

31st Conference of the International Society for Anthrozoology



Anthrozoology in Translation:
Communicating Research from
and to Multiple Audiences



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Welcome to ISAZ 2022

Greetings,

We are excited to welcome you to the 31st annual conference of the International Society for Anthrozoology. Based on ISAZ member feedback, we shifted to a virtual format and, while we were looking forward to hosting you all in-person, this year's conference offers many opportunities for attendees to participate. This year's theme is "Anthrozoology in Translation: Communicating Research from and to Multiple Audiences." To support this theme, we have included an array of presentations that come from those working in different settings, diverse backgrounds, and relevant topics.

This year we have four keynote speakers with diverse backgrounds and anthrozoological topics. The keynote speakers are Alexandra Horowitz, Iván Sandoval-Cervantes, Suzanne Asha Stone, and Michelle Rodrigues. These keynote presentations are accompanied with livestreamed talks that include member-organized symposia, topically themed sessions, flash-talks, a new emerging trends & research feature, and a poster session. In addition to livestreamed presentations, this year's program also offers OnDemand content featuring new and emerging trends in anthrozoology. We appreciate how difficult it may be to pick between sessions, so we are also providing all livestreamed sessions - keynotes, themed sessions, symposia, and the emerging trends & research highlights - OnDemand after they initially air. This way, you may watch at your leisure during and/or after the conference.

In addition to offering an assortment of livestreamed and OnDemand talks, we have arranged for our participants to connect with each other. Throughout the program, you will find "Continuing Conversations" to provide attendees a place to network, continue thoughtful conversations that stem from livestreamed sessions, and to socialize. During these events, you may join the Interactive Opportunities channel (e.g., Zoom) with individuals who share similar interests and ask presenters follow-up questions that may not have been addressed during the live sessions. We are also excited to host a Student Mixer on Thursday. We understand the importance of networking and socializing at conferences and encourage all attendees to participate.

We hope that you enjoy the conference and welcome to ISAZ 2022!

The ISAZ 2022 Local Organizers

Shelly Volsche
Boise State University
Boise, ID, USA



Nikki Bennett
University of Nevada, Las Vegas
Las Vegas, NV, USA



About the International Society for Anthrozoology

The International Society for Anthrozoology (ISAZ) was formed in 1991 as a supportive organization for the scientific and scholarly study of human-animal interactions. ISAZ is a non-profit, non-political organization with a worldwide, multi-disciplinary membership of students, scholars and interested professionals.

Our mission is to serve the growing community of scholars and scientists working in the field of Anthrozoology (the study of human-animal interactions and relationships) by supporting research, publishing and disseminating new insights and discoveries, and promoting the exchange of knowledge and expertise within the field.

To learn more, please explore our website: www.isaz.net.

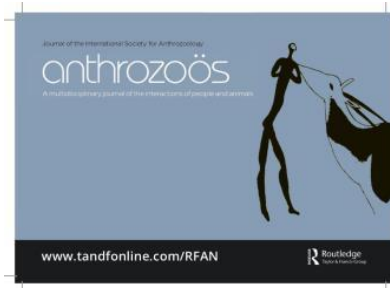
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The Journal

Anthrozoos: A Multidisciplinary Journal of the Interactions of People and Other Animals

Official Journal of the International Society for Anthrozoology (ISAZ)

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Anthrozoos is a bi-monthly, peer-reviewed publication whose focus is to report the results of studies, from a wide array of disciplines, on the interactions of people and animals. Academic disciplines represented include anthropology, archaeozoology, art and literature, education, ethology, history, human medicine, psychology, sociology and veterinary medicine.



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Acknowledgements

We would like to thank Patricia Pendry and Abbey Thigpen for their time and assistance in planning the conference as well as the numerous individuals who volunteered their time to serve as an abstract reviewer for the 2022 conference.

Special thanks to our volunteers for their help in running the live sessions and interactive opportunities:

Sky Sobol, Heather Frigiola, Karl Prokop, Sydney Schultz, Janee Wise, Lorraine Guadio, Tess Parker, Hannah Gunnip, Hannah Hedelius, Shannon Cobb, Cameron Brown, Sara Clarkson

ISAZ Programs Committee: Shelly Volsche, Nikki Bennett, Abbey Thigpen, & Patricia Pendry

Conference logo designed by Shelly Volsche

Thanks to Sam Bailey and Danni Beck of Creature Conferences for providing the live streaming service for this conference.



