rates and decrease unnecessary euthanasia.

Alexandra Protopopova, PhD

Dr. Alexandra (Sasha) Protopopova, MS, PhD, CPDT-KA is an assistant professor in the Department of Animal and Food Sciences at Texas Tech University. The Human-Animal Interaction Lab, directed by Dr. Protopopova, systematically explores questions of companion animal well-being, behavior, and human-animal interactions. Her research aims are 1) to improve the well-being of dogs housed in animal shelters, 2) assess and develop therapy dog programs to benefit human health and educational outcomes, and 3) improve our general understanding of animal behavior. Dr. Protopopova earned an MS and a PhD in Behavior Analysis from University of Florida and is a Certified Professional Dog Trainer. She has published numerous peer-reviewed articles and is a frequent presenter in scientific and professional conferences. Dr. Protopopova spends her days conducting behavioral research, teaching university classes in Animal Shelter Management, and cuddling dogs.



Title: Demystifying Zoophilia: clinical psychological aspects of sexual relationships between humans and animals

Authors: Lisa Klamert & Birgit U. Stetina

Affiliation: Faculty of Psychology, Sigmund Freud University, Vienna

Correspondence: birgit.u.stetina@sfu.ac.at

Introduction and Objectives

Although relevant findings have been published about zoophilia (eg Beetz 2004, 2005; Miletski, 2002; Williams & Weinberg, 2003) and the relevance for (clinical) psychology and many other research areas seems obvious, the topic is still tabooed and there is a large gap between theoretical assumptions and concurrent studies.

Theories suggest a relation between zoophilic behaviour and empathy (parameter for emotional competence) as well as self-esteem, as emotional competence and self-esteem are said to be linked to socially competent, appropriate behaviour and sexual behaviour (eg Ethier et al., 2006; Petermann & Wiedebusch, 2008; Walsh, 1991). Social anxiety as result and/or reason for a lack of social skills has also been reported as connected to zoophilic behaviour (McManus, Hargreaves, Alison, & Rainbow, 2013). The presented study examines zoophilia and its connection to social anxiety, empathy and the underlying self-esteem.

Method:

In cooperation with active zoophile online groups and the concurrent forum moderators 452 volunteers (83.4% male, 14.6% female, 2% transgender) aged 13 to 75 (M=32.8), who described themselves as zoophiles were asked to complete an online-survey. In the cross-sectional design the instruments used were: Social Interaction Anxiety Scale (SIAS) (Mattick & Clarke, 1998), Social Phobia Inventory (SPIN) (Connor et al., 2000), Interpersonal Reactivity Index (IRI) (Davis, 1980) and the Rosenberg Self-esteem Scale (RSES) (Rosenberg, 1965).

Results:

Nearly one third of the surveyed population show relevant signs of social anxiety (SPIN: 30.13% with cut-off 19 (Antony et al., 2006; Ranta et al., 2007), SIAS: 27.34% with cut-off 30 (Stangier et al., 1999). So far only complete datasets were used, interpolation will follow. Further data analysis included t-tests, GLMs and effect size calculations. Calculations showed significant differences between the sample and scores from instrument validation studies in empathy; males showed significantly lower values in all four subscales (emotional empathy (EC) ($t(69)=-8.151, p<.001$), Perspective taking (PT) ($t(70)=-4.133, p<.001$), self-focused responses to others' suffering (PD) ($t(71)=-4.099, p<.001$) and empathy for fictional characters (FS) ($t(69)=-5.709, p<.001$), females in two of the four (EC: $t(14)=-4.548, p=.001$; PD: $t(13)=-2.430, p=.030$).

Conclusions:

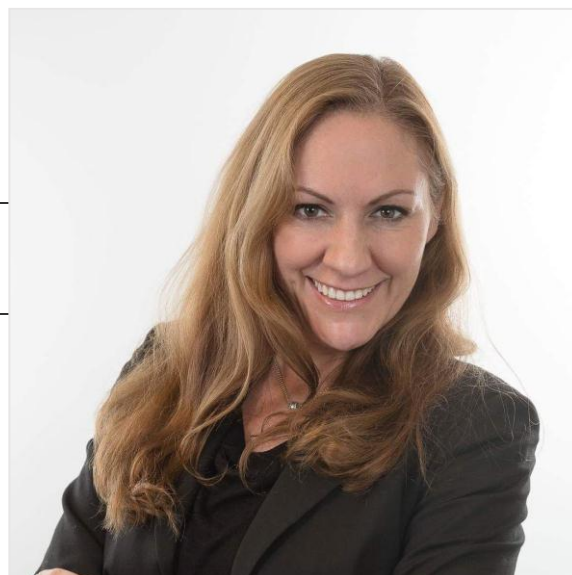
The results show further proof of theoretical assumptions that are relevant to identify risk factors and create evidence-based interventions for zoophiles.

BIRGIT U. STETINA

SHORT BIO

PERSONAL DATA

Name:	Birgit U. Stetina
Country of Citizenship:	Austria
Place of Birth:	Vienna, Austria
E-Mail:	office@drstetina.com
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Dr. Birgit Ursula Stetina is Clinical Psychologist (CBT), Forensic Psychologist, Health Psychologist & Clinical Supervisor.

Birgit is **Full Professor for Clinical Psychology at the Sigmund Freud University Vienna**. She is the head of the department of clinical psychology and new media. Dr. Stetina is also **head of the psychological clinic** which includes a focusing on clinical aspects of HAI (zoophilia, animal cruelty etc) and offers AAT and AAA with dogs for vulnerable populations (eg forensic).

Birgit is in the field of AAT (with dogs) since 2003 and started doing research on that topic in 2005. After becoming forensic psychologist in 2005 she also started working on the negative (clinical) aspects of HAI (zoophilie, animal cruelty etc).

The Responsible Dog Owner: The construction of responsibility

Carri Westgarth, Department of Epidemiology and Population Health, University of Liverpool

Robert Christley, Department of Epidemiology and Population Health, University of Liverpool

Garry Marvin, Department of Life Sciences, University of Roehampton

Elizabeth Perkins, Department of Health Services Research, University of Liverpool

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Introduction

A variety of policy and campaigning messages in the field of pet ownership and animal welfare centre upon the rather vague and all-inclusive concept of ‘responsible’ ownership, in particular concerning dogs. However, there has been little research exploring the perspective and experiences of pet owners and how they perceive and perform their responsibilities.

Methodology

This qualitative study used conversations about owning and walking dogs in order to elucidate beliefs and perceptions about responsibility in dog ownership. Data comprised 12 in-depth interviews of dog-owning households, 14 short interviews of dog owners walking their dogs or representing their breed at a dog show, and autoethnography of the first author’s experiences owning and walking dogs. Data were analysed concurrently with new data collection and emerging themes explored.

Results

All participants considered themselves ‘responsible’ dog owners, yet there was great variation in key aspects of their pet owning behaviour, for instance the frequency with which they walked their dog. Key themes emerged regarding the construction of responsibility. The language of ‘responsibility’ had a greater resonance for dog owners than the concept of ‘obligation’ or ‘duty’. The feelings of responsibility towards pets was rooted in the valued unconditional and reciprocal love that characterised their human-dog bond. Strong views were voiced about morally right and wrong ways to own dogs. Dogs were described as dependents, similar to but different from children. Avoidance of guilt was a strong motivator in determining when and how owners sought to meet their dog’s individual needs, as dogs were unable to provide for themselves. In deciding how to look after their dogs, owners sought to balance their views of the dog’s needs, including protection from harm, with the needs of others who may be impacted by them.

Conclusions

While ‘responsible dog ownership’ has considerable appeal as a concept, how it is perceived and interpreted varies so extensively that it is of limited use without clear definition. Facilitating ‘responsible dog ownership and reducing ‘irresponsible dog ownership’ behaviours relies on a detailed understanding on the variables which influence how the dog’s role is constructed within the family and the wider society.

Dr Carri Westgarth



Carri Westgarth is a Research Fellow at the University of Liverpool with a passion for understanding the relationships we have with our pets. With a background in animal behaviour and dog training she has trained in veterinary epidemiology and human public health. Her research interests focus on the implications of dog ownership for human health and wellbeing, but also how owner management of their dogs can impact dog welfare. She recently completed a prestigious Medical Research Council funded fellowship titled "Understanding dog ownership and walking for better human health". Both quantitative and qualitative research methods are used to tackle her primary research questions of how to improve population health through the promotion of dog walking, and how to prevent dog bites.

Fostering Agents of Change: Laying the Foundations for Professional Advocacy through Participation in an Undergraduate Course on Human-Animal Interactions

Christine Yvette Tardif-Williams, PhD¹, John-Tyler Binfet, PhD² and Camille Xinmei Rousseau, MA Candidate¹

¹Department of Child and Youth Studies, Brock University

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Abstract

This mixed-methods study explored how participation in a course on human animal interactions impacted preservice teachers' views about human-animal interactions, animal rights and advocacy, and the likelihood that they would incorporate animal-related curricula within their future elementary classrooms. This intensive 12-week course introduced students to historical and contemporary discourses and research on human-animal interactions. Participants were 25 undergraduate students (24 female; 1 male) following a Teacher Education Pathway. To capture participants' insights and reactions to assigned readings, participants responded to both formative (i.e., weekly journal responses) and summative (i.e., questions at the end of the course assessing the impact of their classes and changes in their HAI thinking) prompts. Participants also completed the *Animal Rights Scale*. Overall, the results indicated that participants perceived their engagement in the course as a transformative experience, one that facilitated the development of an expanded conceptualisation of human-animal interactions, animal rights and advocacy, and the promise of humane education. As a group, the participants reported feeling increased responsibility to advocate on behalf of animals, reflected by significantly higher scores in their support of animal rights at the post-course assessment. Participants' formative responses revealed that they were most challenged by discussions addressing the themes of interpersonal violence and animal cruelty and human-animal representations in literature and popular culture. Participants' summative responses revealed their inclination to integrate animal-related curricula as part of their future professional practice. As teachers play key roles fostering *humane literacy* and engaging young people with *actual* nature and animals, these findings hold implications for both education and higher education curriculum and initiatives.



Dr. Christine Y. Tardif-Williams, Department of Child and Youth Studies, Brock University, Niagara Region, 1812 Sir Isaac Brock Way, St. Catharines, Ontario, Canada L2S 3A1; Telephone: 1 – 905-688-5550 ext. 4557, Fax: 1 – 905 – 641-2509, E-mail: ctardif@brocku.ca

Biographical Sketch: Christine Y. Tardif-Williams received her Ph.D. from the University of Toronto in Human Development and Applied Psychology. She is currently an Associate Professor in the Department of Child and Youth Studies at Brock University. Her research interests include human-animal interactions, children’s relationships with animals, and child maltreatment, parent-child attachment, and communication and conflict.

Do men underreport and mask their emotional attachment with animal companions? The influence of precarious masculinity on men's bond with their dogs

Chris Blazina

New Mexico State University

Lori Kogan

Colorado State University

Abstract

Males' underreporting of psychological issues, physical symptoms, and personal information is commonplace both in medical and psychological settings. One explanation for this occurrence is men that endorse traditional forms of masculine gender roles underreport or mask their symptoms to avoid being perceived as weak, and thereby losing a sense of masculinity. In a similar way, the thesis of the current study is males may also mask emotional affection behavior and underreport the strength of attachment for their animal companions due to masculinity concerns. The current study not only has implications for mental health and medical providers but may also help explain past research where males self-report lower levels of emotional bonding with dogs. To address these notions, the study developed two scales using factor analysis that measure conflicts male pet owners may have related to their pets: expressing affection behaviors when others are present and verbally expressing their affectionate feelings for their animal companion (Human Animal Interaction Conflicts scales - HAIC). The results from the linear regressions support the hypothesis that males who report higher scores of precarious masculinity tend to underreport or mask their affectionate behaviors for animal companions in the presence of others as measured by the HAIC. Similarly, these same men also report more difficulty placing into words the bond they feel towards their dogs. The study offers implications for therapists, researchers, and veterinarians.



Chris Blazina Ph.D. is a psychologist, professor, and author/editor of six books, and more than 50 publications. The books include: *The Cultural Myth of Masculinity*; *The Secret Lives of Men*; *An International Psychology of Men*; *The Psychology of the Human-Animal Bond*; *When Man Meets Dog*. *When Man Meets Dog* was awarded the 2016 National Indie Excellence Award – for Men’s Health. His main area of research and clinical practice involves men’s psychology, and most recently, how human-animal interaction especially impacts males across the life span. Dr. Blazina is currently a faculty member at New Mexico State University.

Effects of dogs, cats, and human partners on women's sleep habits and sleep quality

Christy L. Hoffman¹, Kaylee Stutz¹, & Terrie Vasilopoulos²

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Abstract

In many developed countries, people commonly share their beds not only with human partners but also with dogs and cats. Self-report and actigraphy data have shown that sleeping with an adult human partner has both positive and negative impacts on sleep, but little is known about the impact of pets on sleep routines and sleep quality. We collected survey data from 962 adult women living in the United States and found that pets in the bed impact sleep differently than pets who do not sleep in the bed. For instance, dog owners who shared their bed with at least one dog reported significantly fewer sleep disturbances than dog owners whose dogs did not share their bed ($F(1,766) = 7.595$, $p = 0.015$). We also found that the types of pets in the home impacted bedtimes and wake times (bedtime: $F(2,955) = 8.602$, $p = 0.003$; wake times: $F(2,958) = 6.223$, $p = 0.002$). Specifically, from post hoc analyses, dog owners went to bed and woke up earlier than participants who had cats but no dogs (for both, $p < 0.001$). Compared to human bed partners, dogs who slept in the owner's bed were perceived to disrupt sleep less and were associated with stronger feelings of comfort and security (for both, $p < 0.001$). On the other hand, cats who slept in their owner's bed were reported to be similarly disruptive as human partners ($p > 0.05$), and were associated with weaker feelings of comfort and security than both human and canine bed partners (for both, $p < 0.001$). These findings indicate that not only type of pet but also where the pet sleeps are perceived to impact women's sleep habits and sleep quality in important ways.



Dr. Christy Hoffman

Dr. Christy Hoffman is the program director of the Anthrozoology Master's program at Canisius College (Buffalo, NY), where she is also an assistant professor in the Animal Behavior, Ecology, and Conservation department. Having received training in animal behavior and human development at the University of Chicago, her research explores both sides of the human-dog relationship. Some of her recent studies have examined factors that impact humans' decisions to adopt particular dogs and cats, dog decision-making in multi-dog households, and the effects of dogs on human sleep. Each year, Dr. Hoffman supervises Master's students' thesis projects on a variety of anthrozoological topics. During the 2017 ISAZ meeting, one former thesis student will present a poster on relationships that form between humans and wolfdog hybrids kept as pets, and another will present on conflicts that exist between farmers and predatory black vultures.

Vehicular Heatstroke in Dogs: A Case of Cognitive Error
Emily Patterson-Kane*, Kelly Arthur & Kimberley May

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Leaving dogs inside vehicles during hot weather can cause them to suffer from heatstroke, which is often fatal. While public campaigns have raised awareness of this issue, incidences continue to occur. An analysis of over 200 media reports of occurrences of fatal vehicular heatstroke in dogs revealed that the dog owners involved differ from those that carry out other kinds of animal abuse. They are frequently experienced and highly-bonded dog owners or in dog-related professions, but nevertheless chose to leave their dog in a high risk situation (high temperature, extended time periods).

Publicity campaigns around leaving dogs in cars have to date have emphasized the suffering caused to the dog, including reporting of how temperatures can increase in parked cars; videos of people reacting to the heat in a parked car; graphic images and videos comparisons of a parked car to an oven; and public shaming via social media. These campaigns have had good penetration and their major messages are well-known in the dog owning community and may already have significantly reduced the incidence of at risk behavior.

The authors include a psychologist and communications expert who developed profiles of the types of people, dogs, and situations implicated in recent fatal canine vehicular heatstroke events. They identified a mismatch between the likely motivations of these offenders and the fear/threat-based publicity campaigns currently used to discourage this behavior. A theoretical framework was drawn from "Protection Motivation theory" and its application in other situations where the more experienced and competent people in a target population are paradoxically exposed a greater risk of adverse events. Evidence from a range of public health campaigns shows that messaging emphasizing the severity of the adverse event may be rejected, while increasing the perception of the probability of that event and the efficacy of a protective response is more likely to motivate people to adopt safer behavior patterns.

Emily G Patterson-Kane, PhD, is a behavioral psychologist and former researcher employed for the last 10 years as an animal welfare scientist at the American Veterinary Medical Association. She is the author or co-author of over 50 peer-reviewed publications and the book “The Sciences of Animal Welfare”.



Title: The Links between Personality, Empathy and Animal Cruelty Attitudes and Behaviour: A cross-national comparison

Authors: Emma L. Hawkins, Roxanne D. Hawkins, Lina M. Caceres, Joanne M. Williams

Abstract:

Human-animal relationships are complex and we are still trying to understand why some young people care for and nurture animals while others mistreat them. There are a range of factors that could affect animal cruelty attitudes and behaviours that have not yet been fully explored; the current research focuses on the role of empathy, personality factors, such as callousness and empathetic concern, and cultural factors. This study is one of the first cross-national comparisons of the connections between personality, empathy and animal cruelty.

540 participants (80% female) from 6 continents completed an online survey. Participants were recruited using 'snowball sampling' where English and Spanish versions of the online survey were shared online via social networks and university departments across continents. The survey comprised of a variety of measures for empathy towards both humans and animals, attitudes towards animal cruelty, animal cruelty behaviour, personality and demographics.

A wide range of interesting results were found. 11.7% of the sample had hurt an animal purpose, those who did mostly hurt invertebrates, infrequently, did not try to hide the behaviour, hurt animals with a friend who joined in and most felt remorse. Higher acceptance of animal cruelty was correlated with lower empathy towards animals ($p=.000$) and humans ($p=.013$), lower scores on the sub-scales of perspective-taking ($p=.001$), empathetic concern ($p=.000$), careless ($p=.008$), and higher scores on the sub-scales of callousness ($p=.018$) and uncaring ($p=.003$). Higher acceptance of animal cruelty was also correlated with lower conscientiousness ($p=.002$). Attitudes towards animal cruelty was related to cruelty behaviour. One-way ANOVA showed differences between continents where those from South America scored significantly lower on empathy towards animals than Europe ($p=.000$), North America ($p=.000$), Australia ($p=.000$), and Asia ($p=.001$). There was a higher incidence of animal cruelty behaviour in Asia (37.8%) than in North America (15.3%), South America (9.9%), Europe (6.3%), and Australia (5.6%). Empathy towards animals was correlated with empathy towards humans ($r=-.154$, $p=.000$).

This study sheds new light into the complicated factors affecting young people's animal cruelty behaviour and acceptance of animal cruelty, as well as providing new insights into the role of personality in human-animal relationships. We hope that the information gained from this project will be beneficial for those trying to understand causes of animal cruelty and those designing animal cruelty prevention programmes.



Emma Hawkins is a first year PhD student in Psychiatry and member of the Child and Adolescent Animal Research (CAAR) group at the University of Edinburgh, Scotland. Her thesis will focus on the influence of pets on human physical and mental health, with a particular focus on the effectiveness of animal-assisted interventions for schizophrenia. Her research will also aim to look beyond the human benefits of animal-assisted interventions to also look at the behavioural and physiological impacts on the animal/s involved. She is passionate about researching cost-effective and easily-accessible alternatives to conventional treatments for mental health and incorporating elements of the natural environment.

Format: Oral Presentation

Title: Assessing whether proximal effects of an animal-assisted intervention translate to distal clinical outcomes in a family preservation program – the Savio study

Authors: Erin Flynn¹, Julia Roguski², Phil Tedeschi¹ & Kevin Morris¹

Affiliation: University of Denver, USA¹; Savio, USA²

Correspondence: kevin.morris@du.edu

Over a half-million children are in foster care in the USA, yet placement in out-of-home care programs is associated with increased child behavior problems and often has a negative effect on children's cognitive skills (Berger, Bruch, Johnson, James, & Rubin, 2009). Additional evidence-based practices for improving preservation programs to maintain family structures are needed. The efficacy of an animal-assisted intervention (AAI) protocol targeting four common parenting skill deficiencies (supervision, appropriate expectations, bonding and disciplinary practices) was measured in the Family Preservation Program at Savio, a family services organization in Colorado. The intervention, which involves volunteer handler-dog teams from Denver Pet Partners, is focused on enhancing parent and family engagement in the clinical process.

Families entering the Family Preservation Program that consented to participate were randomly assigned to the standard-of-care (SOC) or standard-of-care plus AAI (SOC+AAI) cohorts of the study. Families in the SOC+AAI cohort received the 12-session AAI protocol implemented by their family preservation services clinician and a consistent volunteer handler-dog team. Changes in parenting skills and family functioning proximal to the AAI were measured using four subdomains of a validated instrument (North Carolina Family Assessment Scale for Reunification (NCFAS-R)), with distal impacts of AAIs being measured through standard clinical outcomes (final disposition of the children, and 1-year recidivism rates).