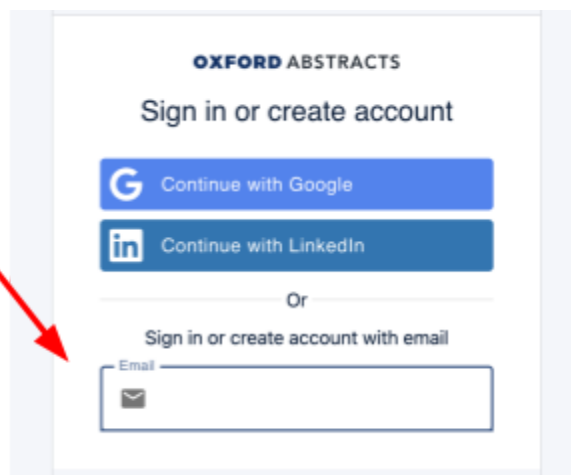
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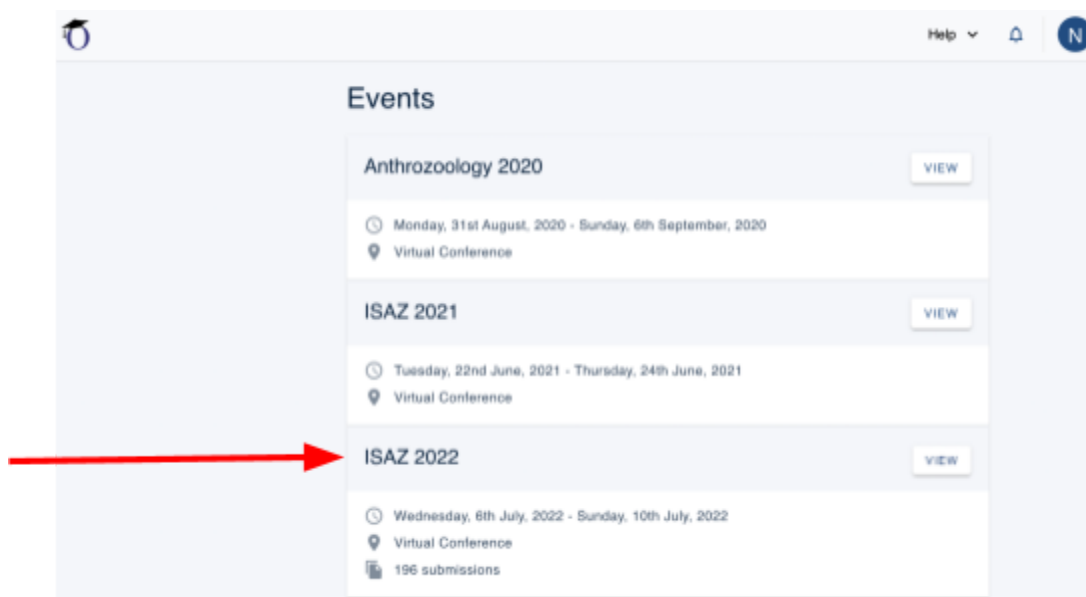
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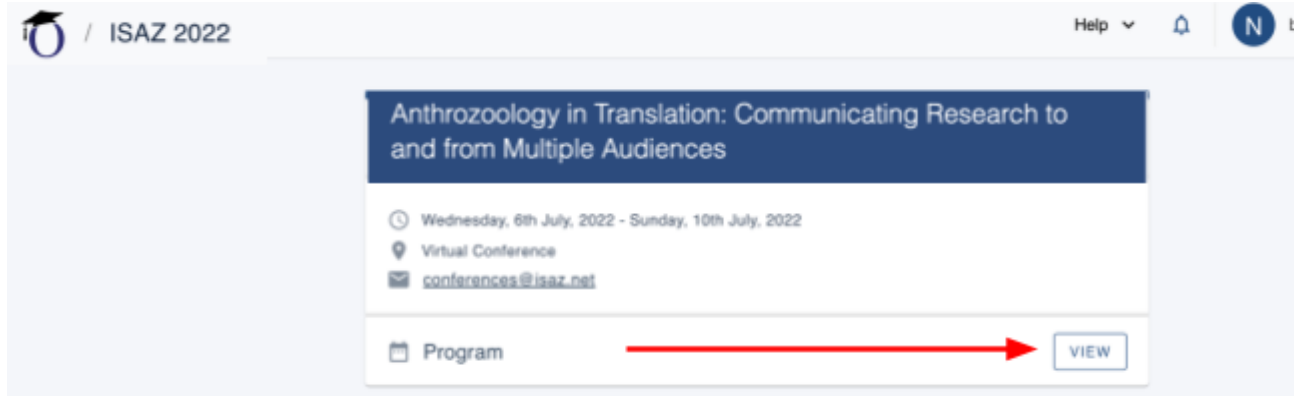
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Note: If you have attended the 2020 and/or 2021 conferences, these will show on your dashboard as well. Make sure to click “ISAZ 2022.”



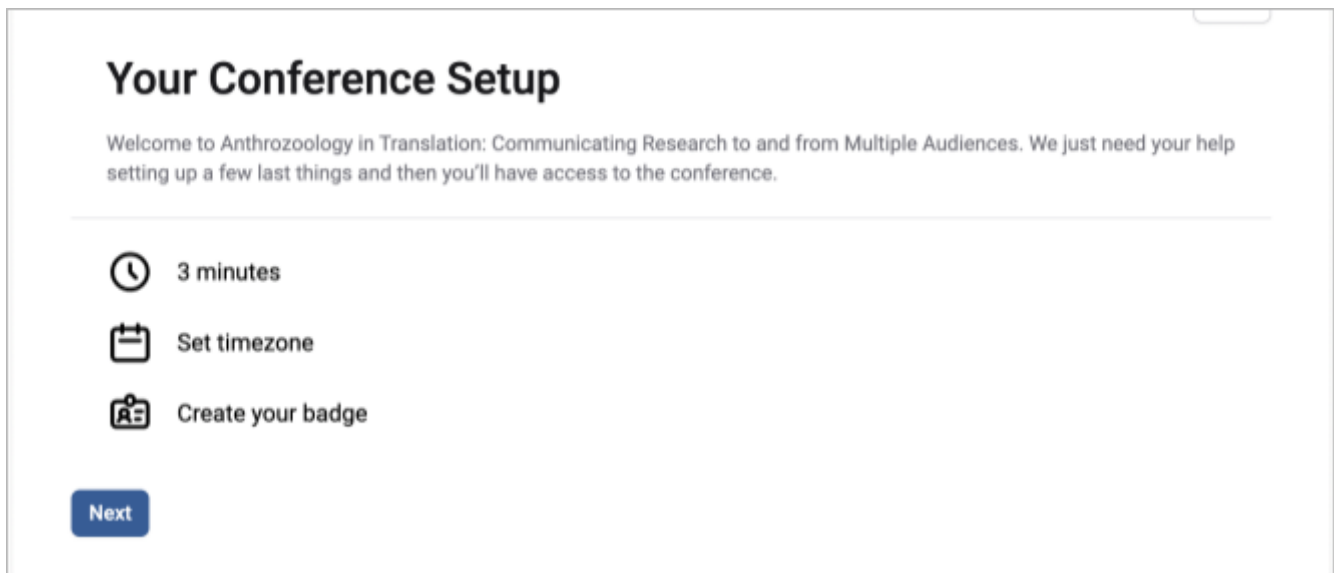
Event Name	View Button
Anthrozoology 2020 Monday, 31st August, 2020 - Sunday, 6th September, 2020 Virtual Conference	VIEW
ISAZ 2021 Tuesday, 22nd June, 2021 - Thursday, 24th June, 2021 Virtual Conference	VIEW
ISAZ 2022 Wednesday, 8th July, 2022 - Sunday, 10th July, 2022 Virtual Conference 196 submissions	VIEW