A previous report demonstrated statistically significant ($p < 0.05$) proximal efficacy of the AAI protocol in 3 of the 4 parenting skills as measured by changes in pre- and post-AAI NCFAS-R scores between the standard-of-care (SOC) and standard-of-care plus AAI (SOC+AAI) cohorts. At an N of 28 families (14 in each cohort), Wilcoxon Rank-Sum tests (one-sided) now identify statistically significant changes in all 4 of the NCFAS-R subdomains. Findings of the analyses of the clinical data to test whether this proximal effect on family functioning translates into improved clinical outcomes will be presented.



Erin Flynn, MSW, is a Research Associate at the Institute for Human-Animal Connection at the Graduate School of Social Work, University of Denver.

She holds a certificate in animal-assisted social work and has incorporated animals in her work with youth, adults, and families as a mental health clinician.

Her primary research interest is in the study of human-animal coaction as a context for developing self-regulation and, more broadly, positive trajectories of development.

Salivary Oxytocin and Vasopressin in Domestic Dogs: Methodological Validation and Response to Human-Animal Interaction

Evan L. MacLean, Laurence R. Gesquiere, Nancy Gee, Kerinne Levy,

W. Lance Martin & C. Sue Carter

Abstract: Oxytocin (OT) and Vasopressin (AVP) are neuropeptides with effects on social behavior, cognition and stress responses. Recent studies suggest that OT facilitates and responds to affiliative forms of human-animal interaction (HAI). However, current methods for measuring OT in dogs are restricted to measures from blood or urine, which present concerns related to the invasiveness of sample collection, the potential for matrix interference in immunoassays, and whether samples can be collected at precise time points to assess event-linked endocrine responses. We evaluated the potential for salivary measures of OT and AVP in dogs and validated immunoassays for this purpose. Both peptides were present in dog saliva and detectable by immunoassay and mass spectrometry. However different sample collection procedures (swab type, salivary stimulation, or eating prior to sample collection) yielded significant variability in results (OT: $F_{3,52.8} = 33.00$, $p < 0.01$, AVP: $F_{3,58.5} = 10.94$, $p < 0.01$). Immunoassays for OT and AVP in saliva yielded good parallelism and accuracy.

As a biological validation, we measured plasma and salivary OT and AVP (1) before, during, and after dams nursed, and (2) before and after HAI (N = 19), or a control condition (N = 19). In the nursing study, both plasma and salivary OT increased with active suckling, followed by a decline to baseline levels (saliva: $\chi^2 = 10.72$, $p < 0.01$). In the HAI study, dogs participating in HAI exhibited a significant increase in salivary and plasma OT (saliva: $\chi^2 = 12.93$, $p < 0.01$; plasma: $\chi^2 = 3.81$, $p = 0.05$) whereas dogs in the control group did not (saliva: $\chi^2 = 1.95$, $p = 0.16$, plasma: $\chi^2 = 0.22$, $p = 0.64$). Salivary AVP showed no change in the HAI group ($\chi^2 = 0.59$, $p = 0.44$) but increased significantly in the control group ($\chi^2 = 4.19$, $p = 0.04$). Plasma AVP decreased significantly following HAI ($\chi^2 = 8.73$, $p < 0.01$) but did not change across time in the control condition ($\chi^2 = 0.73$, $p = 0.39$). Collectively these results suggest that salivary OT and AVP are valid biomarkers in dogs which respond dynamically to aspects of HAI.

Evan MacLean is an Assistant Professor in the School of Anthropology at the University of Arizona, and Director of the Arizona Canine Cognition Center. From 2012-2016 he served as Senior Research Scientist and Co-Director of the Duke Canine Cognition Center. He received his Ph.D. in Evolutionary Anthropology from Duke University in 2012, where he was a James B. Duke Fellow. Dr. MacLean has published dozens of articles on animal cognition and recently led a team of 57 scientists from 13 countries in the first large-scale phylogenetic study of animal cognition. His research



integrates methods from evolutionary biology and comparative psychology to address questions about the cognitive mechanisms through which animals solve complex problems, the processes through which cognition evolves, and how knowledge of animal cognition can improve the methods through which animals are selected, bred, and trained for roles in society. In addition to his work on animal behavior and cognition, Dr. MacLean studies the biological mechanisms involved in human-animal-interaction, with a focus on oxytocinergic and vasopressinergic pathways. In the last 5 years Dr. MacLean has lead diverse projects focusing on dog cognition, neuroendocrinology, and human-animal interaction, which have been supported by the Office of Naval Research, the AKC Canine Health Foundation, and the Waltham Center for Pet Nutrition. In 2015 he was awarded a Next Generation Canine Research Fellowship from the Stanton Foundation, and his work has been highlighted in diverse media including The New York Times, National Public Radio, the BBC, and National Geographic.

Are dog owners able to correctly identify primary and secondary emotions in their canine companions based on dog vocalization and body language?

Authors: Christabel Castro, Department of Animal and Range Sciences, New Mexico State University, ***Gaylene Fasenko**, Department of Animal and Range Sciences, New Mexico State University, Michael C. Hout, Department of Psychology, New Mexico State University, Claren Wilson, Cloud K9 Dog Training Services, Las Cruces, New Mexico

Introduction. Many dog owners report observing both primary (eg, anger, joy) and secondary (eg, empathy, guilt) emotions in their dogs. Since canines communicate non-verbally, owners can only interpret what their dog might be feeling based on the dog's vocalizations and/or body languages. The objectives of this study were to determine: 1) the frequency with which owners observed primary and secondary emotions in their dogs, and 2) if the emotions the owner identified were accurately categorized based on vocalizations and/or body languages exhibited by the dog.

Methodology. Dog owners (n=651) completed a 74 question online survey. The instrument included questions about owner and dog demographics, the owner-dog relationship, emotions the owners observed their dog displaying, and the dog's body language(s) and vocalization(s) associated with each emotion. A chi-square test of independence was performed to examine the relationship between various owner demographics and the emotions owner's observed in their dogs. Significance was established at $P \leq 0.05$.

Results. Owners viewed primary (60%) versus secondary emotions (40%) more frequently. Joy (95.1%) and love (95.1%) were the most owner observed primary emotions, while disgust was the least reported (10.8%). Even for primary emotions, the ability of dog owners to recognize their dog's emotion based on expected vocalization(s) and/or body language(s) was low (65% or lower). As an example, the most frequently selected vocalization/body languages for anger were "growls/grumbles" (65.84%), "body tense" (48.56%), and "hair stand on back of neck" (47.74%). All other body language responses for anger were lower than 23%, indicating that owners are only focusing on a few highly recognizable behaviors. Jealousy was the most frequently reported secondary emotion (60.0%). The only response difference for primary and secondary emotions based on dog owner's gender was for the secondary emotion, pride ($\chi^2 = 0.0493$, $p < 0.05$); men did not view pride as an emotion their dog displayed.

Conclusions. The results suggest that dog owners are not fully cognizant of the vocalizations and/or body languages associated with specific emotions in their dog. Through better understanding of dog non-verbal communication, owner education can be improved thus strengthening the canine-owner bond.

Dr. Gaylene Fassenko – Biography

Gaylene is an Associate Professor at New Mexico State University where she teaches and coordinates the Undergraduate Minor in Human-Animal Interaction (HAI). This minor was developed to provide students in majors in the human health and wellness fields with knowledge and experience regarding how to incorporate HAI into their chosen professions. Gaylene has been a member of ISAZ since 2008. She is a member of Pet Partners, and Alliance of Therapy Dogs, and she and her dog Score are a pet visitation team with Therapaws in Las Cruces New Mexico. Gaylene is also a club Leader and Puppy Raiser for Guide Dogs for The Blind (GDB). Her and her family are currently raising a Lab/Golden cross named “Rhapsody” for GDB. Gaylene is a strong advocate of HAI, and is hoping to be elected this year as an Ordinary Board Member on the ISAZ Board.



Perceived benefits of U.S. veterans participating in a therapeutic horseback riding program

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Introduction. The United States (U.S.) 2010 census reports that there are over 23 million surviving U.S. veterans with over 500,000 living in Missouri. Post-Traumatic Stress Disorder (PTSD) and Traumatic Brain Injury (TBI) are major veteran concerns. Treatment for these challenges can be difficult, time-consuming and costly. Alternative interventions such as human-animal interaction through Therapeutic Horseback Riding (THR) may be beneficial as an adjunctive treatment. Our first research question asked what the benefits and drawbacks were of participating in a six-week THR program. The second research question broadly examined the veterans' perceptions and experiences in the THR program. Methodology. Twenty U.S. military veterans with a diagnosis of PTSD and/or TBI were recruited through a Veterans Administration Medical Center. The veterans participated in a six-week, one-hour curriculum in a THR program, following primary care provider assent. Participants completed a Demographic Questionnaire, and at the last session an eight-item investigator developed Riding Questionnaire. Items one and two addressed the first research question. Items three through eight addressed the second research question, including participant recommendations for program changes and whether they would recommend the program to others. Phenomenology was employed to analyze the transcripts from the weekly questionnaires completed by participants. Results. There were 20 participants having a mean age of 52.90 (range 29-68) with 18 males. Eight veterans served in the Army, eight in the Marines, three in the Navy and one served in the National Guard. The average number of deployments was 2.05 (Range 1-10). Sixteen identified as Caucasian and four as African American. Thirteen participants were married, three divorced, two in a committed partner relationship, one never married, and one separated. The themes for benefits were "Connection to the Horse," "Relaxing," "180 Degree Change," and "Meeting New People." Themes for drawbacks were, "None," "Struggle to Get There," "Pain," "Too Short," and "It is Structured." Themes for overall perceptions of the program were, "I Absolutely Loved It," "Feel Again," "The Horse," "The People," and "No Worries." THR was a positive experience for our participants. Conclusion. Our findings provide a context for positive clinical outcomes among American veterans in reducing PTSD levels.



Gretchen K. Carlisle, PhD, MEd, RN, CHES

Gretchen is a research scientist at the Research Center for Human-Animal Interaction (ReCHAI) at the University of Missouri's College of Veterinary Medicine. As a pediatric nurse, her research interests include the impact of HAI for children and their families. As a Certified Health Education Specialist, she seeks to provide information for families to aid their decisions regarding living with companion animals. Her research on children with autism spectrum disorder and companion animals has received national media attention. Gretchen's current HAI research includes a study of "Shelter Cat Adoption in Families of Children with Autism: Impact on Cat Stress and Children's Social Skills and Anxiety," funded by the Winn Feline Foundation.

Perceived “Naturalness” of Animals: The Impact of Domestication, Captivity, and Genetic Modification

Harold Herzog

Christopher J. Holden

Western Carolina University

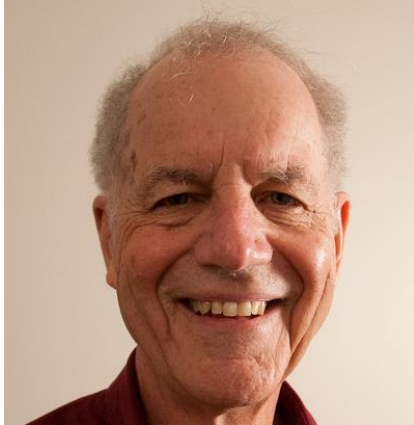
Introduction. In Western cultures, humans have a general preference for behaviors and products perceived to be “natural.” Rozin (2001) developed a method to assess decrements in the perceived naturalness of foods and other substances caused by manipulations such as genetic engineering and chemical additives. We used his technique to measure decrements in the perceived naturalness of animals associated with three conditions: domestication, captivity, and genetic modification. We also examined whether individual differences in sensitivity to denaturalization were related to (a) attitudes towards animal welfare, (b) natural/organic foods, and (c) beliefs about science.

Methods. Eighty-four male and 74 female participants were recruited through Amazon’s Mechanical Turk. They completed an online survey which involved rating the “naturalness” of 32 animals representing 11 species in a variety conditions on a scale of 0 (not at all natural) to 6 (completely natural). Percentage decrements in naturalness were calculated by comparing 22 ratings between a highly natural condition (e.g. a fish in the sea) with a paired less natural condition (e.g., a fish in an aquarium). The subjects also completed the Animal Attitudes Scale (AAS), the Beliefs about Science Scale, the Pew Science Application Scale, and a 12-item scale developed to measure the naturalness of various foods.

Results. Dependent t-tests with Bonferroni correction revealed all 22 comparisons between the natural and less natural conditions were significant ($df = 157$, all p 's < .02). Conditions involving domestication (e.g., a mixed breed dog versus a wolf) produced, on average, an 18% decrement in perceived naturalness as compared to a 63% decrement caused by captivity (e.g., an elephant in the wild versus a zoo), and a 65% decrement associated with genetic engineering (e.g., a garbage dump rat versus a GM rat). Differences in sensitivity to denaturalization were significantly related to AAS scores ($r = .28$, $p < .001$) and naturalness of various foods ($r = .47$, $p < .001$), but not to attitudes toward science.

Conclusions. In this first attempt to empirically measure animal “naturalness” as a psychological construct, we found captivity and genetic modification had much greater effects on reducing the perceived naturalness of animals than domestication.

Harold Herzog's research includes studies of people with morally complex interactions with animals, attitudes toward the treatment of other species, the evolution of pet-keeping, and methodological issues in anthrozoology. His book *Some We Love, Some We Hate, Some We Eat: Why It's So Hard To Think Straight About Animals* has been translated into nine languages, and he writes the blog "Animals and Us" for Psychology Today Magazine. He is Professor Emeritus of Psychology at Western Carolina University.



Title: The debate over White House squirrel relocation: a snapshot view of attitudes towards squirrels and wildlife in the United States of the 1950s

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Introduction. In 1955 a news reporter published an account of “Operation Squirrel,” under which Eastern gray squirrels living on the White House grounds were being relocated to prevent damage to President Dwight Eisenhower’s putting green. Speaking on the Senate floor, Richard Neuberger argued that the White House squirrels were “an American tradition” and announced establishment of the “Save the White House Squirrels Fund” to raise money for a fence around the putting green. American newspapers reported on the Democratic senator’s squirrel campaign; letters poured into the nation’s capital; and the Republican White House abandoned “Operation Squirrel.” This paper analyzes the attitudes towards squirrels, and more generally wildlife, that Americans voiced as they debated squirrel relocation.

Methodology. The paper engages in qualitative, historical analysis of relevant newspaper articles and unpublished letters, with special attention to arguments used for and against squirrel relocation.

Results. The study documents an array of attitudes towards wildlife in mid-twentieth-century America. Pro-squirrel arguments centered on memories of feeding squirrels through the White House fence, Biblical teachings, ethics, and presidential responsibility to set good examples for children. Most fundamentally, the pro-squirrel letters revealed deep concern for American wildlife, with some casting the White House squirrels as the last representatives of wildlife at the White House. Supporters related the squirrels to bighorn sheep, bison, doves, and other wildlife in need of protection. Although most critics of Neuberger’s campaign dismissed it as a distraction from issues of importance to people, some worried about its larger meaning as an argument for conservation. Neuberger—who would become a major sponsor of the Wilderness Act—found in the pro-squirrel letters widespread affirmation for his commitment to wildlife. As the controversy died down, he wrote those who had joined in the squirrel campaign: “the majority of us are agreed that we must protect our national heritage of natural resources, whether it be rivers, forests, wilderness reserves or wild life.”

Conclusions. This case study adds documentation to the complexity of motives shaping attitudes towards wildlife. It highlights the potential of a seemingly localized issue, when handled with political finesse, to help foster conservation.

Helena Pycior studies human-animal relationships from the historical perspective. Before becoming a professor emerita in May 2017, she taught the history of human-animal relationships and the history of race, gender, and science at the University of Wisconsin-Milwaukee. In addition to books, she has published articles in Isis, the Journal of the History of Ideas, Social Studies of Science, Society & Animals, and Victorian Studies. Her recent publications have centered on the history of presidential dogs and the local history of human-animal relationships. She is currently completing a book on the history of presidential pets, tentatively entitled "American Presidents and Their 'First Dogs': Warren G. Harding's Laddie Boy to FDR's Fala."

Text Analytics Provide Panorama of HAB Research
Jane Kinkus Yacilla
Purdue University Libraries

Objectives: Human-animal bond (HAB) research is a relatively young field, and as such the body of HAB research has been itself the topic of review articles and systematic reviews. Text mining is another tool that we can use to more deeply understand the current status of research in a particular field and the evolving trends based on analyses of textual information. In this study, information about four decades of HAB research publications was analyzed using text mining software VantagePoint to look for informative patterns about this body of research.

Methodology: For the purpose of this study, a data set of article information was generated from the database *Web of Science: Core Collection* (aka Science Citation Index) on the topic of human-animal bond (HAB) research. *WOS: Core Collection* was selected because its formatting can be ingested into VantagePoint text mining software without additional processing, and because its records include some fields that other databases do not, such as cited references, times cited, and information about funding. Search terms included “human animal bond,” “human animal relationships,” “human animal relations,” “human animal interactions,” and “anthrozoology.” The search was refined to include only research-oriented materials (articles, reviews, books, book chapters, proceedings papers), include publication years through 2016, and was limited by English language. The data set contained 1190 records.

Results: There has been steady growth since 1982 of publications containing at least one of the search terms, with the highest number of publication culminating in 2016. Text mining analyses simplified the process of identifying top authors, especially first author, as well as their institutional affiliations and collaboration patterns. However, identifying the top cited authors required considerable data clean-up. Identifying trends over time, for example with phrases used in article titles, is another feature of text mining software. Limitations of this type of study include desired data’s non-inclusion in the database record; the consistency or quality of the data input; and the amount of time required to perform data clean-up.

Conclusions : Text mining can provide a rich snapshot of a field of research, but the process is not necessarily ‘fast and easy.’



Jane Kinkus Yacilla, MLS, is a Life and Health Sciences Information Specialist and Associate Professor of Library Science at Purdue University. Her primary liaison responsibilities are to the College of Veterinary Medicine and the School of Health Sciences. For several years Jane has been a development team member, along with Alan Beck, of HABRI Central (habricentral.org), an online portal about the human-animal bond. Her current research interests include exploring the use of text analytics as tool for assessment as well as librarian research, and mapping the development of research disciplines such as the human-animal bond and animal-assisted therapy.

Title: *The impact of service dogs on caregivers and family members' psychosocial well-being*

Authors: Jessica Bibbo, Kerri E. Rodriguez, & Marguerite E. O'Haire

Affiliation: Center for the Human-Animal Bond, Department of Comparative Pathobiology, College of Veterinary Medicine, Purdue University, USA

Introduction: A chronic condition or physical disability not only affects the individual with the condition, it also affects members of the family. Service dogs are trained to assist individuals in daily activities and physical functioning. There is evidence that individuals form a bond with their service dog and experience social and emotional benefits from their presence. However, little is known about the dog's effect on family members who may equally be affected by the dog's companionship and presence in the home. The objective of this study was to measure the impact of a service dog on the psychosocial wellbeing of family members of individuals with chronic conditions or physical disabilities.

Methodology: Participants included 126 individuals recruited through Canine Assistants, a national service dog provider which places dogs for various chronic conditions and disabilities. The sample was comprised of 114 parents/caregivers, 12 spouses (85% female, age range: 19-77). We compared family members who currently lived with a service dog recipient ($n=76$; 82% female; age range: 19-77) to those who lived with an individual on the waitlist to receive a service dog ($n=50$, 90% female; age range: 30-73). Participants completed a survey comprised of standardized instruments developed by the National Institutes of Health (i.e., the Patient-Reported Outcomes Measurement Information System, PROMIS) and modules from the Pediatric Quality of Life Inventory (PedsQL).

Results. Linear regressions controlling for the participants' age, gender, as well as the gender of and the relationship to the family member, and whether the family member experienced seizures with a service dog indicated that family members with a service dog in the home had significantly better emotional quality of life ($d = .31$). Participants living with a service dog experienced significantly better overall quality of life related to their family member's health ($d = .47$) as well as better social quality of life related to their family members' health ($d = .43$). Family members of service dog recipients were also impacted significantly less by worry ($d = .55$). There were no significant differences in overall, social, or work/school quality of life, nor were there any group differences in family communication (all p 's $> .052$).

Conclusions. Our findings provide initial evidence for the positive impact that service dogs may have for family members. Results from this study suggest that future research must extend beyond the recipient in order to fully measure the impact of a service animal.