3. Once inside the dashboard for “ISAZ 2022,” click “View” next to “Program” to access the program.



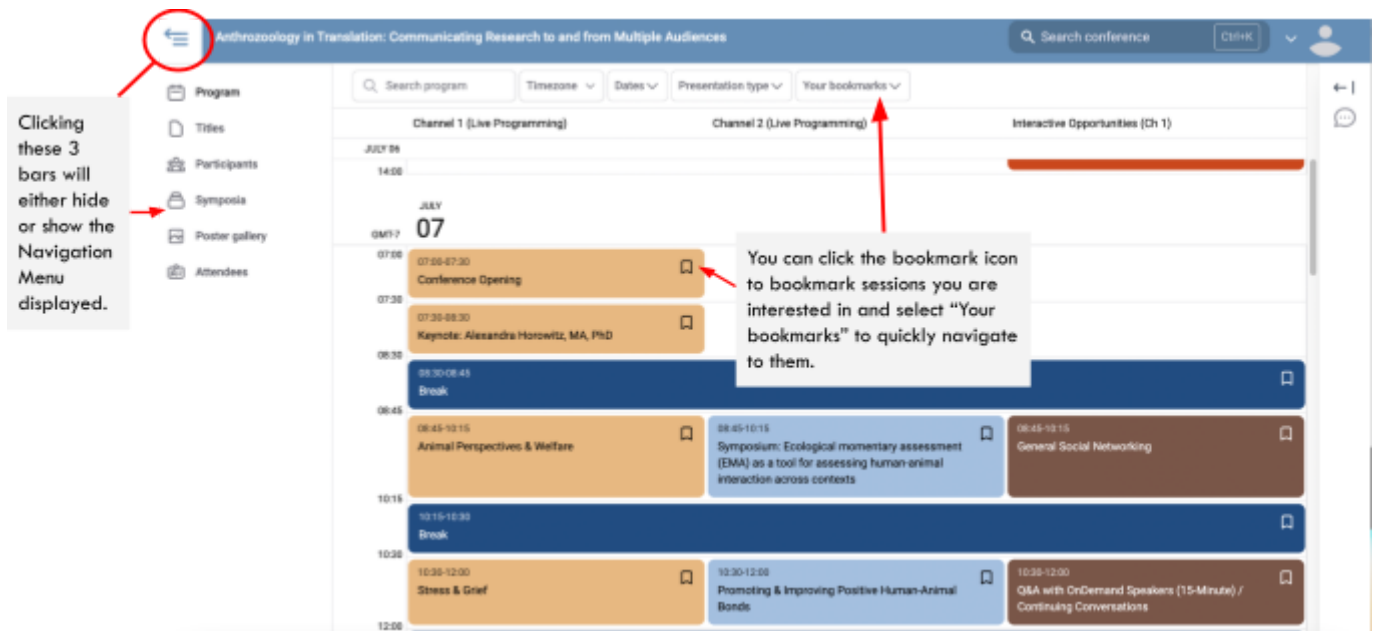
4. The first time you access the ISAZ 2022 Program, you will be directed to “Your Conference Setup” to add the following information:
 - a. Your Timezone
 - b. Your conference badge

Note: It is highly recommended you set this up the first time you access the program and prior to the day of the conference opening (July 7, 2022). It will take no more than 3-minutes.

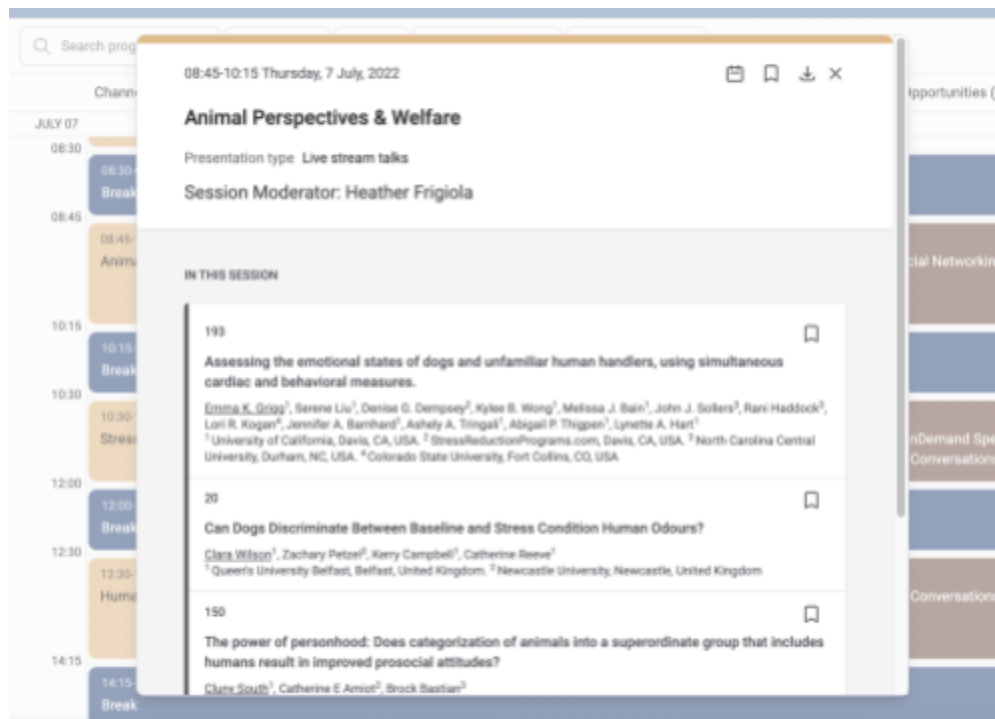


5. Once inside the program, you can navigate through the channels

- a. Channels 1 and 2 sessions are hosted through the Creatures Conferences' platform.
- b. Interactive Opportunities will have Zoom links to access these events such as “OnDemand Q&A sessions” and “Student Mixer.”