Dr. Jessica Bibbo
Post-Doctoral Research Associate

Dr. Jessica Bibbo is a postdoctoral research fellow at the OHAIRE lab at the Center for the Human-Animal Bond at Purdue University. She earned her Masters of Psychological Science at California State University, Chico and her PhD in Human Environmental Science at the University of Missouri where she was a graduate research assistant at the Research Center for Human-Animal Interaction. Her areas of research are companion animals within families, as well as the relationships between companion animals and older adults and their informal caregivers.

Race and ethnicity are not primary determinants in utilizing veterinary services in underserved communities in the United States: a retrospective database analysis

Jessica L. Decker Sparks, Philip Tedeschi, Kevin N. Morris

Introduction. Unsupported assumptions about race and ethnicity's role in veterinary service utilization are prevalent in scientific literature.¹⁻⁷ Such literature potentially perpetuates harmful stereotypes and distrust between owners and providers, creating structural and accessibility barriers that impede service utilization. Person-centered, community-based approaches (e.g., the Humane Society of the United States' Pets for Life [PFL] program) may reduce these barriers.

Methodology. A retrospective database analysis (2011-2015) measured associations between race and ethnicity and veterinary service utilization by sampling 83,260 companion animals whose owners self-identified as White, Black, or Latino/a from 39 PFL sites across the United States.

Results. Controlling for socioeconomic status, the percentage of animals sterilized through PFL whose owners were Latino/a (21,090 [70.3%]) or Black (19,832 [68.2%]) was substantially higher than previously reported findings.^{1,3,4,6-8} Latinos/as, had the highest mean number of days from first contact with the program to consent ($\bar{x} = 242.21$, $s = 256.04$), but also the highest percentage of owners accepting the voucher during initial contact (15,498 [73.5%]). Logistic regression models controlling for pet sex and species found that Latino/as were 38% and Blacks 54% less likely to sterilize than Whites ($X^2(8) = 139.9$, $p < 0.001$). The Hosmer-Lemeshow statistic indicated that the model was not a good fit ($X^2(6) = 258.7$, $p < 0.001$); the c -statistic = 0.513; and *Nagelkerke's* $R^2 = 0.040$, suggesting that while associated, race and ethnicity were not predictive of sterilization.

Conclusion. When veterinary and animal welfare organizations deliberately remove structural barriers embedded with racial inequalities, individuals, regardless of race and ethnicity, proceed with companion animal sterilization. Service providers must use unbiased, culturally competent practices to improve companion animal welfare through the optimization of veterinary services, including sterilization.

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Jess Sparks is a doctoral candidate at the University of Denver's Graduate School of Social Work and a 2017 fellow with the Environmental Leadership Program, New England Regional Network. Her research interests are in marine sustainability, One Health, social-ecological justice, and the human dimensions of wildlife conservation. Her dissertation research uses participatory social-ecological systems modeling to elucidate associations between marine fish stock declines and increases in forced labor slavery.

Reducing university students' stress through a drop-in canine-therapy program

Abstract

Increasingly colleges and universities are offering canine therapy to help students de-stress as a means of supporting students' emotional health and mental well-being. Despite the popularity of such programs, there remains a dearth of research attesting to their benefits. Participants included 1,960 students at a mid-size western Canadian university. The study's aims were to assess the stress-reducing effects of a weekly drop-in, canine-therapy program and to identify how long participants spent with therapy canines to reduce their stress. Demographic information was gathered, length of visit documented, and a Visual Analog Scale was used to assess entry and exit self-reports of stress. Participants' self-reported stress levels were significantly lower after the canine therapy intervention. Participants spent an average of 35 minutes per session. This study supports the use of drop-in, canine therapy as a means of reducing university students' stress. The findings hold applied significance for both counselling and animal therapy practitioners regarding the dose intervention participants seek to reduce their stress.

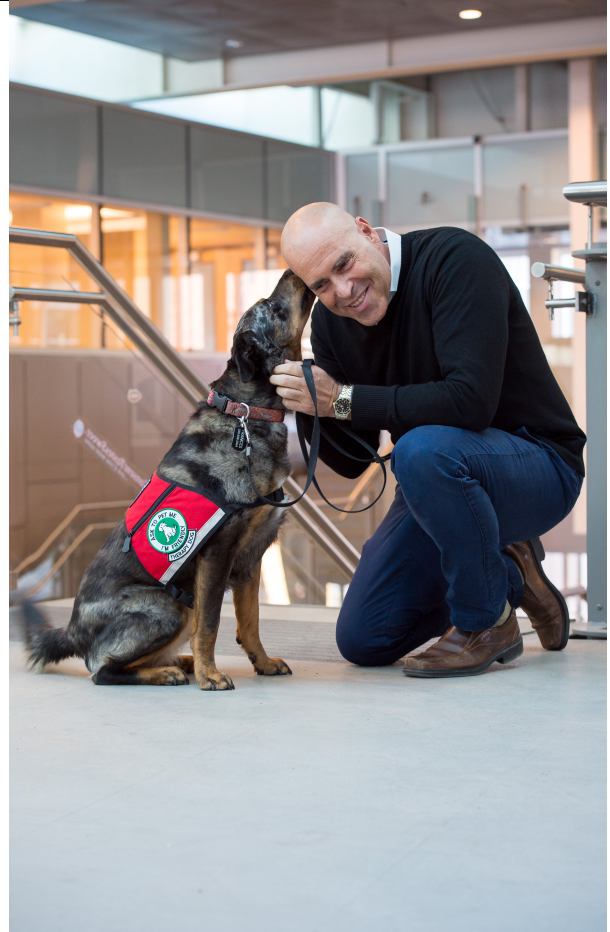
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Dr. Binfet is the director of the Building Academic Retention through K9s (B.A.R.K.) program at the University of British Columbia. Research in B.A.R.K. assesses the effects of canine-assisted therapy on well-being outcomes in college students, including: stress reduction, homesickness, and connectedness to campus. B.A.R.K. publications include articles in *Anthrozoos* (2016; 2017), *Society & Animals* (2017), and *Journal of Mental Health* (2017).

Dr Jo Williams



Jo Williams is a Senior Lecturer in Clinical and Health Psychology at the University of Edinburgh. She is Deputy Director of the Centre for Applied Developmental Psychology and leader of the Children, Adolescents and Animals Research Group. She teaches developmental psychology and developmental psychopathology and has always been fascinated by children's interactions with animals and why these important relationships do not feature more prominently in developmental psychology theory. She has won a range of funding awards to conduct research on children's interactions with animals, promotion of duty of care to animals among children and adolescents, and cruelty prevention. Her current research also explores the quality and meaning of children's attachments to pets and how they relate to children's mental health, children's connectedness to nature and mental health, animal assisted interventions for children, and psychological predictors of childhood cruelty to animals. She works with animal welfare charities including the Scottish SPCA and Fostering Compassion.

Psychosocial effects of service dog ownership for individuals with physical disabilities

Kerri E. Rodriguez, Jessica Bibbo & Marguerite E. O'Haire

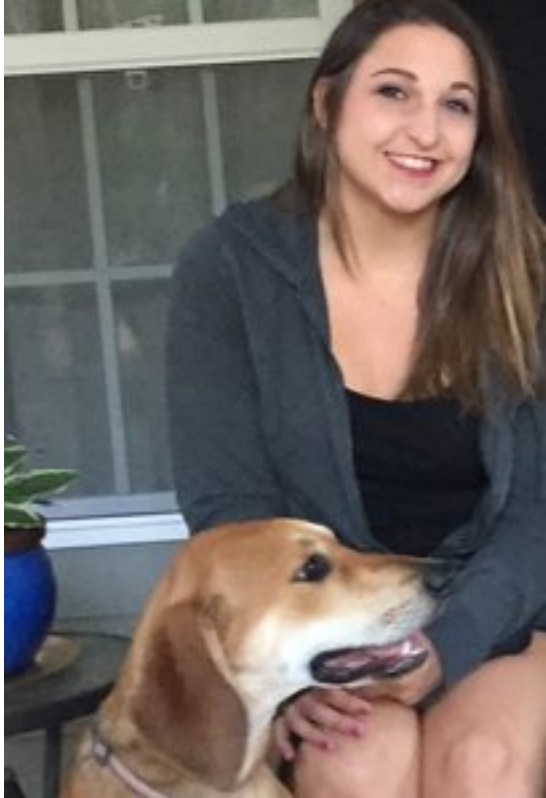
Center for the Human-Animal Bond, Department of Comparative Pathobiology, College of Veterinary Medicine, Purdue University, USA

Introduction: Many individuals with physical disabilities experience difficulties such as social isolation, low self-esteem, and depressive symptoms. While the primary role of service dogs is to perform functional physical tasks related to a disability, the accompanying psychosocial effects of their companionship and presence are largely unexplored. Our objective was to evaluate the effects of service dogs on indicators of psychosocial health and wellbeing among individuals with physical disabilities.

Methods: A cross-sectional survey assessed current functioning of 159 individuals including individuals placed with a service dog ($n = 99$) or on the waitlist to receive one ($n = 60$). Current or future recipients ranged from 4-71 years old ($M=26.1$, $SD=17.2$), were 47% female, and mostly had neuromuscular (43%), epileptic (25%) or musculoskeletal (22%) primary diagnoses. Surveys were either conducted by self-report or parent/caregiver proxy. We conducted standardized self-report assessments of mental and social wellbeing using the NIH funded Patient Reported Outcomes Measurement Information System (PROMIS) and the Pediatric Quality of Life Inventory (PedsQL). The human-animal bond was quantified using the Monash Dog-Owner Relationship Scale (MDORS) subscales of Dog-Owner Interaction and Emotional Closeness.

Results. Compared to those on the waitlist, individuals with a service dog exhibited significantly higher overall psychosocial health as well as better work/school functioning after controlling for gender, age, disability severity and impairment, and if the survey was self-report or from a parent proxy. Having a service dog did not significantly impact emotional or social functioning, anger, or sleep disturbance. Among those with a service dog, human-animal bond measures of dog-owner interaction, emotional closeness, and amount of years since being placed with a service dog will be explored.

Conclusion: These findings suggest that the provision of a service dog can have measurable effects on psychosocial functioning in individuals with physical disabilities, indicating that the relationship is unique and warrants additional attention.



Kerri Rodriguez is a Ph.D. candidate working with Dr. Marguerite O'Haire at the Purdue University Center for the Human-Animal Bond. Prior to joining Purdue, she earned her Bachelor of Science at Duke University and served as a research coordinator for the Duke Canine Cognition Center. Her dissertation research at Purdue focuses on assessing the psychological and physiological effects of service dog assistance and companionship among individuals with physical disabilities and military veterans with posttraumatic stress disorder (PTSD).

College Students' Beliefs about End-of-Life Decisions for Companion Animals
Linda Kline and Robert J. Liedtke
California State University, Chico

Research on human-animal interaction is ever increasing, yet little is known about decisions made at the end of an animal's life. Previous research has focused on veterinarians who must euthanize companion animals (Dickinson, et al., 2011). Other research that has attended to pet owners and their dying animals has focused on bereavement and grief (Planchon, et al., 2002). The present study explored attitudes and beliefs about end of life, quality of life, and appropriateness of euthanasia as a means to end life of companion animals.

Participants were 191 students (70.7% female; mean age = 23.5 years ($SD = 5.7$)) enrolled in psychology classes who responded to a survey assessing end of life beliefs about dogs or cats. (There were two versions of the survey – one regarding dogs and one regarding cats.) Participants also provided responses to two scenarios which described health or behavioral issues of an animal in which cost of treatment, age of animal and prognosis were systematically varied. Participants completed the Animal Empathy Scale (Paul, 2000), the Pet Attitude Scale - Modified (Munsell, et al., 2004) and responded to several questions about pets.

Separate principle components analyses were performed with the 49 items of the cat end of life survey and the 49 items of the dog end of life survey. A three-component solution (Dog/Cat Awareness and Understanding of Illness and Death; Acceptability of Euthanasia; Considerations for Euthanasia) explained a total of 33.0% of the variance for decisions about dogs and 33.9% of the variance for decisions about cats. Results of several correlations indicated a positive correlation between Dog Awareness and Understanding of Illness and Death and Attitudes toward Pets ($r(94) = .32, p = .003$), as well as a positive correlation between Cat Awareness and Understanding of Illness and Death and Attitudes toward Pets ($r(93) = .47, p = .000$). Persons who scored high on belief that dogs and cats are aware of their own illness and death also held positive attitudes toward pets.

Despite the limitations of this young, educated sample of participants, this study is an initial step in identifying important elements of end-of-life decisions for companion animals.



Linda Kline is a professor and chair of the psychology department at California State University, Chico. Robert Liedtke received his MA in Psychological Science from California State University, Chico in 2015. His background includes research in animal learning and cognition, as well as human-animal relationships. Robert's current research is focused on college students' beliefs on decisions made at the end of an animal's life. He enjoys bird-watching and taking care of his almost 17-year old dog.

1 **ORAL PRESENTATION**

2

3 **EVALUATING THE EFFECTS OF A TEMPORARY FOSTERING PROGRAM ON SHELTER DOG WELFARE &**
4 **PREDICTION OF FUTURE BEHAVIOR IN ADOPTIVE HOMES**

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12 One of the greatest stressors for dogs living in animal shelters is social isolation. Many studies have
13 demonstrated that human interaction reduces cortisol in shelter dogs and incorporating longer periods
14 of interaction yields even greater effects. These interventions are contingent upon removing the dog
15 from the kennel and any such reductions in cortisol are often lost when the dog returns to the kennel.
16 Furthermore, collecting behavioral information about dogs outside the shelter could be a useful tool in
17 improving rehoming efforts but little is known about the efficacy of such fostering programs.

18

19 More recently, animal shelters are utilizing short-term fostering programs to provide relief from the
20 perceived stresses of kennel life and aid in rehoming efforts, however the effects of these programs are
21 not well understood. In this presentation, I will discuss the preliminary findings of a study conducted
22 across the United States in which we're investigating the impact of one- and two-night fostering
23 programs on the cortisol levels and health measures of dogs awaiting adoption, and the validity of
24 behavioral questionnaires, completed by fosterers, in predicting future behavior of the dogs in their
25 adoptive homes.

26

27 At our five participating shelters, dogs' urine was collected in the morning before, during, and after
28 fostering stays with behavioral questionnaires about the dogs completed by shelter staff, foster
29 volunteers, and the dogs' new owners immediately following adoption and six months later. Throughout
30 the study, health monitors were worn by the dogs, which collected heart and respiration rates, and
31 activity levels, in the shelter and in foster homes.

32

33 In our initial study site, we found that dogs' urinary cortisol:creatinine ratios dropped significantly
34 during a one-night stay of fostering, but returned to baseline levels after return to the shelter.
35 Preliminary results from the remaining shelters will be presented and discussed.

Lisa Gunter, MA, CPDT-KA



Lisa Gunter, MA, CPDT-KA is a PhD candidate at Arizona State University in the Department of Psychology and conducts her research under the mentorship of Clive Wynne in the Canine Science Collaboratory. Before beginning her graduate studies, Lisa worked for nearly a decade with dogs both in animal shelters and with pet dogs and their owners. Lisa's research attempts to better understand the influence of breed labels on perceptions of dogs; what breeds and breed mixes are in animal shelters; stress and its impact on the welfare of kennelled dogs; and post-adoption interventions focused on owner retention. She has published her research in scientific journals and presented her findings at numerous conferences.

Protectors, Aggressors, and Kinfolk: Dogs in a Tribal Community

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Introduction

Free-roaming dogs, often in large numbers, are a common phenomenon on many American Indian reservations. While this may seem odd to many Americans who are accustomed to dogs on leashes and behind fences, free-roaming dogs are the global norm. Lack of canine restriction may be pathologized by outsiders, assumed to be a “problem” that reflects some sort of underlying individual or community dysfunction. Seldom investigated are the cultural logics underlying lack of restriction, and the positive role that dogs may be playing in the community.

Methodology

This paper examines contemporary relationships between a northern plains reservation community and their dogs. The project had three components: Observations of naturally occurring human-canine interactions in the community, utilizing a Behavior Inventory and narrative description (n=233); focus groups with parents and community leaders (n=3), and family interviews (n=12). The goal of family interviews was to explore relationships between families and dogs as well as to observe the settings in which the dogs lived. The final interview sample included 24 adults (17 females, 7 males; the

majority middle-aged); 18 youth 12-17 years of age (11 males, 7 females); and 28 dogs (13 small, 12 large, 3 medium).

Results

Relationships between people and dogs were complex and multifaceted, harkening back to a pre-contact past when human survival itself depended on the dog, and extending into a present shaped by a broad range of cultural notions of the human-dog relationship. We explore the concept of dog restriction, asking what it means for connections with dogs in a context where relationships with dogs run deep, but have been disrupted by colonial and post-colonial dynamics.

Conclusions

We find a community that very much desired dogs and viewed them positively, with their role as protector highly valued on nearly every level. While traditional notions guided many behaviors toward dogs, other conceptualizations were also in play. Our findings call into question the ethnocentric bias that permeates the construct of “pet ownership,” where a dog is only fully owned—and loved—if restricted.



As a cultural/medical anthropologist and gerontologist, Dr. Lori Jervis has conducted research on gerontological, health, and mental health issues as they relate to American Indian people. She has led collaborative research investigating cultural and measurement issues relating to elder mistreatment in Native communities, studies examining the cultural relevance of cognitive assessment among older American Indians, and projects on the food environment in rural tribal food deserts. Dr. Jervis also conducts research on human-animal interaction, e.g., the relationship between Purple Martins and the humans they depend on for their survival as a species, and free-roaming dogs in reservation communities.

Clicker training: backed by science? A questionnaire-based evaluation of clicker training practices and perceptions

Lynna C. Feng, Tiffani J. Howell, Pauleen C. Bennett
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Clicker training refers to an animal training technique, derived from laboratory-based studies of animal learning and behaviour, in which a reward-predicting signal is delivered immediately following performance of a desired behaviour, and is subsequently followed by a reward. While clicker training is extremely popular amongst dog training practitioners, scientific evaluation in applied settings has been largely unsuccessful in replicating the benefits of reward-predicting signals seen in laboratory animal studies. A lack of consistency in methodologies used across empirical studies makes it difficult to explain such discrepancies, and these studies are criticized for not truly assessing the phenomenon of 'clicker training'. As such, the purpose of the present study was to describe what clicker training is, why people use it, and what methods are considered 'best practice' in applied dog training. A total of 586 dog owners and dog training professionals completed an online questionnaire about clicker training. Overall, participants saw clickers as a form of communication from the trainer to the dog, rather than merely a conditioned reinforcer. There were also substantial differences in practice methods: how clicker-type signals should be introduced, what types of signals are preferred, the ratio of reinforcement used, and the types of behaviours being trained. Systematic investigation into these methodological differences is now required to evaluate their impact on learning, so that evidence-based best practice methods in clicker training can be developed. Closer alignment between scientists and practitioners is likely to be of benefit to both groups, and to the many animals that are currently trained for companion and working roles.



Lynna C Feng, MAS, CPDT-KA

Lynna Feng is a third-year PhD candidate in the Anthrozoology Research Group at La Trobe University working with Dr. Pauleen Bennett. Lynna received her undergraduate education at UC Davis studying Animal Science with an emphasis in Animal Behaviour and completed a Master's in Applied Statistics at Pennsylvania State University. Prior to moving to Australia for her PhD, Lynna worked for 4 years under the tutelage of the late Dr. Sophia Yin developing educational materials on dog training and veterinary low stress handling. For her dissertation, Lynna is studying how and why people use clicker-type signals in dog training – specifically peoples' perceptions of the costs and benefits of using clicker-type signals and how industry practices line up with research on animal learning and the human-dog relationship.

Title: Attitudes toward guide dogs in Japan: Descriptive analysis of comments on Twitter

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Introduction.

Guide dogs are less widely used in Japan than in the U.S. and some European countries. Some Japanese people feel sympathy for assistance dogs (Miura et al., 2002) and may be uncomfortable with the use of these animals. This study examines the attitudes toward guide dogs in Japan, especially those held by young people, by analyzing comments on Twitter regarding the traffic deaths of a guide dog team in 2015.

Methodology.

The search function on Twitter was used to find tweets containing “guide dog” and “accident.” All tweets made up to three days after the 2015 accident were collected for the descriptive analysis.

Results.

Out of 1087 tweets, 642 of them referred only to the news of the accident. There were 667 comments related to guide dogs, 22 of which opposed using dogs for guiding people with visual impairments: “dogs’ freedoms are deprived,” “dogs are forced to work,” “guide dog work is demanding,” “guide dogs have short life spans because of their stressful work,” and “guide dogs have to go through very strict training.” There were 55 comments expressing positive feelings toward guide dogs: “guide dogs are exceptional,” “guide dogs never run away from their owners,” “guide dogs work hard for their owners,” and “the dog died after protecting his owner.” The most common type of response (398 comments) expressed emotions and extended condolences toward the guide dog team.

Conclusion.

Some people have negative attitudes toward guide dogs, but these attitudes are often based on incorrect information. More people have positive attitudes toward guide

dogs, but their comments somewhat overestimate the abilities or roles of guide dogs. Such image of hard-working guide dogs may lead to a sympathetic view of guide dogs in Japan.

Reference:

Miura, A., Bradshaw JWS & Tanida H. 2002. Attitudes towards assistance dogs in Japan and the UK: a comparison of college students studying animal care. *Anthrozoos*, 15(3), 227-242.



Mariko Yamamoto is Assistant Lecturer of Department of Animal Sciences at Teikyo University of Science. She received her PhD from Azabu University in 2011 and then studied at UC Davis, as a post-doctoral scholar until 2015. Her research interests focus on assistance dogs in society and their benefits and have conducted research on a variety types of assistance dogs and their partners in Japan and the U.S. Current her research projects examine the influence of guide dogs/pet dogs on physical activity of their partners and children with visual disabilities.

Systematic review of rat tickling:

A human-animal interaction technique for conspecific play

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Introduction. Rats initially fear humans, which can increase stress and impact human-animal interactions. Rat tickling is a promising conspecific play technique that can enhance human-animal interaction and improve rat welfare. However, current studies use a variety of methods and achieve different outcomes. Our objective was to systematically evaluate research on tickling rats. Our specific aims were to synthesize tickling experimental methods, outcomes, and moderating factors.

Methods. Two independent investigators systematically evaluated all articles about tickling identified from PubMed, Scopus, Web of Science, and PsychInfo using the Preferred Reporting Guidelines for Systematic Review and Meta-Analysis (PRISMA) and Systematic Review Centre for Laboratory Animal Experimentation (SYRCLE) guidelines. Inclusion criteria were publication of original, empirical data on rats using the handling method of tickling in a peer-reviewed journal. Bias was assessed using the SYRCLE bias assessment tool.

Results. We identified 32 articles (56 experiments) published in peer-reviewed journals about rat tickling. The most common tickling method was the “Panksepp Method” of 15s baseline rest followed by 15s of dorsal contacts and pins for a total of 2 min for at least 4 days (46%, n=26). Twenty-one experiments assessed tickling compared to a control. Although a variety of assessment measures were used, the most commonly found outcomes were increased positive vocalizations (n=14), increased approach behavior (n=9), improved ease of handling (n=5), decreased anxiety behavior (n=5), and decreased levels of stress hormones (n=2). Thirty-seven experiments assessed moderators of tickling outcomes; the most commonly identified moderators were individual differences (n=11) and housing type (n=8). To minimize potential bias in all experiments, the most commonly used techniques were blinding outcome assessors (45%, n=25), randomizing treatment groups (25%, n=14), and ensuring treatment groups were similar at baseline (16%, n=9).

Conclusions. We conclude that tickling is a promising method of human-animal interaction that can be used to improve rat welfare. However, it is essential to establish best practices in rat tickling as many different methods are used and several moderating factors can impact tickling outcomes.



Megan LaFollette is currently a Ph.D. student in Dr. Marguerite O'Haire and Dr. Brianna Gaskill labs at Purdue University. She earned her Master's of Science degree in Comparative Pathobiology from them in December of 2016. She earned her Bachelor of Science in Biological Sciences at Truman State University in Missouri. Prior to joining the OHAIRE and Gaskill labs, she conducted research on the use of food-based positive reinforcement in horses at Truman State University. Currently, Megan is investigating the impact of tickling in rats on rat welfare and human-animal interactions. Her research interests focus on the intersection of human-animal interaction and animal welfare.

Megan Payton

Megan graduated cum laude earning her BA in English with a concentration in language, writing and rhetoric from North Carolina State University in 2014. She joined the C-P.A.W.W. team as a professional research assistant in July of 2016. She is currently working towards her Bachelor's degree in nursing with the hopes of continuing to participate in Animal-Assisted Intervention (AAI) focused research. Megan is the daughter of an active duty Marine and is passionate about helping to improve the mental health of the veteran population. When Megan worked as caretaker for service dogs at Freedom Service Dogs of America in 2015, she realized her desire to help serve the veteran community.



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The neuroticism facet, anxiety, predicts human attachment to cats

Human personality traits may serve as predictors of a pet guardian's relationship with their pet, but these traits are multi-faceted. We previously found that the general trait, neuroticism, increased affection and anxious attachment toward a pet. Past research identified neuroticism as related to a preference for cats over dogs (Gosling, Sandy, Potter, 2010; Reevy & Delgado, 2014). The current study focused exclusively on pet cats, and we sought to determine if specific facets of neuroticism were related to attachments toward one's pet cat.

Participants completed the Lexington Attachment to Pets Scale (Johnson, Garrity, & Stallones, 1992), measuring affection toward a pet; and the Pet Attachment Questionnaire (Zilcha-Mano, Mikulincer, & Shaver, 2011), with two scales measuring avoidant and anxious attachment. Participants answered items related to the six facets of neuroticism (Anger, Anxiety, Depression, Immodesty, Self-Consciousness, and Vulnerability) from the International Personality Item Pool (Goldberg, 1999). We included scales for conscientiousness and neuroticism from the Big Five Inventory (John & Srivastava, 1999). The sample consisted of 1240 participants (88.3% Caucasian, 89.9% female, average age: 42.25, range 18-85).

We confirmed our previous findings that higher scores on neuroticism and conscientiousness increased affection for one's pet. No facet of neuroticism was a predictor of avoidant attachment to one's cat, although there was a weak positive relationship with anger ($F(6, 1233) = 3.22, p = .07, \beta = .07$). Increased scores on anxiety ($\beta = .09$), depression ($\beta = .25$), and immodesty ($\beta = .08$) were related to increased anxious attachment ($F(6, 1233) = 55.55, p < .001, R^2 = .21$). There was a small but positive relationship between anxiety and the LAPS score ($F(6, 1233) = 5.46, p < .001, \beta = .11$). Guardians of indoor-only cats reported higher anxious attachment, higher affection, and lower avoidant attachment. Females reported both a lower avoidant attachment, and higher affection for their cats.

Our results suggest that the relationship between personality and relationships with pets is complex. Some facets of neuroticism may serve as better predictors of attachments toward pets than others, and anxiety appears to be a key component of our relationship with cats.



Mikel Maria Delgado is currently completing her PhD in the Psychology Department at UC Berkeley, working with Dr. Lucia Jacobs. Her research interests include the decisions that fox squirrels make when storing food, the relationships between people and their pets, and how companion and wild animals can promote public interest in science. Mikel is a recipient of the National Science Foundation's Graduate Research Fellowship and Doctoral Dissertation Improvement Grant, as well as the UC Berkeley Chancellor's Fellowship. She writes about science and animal behavior at her blog, catsandsquirrels.com and for the Berkeley Science Review.

Mikel is also a cat behavior consultant and co-owner of Feline Minds, a business that helps pet owners solve behavior problems with their cats. In the fall of 2017, she will begin a Postdoctoral Fellowship at the School of Veterinary Medicine at UC Davis, working with Drs. Melissa Bain and Tony Buffington.

Dog-assisted intervention in schools for children with special needs

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Therapy dogs in educational settings have been shown to promote aspects of cognition (e.g., categorization (Gee, Crist & Carr, 2010) and memory (Gee, Belcher, Grabski, DeJesus & Riley, 2012)) for special needs and typically developing children, with the impact of the animal reported as larger for special needs children. Animals can aid social interaction and improve language use for children with autism (O'Haire, McKenzie, McCune & Slaughter, 2014; Gabriels, Pan, Dechant, Agnew, Brim & Mesibov, 2015) and reduce symptoms for children with ADHD (Schuck, Emmerson, Fine & Lakes, 2015). The current study examines the impact of a 4-week dog intervention on physiological, psychological and socio-emotional measures in 8- to 10-year-old children attending special needs schools. Children were randomly assigned to one of 3 intervention conditions - Dog, Relaxation, Control - for 8 intervention sessions. Dogs were certified therapy dogs and underwent behavioural assessment; all handlers, children and teachers received tailored safety training. Parents and teachers completed questionnaires (family, pet ownership, behaviour, sleep) before and after intervention. Children completed standardised tests (e.g. British Ability Scales-3 (BAS-3) to measure cognition, Assessment of Comprehension and Expression 6-11 (ACE) to measure language). Results were calculated separately for children with lower and higher abilities. In children with lower abilities, ANOVAs show a main effect for Intervention for BAS Picture Similarity ($F(2,40)=4.516$; $p=0.017$), with t-tests revealing that only the dog group shows significant improvement in the task ($p < 0.001$). A main effect was also found for BAS verbal comprehension ($F(1,36)=4.860$; $p=0.034$) and a significant interaction ($F(2,36)=4.546$; $p=0.017$) shows only the dog group improving ($p < 0.007$). For the higher functioning children more learning effects but fewer effects for interventions were found. E.g., significant main effects were found for ACE Sentence Comprehension ($F(1,19)=8.635$; $p=0.008$); an interaction of learning by intervention ($F(2,19)=4.060$; $p=0.034$) with children improving significantly, but equally, in the dog intervention and the control conditions. Similar effects arose for learning of syntax. Further main effects for learning appeared for BAS Matrices ($F(1,19)=4.911$; $p=0.039$) and BAS Pattern Construction ($F(1,17)=46.067$; $p=0.001$). Collectively the results of this study indicate that the dog intervention has a larger impact on the lower functioning children.

References

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Schuck, S.E.B., Emmerson, N.A., Fine, A.H., & Lakes, K.D. (2015) Canine-Assisted Therapy for Children With ADHD: Preliminary Findings From The Positive Assertive Cooperative Kids Study. *Journal of Attention Disorders*, 19, (2), 125-137.



Mirena is currently a PhD Student at the University of Lincoln, UK, working with Prof. Kerstin Meints as a supervisor. Her PhD research is looking at Dog-Assisted Intervention for children with special needs within the classroom. Previously, she has worked in different teams with therapists and consultants to provide one to one support for children with Autism. The children had a primary diagnosis of ASD with associated learning and behavioural difficulties. The intensive therapy aimed to minimise inappropriate behaviours and teach skills such as self-help, language and problem solving. Promotion to Senior Tutor followed and she gained enhanced experience in writing clinical progress reports and assisting with programming individual targets for each child. She has also provided practical and theory training to new therapists.

The Dog Person Scale: Development and Validation
Molly K. Crossman, Alan E. Kazdin, & Angela Matijczak

In the United States, 65% of households have pets, with dogs being the most popular. As Americans spend over 60 billion dollars per year on their pets and the majority of pet owners call their pets (and especially their dogs) members of the family, interest in what it means to be a “dog person” has grown rapidly. The scientific literature does not yet provide a clear answer to the question of what it means to be a dog person, due in large part to the lack of psychometrically sound measures to assess this construct. The purpose of the present work was to develop and validate a measure of how individuals think, feel, and behave towards dogs, and to use that measure to explore the personality characteristics of individuals who have positive attitudes towards dogs. In Study 1, we piloted a pool of 90 items in an online sample and conducted a principal components analysis, which revealed a one factor solution with 40 items. In Study 2, we validated the measure, which we label the “Dog Person Scale,” (DPS). As predicted, we found large, significant correlations between the DPS and the Lexington Attachment to Pets Scale, $r(242) = .62, p < .001$, and the Companion Animal Bonding Scale, $r(241) = .54, p < .001$. Also as predicted, we found small correlations between the DPS and measures of theoretically unrelated constructs including the Animal Attitude Scale, $r(299) = .27, p < .05$, the Snaith-Hamilton Pleasure Scale, $r(299) = -.17, p < .01$, and the Hopelessness Scale, $r(299) = -.21, p = -.21$. In Study 3, we tested for differences on the Big Five personality traits among participants who scored high and low on the DPS, and found that people with high positive attitudes towards dogs scored higher on agreeableness, $t(126) = 4.47, p < .001$, and openness, $t(125) = 2.84, p < .01$. In Study 4, we applied the DPS in the context of an animal-assisted activity (AAA). We found that scores on the DPS at pretest significantly predicted enjoyment of the AAA, $\beta = .34, SE = .07, p < .001$, explaining 15% of the variance in scores on the Enjoyment Scale at posttest, $F(1, 149) = 27.45, p < .001$. The DPS is a new tool for evaluating a key construct that may influence the efficacy of animal-assisted interventions and activities, as well as other key aspects of human-animal interactions.



Molly Crossman is a fifth-year doctoral student in clinical psychology and co-director of the Innovative Interactions Lab at Yale University. Her research focuses on human-animal interaction (HAI), with a particular emphasis on understanding the benefits of interactions with animals for human mental health. Her dissertation research is evaluating the influence of brief, unstructured interactions with dogs on human stress. Other current projects are looking at possible mechanisms of action for the effects of dogs on human stress, the influence of pet dogs on maternal-child interactions, the influence of dogs on attitudes and perceptions, the role of pet ownership in the lives of individuals with borderline personality disorder, and what it means for someone to be a “dog person.”

Human-Animal Interconnections: ISAZ Conference 2017
June 25, 2017 – University of California, Davis

Title of Presentation:

- Assessing the behavioral and physiological stress of canines who participate in animal-assisted interventions in pediatric oncology settings

Presenting Author:

- Molly A. Jenkins, MSW, Humane Research and Therapy, American Humane Association

Additional Abstract Authors:

- Amy McCullough, Humane Research and Therapy, American Humane Association
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- Cynthia Hellman, Humane Research and Therapy, American Humane Association

Abstract:

Introduction. The use of animal-assisted interventions (AAI) in clinical environments has gained popularity as research has documented their positive effects on human health and well-being. However, few rigorously-designed studies have examined AAI’s impact on therapy animals, despite the potential for stress (Serpell, 2010) and pressing need to do so. The current study assessed AAI’s psychosocial effects for pediatric oncology patients and their parents, while also measuring behavioral and physiological stress indicators in participating therapy dogs. This presentation will discuss the study’s canine findings.

Methodology. Newly diagnosed patients (n=106, 49 females/57 males, 3-17 years, multiple diagnoses) and their parents were enrolled at five U.S. children’s hospitals. Participants were randomly selected to receive standard care or standard care plus regular visits from a registered therapy dog (n=26, 14 females/12 males, multiple ages/breeds) for the initial four months of treatment. To measure therapy dog cortisol, canine saliva was collected at five time points at enrollment, as well as after each AAI session. Therapy dog behavior was videotaped, and a behavior ethogram was completed, for each session. Handlers completed a self-report regarding their dog’s behavior and AAI activities after each session.

Results. Data showed no significant differences in salivary cortisol level between baseline (M=0.49, SD=1.05) and AAI sessions (M=0.45, SD=0.85), $B=0.01$, $t(380)=0.31$, $p=.757$. There was a significant positive correlation between stress and affiliative session behaviors ($r=0.463$, $p<.0001$), demonstrating that dogs who exhibited more stress behaviors also exhibited more affiliative behaviors. The dog’s most commonly coded session behaviors were lip licking, other oral behaviors, and tail wagging.

Conclusions. Results suggest that canines do not have significantly increased physiological or behavioral stress responses while participating in AAIs in pediatric oncology settings, thus

strengthening the mutually beneficial, ethical, and sound potential of AAI applications for those with serious illness and their families. This study also highlights the importance of further investigation to confirm these findings, and to maximize safe and effective AAI protocols in hospital settings.

References:

Serpell, J.A. (2010). Animal-assisted interventions in historical perspective. In A.H. Fine (Ed.), *Animal-assisted therapy: Theoretical foundations and guidelines for practice* (3rd ed.). (pp. 17-32). San Diego, CA: Elsevier.

Biography:

Molly A. Jenkins, MSW

Molly Jenkins serves as Research Analyst and Human-Animal Interaction Specialist for American Humane. Her background includes work in animal health and behavior, child welfare, and human-animal interaction, with a current research focus on the effects of animal-assisted interventions for children, animals, and those who have experienced trauma. Ms. Jenkins received her master's degree in social work from the University of Denver, with certification in animal-assisted social work from the Institute for Human-Animal Connection.

Photo:



A complicated passion:
a qualitative study of first year veterinary students' relationships to animals and humans

Nadine Dolby

Introduction. Students entering the veterinary profession are often portrayed as having a special bond or relationship with animals. Less explored, however, is how they perceive the role of the veterinarian in helping humans and the complications of balancing their commitment to both animals and humans. This paper examines how first-year veterinary students perceive their relationship with humans and animals, and the intricacies of deciding how to prioritize their dual and complicated passion.

Methodology. Interviews were conducted with 20 first-year veterinary students at a Midwestern veterinary college in August and September of 2015. Audio recordings of 50-75 minute interviews were transcribed and data was analyzed using qualitative, inductive analysis (Hatch, 2002).

Results. Animals are at the center of students' career decisionmaking, though not in a simplistic and romanticized way. Students have made careful decisions about 1.) which animals they feel connected to and 2.) how they chose to act on their passion. Students often had conflicted and complicated understandings of their bond with humans, with some students indicating that they had entered the veterinary profession to primarily help humans and others prioritizing their relationships with animals over humans. In all cases, students understood that humans were an ever-present factor in their career trajectory, as owners, clients, and companions of their animal patients.

Conclusions. Passion, like other human emotions, is an integral component of the human experience. For the participants in this study, it is a key factor in their decision to pursue a career in veterinary medicine. Yet the passion and bond they feel for animals is not simple: instead, it is complex and always intertwined with their feelings about humans. The research discussed in this paper is part of a four year, longitudinal study of veterinary students' attitudes, values, and beliefs about animals and humans. Future interviews will explore how this passion develops and potentially changes over the course of a veterinary education.

Reference:

Hatch, J. A. (2002). *Doing qualitative research in education settings*. Albany, NY: State University of New York Press.

Nadine Dolby



Nadine Dolby is Professor of Curriculum Studies and a University Faculty Scholar at Purdue University. Her most recent book is *Rethinking Multicultural Education for the Next Generation: The New Empathy and Social Justice* (Routledge, 2012). She has conducted research and lived and worked in South Africa, Australia, and the United States. Her current research is focused on empathy in undergraduate education, the human-animal bond, and veterinary education. For the past nine years, she has volunteered regularly at her local animal shelter.

Inter-rater reliability, structure, and construct validity of the Observation of Human-Animal Interaction for Research, Version 3 (OHAIRE-V3)

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Introduction: The use of behavioral data is an objective and quantitative approach that can complement standardized questionnaires in human-animal interaction (HAI) research. The Observation of Human-Animal Interaction for Research, Version 3 (OHAIRE-V3) is a behavior coding system designed specifically for HAI. We investigated its psychometric properties through analyses of its inter-rater reliability, structure, and construct validity.

Methods: Data were extracted from four studies investigating the outcomes of animal-assisted intervention. Studies assessed the effect of different types of animal-assisted intervention with guinea pigs, dogs, and horses. Participants included children with autism spectrum disorder, children with attention-deficit hyperactivity disorder, and typically-developing children ages 5 to 18 years (N = 202). More than 2,000 minutes of videos were coded using the OHAIRE-V3. Inter-rater reliability was calculated for a random subset of 20% of videos. The structure of the tool was explored using a factor analysis. Correlations of data from each study with standardized questionnaires (e.g., Social Skills Rating System, Social Communication Questionnaire, Social Responsiveness Scale) via Pearson’s *r* informed convergent and divergent validity.

Results: Results indicate excellent inter-rater reliability ($\kappa = 0.81$). Factor analysis results suggest a two-factor structure, with main axes representing social communication and problem behaviors. Correlation analyses showed small to medium relationships between scores of the OHAIRE-V3 and matched questionnaire subscales, providing initial evidence of construct validity.

Conclusion: Initial analyses suggest that the OHAIRE-V3 is a reliable and valid tool to enhance the rigor and standardization of HAI research. Its use in future studies will allow confirmation of its structure on a larger sample, and explore its generalizability with a broader population.



Noémie Guérin is currently the behavior coding coordinator and a Master's student at the Center for the Human-Animal Bond of Purdue University. She works on the development and psychometric properties of the Observation of Human-Animal Interaction for Research, a behavior coding tool developed to capture the unique characteristics of human-animal interactions.

In the Fall, Noémie will join the Center for Animal Human Relationships at Virginia Tech as a PhD candidate to focus on the evaluation of equine-assisted activities and therapies.

Does spending structured school time with dogs improve reading ability or executive functioning in children aged 6 to 8 years?

Pauleen Bennett, School of Psychology and Public Health, La Trobe University, Victoria, Australia

Oriane Landry, School of Psychology and Public Health, La Trobe University, Victoria, Australia

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Objectives: Studies have begun to examine the educational and cognitive effects of children interacting with animals, usually dogs, in school rooms. This study expands upon this research, with a focus on reading skills and executive functioning abilities in six- to eight-year-old children.