6. By clicking a session, a pop-up window will appear showing detailed information about the presentations during the session. This is also where you will find links to join the session.



If you still have questions or trouble when accessing the conference, please email conferences@isaz.net. The conference hosts will be checking this email throughout the conference to assist attendees quickly.

Keynote Speakers



Dr. Alexandra Horowitz "Eyes on the Dog"

Dr. Horowitz is a researcher and professor at Barnard College, Columbia University, New York, NY where she teaches seminars in canine cognition, creative nonfiction writing, and audio storytelling. As Senior Research Fellow, she heads the Dog Cognition Lab at Barnard, studying the behavior and mind of owned dogs. She has long been interested in understanding the umwelt of another animal, and her research and writing is aimed to answer the question of what it is like to be a dog. She has written five books, including *Inside of a Dog: What Dogs See, Smell, and Know*, a New York Times bestseller, *Being a Dog: Following the Dog into a World of Smell*, *Our Dogs, Ourselves: The Story of a Singular Bond*, and, most recently *The Year of the Puppy*, which will be published in September 2022. She earned her Master's and Doctoral degrees in Cognitive Science from the University of California, San Diego, and her Bachelor's degree in philosophy from the University of Pennsylvania.



Dr. Iván Sandoval-Cervantes "Responsibility and Punitivism in the Animal Protection Movement in Mexico"

Dr. Sandoval-Cervantes is an Assistant Professor in the Department of Anthropology at the University of Nevada, Las Vegas (UNLV). His current project "Animal Bodies, Human Voices: Violence and the Animal Rights Movement in Mexico," seeks to understand how animal rights/well-being activists operate in the current context of violence within Mexico. He reflects on the possibility of alternative models of animal well-being. His research has appeared in academic journals and in his forthcoming book *Oaxaca in Motion: An Ethnography of Internal, Transnational, and Return Migration*, due to be published in 2022. He received his Bachelor's degree in anthropology from the Universidad de las América-Puebla (UDLAP), a Master's of Science in philosophy of social science from the London School of Economics, and a Doctoral degree in anthropology from the University of Oregon.



Dr. Michelle Rodrigues "Primate Entanglements: Understanding Human-Primate and Human-Human Relationships to Conserve Primates"

Dr. Rodrigues is an Assistant Professor in the Department of Social and Cultural Sciences at Marquette University, Milwaukee, WI. Her research focuses on the evolution of female social relationships, stress biology, and human-primate interactions across the primate order. In her current teaching and research, she is exploring how racism and colonialism shape primatology and related fields. She is the author of multiple journal publications, and she is actively involved in public engagement activities including Primatweeps, a weekly Twitter game (#PrimatePlaytime), maintainer of #DecolonizePrimatology: A Reading List, and a recent Ted talk speaker. She received a double Bachelor's degree in ecology, ethology, and evolution and psychology from the University of Illinois, Urbana-Champaign, an Master's of Arts in anthropology from Iowa State University, and a Doctoral degree in biological anthropology from Ohio State University.



Ms. Suzanne Asha Stone "When We're Ready to Stop Huffing & Puffing: The Steps to Coexisting with Wolves"

Ms. Stone is the Executive Director and Board President of the International Wildlife Coexistence Network and founder of the Wood River Wolf Project. She has been involved in wolf restoration in the western United States since 1988, helping scientists, ranchers, and wildlife managers develop and test nonlethal methods to proactively protect livestock from wolves and other native predators. She is lead author on the first landscape level wolf and sheep non-lethal measures study, "Adaptive use of nonlethal strategies for minimizing wolf-sheep conflict in Idaho," and has worked with the Nez Perce Tribe's Central Idaho interagency wolf recovering steering committee. Her current efforts seek to help protect wolves and other imperiled wildlife with communities around the world, working directly with local and indigenous peoples to improve coexistence. She received her Bachelor's degree from Boise State University and her Master's in Wildlife Conservation and Conflict Management at Prescott College.