Method: A sample of 63 children from a participating school were randomly allocated to one of three conditions. Each child participated in a four-week, school-based program, with 2 x 20 min sessions per week. In the Reading condition, a group of ten children sat with and read aloud, in pairs, to participating dogs, all of whom (n = 8) were trained assistance dogs (Labradors), accompanied by volunteer handlers. In the Training condition, groups of children worked in pairs to problem solve teaching one of the dogs a “trick”. In the Control condition, children went about their usual school lesson, with a dog sitting quietly in the classroom. Performance on the Opposite World test, a measure of inhibition and cognitive switching, the Digit Span test, a measure of working memory, and four reading measures derived from the York Assessment of Reading for Comprehension (Australia edition) were compared before and after the intervention.

Results: A series of 3 (group) x 2 (time) mixed between-within ANOVAs, with alpha adjusted to compensate for multiple comparisons, revealed that the children improved significantly in performance on most measures, with small to medium effect sizes, but that rates of improvement were comparable regardless of condition. It was noted, however, that children who were the poorest performers at pre-test benefitted the most, particularly from the Reading intervention.

Implications: The results imply that the mere presence of a dog in a classroom may be as beneficial to some cognitive outcomes as using multiple dogs to engage children in structured activities. The greater rate of improvement seen in the most poorly performing children, however, is a potentially significant finding, as educational interventions often fail to benefit the individuals who need them the most. While further research is needed, the findings can potentially inform future interventions targeting development of reading skills and executive functions in typically developing children.



Associate Professor Pauleen Bennett trained as a clinical neuropsychologist before developing an interest in human-animal relationships. She has worked in the field of anthrozoology for over a decade. She founded the anthrozoology research group in Australia, one of the world's most active research groups working in this area. Her group is based at La Trobe University in Victoria, Australia, and comprises a multinational and multidisciplinary group of higher degree students and post-doctoral investigators. The group's work encompasses many different aspects of the discipline, ranging from studies in basic dog cognition through to both qualitative and quantitative studies documenting how humans live closely with companion animals and investigating ways in which this can benefit all of the species involved.

Companion animals and child/adolescent development: a systematic review of the evidence.

Rebecca Purewal, Institute of Infection and Global Health, University of Liverpool

Robert Christley, Institute of Infection and Global Health, University of Liverpool

Katarzyna Kordas, Department of Epidemiology and Environmental Health, University of Buffalo

Carol Joinson, School of Social and Community Medicine, University of Bristol

Kerstin Meints, School of Psychology, University of Lincoln

Nancy Gee, State University of New York, Fredonia & WALTHAM Centre for Pet Nutrition

Carri Westgarth, Institute of Infection and Global Health, University of Liverpool

Abstract:

Introduction. Childhood and adolescence are important developmental phases which influence health and well-being across the life span. Social relationships are fundamental to child and adolescent development, yet studies of child development have largely focused on children's relationships with other humans. This paper provides an evidence review for the potential associations between pet ownership and emotional, behavioural, cognitive, educational and social developmental outcomes, and identifies particular strengths or gaps in knowledge.

Methodology. As research within the field is in the early stages of scientific enquiry, a broad set of inclusion criteria were applied. A systematic search of databases PsycINFO, CINAHL, PubMed, MEDLINE, Web of Science, ScienceDirect and grey literature sources found twenty two studies meeting selection criteria. The studies were assessed for quality against the OCEBM levels of evidence 2011.

Results. The review found some evidence for an association between pet ownership and emotional health benefits from childhood pet ownership; particularly for self-esteem and loneliness. The findings regarding childhood anxiety and depression were inconclusive. Studies showed evidence of an association between pet ownership and educational and cognitive benefits; for example; in perspective-taking abilities and intellectual development. Evidence on behavioural development was unclear due to a lack of high quality research. Studies on pet ownership and social development provided evidence for an association with increased social competence; social networks; social interaction and social play behaviour. Overall, the evidence suggests that pet ownership, and dog ownership in particular, may benefit these outcomes for children and adolescents. However, the evidence is mixed partly due to a broad range of different methodological approaches and varying quality of studies. In addition, small samples sizes are common, and confounding factors have not always been taken into account.

Conclusions. Overall, pet ownership and the significance of children's bonds with companion animals have been underexplored; there is a shortage of high quality and longitudinal studies in all outcomes. Prospective studies that control for a wide range of confounders are now required.



Rebecca Purewal is a PhD student at the University of Liverpool with an interest in child psychology and the impacts of animals on human health. Her background is in psychology and research methods. Prior to her PhD she worked in the community as an Assistant Psychologist where she frequently observed how relationships with pets may have the potential to support young people's emotional health. Her current research interests include investigating the impacts of pet ownership on child and adolescent emotional, behavioural, cognitive and educational development.

Title: Preventing Cruelty and Promoting Compassion to Pets through the 'Pet Welfare' Educational iPad Game

Authors: Roxanne D. Hawkins, Joanne M. Williams and the Scottish SPCA

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Abstract

Introduction: As technology advances, it is becoming an increasingly important part of modern children's lives and classroom learning tool. We therefore have the opportunity to utilise this technology to design and develop interactive animal welfare education materials that promote positive child-animal interactions. The current study therefore aimed to design, develop and conduct a pilot evaluation of a novel animal welfare educational iPad game for children (ages 7-12 years). The aim of the 'Pet Welfare' game was to teach children about pet sentience, animal welfare needs and appropriate and safe behaviours towards pets. The game was designed to target the general child population to prevent unintentional animal cruelty and neglect, promote compassion and promote positive and safe child-pet interactions.

Methods: The evaluation involved a pre-test, post-test design using a self-report questionnaire comprised of measures for compassion towards animals, beliefs about animal minds, attitudes towards cruelty to pets, knowledge about pet welfare needs and knowledge about appropriate and safe behaviour towards pets. Participants included 184 (53% boys, 47% girls) primary-school children, 92 test and 92 control, from three schools in Scotland, UK.

Results: Two-way repeated measures ANOVA found significant effects of the game on: increasing knowledge about pet welfare needs ($F(1,167)=15.2, p=.000, \eta^2=.084$), increasing children's beliefs about animal minds ($F(1,166)=27.6, p=.000, \eta^2=.14$), decreasing children's acceptance of cruelty to rabbits ($F(1,167)=8.8, p=.004, \eta^2=.05$), and increasing knowledge about appropriate and safe behaviour towards pets ($F(1,165)=12.7, p=.000, \eta^2=.072$). There was no significant effect of the intervention on compassion or total acceptance of cruelty to pets. The results indicate significant demographical differences where the intervention seemed most effective for older children and children without pets.

Conclusion: This study demonstrates the potential of developing interactive iPad games to promote positive child-animal interactions. The results of this pilot evaluation will inform future education directions for animal welfare organisations and those wishing to promote positive and safe relationships between children and animals, particularly when direct contact with animals is not possible.



Roxanne Hawkins is a final year PhD student in Clinical Psychology at The University of Edinburgh. She also teaches and has held various research assistant posts during her time at Edinburgh. For her PhD, she is trying to understand the complex relationships between children and animals, particularly why some children harm animals, and exploring how we can prevent animal cruelty through educational interventions in schools. She works in collaboration with the Scottish SPCA alongside Dr Jo Williams, to scientifically evaluate animal cruelty prevention programmes in schools throughout Scotland. She is currently evaluating a new iPad educational intervention that she has developed for young children, and continues to collaborate with a small international team to understand cruelty cross-culturally. She also has a strong interest in the benefits of animals and nature for mental health and well-being and has a continued passion for animal welfare and education. Her early research included biological and behavioural techniques to study stress and psychopathology in non-human animals, exploring the negative effects of human-animal interactions and the primate pet trade.

ISAZ abstract

Title: Association between a canine-assisted activity and college students' perceived family supports and stressors

Authors:

Sandra B. Barker, Department of Psychiatry, Virginia Commonwealth University

Randolph T. Barker, School of Business (Emeritus), Virginia Commonwealth University

Nancy L. McCain, School of Nursing (Emeritus), Virginia Commonwealth University

Christine M. Schubert, Department of Mathematics and Statistics, Air Force Institute of Technology.

Extending previous research on canine-assisted activities (CAA) and college student stress, this study examined the association between a CAA on students' perceptions of family supports and stressors. It is not known if support provided by CAA alters students' perceptions of other supports, such as family, and stressors.

Students (n=78) arriving at a CAA event were randomly assigned to order of a 15-minute group CAA and 15-minute group activity completing the Family Life-Space Diagram (FLSD; Mostwin, 1980). Used in family therapy research and practice and, more recently, human-animal interaction (HAI) research, the FLSD utilizes symbols to represent relationships between living entities, institutions, and stressors in one's life space. The FLSD has been validated in HAI research with physical distance found to represent emotional distance, and has been found to be time sensitive. The CAA was held over 3 hours in a campus ballroom with 10 therapy dog teams (both genders, pure and mixed breeds) from the university medical center's therapy dog program, participating in separate shifts to minimize dog fatigue.

Physical distances on the FLSD between self and family members, closest pet, and stressors were calculated. T-tests and effect sizes were computed for group comparisons. No significant differences were found between groups on self-closest family member, self-average family member, and self-pet distances, or on the number of family members or stressors identified. A significant difference and large effect size ($t=2.93$, $p=0.009$, $d=1.311$) was found in the distance personal stressors were placed from self and a significant trend and large effect size ($t=2.17$, $p=0.063$, $d=1.187$) was found in the distance parental stressors were placed from self. Students completing the FLSD after the CAA placed these stressors closer to self. No significant differences were found for school, financial, and other stressors.

Results suggest a CAA may not effect students' current perceptions of family and pet relationships, but may increase students' ability to tolerate personal stressors and perhaps parental stressors as well. Perhaps positive emotions associated with CAA engaged positive coping strategies, as suggested by Folkman's modified stress theory (1997, 2008), resulting in more positive perceptions of students' stressors.

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Dr. Sandra Barker

Dr. Sandra Barker is Professor of Psychiatry and Bill Balaban Endowed Chair in Human-Animal Interaction at Virginia Commonwealth University where she serves as Director of the School of Medicine Center for Human-Animal Interaction (CHAI), and Affiliate Scientist in the Center for Biobehavioral Clinical Research. As CHAI Director, she oversees an evidence-based therapy dog program, Dogs On Call, that is fully integrated into a major academic medical center and recently featured on Animal Planet and (Mission Critical Health) healthcare education videos, both aired globally.

Dr. Barker has vast teaching and clinical experience in treating trauma survivors, providing and evaluating animal-assisted interventions, and directing and providing a pet loss counseling program. She is internationally recognized for her research on the health benefits of interacting with companion animals, a research program that spans over 20 years. Dr. Barker also holds a joint appointment as Adjunct Professor of Small Animal Clinical Sciences at Virginia-Maryland Regional College of Veterinary Medicine where she established a pet loss support hotline and serves on their Advisory Board for the Center for Animal-Human Relationships. Dr. Barker has published and presented extensively on the benefits of interacting with companion animals and is often interviewed for major media outlets including NPR, Wall Street Journal, and The Guardian. She is an honorary patron of Irish Therapy Dogs and serves on the Pet Partners Human-Animal Bond Advisory Board.

Effects of animal-assisted activities on biobehavioral stress responses in hospitalized children: A randomized controlled study

Branson, Sandy¹, Boss, Lisa¹, Padhye, Nikhil¹, Trötscher, Thea¹, & Ward, Alex²

¹Department of Nursing Systems, The University of Texas Health Science Center at Houston School of Nursing, Houston, USA; ²Department of Medicine, John P. and Kathrine G. McGovern Medical School, Houston, USA

Purpose: to assess the effectiveness of animal-assisted activities (AAA) on biobehavioral stress responses (anxiety, mood/affect, and salivary cortisol and C-reactive protein [CRP] levels) in hospitalized children.

Design and Methods: Randomized, controlled study.

Method: Forty-eight participants were randomly assigned to receive a 10-minute AAA ($n=24$) or a control condition ($n=24$). Anxiety, positive and negative affect, and levels of salivary biomarkers were assessed before and after the intervention.

Results: Although increases in positive affect and decreases in negative affect were larger in the AAA condition, pre- and post-intervention differences between the AAA and control conditions were not significant. In addition, pre- and post-intervention differences between the conditions in salivary cortisol and CRP were not statistically significant. Baseline levels of anxiety, cortisol, and CRP had a significant and large correlation to the corresponding post-intervention measures. Scores on the Pet Attitude Scale were high but were not associated with changes in anxiety, mood, or stress biomarkers.

Conclusions: Although changes were in the expected direction, the magnitude of the effect was small. Future randomized controlled trials with larger recruitment are needed to determine the effectiveness of AAAs in reducing biobehavioral stress responses in hospitalized children.

Practice Implications: Nurses are positioned to recommend AAA as a beneficial and safe experience for hospitalized children.



Sandy Branson, PhD, MSN, RN

Dr. “Sandy” Branson’s program of research explores the area of human-animal Interaction, with a specific emphasis on the biobehavioral factors that influence health outcomes in pet owners and the biobehavioral effects of animal-assisted activities. She specifically examines how human-animal interactions (e.g. companion pet ownership and animal-assisted activities) are related to/affect psychological responses, biological responses, behaviours, and health outcomes in a variety of populations.

She is interested in collaborating with multidisciplinary researchers who are interested in animal-assisted activities and pet ownership and their effects on biobehavioral responses and health outcomes in a wide variety of populations, including Veterans, homebound older adults, and children.

Branson is an Assistant Professor at The University of Texas Health Science Center School of Nursing in Houston, Texas where she teaches a variety of leadership/management courses and is a community clinical instructor in the undergraduate and RN-to-BSN online programs.

She received her Bachelor of Science in Psychology from the University of Houston and her BSN from Texas Woman’s University. She received her Master’s degree in Leadership and Administration and a post-Master’s certificate in Education from UTHealth School of Nursing. In 2013, Branson received her doctoral degree from UTHealth School of Nursing as the Hamill Foundation Scholar in the Accelerated PhD Program.

The Influence of Dogs on Perceptions of Dating Profiles: The Moderating Role of Target Gender
Molly K. Crossman, Alan E. Kazdin, Jocelyn T. Jones, & **Shawna Bush**

Online dating is a two-billion-dollar industry and 15% of Americans report that they have tried online dating. As a result, the question of what makes an attractive dating profile has become the focus of considerable attention. Including pictures of dogs is one factor that has received substantial attention for allegedly enhancing the appeal of dating profiles. However, the influence of dogs on evaluations of dating profiles has not been directly evaluated. The purpose of the present study was to evaluate the role of pet dogs in online dating profiles. Specifically, we investigated three questions: 1) Do dogs enhance perceptions of online dating profiles?, 2) Does the influence of dogs on perceptions of dating profiles vary based on the gender of the person in the profile?, and 3) Does the influence of dogs on perceptions of dating profiles vary based on the gender of the viewer? We presented 203 online participants with a fictitious dating profile containing either an image of a person alone, or an image of the same person with a dog. Participants evaluated the targets using established measures of perceived likability, social attraction, and physical attraction. We found a Condition (dog, no dog) x Target gender (male, female) interaction for all three outcomes: Likability ($F(1, 203) = 11.11, p = .001$), social attraction ($F(1, 203) = 9.28, p < .01$), and physical attraction ($F(1, 203) = 4.78, p < .05$), such that men were perceived more positively when they were featured with a dog, but perceptions of female targets did not change depending on whether or not a dog was present. However, we found no evidence that the presence of a dog in a dating profile enhances perceptions, $ps > .05$, and this pattern of results persisted when we took into account the gender of the participant, $ps > .05$. These findings support the popular view that including pictures of dogs can influence how dating profiles are perceived. However, we found that this effect was limited to profiles of men, and did not extend to females.



Shawna Bush is a MA student at the University of Connecticut. She was a research assistant at the Yale Innovative Interactions lab where she was fortunate enough to be part of clinical research involving dogs and children. Currently, Shawna is pursuing a degree in school psychology and her research interests include cultural differences in psychopathology, as well as school climate.

Food for thought: investigating horse owners' perceptions around horse health and wellbeing in relation to weight management

Furtado, T; McGowan, C; Perkins, E; Pinchbeck, G; Watkins, F; Christley, R

University of Liverpool

Intro and aims: The problem of obesity in UK horses and ponies persists, despite research highlighting the dangers of allowing horses to become overweight. Obesity is a major problem in the UK horse society, with approximately 30% of the equine population obese (Robin et al., 2015). Horse owners are, to a greater or lesser extent, in control of the horse's environment and management, which may be manipulated to meet a range of goals, including maximising their horses' health and wellbeing. Therefore, qualitative investigation of owners' perceptions of what constitutes health and wellbeing in horses will lead to important insights into the problem of obesity in UK horses and ponies. This study aims to explore horse owner perceptions around horse health, management and wellbeing through qualitative research methods.

Methods: In the first stage of this research study we are conducting interviews with horse owners about horse health and management to determine the main concerns and priorities of horse owners generally. Owners were not asked specifically about weight management unless they themselves brought up the issue; however, every owner discussed nutrition and body condition, and all owners referred either to their own or to other horses' battles with weight and/or related conditions such as Equine Metabolic Syndrome (EMS) and laminitis.

Results/discussion The interviews demonstrated the ways in which horse owners invested in creating optimum conditions for their horse's happiness, health, or performance. Owner concerns generally focussed on horse safety, encouraging optimum movement, and efficiency in management procedures to reduce owner workload. All interviewees reported that full-time turnout was ideal for their horse's wellbeing, but recognised that this posed a risk to horses which needed a restricted grass intake. Horse owners demonstrated the tension between enhancing the horse's psychological wellbeing through turn out with managing their consumption of grass and controlling obesity. Several owners detailed the commodification of horse -keeping; which promoted the use of accoutrements such as rugs and special feeds that could contribute to problems with weight management. This study will provide some important insights into the way in which horse owners take on the messages from the equine industry and the impact of this on a horse's weight management.

Tamzin Furtado

Tamzin is currently completing a PhD which uses qualitative research to examine the problem of equine obesity in leisure horses in the UK, at the University of Liverpool. Tamzin has a keen interest in using qualitative research to study the sociology of pet-owning, and in using this knowledge to illuminate areas of potential human behaviour change strategies for improved animal welfare. Tamzin's background is in global health and tropical medicine, and she aims to apply the experience and skills learnt in global health, to the field of animal welfare and management.



Victoria Brelsford*, Prof. Kerstin Meints*, Dr. Nancy Gee#,

***University of Lincoln, UK**

State University of New York, Fredonia & WALTHAM Centre for Pet Nutrition

The application of animal-assisted interventions within educational settings has seen an increase in popularity in recent years. However, there is limited systematic research assessing the effects of such interventions on educational attainment within the classroom comparing cognitive, socio-emotional, behavioural and physiological measures. This study presents first results of a randomised-controlled study within educational settings that assesses the effects of one-to-one canine-assisted intervention in comparison with a relaxation intervention and a control group on above range of measures.

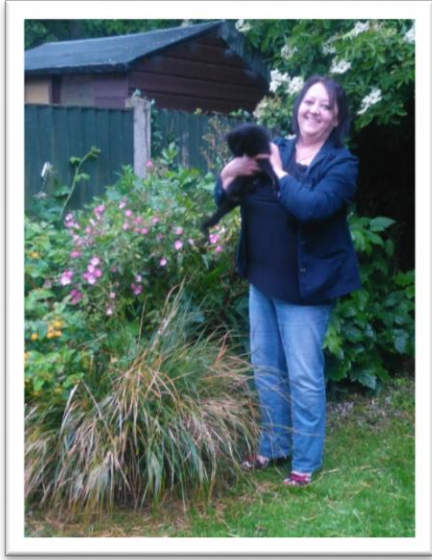
Children (N = 68, age (M) = 8.87yrs, (SD) = 0.41, N; 36 male) attending mainstream schools in the UK took part. Children completed standardised measures of empathy, self-esteem, stress & anxiety, language and learning, physiological measures included galvanic skin response and salivary cortisol before and following intervention. We obtained measures from parents and teachers (behaviour, sleep, family information, pet ownership). Children were assigned to dog intervention, relaxation intervention or control group conditions. One-to-one intervention sessions took place twice a week over a 4-week period. Dogs were recruited through Pets as Therapy (PAT) and underwent specific behavioural assessment for this study; handlers, children and teachers received tailored safety training. Breeds included Schnauzer, Cavapoo, German short haired pointer, Australian miniature Labradoodle and Cross-breed Greek Hare-hound.

First results of cognitive and language measures were calculated. They show that, in contrast to our cohorts with special educational needs (see study M. Dimolareva), we find a significantly larger range of learning effects in the children overall. For example, significant main effects of learning for cognitive and language measures (e.g. Assessment of Comprehension and Expression (ACE) standardised test scores and British Ability scales (BAS-3) measures (e.g. ACE Sentence Comprehension (F (1,65)=20.758; $p < 0.000$; (F(1,65)=15.214; $p < 0.000$; BAS Pattern Construction: (F (1,65)=95.194; $p < 0.0001$; Matrices (F(1,65)=28.687; $p < 0.0001$; Quantitative reasoning (F(1,65)=65.000; $p < 0.025$).

Interestingly, for quantitative reasoning we also find a significant main effect for intervention condition (F (2,65) = 3.305; $p < 0.043$) with children in the dog intervention group showing lower scores, but most improvement.

A significant between effect of condition is revealed ((F= (2, 59) 3.772, $p = 0.29$) and a between interaction effect of condition vs academic ability (F (4, 59) 3.903, $p = 0.007$) with children in the dog condition unexpectedly reporting more physical symptoms of anxiety after intervention. Physiological measures from cortisol and GSR are currently being analysed and will add our understanding of this interaction effect.

Our future analysis will further include children's abilities in the analysis, their gender, their socio-economic background, including the remaining measures, eg children's maths scores, their cortisol levels and behaviour.



Victoria Brelsford is currently a PhD student with Professor Kerstin Meints at the Infant and Child Development Lab, University of Lincoln, UK. Victoria graduated from the University of Lincoln with a 1st Class (Hons) in Psychology and went on to obtain her Master of Science in Child Studies which was awarded with Distinction. Since this time, she has worked as research assistant within the Infant & Child Development Lab at the University of Lincoln on externally funded longitudinal projects; teaching children stress signaling behaviors in dogs and a large cohort early language acquisition study. She is currently Investigating the effects of animal assisted intervention on typically developing children within the classroom setting. Her research interests are based around child development focusing on human-animal interactions, specifically the role of animals in educational practice. She also has a keen interest in promoting animal welfare to children.

The measurement of hair cortisol to assess welfare state in therapy dogs

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Abstract

Introduction. The effect of animal-assisted activities (AAA) and animal-assisted therapies (AAT) on the animal participants has been minimally investigated and the welfare of these animals has been questioned. Cortisol, in conjunction with stress-associated behavior, has been utilized as an objective assessment of animal welfare. While cortisol quantification in samples such as blood and saliva reflect moment to moment changes in cortisol, quantification in hair reflects cortisol accumulation over that period of hair growth. Therefore, sampling of hair may be a method of evaluating chronic stress in an animal. Measurement of cortisol in hair to assess welfare state in therapy dogs has not been previously described.

Methodology. Hair was collected from experienced therapy dogs (n=14) that participated in AAA for cortisol analysis and compared to salivary cortisol and behavior in home, novel, and AAA settings. The owner-queried Canine Behavior and Research Questionnaire (C-BARQ) was used to assess temperament and behavior.

Results. Hair cortisol was higher in spayed females (mean 35.13 pg/mg, median 23.02 pg/mg) than neutered males (mean 18.12 pg/mg, median 10.65 pg/mg) ($p=0.03$). There was an inverse correlation between hair cortisol and body weight ($p=0.007$). Hair cortisol level did not correlate with salivary cortisol level or any specific stress-associated behavior at any time point in any of the settings. There was no significant correlation between hair cortisol and C-BARQ scores.

Conclusions. Although cortisol in hair can be quantified, the diagnostic utility of hair cortisol as a marker of chronic stress in dogs has yet to be elucidated. Since cortisol concentrations in any biologic sample, especially hair, is multifactorial, further investigation into the factors that influence hair cortisol is warranted.



Virginia Buechner-Maxwell, DVM, MS, MS, DACVIM

Dr. Virginia Buechner-Maxwell, a professor and specialist in large animal internal medicine, graduated from the Virginia-Maryland Regional College of Veterinary Medicine in 1987 and concurrently was awarded a Master's of Science degree in Cell and Molecular Biology from the University of Pennsylvania. She subsequently completed an internship in equine specialty medicine at Chino Valley Equine Hospital in Southern California, followed by a Residency in Large Animal Internal Medicine at the Marion DuPont Equine Medical Center in Leesburg, Virginia. Starting in 1993, Dr. Buechner-Maxwell spent 2 years as an NIH Post-doctoral Research Fellow in Human Pulmonary and Critical Care Medicine at University of Michigan's Medical School. She became a Board Certified Specialist in Large Animal Internal Medicine in 1994 and joined the faculty at the Virginia-Maryland Regional College of Veterinary Medicine in 1995. She is currently a Professor of Large Animal Internal Medicine. She has spent the last 21 years studying causes and treatments of equine recurrent airway obstruction (also known as equine heaves), and the characteristics that RAO-affected horses share with human asthmatics. Her clinical interests also include diseases of the newborn foal, treatment of skin diseases (including tumors) and care of the aging horse. She has authored or co-authored nearly 100 peer-reviewed manuscripts, book chapters, professional meeting proceedings, and research abstracts and has been awarded over \$900,000.00 in research funding. In addition, she has served as the President of the Veterinary Comparative Respiratory Society (2005) and has just completed a 7-year term as an Executive Board member of the American College of Veterinary Internal Medicine Board of Regents.

Recently, her interests have expanded to include animal – human interactions, with an emphasis on studying the elements that determine the success of therapeutic and educational programs in which human-animal interaction is a key component. In 2012 she was invited to join the Advisory Board of the Center for Animal and Human Relationships (CENTAUR) at Virginia Tech and in 2013 earned the Animals and Human Health (AHH) graduate Certificate offered by the University of Denver's Graduate School of Social Work. As a CENTAUR Board member, she contributed to graduate student education, assisted with CENTAUR collaborative research, and developed a proposed degree program in equine assisted therapy. In July 2016, she was named the Director of CENTAUR and has focused on to assembling multi-disciplinary research teams for the purpose of the examining the many facets of animal-human interaction and identifying key elements that benefit both humans and animals. Since becoming the CENTAUR Director, she has initiated collaborative efforts with members of the College of Architecture and Urban Studies, College of Engineering, College of Liberal Arts and Human Sciences, College of Science, the College of Veterinary Medicine including the Department of Public Health Sciences, and members of Biobuild Interdisciplinary Graduate Education Programs. She has also initiated an interdisciplinary PhD program in Animal Human Interactions plans to expand the Centers mission into such areas as designing animal friendly spaces in senior communities, and evaluating prison based animal programs in the corrections system of the Commonwealth of Virginia.

Describing the use of animals in animal-assisted intervention research

Zenithson Ng, Julia Albright, Ann Viera, and Marcy Souza
University of Tennessee College of Veterinary Medicine

Abstract

There has been growing attention and awareness of the welfare of animals used in animal-assisted interventions (AAI) (Jegatheesan et al., 2013); however, the concrete steps taken to ensure animal wellbeing during AAI research is not often scrutinized. Social science researchers may not be aware that a similar review board similar to those instituted to protect human rights and welfare in research also exists for animals. Institutional Animal Care and Use Committee (IACUC) reviews, monitors and approves research involving animal subjects to ensure animal welfare is protected and the research is conducted with integrity (Silverman, Suckow, & Murthy, 2014). IACUC approval is required whenever a live animal is used in research, even if the animal is not the subject of that research. However, IACUC approval is rarely reported in AAI publications. In addition, the description of the animals and how they are utilized in AAI protocols vary greatly between studies. The purpose of this critical review was to determine the frequency of IACUC approval and to report how articles describe the use of animals in AAI research publications.

A strategic search of the published literature for all prospective studies utilizing a live animal to influence a human outcome resulted in the inclusion and review of 139 studies. Fourteen of 139 (10%) of studies reported the approval of an IACUC; 4/139 (3%) reported an adverse outcome on at least one animal used in the study. The publications were inconsistent in reporting of the training or certification of the animal, veterinary care, and frequency and duration of the AAI.

The infrequent reporting of IACUC approval in AAI studies indicate that the field has not traditionally utilized this method of approving and monitoring animal health and welfare. Research protocols involving animals may be rigorously assessed, approved, and monitored by an IACUC prior to conducting a study, as AAI's may not be benign for all animals. Reporting minimum standard details of the animals should be used to ensure ethical standards and to allow for replication of studies. The benefits and barriers of the IACUC approval process will be discussed.

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Zenithson Ng, DVM, MS, DABVP



Zenithson Ng is a clinical assistant professor of the Community Practice Service at the University of Tennessee College of Veterinary Medicine. He received his veterinary degree from Cornell University; then completed a small animal rotating internship at the ASPCA in NYC, followed by an American Board of Veterinary Practitioners (ABVP) canine/feline residency combined with a master's degree in human-animal bond studies at Virginia Tech. He was one of the founders of the animal-assisted intervention program at Virginia Tech and now serves as veterinary advisor of the Human-Animal Bond in Tennessee (HABIT), the animal-assisted intervention program at the University of Tennessee. His interests span all aspects of the human-animal bond including the effect of human-animal interaction on both humans and animals, the veterinary-client relationship, and stress reduction in both veterinary and animal-assisted intervention settings.

**Poster Presenters
Abstracts and Bios**

Exploring the positive relationships between cats and children with autism spectrum disorder

Lynette Hart, Abigail Thigpen (presenter), Benjamin Hart, Irva Hertz-Picciotto, Leslie Lyons

Introduction. Studies document benefits of dogs for people with special needs, but less is known about benefits of cats for children, especially with autism spectrum disorder (ASD). In general, cats affectionate with adults are less likely to be affectionate/non-aggressive with normally developing children^a. Conversely, most parents of ASD children reported affectionate behavior of the family cat to the ASD child^b. This study focused on factors that correlate with the characteristic of cats being “very affectionate” or “non-aggressive” with ASD children.

Methodology. Our anonymous web-based survey to 66 participants required as inclusion criteria that adults have one child aged 3 - 12 years diagnosed with ASD (specified child) and one cat in the household. Sociodemographic information included: gender and age of specified child, household information, and information on the cat (including breed, source of cat, behavior). We analyzed data using descriptive statistics.

Results. The median age range of the the cats was 4-6 years. Younger cats were more likely to be affectionate with the specified child. Cats highly affectionate were: 23% to adults, 30% to the specified child, and less than 11% to the other family children (split into 3 age ranges). Cats never aggressive included: 45.5% to adults, 45.5% to the specified child, and 24.2% to at least one other family child. Aggression was never reported in households with Maine Coon or Siamese cats (each n = 4). Fifty-two respondents volunteered comments: 40 comments were positive, 3 neutral, and 9 negative (child feared, ignored, or disliked cat). Twelve comments characterized the cat as a soothing guardian. The cat sometimes helped with the child’s mood regulation.

Conclusions. Family cats often provide valuable bonding, attention, and affection to the ASD child in the household. Cats who are affectionate to begin with are more likely to provide a rewarding relationship for the ASD child.

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^aHart LA et al. 2011. Compatible interactions of young children with family cats. ISAZ Abstracts, 72.

^bHart L et al. 2014. Cats and children with autism. ISAZ Abstracts, 77.

Abigail P. Thigpen is an Assistant Specialist in the Department of Population Health and Reproduction at the University of California, Davis School of Veterinary Medicine. Her research includes the health effects associated with neutering companion dogs, the behavioral interactions between children and cats, and behavioral studies of both cats and dogs. Abigail is also the Administrative Manager for the International Society for Anthrozoology (ISAZ).



Allison Andrukonis



Allie Andrukonis is a current Masters student in the Animal Science Department at Texas Tech University. She studies animal shelter welfare, with an emphasis on compassion fatigue in animal care employees. Through her research, Allie hopes to first, increase public awareness of compassion fatigue, and second, implement treatment to decrease its prevalence. Allie graduated from Virginia Tech with a B.S. in both Animal Science and Psychology. Outside of school, Allie enjoys fostering dogs, playing chase with her cat, and selling wedding dresses.

Determining Compassion Fatigue in Animal Care Employees Using Behavioral, Physiological, and Subjective Measures of Stress and Wellbeing

Allison Andrukonis, Alexandra Protopopova

Introduction:

Approximately 35% of the 7.6 million dogs and cats enter United States' animal shelters yearly will be euthanized ("Pet Statistics," n.d.). The reason for the euthanasia is not always because the animals are sick or aggressive, but sometimes because of overcrowding. The animal shelter staff must not only deal with the stress of euthanizing healthy animals, but also the public scorn. These negative emotions that come from having to care for the animals and subsequently kill them, frequently lead to compassion fatigue, burnout, and even suicide in the employees.

Methods:

A meta-analysis was initially preformed to determine the quality and quantity of research on the phenomenon of compassion fatigue within the animal care community. In the following study, using behavioral and physiological measures, we assessed the prevalence of compassion fatigue in animal shelter employees as well as determined the effect of animal behavior (e.g. struggling, calm, friendly, etc.) on the physiological indicators of stress. Heart rate and heart rate variability were measured throughout euthanasia and cortisol and blood pressure were measured before and after. Additionally, non-verbal behavioral as well as subjective measures (The Professional Quality of Life Scale and Impact of Event Scale) were collected to determine perceived stress and wellbeing.

Results:

The meta-analysis showed that there are no studies on the physiological indicators of compassion fatigue in animal care employees. It also revealed that the vast majority of data on compassion fatigue in animal care employees was collected through interviews and surveys. The Impact of Event Scale results indicated that shelter employees can range from not only experiencing PTSD, but also being immunocompromised to having no negative feelings towards their job.

Conclusion:

The lack of data and the rate of burn out in animal care employees indicates that there needs to be further research in this field. The results from the subject measures as well as the physiological measures indicate that euthanizing dogs and cats has a negative impact on animal shelter employee well-being.

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Allison received her Bachelor of Science in nursing degree from Syracuse University and Master of Art in Physical Education degree from University of South Florida-Tampa. She is currently a faculty member at the University of Colorado, College of Nursing and a student studying towards her Master of Science in Nursing Degree, with a concentration on Veteran and Military Healthcare. Allison's devotion and dedication to animals is profound, and she acts as a community ambassador for Canines Providing Assistance to Wounded Warriors (C-P.A.W.W.). Allison is married, with two children, and loves to volunteer in her children's classrooms and spend time with her family and dogs.



Dogs and military culture: companions in protection and healing

Eleni Padden, Megan Payton, Allison Boyrer (presenter), Cheryl Krause-Parello

Abstract: A Recursive Frame Analysis of Trauma-Focused Equine-Assisted Psychotherapy Sessions
By Amanda Kruger

The field of Animal-Assisted Therapy (AAT) (Fine, 2015; Knight & Herzog, 2009), and more specifically Equine-Assisted Psychotherapy (EAP), is burgeoning and shows promise as an efficacious therapeutic treatment for diverse populations (Kendall et al., 2015), including those who have experienced complex or developmental trauma (Fine, 2015). In particular, studies have demonstrated that EAP may offer help for children and adolescents who have endured trauma or abuse by assisting in their relational capacity (Lee, Dakin, & Mclure, 2015; Yorke, Adams, & Coady, 2008). While research has demonstrated that a variety of animals can be a beneficial adjunct to therapy, it has been theorized that the use of horses provides a number of distinctive counseling opportunities and has the potential to expand the therapeutic process in ways that are different than with other animals involved in AAT.

Although there are a growing number of quantitative and qualitative research studies supporting the benefits of EAP, there are still many areas around both theory and practice that are not yet fully understood. One of these neglected aspects is an examination of the therapeutic dialogue between the therapist and the client surrounding the horse. There is currently little information on the therapist and client's language in relation to the horse, and how these linguistics may therapeutically shape an EAP session. In order to more fully analyze this dialogue, and how the horse is integrated into different aspects of therapy, this research utilizes recursive frame analysis (RFA) which allows for in-depth analysis of communicative events, and has usefully been applied to talk therapy involving various types of clinical scenarios (Keeney, 1991). In this study, RFA is applied to analyze a series of three Trauma-Focused Equine-Assisted Psychotherapy (TF-EAP) sessions in order to interrogate how these linguistic vectors contribute to therapeutic change.

As a case study of the content of TF-EAP sessions, this analysis sheds light on the both the specific and diverse ways the therapist and the client discuss and understand the role of the horse, and its significance within the therapy session. This kind of thorough qualitative research into how the horse is incorporated into the discourse—and how this language shapes the direction of a TF-EAP session in various therapeutic ways—may lead to a better understanding of how the language around the horse, by both therapist and client, may contribute to the progress of the session and overall outcomes. This research contributes to the transparency of this therapeutic modality—and in doing so supports AAT and EAP counseling practitioners, and those seeking their psychological services—as well timely evidence to the general public about the utility and efficacy of employing horses and other animals in psychotherapy.

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Amanda Kruger is originally from Austin, TX. She earned her master's degree from Texas State University– San Marcos in clinical health psychology and is currently finishing her Psy.D. in counseling psychology from Our Lady of the Lake University in San Antonio, TX. Amanda has professional interests in human–animal interaction, animal–assisted therapies, trauma–informed care, multicultural and diversity issues, and social justice.



Abstract

Listening EARS (Education and Reading Success): How Does Reading to Rabbits Affect the Reading Skills of Third and Fourth Grade Students

Annie Petersen, Ed.D.
Association for Human-Animal Bond Studies

Summary: This study evaluated the effect of participation in a reading program involving companion rabbits on third and fourth grade students' reading ability at The O'Farrell Charter School in San Diego, California. This study demonstrated and documented the viability of using small animals in school-based reading programs and explored the potential to demonstrate the effectiveness of this type of program in which children read to small animals, as an alternative to programs that involve trained therapy dogs. During the study, there were a total of 58 students who participated in the program. Conversely, there were 53 students who did not participate in the program.

Objectives: The objectives of the study were: (1) to evaluate the effect of participation in the Listening EARS program on third grade students' reading ability, and (2) to demonstrate and document the viability of using small animals, as opposed to trained therapy dogs, in school-based reading programs.

Methodology: In order to compare scores from the STAR Assessments, the pretest scores from September 2015 were subtracted from the posttest scores from March 2016; this established growth or decline in the students' reading comprehension and oral reading fluency.

With respect to Objective 1, our initial analysis compared pre- and posttest scores within groups to determine whether changes were observed in either group. Although Group 1 demonstrated more improvement in reading skills than Group 2, the results did not bear out as a statistically significant difference between the two groups.

With respect to Objective 2, we conducted a process evaluation that included a collection of qualitative data from teachers, school administrators, students and parents. A final evaluation of the program from individual parent responses indicated that the students who participated in the animal interaction experiences reported a difference in their enjoyment and attitudes toward school while participating in this study.

Although this study did not exhibit a statistically significant difference in scores between the two groups, other studies have shown evidence regarding the impact that animal interaction experiences have on the psyche of children.

Bio – Dr. Annie Petersen

Dr. Annie Petersen is the Founder and President of the Association for Human-Animal Bond Studies. She was previously the Education Manager for the San Diego Humane Society and SPCA and has worked in the fields of education, early childhood development and animal welfare for over 30 years.

As President and CEO of the Association for Human-Animal Bond Studies, Dr. Petersen is responsible for program development, curriculum writing, grant writing and research. Her duties include coordination of programming, research development, and seeking out partnerships with other nonprofit organizations. She has also presented to people of many nationalities and most recently presented her findings from the study, The effects of experiences with animals on the reading comprehension skills of students in the seventh grade, at the University of Vienna, Austria.

Dr. Petersen recently conducted a study entitled, Listening EARS: How does reading to rabbits effect the reading skills of third and fourth grade students. This study was conducted through a generous grant by the Human-Animal Bond Research Foundation (HABRI) Initiative and the Morris Animal Foundation.

Dr. Petersen earned her Doctor of Educational Leadership and Management degree from Alliant International University. She holds an MA in Counseling from San Diego State University, an MA in Education, a BA in Liberal Arts from National University and an AS in Early Childhood Development from Grossmont College, El Cajon, CA.



Pets' Influence on Older Adults' Decisions & Chronic Disease Management

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Purpose: To explore pets' influence on older adults' decision-making and chronic disease management. The specific aims are to: 1) describe how pets influence decision-making for older adults with chronic disease(s) and 2) develop an initial substantive grounded theory framework of the influence of pets on older adults' decision-making.

Background: Many older adults view pets as companions, readily assuming responsibility for their pet's care and well-being. Studies of decision-making within high-risk contexts (e.g., natural disasters) suggest people prioritize their pet's needs although it may jeopardize their own safety. Some older adults forego, delay, or refuse care to remain with their pet, but further research is needed to understand how pets are influencing their decisions.

Methodology: This prospective, qualitative study used constructivist grounded theory to explore pets' influence on older adults' decision-making. Semi-structured, individual interviews were conducted with community-dwelling adults (n=11) aged 65 or older, with at least one chronic disease, and living with a pet of any species. Participants were asked questions that explored their perceptions of: their relationship with pets, decision-making, chronic disease management, and influences on these processes. An inductive/abductive data analysis process incorporated constant comparative analysis, coding, categorizing, and early theorizing.