Program Overview

All times are in Eastern Daylight Time (East Coast US). You can find your local time conversion by adding your city or time zone here:

<https://www.timeanddate.com/worldclock/converter.html?iso=20210622T140000&p1=422>

Wednesday, July 6

9:00-13:00 EDT	Workshop: A Brief Introduction to Qualitative Research Methods in Human-Animal Interaction Research
13:00-15:00	Workshop: Before Your Pet Comes to Work: Preparing for Successful Animal-Assisted Interventions
15:00-17:00	Workshop: The Universal Human-Animal Bond: Using Groundbreaking Research to Improve Animal Welfare and Human Health Around the World

Thursday, July 7

10:00-10:30	Conference Opening Remarks
10:30-11:30	Keynote address: Dr. Alexandra Horowitz “Eyes on the Dog”
11:45-13:15	Channel 1- Livestream Oral Presentations 1 (L1): Animal Welfare & Perspectives Channel 2- Symposium 1 (S1): Ecological Momentary Assessment (EMA) as a Tool for Assessing Human-animal Interaction Across Contexts
13:15-13:30	Break
13:30-15:00	Channel 1- Livestream Oral Presentations 2 (L2): Stress & Grief Channel 2- Livestream Oral Presentations 3 (L3): Promoting & Improving Positive Human-animal Bonds
15:00-15:30	Interactive Opportunities: Conference “Speed Dating”
15:30-17:15	Channel 1- Livestream Oral Presentations 4 (L4): Human-Wildlife Interactions in Multiple Contexts Channel 2- Symposium 2 (S2): Advances in Research Methodology & Practical Utility of Equine Assisted Therapies for Youth
17:15-17:30	Break

17:30-18:45 Channel 1- Livestream Oral Presentations 5 ([L5](#)): Anthrozoology in Japan & Australia
Interactive Opportunities: [Student Mixer hosted by Shannon Cobb](#)

Friday, July 8

9:00-10:00 Interactive Opportunities: [ISAZ 2023 Conference Planning Discussion](#)

10:00-11:00 [Keynote address](#): Dr. Iván Sandoval-Cervantes “Responsibility and Punitivism in the Animal Protection Movement in Mexico”

11:15-12:45 Channel 1- Livestream Oral Presentations 6 ([L6](#)): Between Professionals & the Public
Channel 2- Livestream Oral Presentations 7 ([L7](#)): Human Health & Wellbeing

12:45-13:00 Break

13:00-14:00 Interactive Opportunities - [Lunch with the ISAZ Fellows](#)

14:00-15:15 Interactive Opportunities - [Poster Session](#)

15:15-15:30 Break

15:30-16:30 [Keynote Address](#): Suzanne Asha Stone “When We’re Ready to Stop Huffing & Puffing: The Steps to Coexisting with Wolves

16:30-16:45 Break

16:45-18:15 Channel 1- Livestream Oral Presentations 8 ([L8](#)): Hooves & Claws
Channel 2- Livestream Oral Presentations 9 ([L9](#)): Inside the Shelter & Beyond

Saturday, July 9

9:00-9:50 Interactive Opportunities - [Q&A with OnDemand Presenters](#)

10:00-10:45 Channel 1- Annual General Meeting for ISAZ members

10:45-11:00 Break

11:00-12:00 [Keynote Address](#): Dr. Michelle Rodrigues “Primate Entanglements: Understanding Human-Primate & Human-Human Relationships to Conserve Primates”

12:00-12:30 Lunch

12:30-13:15	Channel 1- Early Career Award Winner Presentation
13:15-13:30	Break
13:30-15:00	Channel 1-Livestream Oral Presentations 10 (L10): Companion Animals in the Home Channel 2- Livestream Oral Presentations 11 (L11): Flash Talks- Emerging Trends Highlights
15:00-15:15	Break
15:15-16:45	Channel 1- Livestream Oral Presentations 12 (L12): Continued Impacts of COVID on HABs Channel 2- Symposium 3 (S3): Virtual Canine Comfort: Considerations & Findings Across Virtual Canine-Assisted Interventions
16:45-17:00	Break
17:00-17:30	Awards Ceremony
17:30-18:00	Closing Remarks

Sunday, July 10

10:00-13:00	Workshop : The Affective Café - A Peer Support Space for Sharing Affective Impacts of Conducting Anthrozoological Research
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Full Program

All times are in Eastern Daylight Time (East Coast US). You can find your local time conversion by adding your city or time zone here:

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Please note: For the sake of brevity, only the presenting author is listed in the schedule. A full list of authors can be found in the [abstracts](#).

Wednesday, July 6

9:00-13:00 EDT **[Workshop](#): A Brief Introduction to Qualitative Research Methods in Human-Animal Interaction Research**
Organizer: Carri Westgarth
Note: Separate Registration Required

13:00-15:00 **[Workshop](#): Before Your Pet Comes to Work: Preparing for Successful Animal-Assisted Interventions**
Organizer: Taylor Griffin
Note: Separate Registration Required

15:00-17:00 **[Workshop](#): The Universal Human-Animal Bond: Using Groundbreaking Research to Improve Animal Welfare and Human Health Around the World**
Organizer: Lindsey Braun
Note: Separate Registration Required

Thursday, July 7

10:00-10:30 **Conference Opening Remarks**

10:30-11:30 **[Keynote address](#): Dr. Alexandra Horowitz “Eyes on the Dog”**
Moderator: Shelly Volsche

11:30-11:45 **Break**

11:45-13:15

Channel 1

Channel 2

[Livestream 1 \(L1\)](#) - Animal Perspectives & Welfare
Moderator: Heather Frigiola

Assessing the Emotional States of Dogs & Unfamiliar Human Handlers Using Simultaneous Cardiac & Behavioral Measures

[Symposium 1 \(S1\)](#) - Ecological Momentary Assessment (EMA) as a Tool for Assessing Human-animal Interaction Across Contexts
Chair: Nancy Gee
Discussant: Erika Friedmann

Feasibility of Using EMA to Measure the Effects of Interactions with Pet

	<p>Emma K. Grigg</p> <p>Can Dogs Discriminate Between Baseline & Stress Condition Human Odours?</p> <p>Clara Wilson</p> <p>The Power of Personhood: Does Categorization of Animals into a Superordinate Group that Includes Humans Result in Improved Prosocial Attitudes?</p> <p>Cluny South</p> <p>Emotional Expressions in Dogs' Faces & Dog's Eyes</p> <p>Laura B. Burza</p>	<p>Dogs on Psychophysiological Reactivity in Adolescents with Social Anxiety</p> <p>Megan K. Mueller</p> <p>Social Support Theory and the Momentary Well-Being of Healthcare Professionals with Facility Dogs</p> <p>Clare L. Jensen</p> <p>Effects of Human Animal Interaction and Psychoeducational Content on University Students' Salivary Cortisol Reactivity to and Recovery from Test- Anxiety Using Moment-to-Moment Assessments</p> <p>Patricia Pendry</p>
13:15-13:30	Break	
13:30-15:00	<p style="text-align: center;">Channel 1</p> <p>Livestream 2 (L2) - Stress & Grief</p> <p>Moderator: Shelly Volsche</p> <p>The Influence of Psychiatric Service Dogs for Posttraumatic Stress Disorder (PTSD) on Military Spouses</p> <p>Leanne O. Nieforth</p> <p>Speaking With & For Disenfranchised Grievers: Advocating on Behalf of Children Following Companion Animal Loss</p> <p>Samantha Hurn</p> <p>Emotional Support Animals in College Campus Housing</p> <p>Angela L. Curl</p> <p>Assistance Dogs for Military Veterans with PTSD: A Systematic Review, Meta- analysis, & Meta-synthesis</p> <p>Sarah C. Leighton</p>	<p style="text-align: center;">Channel 2</p> <p>Livestream 3 (L3) - Promoting Positive Human-animal Bonds</p> <p>Moderator: Lorraine Gaudio</p> <p>A Mixed Method Analysis of Owner Expectations & Surprises of Dog Ownership in the UK</p> <p>Katrina E. Holland</p> <p>The Sons of Sam: Black Dogs, Psychopomps, & Serial Killers</p> <p>Margo DeMello</p> <p>Canine Ministries: A Multispecies Religious Practice</p> <p>Heather Frigiola</p> <p>A Psychobiological Approach to Promoting Low-stress Interactions in Equine-assisted Services</p> <p>Christine Rudd & Emma Pasiuk</p>

15:00-15:30

Interactive Opportunities: [Conference “Speed Dating”](#)

Join us for fast paced fun during this brief networking event! All participants will get a chance to share their work with others in a short, 2 minute format. Think of this as the classic business card exchange, but with a bit more spice.