Results: Three emergent analytic categories were identified. *Accepting responsibility:* Commitment to their pet influenced participants' housing, travel, spending, and/or socializing choices. *Always having a pet:* Unable to imagine living without their pet, participants sought to keep pets even if their own health deteriorated. *Making modifications:* Compensating for physical restrictions and chronic disease limitations, participants adapted their activities and environment for their pet; for instance, moving a pet's dish to the counter to avoid bending over after surgery or using lightweight cat litter. Participants considered their pets routinely in decision-making and chronic disease management. Analysis is ongoing; additional results will be presented.

Implications: Understanding older adults' perceptions of their relationship with and responsibility for their pet and its impact on decision-making will help nurses support older adults living with a pet while managing a chronic disease. Future research implications include identifying interventions to help older adults age in place while maintaining a relationship with their pet.



Basilia Basin is a doctoral candidate and a nurse educator at Oregon Health & Science University. She has clinical nursing experience caring for older adults with chronic diseases. Prior to becoming a nurse, she worked as a licensed veterinary technician in small animal veterinary clinics.

Her experience as a nurse and a veterinary technician gives her a unique perspective and expertise to research the human-animal interaction between older adults and their pets, and how that relationship influences decision-making.

Do African elephants in a zoo and a sanctuary show a preference for certain keepers as measured by responses to olfactory and auditory cues?

Catherine Doyle, M.S. (presenter) and Christy L. Hoffman, Ph.D.

Introduction. In nature, elephants can benefit from classifying predators and other threats, including those posed by different human subgroups, to increase likelihood of survival. But in captive situations, where elephants presumably have a relationship with humans based on positive interactions, do they classify individual keepers differently?

Methodology. Two experiments measured the responses of 4 zoo-dwelling (1 male, 3 female) and 3 female sanctuary-dwelling African elephants to different keepers. In the Olfactory Experiment different combinations of t-shirts infused with keepers' odors were presented to the elephants in 3 metal boxes (2 contained odor infused t-shirts, 1 contained unworn shirt as control). Measures included boxes inspected by the elephant and number of inspections per box. The Auditory Experiment required keepers to call an elephant for 3 minutes; each keeper participated in 2 trials for each elephant. Measures included actual response (did or did not approach) and descriptive response (Likert scale describing approach). A Keeper Survey that included keeper predictions of how each elephant would rate different keeper-elephant relationships (Likert scale) was used to measure whether keeper predictions of elephant preferences corresponded to responses described in the experimental findings.

Results. The Auditory and Olfactory experiment results were compared to Keeper Survey answers that indicated how keepers thought the elephants perceived them. Most data were inspected visually rather than statistically for patterns due to the small number of elephants and keepers in the study. No pattern was found between keepers' predictions of how elephants would rate other keeper-elephant relationships and responses in the Auditory and Olfactory tests. However, results of the experiments are inconclusive at this point due to the small sample size and the need to further refine the methodology.

Conclusion. With improvements to methodology and modification of instruments, the Olfactory Experiment holds more promise than the Auditory Experiment, for which confounding variables may have had more of an impact on elephants' responses than did preferences for particular keepers. This study paves the way for future research toward better understanding human relationships with captive elephants, including how elephants perceive those relationships. Further refinement and replication will show whether the methods used in this study can capture the human-animal relationship from the nonhuman animal's point of view.

References:

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Catherine Doyle, M.S.
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Catherine Doyle is the director of science, research and advocacy for the Performing Animal Welfare Society (PAWS), which cares for captive wild animals at three sanctuaries in California. The largest facility, the 2300-acre ARK 2000 natural habitat sanctuary, provides refuge for elephants, bears, tigers, and other big cats rescued or retired from zoos, circuses, or private owners.

Catherine has a Master of Science degree in Anthrozoology (Canisius College), where her research focused on keeper-elephant interactions. At PAWS she designs and carries out research involving elephant behavior and human-animal relationships; current research includes a long-term behavioral study of the five female African elephants at ARK 2000.

As an author, Catherine has written on elephants and the ethics of captivity, and captive wildlife sanctuary issues. Publications include a chapter in *The Ethics of Captivity* (Oxford University Press, 2014) and an essay on elephants in captivity for *The Handbook of Practical Animal Ethics* (in press), a project of the Oxford Centre for Animal Ethics. Her paper, *Captive Wildlife Sanctuaries: Definition, Ethical Considerations, and Public Perception*, has been accepted for publication in the *Animal Studies Journal*.

In addition, Catherine leads captive wildlife advocacy efforts for PAWS, and has been successful in passing protective legislation, including a statewide prohibition on elephant bullhooks in California and a motion to ban the use of wild animals for entertainment in Los Angeles. She organizes the biennial PAWS International Captive Wildlife Conference, which features leading voices from the fields of scientific research, law, ethics, conservation, and animal welfare, care, and policy. Catherine serves on the advisory board for The Whale Sanctuary Project.

Do You Want to Volunteer with Your Dog?: A Systematic Review of Online Canine-Assisted Therapy (CAT) Program Screening Tools

Researchers: Elizabeth Kjellstrand Hartwig, PhD, LPC-S, LMFT, RPT-S and John-Tyler Binfet, PhD
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Introduction. The field of animal-assisted therapy (AAT) is burgeoning with programs now providing support to a variety of clients (e.g., school children, college students, geriatric patients, travelers) in a myriad of settings (e.g., elementary schools, hospitals, colleges, airports). In response to this surge in popularity of CAT programs, there is a need to better understand how both handlers and canines are deemed suitable for CAT work. The aim of this study was to conduct a systematic review of screening and selection criteria for volunteer handlers and their therapy canines as a means of identifying commonly sought criteria across agencies. The findings of our systematic review will inform the development of an CAT screening tool to standardize and expedite the selection of therapy canine teams.

Methodology. A systematic review of 66 randomly chosen CAT programs out of a pool of 333 programs was conducted. These programs were local, regional, and national CAT programs based in the United States or Canada. A cursory review of web-based program information revealed selection criteria in the following categories: program, handler, handler training, canine, canine health/equipment, canine temperament, canine training, and canine skills information. Using a dichotomous coding schema (present/not present), a frequency distribution was determined for the criteria within each of the above-mentioned selection categories.

Results. Preliminary findings revealed:

1. the top five items requested by CAT programs are basic information about handlers and canines;
2. the top five items required are varied: animal age, vet exam, handler application, training fees, and a friendly canine temperament; and
3. the top five canine skills included down, accepting a friendly stranger, sit, stay, and reaction to a neutral dog; and
4. low frequency items included handler-related items, such as requirements for handler interviews, ongoing monitoring, education, and previous AAT experience.

General trends across programs revealed that programs appear to emphasize canine husbandry and obedience with less attention paid to the ensuring handlers are well-suited to, and prepared for, supporting target clients. Further, post-certification support and supervision of canine-therapy teams was noticeably lacking.

Conclusions. Recommendations in light of our findings:

1. CAT programs employ a standard CAT online application based on evidence-based literature for screening potential therapy canine teams.
2. CAT program requirements posted online should match current standards in CAT practice for preventing harm and promoting human-animal interactions
3. Canine skills that are required by CAT programs should be listed and described online so potential teams can consider this information before applying to programs.
4. CAT programs should consider more handler-related assessments and post-certification support.

The field of CAT can benefit from the identification of best practices to screen and select canine therapy teams and the development of a tool that standardizes the CAT screening process as this will contribute to optimal structured human-animal interactions.

Elizabeth Kjellstrand Hartwig PhD, LPC-S, LMFT, RPT-S

Elizabeth Kjellstrand Hartwig is an Assistant Professor in the Professional Counseling Program at Texas State University. She teaches marriage and family therapy, play therapy, and animal-assisted counseling. In 2016 she developed the Texas State University Animal-Assisted Counseling (AAC) Academy. The AAC Academy is a professional training program that promotes the human-animal bond through the study and practice of animal-assisted counseling. The AAC Academy offers a series of three intensive trainings for graduate students and professionals to earn introductory and advanced training in animal-assisted counseling.



Dr. Hartwig pioneered the first involvement of therapy dogs on campus for teaching and research through a study on canine-assisted therapy with adolescents in the 2014-2015 school year. This study has produced an article: Hartwig, E. K. (2017). Building solutions in youth: Evaluation of the Human-Animal Resilience Therapy intervention. *Journal of Creativity in Mental Health*.

She presented at the International Association for Human Animal Interaction Organizations (IAHAIO) Conference in Paris, France in July 2016 for a workshop titled *Enhancing the Evidence Base of Canine-Assisted Therapy Research*.

Dr. Hartwig serves as a Pet Partners Therapy Animal Team Evaluator and is volunteer team with her therapy partner, Ruggles. She also has a private practice in San Marcos, TX called Pawsitive Family Counseling, LLC.



Title: *Use of clay modeling to teach human anatomy at the secondary school level: student viewpoints.*

Researchers: Lynette Hart, Emma Grigg (University of California, Davis; School of Veterinary Medicine)

Increasing public concern for the use of animal dissection in teaching is driving development and testing of alternatives to animal use, such as computer simulations or 3D models. Clay modeling has proven very successful in achieving comparable or superior learning at the undergraduate level, but has not been tested at the secondary school level. This study will test the effectiveness and appeal of clay models (MANIKEN; Anatomy in Clay) vs. traditional cat dissection in teaching anatomy/physiology to high school students. The first phase was to assess current student attitudes towards dissection, as well as enjoyment of an alternative technique (clay models).

Sixty-four students enrolled in an anatomy/physiology course, which in past years was known to have used cat dissection, completed a Likert-scale opinion survey before and after completing the clay models lab. Questions surveyed opinions on the ethics of dissection, usefulness of dissection as a learning tool, enjoyment of lab exercises in general, and (following the lab) of the clay models in particular. Students were asked, before and after the lab, which type of lab exercise they would choose: clay models, dissection, or computer-based/virtual dissection. Wilcoxon signed-rank tests for paired samples were used to compare attitudes towards dissection, and perceptions of the exercises as useful and enjoyable, before and after completing the lab.

No significant difference was found between student attitudes towards dissection before vs. after the lab ($V=656$, $p=0.46$), nor between perception of labs as useful and enjoyable before vs. after the lab ($V=1097$, $p=0.18$). However, students responded positively to the clay models exercise: of students who expressed an opinion, 92% (57) found it useful, and 84% (37) found it enjoyable. Before the lab, 27% of students indicated that they would choose clay models, vs. 63% choosing dissection. Following the lab, 41% of students indicated they would choose clay models, vs. 54% still preferring dissection.

Students overwhelmingly viewed clay models as useful and enjoyable. Yet, expecting cat dissection but instead undertaking the lab exercise with clay models, many were disappointed. The second year of the study will compare student attitudes and outcomes using cat dissection vs. the clay models.

Grigg Author Bio



Emma K. Grigg, M.A., Ph.D., is a Certified Applied Animal Behaviorist (CAAB; Animal Behavior Society, USA). She is currently a Research Associate at the University of California, Davis, School of Veterinary Medicine; and a lecturer in canine behavior at Bergin University of Canine Studies in northern California. She has taught companion animal behavior, wildlife biology, and environmental studies in New York, California and St. Kitts, and has authored a number of scientific publications on canine, feline, and marine mammal behavior. Her first book, *The Science Behind a Happy Dog*, was published in June 2017. She lives in northern California with her husband, son, four cats, and one slightly neurotic but much loved Caribbean ‘island dog’.

Cyborg insects: use or abuse?

Montrose, V. T.¹, Carroll, G.A.¹, Smith, R.¹ and Oxley, J. A.²

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Insects are widely utilized in research, in the food industry and in art, entertainment and fashion. Another recent use involves integrating living organisms with robotic systems to create cyborg insects. Various taxa are used as cyborg insects including cockroaches, beetles and moths. Cyborg insects are proposed to be useful for surveillance, emergency search and rescue and as educational aids. This review critically considers the likely impact of the insect species used, perceptions of whether insects experience pain, and the proposed context in which the cyborg insects are to be used upon public acceptance of their use. The main findings are that the use of species commonly perceived as pests when developing cyborg insects may be beneficial in encouraging public acceptance of their use. In addition, whether individuals believe insects can experience pain is likely to impact on the acceptance of the use of cyborg insects. Systematic study of the public's opinion regarding whether insects experience pain has not been performed however prior research (e.g. Kellert, 1993) suggested that the public believed that insects could experience pain. Public concern is also indicated by complaints received when live insects are crushed or eaten in popular television shows. The context of use, such as military applications, emergency search and rescue or as educational aids, is also important. Media portrayal in the United Kingdom of the use of cyborg insects in search and rescue contexts, detection of explosives and thwarting terrorism tends to be positive, whilst their use in public surveillance and as educational aids is more negatively portrayed. Key conclusions are that the popularity and charisma of the insect species used, belief in insects' capacity to experience pain, and the perceived benefits of their use in particular contexts are all likely to impact on whether cyborg insects are perceived as an acceptable use or unacceptable abuse of insects. Further systematic study of these three key factors upon public opinion and/or acceptance of cyborg insects will be valuable in elucidating this field of study.

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Dr Grace Carroll is programme manager of the MRes in Anthrozoology at University Centre Hartpury in the UK. Grace received her BSc in Psychology at IADT College in Dublin, Ireland. Grace then went on to complete an MSc in Animal Behaviour and Welfare at Queens University Belfast, Ireland. She also recently completed her PhD in animal welfare science at Queens University.

Grace's PhD research focused on pig welfare, and explored the potential of integrating post-mortem welfare checks into routine meat inspection. Grace has a range of research interests including the areas of farm animal welfare, feline welfare, animal ethics and evolutionary psychology.



<Poster Presentation Abstract>

Title: “Kacho Jaya”: Exploring the Ancestry of Animal Cafés in Japan

Authors: Hisako SHIMAMORI(Presenter), Noriko NIIJIMA

Abstract:

“Animal Cafés”, where small animals are kept indoors and visitors can watch or cuddle them, chatting over a cup of tea (Niijima) is popular in Japan today. These cafes are a fine invention, compensating the Japanese rental housing situation where pets are often not allowed. They are not, however, a recent phenomenon. This study shows a long-forgotten “Kacho Jaya (Flowers and Birds Café)” operated in the early 19th century Edo (the ancient name for Tokyo) which is one of the ancestors of today’s animal cafés. Although some researchers claim these facilities are precursory to the modern zoo (Wako), its role and function to the contemporary local people has not been discussed. The purpose of this study is to find out its role and relation to modern animal cafés. The wider exploration to digital resources of the contemporary texts and pictures have helped to realize the atmosphere and to set the facility in the historical context. As the result, it has been revealed that the Kacho Jaya was an example of wide variations of cafés in the 19th century Japan. The site it was standing, Ueno Yamashita, was a busy amusement area with many show-booth and cafés. There, every café tried to make themselves unique for the purpose of attracting more visitors. “Selling point” of Kacho Jaya was that they offered not only the relaxing seats and a nice cup of tea, but the living picture of exotic birds and beautiful flowers, the favourite motif of a genre of ukiyoe called kacho-ga (flowers and birds pictures). Consequently, Kacho Jaya became one of the most unique, successful cafés in Yamashita until it was demolished around 1840. Still today, the fondness towards beauty and entertainment makes the Japanese popular culture unique, and the modern animal cafes are the examples of this tendency.

Bio Hisako SHIMAMORI



Hisako SHIMAMORI is Professor at Yamazaki Gakuen University in Tokyo, Japan, part-time lecturer at Waseda University School of Social Sciences. Received B.A in English Literature from Waseda University School of Humanities and Social Sciences; M.A. in English Literature from Waseda University Graduate School of Letters, Arts and Sciences, where she studied 18th century British Literature, mainly Alexander Pope and Jonathan Swift.

Although her field of study range from the 18th century British literature to the cultural history of bird keeping, the focus of her interest is early modern life and culture. In the field of Animal Studies, she is researching on the cultural history of domestic canaries, particularly mine canaries in Great Britain. Her recent research works are: “Houyhnhnm, Yahoo, and Posthuman: Reconsideration of Part IV of *Gulliver’s Travels*”, *The 18th Century British Literature Study* Vol.5. Tokyo: Kaitakusha, 2014. 114-128., “The Role of ‘Mine Canaries’ in the UK: ‘Barrier Between Me and Death’”, *Journal of Popular Culture Association of Japan* 20, 2014. 21-32.

Considering the Implementation of Animal Visitation Programs (AVPs) on College Campuses: A Review of Causal Studies

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Introduction. College-based Animal Visitation Programs (AVPs) are widely popular (Crossman & Kazdin, 2015) despite limited causal evidence for their efficacy. The present work considers the causal results of recent efficacy trials and provides recommendations to inform effective and humane design, implementation, and evaluation of college-based AVPs.

Findings. This study reviews the design, implementation and evaluation results of several studies employing causal designs to examine the efficacy of targeted and universal college-based AVPs. The implementation context of these studies ranges from a large-scale universal implementation of 10-minute visitations with shelter canines and felines (Pendry, Carr, Roeter & Vandagriff, in press) to efficacy trials exploring effects of canine presence during finals week (Barker, Barker, McCain & Schubert, 2016), one-on-one canine visitations in a medical resident population (Crossman, Kazdin & Knudson, 2015) and examination of behavioral and affective regulation of animals employed during AVP activities (Ng et al., 2014). Outcomes examined include moment-to-moment emotion of humans, perceived stress and self-reported mood, salivary alpha-amylase and nerve growth factor, and dog behavior and cortisol. Several findings emerged with implications for future AVP design, implementation, and evaluation. Current evidence suggests positive effects in terms of moment-to-moment emotion, perceived stress, and mood not only for those who directly interact with program animals, but also for those watching the interactions take place. Implementation suggestions include conducting AVPs in open, visible areas central to the University, allowing individuals to spectate the AVP together, and partnering with organizations that employ trainings or evaluation to ensure safe, humane management of the animals involved. Further implications for design, implementation, and evaluation will be discussed.

Conclusion. As the evidence base for AVPs as stress prevention programs grows, university administrators should consider recent causal results to ensure safe, effective and humane implementation practices.



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Jaymie Vandagriff is a doctoral student in Prevention Science at Washington State University, an interdisciplinary program in the department of Human Development. She received a Bachelor of Science in Psychology at Portland State University in 2012 and a Bachelor of Arts in Human Development at Washington State University in 2014. Her work focuses on the design, implementation and evaluation of prevention programming, including college-based stress prevention programs that incorporate human-animal interaction. Her master's thesis examines the effects of Animal Visitation Programming on college students' salivary cortisol and alpha-amylase levels, a key step in establishing whether Animal Visitation Programming is an effective intervention to alleviate college students' stress.

The effects of interaction with dolphins on cerebral blood flow: a pilot study

Junko Akiyama, Masafumi Takeno, Mitsuaki Ohta

Abstract

Introduction The impacts of animals on human health have been much reported, but factors that affected symptomatic improvements are not clear yet. It is very important to identify what factors of animals like dogs and dolphins affect human health, for the animal-assisted therapy, AAT, to become popular. In AAT the treatment with dolphin-interaction might have effects such as persistence of concentration and improvement of communication ability, whose symptoms of diseases like autism and development disorders are difficult to treat in current medicine (Zimmer, 2006). This study aims to clarify how the cerebral blood flow in human changes with visual and physical contact of the interaction with dolphins and to realize actually how aquarium visitors are affected by dolphins.

Methodology Six women were measured the change in cerebral blood flow by "seeing" a dolphin and "seeing" the dolphins show, using the functional near-infrared spectroscopy, fNIRS. Furthermore, a Stroop task was implemented to actually see the changes how the brain worked. We also measured the changes by "touching" a dog or a cat in a similar way. The fNIRS data and the response time to the Stroop task were subjected to statistical analysis by multivariate analysis of variance (MANOVA). MANOVA, Bonferroni multiple comparison test and simple main effect test were applied using SPSS software.

Results As a result of analysis "seeing" showed a significant increase in cerebral blood flow when seeing the dolphin show, compared to the sea lion show ($p < 0.01$). The "touching" a dolphin showed a significant increase in cerebral blood flow in contact with the dolphin, compared to the contact with a dog or a cat ($p < 0.01$). Both of "seeing" and "touching" dolphins caused an increase in cerebral blood flow ($p < 0.01$). The reaction time of the Stroop task was a significant shortening after "touching" animals ($p < 0.01$), compared with the pre-values of animals. A significant shortening of reaction time was observed after "touching" ($p < 0.01$), but not "seeing".

Conclusions These findings suggest that the frontal lobe becomes more activated by direct contact with dolphins. The effects of animals on human health would be basically brought about by seeing, touching, looking after, and so on. To verify the effects of AAT, it is indispensable to accumulate these data. It will be possible to create the AAT programs for each animal by realizing what factors of animals affect human health, especially considering its characteristics.

Dogs, Smart Phones, and Sociability: Effects on Passerby Greeting Behaviors

Martha Jane Jenkins, Hsin-Ya Liao, & Grace Cho

The importance of social connectedness among people is well-established (Baumeister, 1995; Bowlby, 1969; Maslow, 1968). Quantity and quality of social interactions are positively correlated with good health (Fiorillo & Sabatini, 2011), whereas social isolation has been implicated in mental health disorders (APA, 2013). Frequent, brief interactions among strangers provide opportunities to form social connections, and dogs may serve to enhance sociability during these encounters. Conversely, electronics use (e.g., smart phones/earbuds) by humans may restrict such interactions. In two studies, we examined whether dogs would serve as social catalysts to promote positive social behaviors among strangers during brief encounters (Hypothesis 1), and whether such positive social behaviors were interfered with when electronics were used (Hypothesis 2).

Study 1 expanded on prior exploration of dogs as catalysts for positive social behaviors (defined as positive greeting exchanges) between strangers during brief encounters. Prior research examining dogs as social facilitators showed increased frequencies of social interactions during brief encounters compared to walking alone (McNicholas & Collis, 2000; Messent, 1983) and longer conversations when a dog was present (Rogers, 2001). On the other hand, previous research on electronics use suggests that distracted attention by smart phone users is related to increased injury risks among college students (Byington & Schwebel, 2013), adult pedestrians (Nasar & Troyer, 2013), bicyclists (Waard, Lewis-Evans, Jelijs, Tucha, & Brookhuis, 2014), and increased anxiety during social interactions (Lee, Chang, & Cheng, 2014).

In Study 1, three female experimenters (two White and one Asian) separately encountered 221 (59% women) unaccompanied walking adult passersby (without electronics use) and observed their greeting behaviors. The experimenters alternated between a *with dog* condition (using their own dogs; $n=120$), and a *no dog* condition ($n=101$). Preliminary analyses found no experimenter effect or dog effect on the passersby's greeting behaviors [$F(2, 218)=.79$, $F(2, 117)=.19$, respectively, *ns*]. Based on the ANOVA, we found that passersby elicited more positive greeting behaviors in the dog condition than in the no dog condition, $F(1, 219)=25.94$, $p<.001$, supporting Hypothesis 1.

In Study 2, one female White experimenter observed and coded greeting behaviors of another sample of 82 (59% women) walking adult passersby *with* ($n=31$) or *without* ($n=51$) *electronic use* (i.e., music, cell phone, earbuds). These passersby were randomly assigned to *no dog* ($n=38$) or *dog* ($n=44$) conditions. We found that passersby not using electronics exhibited more positive greeting behaviors than those using electronics, $F(1,76)=22.26$, $p<.001$. There was also a significant interaction effect of dog and electronic conditions on the greeting behaviors, $F(1,76)=9.322$, $p<.01$. In particular, electronics use reduced the occurrence of passerby greeting behaviors regardless of the presence of a dog. The results affirm Hypothesis 2.

Our findings support prior research that dogs are effective facilitators of positive social interactions between strangers, enhancing opportunities for social connectedness. Our findings also suggest electronics, such as smart phones, are powerful distractions that may inhibit social engagement.

Bio – Martha Jane Jenkins, MA LMHCA

Martha (Jane) Jenkins is a third-year Counseling Psychology doctoral student at Washington State University. She focuses on the exploration of the relationships between animals and youth and focuses on increasing adolescent attendance in counseling by integrating evidence-based mental health interventions with animal activities that are youth-friendly.

Prior to relocating to the Pacific Northwest, Ms. Jenkins resided in Massachusetts and holds an MA in counseling psychology from Assumption College with specializations in Cognitive-Behavioral and Child & Family Therapies. She holds a BA in liberal arts from Harvard University's extension school where she focused on adolescent psychopathology.

Ms. Jenkins is a PATH certified therapeutic riding instructor, and spent many years as a volunteer for developmentally disabled riders. She aspires to combine her mental health education and experience with animals to provide services to youth who experience distress due to anxiety and depressive symptoms.



Therapy Dog Wellness: Observations of Therapy Dogs' Stress and Affiliative Behavior Across Time

Megan Arant

Introduction: The use of therapy dogs in educational programs with children is expanding. Understanding how the sessions affect the dogs used in therapy sessions can lead to further investigation on the dogs' wellbeing. The purpose of this observational study is to identify the rate of stress and affiliative behaviors in therapy dogs over continuous exposure to the same child and in the same location. Additionally, we explored if gender or other aspects of the child impacted the rate of stress or affiliative behaviors across time.

Methods: Aspects of the child, including gender, were also examined to see if there was an impact on the dogs' behavior. For the purpose of this study, five dogs were paired with nine different children and consistently assessed during repetitive, experimental ABA-type educational sessions over several months. Children ranged from 3-13 years old and included both genders. Dogs in this study were trained and experienced therapy dogs that are registered with various national therapy dog organizations. Sessions were videotaped to record the dogs' behavior.

Results: The amount of interactions between dog and child varied based on session type. Throughout the session, the interactions between the child and dog was videotaped and behaviors were recorded. The therapy dogs in this study showed individual variability; one dogs' affiliative behavior increased and stress behavior decreased over time, whereas another dog showed the opposite pattern of behavior. Some therapy dogs had lower levels of stress behavior than others. Additionally, different children induced different changes in the same dog, suggesting that aspects of the child were important in determining the wellbeing of the dogs.

Conclusion: Findings of this study could have implications when integrating therapy dogs with children, and inform handlers about tactics to preserve the wellbeing of their dogs when working with children.



Megan Arant

Texas Tech University

Megan Arant is currently earning her Master's degree at Texas Tech University in the Animal Science Department. Megan studies canine behavior and the human-animal bond. Her interests revolve around therapy dog welfare, specifically how to reduce stress and increase affiliation between dogs and the humans they help. In 2016, Megan received her B.A. in Anthrozoology at Carroll College. In her free time, Megan enjoys teaching community dog training classes, road-tripping with her dog, Liam, and hiking.

Type: Poster Presentation

Title: An Analysis of Wolfdog Behavior, Wolfdog Husbandry, and the Human-Wolfdog Relationship

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A wolfdog is a canine that is comprised of both wolf and dog genetics. The legality of wolfdog ownership varies across communities within the United States, and so little information is available regarding the characteristics of privately owned wolfdogs, human-wolfdog relationships, and the care provided to wolfdogs in private settings. The goal of this research was to develop an understanding of the characteristics of privately owned wolfdogs and their relationships with humans. Ninety-seven wolfdog owners completed an online survey that asked participants about their wolfdog's behavior, their history with the wolfdog, their attachment to the wolfdog, and how they cared for the wolfdog. The survey included the Canine Behavior Assessment and Research Questionnaire and the Dog Attachment Questionnaire, although we replaced the word "dog" with "wolfdog" in these measures. Only 5 participants reported no longer owning their wolfdog due to reasons other than the wolfdog dying due to illness or old age. There was a positive correlation between wolfdog attachment and attention-seeking behavior and how close owners felt to their wolfdogs ($r=0.42$, $n=97$, $p<0.001$). No associations were found between wolfdog content and wolfdog aggression and fear levels or owner attachment (for all, $p > 0.10$). Wolfdogs who received daily enrichment from their owners scored lower on measures of dog-directed aggression and dog rivalry than wolfdogs belonging to participants who offered enrichment less frequently (aggression: $z=-2.24$, $n=80$, $p=0.025$; rivalry: $z=-2.10$, $n=91$, $p=0.036$). Owners who offered daily enrichment reported higher attachment to their wolfdog ($z=2.80$, $n=97$, $p=0.005$). Although the generalizability of our data is limited due to a lack of representation from individuals who had relinquished a wolfdog, our findings provide new insights into wolfdog husbandry, wolfdog behavioral characteristics, and owner-wolfdog relationships.

Nikki Bennett obtained her Master of Science in Anthrozoology from Canisius College and her Bachelor of Science in Zoology from North Carolina State University. Bennett's focuses during her studies were the interactions between humans and wildlife, specifically those interactions between humans and predator species and nontraditional exotics being kept as companion animals. Currently, Bennett works for Audubon Florida and collaborates with the Gulf Islands National Seashore, National Park Service as a biological technician and steward for nesting sea- and shorebirds.



Coursework in equine-assisted activities and therapies at universities and colleges in the United States

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There are presently 38 universities and colleges in the United States offering dedicated coursework in equine-assisted activities and therapies, including equine assisted learning, equine assisted mental health, hippotherapy, and therapeutic riding. However, most training opportunities in these areas are offered outside of higher education. While there are many options for non-academic training in the equine-assisted field in the United States, there is also great variability between programs in terms of prerequisites, level of formal education and equestrian competencies required of trainees, as well as length, nature and cost.

With an increasing number of U.S. universities and colleges offering coursework in equine-assisted interventions, a number of questions arise: what should an academic institution teach? How do they relate to non-academic programs? What is the overall role of academic institutions in the equine-assisted field? What are advantages to offering coursework with equine-assisted content at academic institutions? It is also important to evaluate the nature and applicability of such academic programs. Terms such as accreditation, certification, certificates, and the role of national regulation, both for the equine-assisted field and for particular professional categories, are important to understand in this discussion.

Recommendations for equine-assisted coursework and training at academic institutions are provided, together with an overview of applicable undergraduate (bachelor's level) and graduate (master's and higher) programs in the U.S., a review of terminology, professional scope and regulatory bodies; a discussion of the content and purpose of coursework in this area; and current challenges and opportunities for academic programs offering equine-assisted studies.



Nina Ekholm Fry, MSSC., CCTP

Nina Ekholm Fry, MSSc., CCTP, has specialized in equine-assisted therapy as a treatment strategy in psychotherapy and counseling for the past 12 years. She is the Director of Equine Programs at the Institute for Human-Animal Connection and Adjunct Professor at University of Denver where she leads the Equine-Assisted Mental Health Practitioner Certificate post-master program. Nina is the former Director of Equine-Assisted Mental Health at Prescott College and served as Associate Professor in the Department of Psychology and Counselor Education until 2014. She is an Executive Board member of the national Certification Board for

Equine Interaction Professionals (CBEIP), a member of the Equine Research Network (EqRN) and has trained in a number of equine-assisted approaches in North America and Europe.

She is a Certified Clinical Trauma Professional and has worked with populations diagnosed with trauma/PTSD, ASD, ADHD, anxiety and addiction, as well as with youth-at-risk, cancer survivors, and military service members and veterans, and consults on psychotherapy services with horses for several providers nationally. In addition to client work and teaching, Nina conducts facilitation workshops and is the editor of the *Scientific and Educational Journal of Therapeutic Riding*, published by the International Federation of Horses in Education and Therapy (HETI).

Nina holds a certificate in equine management (Vocational College of Ostrobothnia) and is a certified Riding Instructor (CHA level 4/4). Nina is a certified Therapeutic Riding Instructor and a certified Equine Specialist in Mental Health and Learning through PATH International and serves on their Equine Welfare Committee. Nina is also an Equestrian Special Olympics coach (AZ) and teaches Equine Behavior at Yavapai College in Arizona. As a practitioner member of the International Society of Equitation Science (ISES), she is dedicated to ethical equitation, correct application of learning theory, and the understanding of equine cognition, behavior, and mental states as part of equine management, assessment, handling, and training. Nina has a particular interest in equine welfare issues, both in EAAT services and in human-horse interactions in general. From 2015 to 2016 Nina served as the interim Program Director for the Equine Initiative at the Yavapai Humane Society in Arizona where she started an adoption-focused equine rehabilitation and re-schooling program, and designed the YHS Equine Center. She remains active in the equine welfare community in the U.S.

Assistance Dogs for Autism and Psychiatric Disabilities Placed by ADI or IGDF Accredited Facilities, and by Non-accredited U.S. Facilities

Author/Presenter: Sandra Walther

Introduction. Without surveillance, assistance dogs' roles have rapidly diversified to support people with many disabilities.

Methodology. To learn the current status of assistance dog placements, we surveyed facilities worldwide that are associated with Assistance Dogs International (ADI) or the International Guide Dog Federation concerning the numbers and types of dogs they placed in 2013 and 2014 with persons who have disabilities; 55 North American and 34 international facilities responded on placements of 2,374 and 1,143 dogs, respectively. We also surveyed non-accredited U.S. facilities and 22 responded on placements of 797 dogs. Data are presented using simple statistics.

Results. Guide dogs--the earliest--remain most numerous worldwide 2013-2014 among roles. Mobility dogs tie guide dogs in the U.S. and are second in Europe. Hearing dogs are third most numerous in Europe only. These three types resemble ADI categories: guide, service, hearing. ADI service dogs for encompass mobility dogs and newer roles, including for autism, psychiatric, diabetes, and seizures.

Autism dogs were third most numerous in North America (n = 205), fourth internationally (n = 120), third for U.S. non-accredited facilities (n = 72). Internationally the number of autism dogs increased 26% from 2013-2014, and 16% in North America. Two early European guide dog and six other facilities now place autism dogs---second most numerous. Outside Europe and North America, only one facility placed autism dogs. Five accredited U.S. mobility facilities established in the 1970s-80s listed autism dogs second or third. Four U.S. accredited facilities listed autism as primary. The oldest non-accredited facility (1984) placed all seven types of dogs: autism was fifth. Five facilities placed primarily autism dogs.

Psychiatric dogs placed fourth in North America (n = 119), surpassing hearing dogs, and placing fifth internationally (n = 23). In non-accredited U.S. facilities, psychiatric dogs were first (n = 526), typically with shelter and pet dogs, unlike accredited facilities.

Discussion. Autism and psychiatric dogs are sought after. Autism dogs are placed throughout North America and Europe, and by non-accredited facilities. Non-accredited facilities have taken the lead in placing psychiatric dogs.

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Bio – Sandra Walther

Sandra Walther is a recent graduate of UC Davis with a B.S. in Animal Science, with a focus on Companion Animals. She began working in Dr. Lynette Hart's lab in early 2015 and then took on a project looking at dogs placed by accredited Assistance Dogs International facilities and non-accredited facilities within the US. Her current work focuses on the age of spaying and neutering dogs and the incidence of certain diseases, potentially as a result of the age of sterilization.

Outside of school and work, Sandra is a volunteer puppy raiser for Guide Dogs for the Blind. She also apprentices with a local dog trainer, learning about the training of various breeds and types of dogs.



Evidence to action: Integrating empirical evidence into a family-level equine assisted learning program

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Introduction

Parent-child relationships have a vital impact on individual well-being, including mental, emotional, and behavioral health. Yet, the family is often left out of interventions that aim to prevent these ailments. Less common are family-level animal-assisted interventions (AAI). This critical review will discuss how years of evidence of effectiveness of family-level interventions, and human-animal-interactions were combined to adapt the Strengthening Families Program 10-14 (SFP), to include equine-assisted learning (EAL) activities.

Key Literature

One in four to five youth in their lifetime will meet the criteria for a serious mental, emotional, or behavioral issue, with 75 percent of those individuals by age 24 (SAMHSA, 2009). Despite expansive evidence indicating the importance of the family unit in preventing potential activation or relapse of mental health issues (Piquero et al., 2016), very few interventions include family, with even fewer family-level AAI's. The widely-implemented SFP program was selected for AAI adaption for its theoretically driven and empirically tested effectiveness in reducing adolescent substance use and conduct issues; and improving family environment and cohesion (Spoth et al., 2013). The addition of EAL may provide a novel attraction and intrinsic motivation for participation, stimulating more engaging and transparent communication and collaboration among participants (Fine, 2015).

Main Findings

Although several studies have examined the effects of AAI on individuals with various needs, there are no studies examining AAI's that include multiple members of the family as program recipients or participants. To address this gap, we provide an example describing the process of adapting the SFP curriculum to include evidence-based EAL activities, and then describe the mixed-methods research approach currently being taken to examine the effects on family environment and cohesion.

Conclusions

This presentation provides a starting point for developing innovative opportunities for future human-animal interaction research in family systems and environment, rather than individuals alone. Furthermore, it gives a specific example of how interdisciplinary evidence can support program development, enhancing probability of long-term efficacy and sustainability.

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Stephanie Roeter, M. A., is a PhD Candidate of Prevention Science at Washington State University. She applies her interdisciplinary training in research, human development, and program evaluation to equine assisted activities and learning, with the goal of promoting physical, social, and cognitive well-being for youth and families. Her current dissertation research focuses on outcomes of a family-level equine assisted learning program on family environment and relationships.

Stephanie has a B.A. in Human Development, and her M.A. in Prevention Science from Washington State University, and was the lead research assistant on Dr. Patricia Pendry's PATH to Success Study that examined the effects of an 11-week EAL program for middle school children's physiological stress and social competence. Stephanie currently teaches courses at WSU in middle childhood and adolescent development, parent-child relationships, and family systems.

In addition, Stephanie is an avid equestrian who has been riding since she was 5 years old, a passion that connected her to a set of strong mentors and coaches that modeled exceptional values of compassion, competence, and grit. To pay it forward, she has been a PATH Intl., therapeutic riding instructor since 2011, and is also an Equine Specialist in Mental Health and Learning. Stephanie has two horses of her own (a pair of Paints that ain't) as well as a vivacious border collie mix whom all keep her grounded and reminded of the importance of our work.

Upon completing her PhD, she aspires to continue with research to develop best-practices and a greater understanding of what works, why, for who, and in what context in animal-assisted interventions.

Black Vulture-Cattle Interactions in Virginia:
A Pilot Study Assessing Predation Risk Factors and Attitudes Toward Vultures and Control Options

Taryn Bromser-Kloeden, M.S.
Christy Hoffman, Ph.D.

This pilot study examined the potential risk factors for black vulture (*Coragyps atratus*) predation in Virginia, as well as the opinions of cattle farmers regarding vultures and management strategies. We distributed a survey to 38 cattle farmers operating in Virginia. 60.5% of respondents reported experiencing vulture predation. Binary logistic regression suggested that larger farms may be at a higher risk for predation incidents, with the odds of experiencing vulture attacks increasing by 0.6% for each additional acre of farmland ($p < 0.05$), but further study is needed to confirm this finding, as there was a high degree of variability in farm size in this small sample. We found that 52.6% of respondents reported utilizing no deterrence methods currently, but 74.29% reported that they are in favor of legalizing unrestricted access to lethal control options. Although coyotes account for nearly five times the amount of livestock loss reported in Virginia, respondents rated vultures as posing a threat similar to large canid predators. Those who had experienced vulture predation were significantly less likely to report preferring non-lethal control options than those who had not experienced it personally, but the groups did not differ significantly on a number of other statements including “vultures play an important role in nature” and “numbers of vultures in my area are increasing.” Further study utilizing the measures designed for this study with a larger sample would greatly increase the understanding of vulture predation in Virginia, as well as knowledge of stakeholder opinions and factors affecting such opinions.

Taryn Bromser-Kloeden is a recent graduate of Canisius College's anthrozoology M.S. program. She received her B.S. In psychology with a biology minor from the College of William and Mary and will be starting her Ph.D. in environmental science and policy at George Mason University this fall. Taryn's master's thesis explored the phenomenon of black vulture predation on livestock, and she plans to continue work on human-wildlife conflicts. Her research interests include understanding stakeholders' values and perspectives, humane conservation, and conflict transformation.



TITLE: The roles of dogs in young people's transitions to independent living and understanding of self

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Throughout Western industrialized societies, achievement of young adulthood has tended to involve transitioning from education to employment, from living with parents to leaving home, and from being single to forming a family. These idealized milestones have become delayed to such a degree that in contemporary times, pet ownership may be more attainable for people in their twenties than job stability, home ownership, or child rearing. Surprisingly little is known, however, about the roles that pets may play in young people's lives and in their sense of self. This study presents a thematic analysis of in-depth, semi-structured interviews conducted with 28 dog owners, aged 21 to 31, all of whom had recently moved into rental housing in a Canadian city known for being 'pet-friendly'. Drawing on Bourdieu's theory of capital interaction as our conceptual model, we examine how structural factors may interact with young people's capacities to act responsibly as pet owners and the implications of these factors for animal welfare and human development. Our understanding of responsibility is informed by the city's policy on dogs, which recommends meeting the emotional and physical needs of pets; accessing veterinary services; procuring pets from a credible source; and preventing threats and nuisances from pets. Our findings suggest that dogs can provide companionship and structure during a stage in which young people may experience feelings of isolation and instability. A sense of obligation towards dogs appeared to influence how young people spent their leisure time, for instance, providing motivation to refrain from unhealthy practices and a reason to circumvent negative peer influences. Nevertheless, finding affordable rental accommodation where pets were allowed was difficult. Furthermore, balancing dog ownership with employment, education, dating, social life, and other functions was overwhelming, especially among those with access to fewer resources. Ultimately, young people's capacities to act in accordance with the city's policies on pets was either facilitated or impeded by their access to economic, cultural, or social capital. We conclude that pet ownership provides a useful lens through which to examine young people's navigation of their identities, relationships, and environments.

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