15:30-17:15	Channel 1	Channel 2
	<p>Livestream 4 (L4) - Human-Wildlife Interactions in Multiple Contexts Moderator: Nikki Bennett</p> <p>Ambiguity & Conflict among Texas Suina: Human-Javelina-Hog Relations in Texas Adam P. Johnson</p> <p>Application of the Animal-Visitor Interaction Protocol (AVIP) on the ring-tailed lemur walk-in enclosure at Pistoia Zoo (Italy) Ilaria Pollastri</p> <p>Aspects of Zoo Experiences that Increase Feelings of Connectedness & Conservation Caring Alaina M. Macri</p> <p>Hand-reared Wolves Show Attachment Behaviours Comparable to Dogs & Use Human Caregiver as a Social Buffer in the Strange Situation Test Christina Hansen Wheat</p> <p>Lumber Layoffs & Ecocentric Solutions: Investigating Affective & Educational Outcomes of Elephant Encounter Facilities Rebecca L Madrid</p>	<p>Symposium 2 (S2) - Advances in Research Methodology & Practical Utility of Equine Assisted Therapies for Youth Chair: Kimberly Hoagwood Discussant: Megan Mueller</p> <p>Equine Facilitated Psychotherapy with Young People: Why Insurance Coverage Matters Isabel Ballard</p> <p>Reining in Anxiety: Cognitive Behavioral Therapy & Equine Assisted Services for Youth with Anxiety Meghan Morrisey</p> <p>Evaluation of a Modified Bit Device to Obtain Saliva Samples from Horses Aviva Vincent</p> <p>A PONY Program: Program Evaluation of an Equine-assisted Psychotherapy Program for Children & Adolescents Holly Jedlicka</p>

17:15-17:30

Break

17:30-18:45	Channel 1	Interactive Opportunities
	<p>Livestream 5 (L5): Anthrozoology in Japan & Australia Moderator: Shelly Volsche</p> <p>The Dog-owner Relationship</p>	<p>Student Mixer Hosted by Shannon Cobb Students at all levels, from undergraduate to graduate, are</p>

Compared: Japanese Dog Owners Focus on Emotional Closeness While Italian Owners Focus More on Pet-owner Interactions.

Miki Kakinuma

Management of Animal Interactions in Australian Residential Aged Care Facilities: A Mixed-methods Pilot Study

Wendy M. Newton

Does Temperature of the Object Being Touched Affect the Person Touching It?

Asami Tsuchida

A Questionnaire Survey on Evacuation Readiness with Pets & Intention to Evacuate in the Event of an Earthquake

Mitsue Motomura

invited to get together and discuss all things anthrozoology. After introductions, attendees will be sent to breakout rooms for smaller discussions and a chance to learn from each other. This vertically integrated mixer is a chance for peer mentorship that you don't want to miss!

Friday, July 8

9:00-9:55

Interactive Session: [ISAZ 2023 Conference Planning Discussion](#)

10:00-11:00

Keynote address: Dr. Iván Sandoval-Cervantes "Responsibility & Punitivism in the Animal Protection Movement in Mexico"

Moderator: Nikki Bennett

11:15-12:45

Channel 1

[Livestream 6 \(L6\)](#) - Between Professionals & the Public

Moderator: Nikki Bennett

Owners & Veterinary Professionals Differ in their Perceptions of Preventative & Treatment Healthcare Needs in Dogs

Lisa J. Wallis

'Our Lives are Bound Up with One Another': A Culturally Responsive Approach to Teaching Anthrozoology

Channel 2

[Livestream 7 \(L7\)](#) - Human Health & Wellbeing

Moderator: Lorraine Gaudio

Going Beyond the Positive Impact of Pets: Does Identifying with Animals in General Benefit Human Psychological Well-Being?

Catherine E. Amiot

Pet Ownership & Peer Victimization as Predictors of Emotion Regulation in Youth

	<p>To/With Non-majors Tara Bahl</p> <p>Knowledge & Attitudes of Indian Veterinarians Towards Animal Abuse & its Management Georgitta J. Valiyamattam</p> <p>A Grounded Theory of Humane Education Erin Flynn</p> <p>Why They Do & Why They Don't: Designing an Intervention to Help Vets Provide Support for Problematic Dog Behaviour Melissa Upjohn</p>	<p>Erin K. King</p> <p>Can Pet Ownership Impede Access to Healthcare for People Living with HIV? Preliminary Findings from an Ongoing Cohort Study Jennifer W. Applebaum</p> <p>Empathy, Empowerment, & Enjoyment: Defining Our Relationships with Companion and Working Animals Risë VanFleet</p> <p>Pet Effect or Garden Effect? Effects of Dog Ownership & Garden Access on Teleworkers' Daily Physical Activity & Loneliness in Two Seasons Joni Delanoetje</p>
12:45-13:00	Break	
13:00-14:00	Lunch with the ISAZ Fellows	
14:00-15:15	Poster Session	
15:15-15:30	Break	
15:30-16:30	<p>Keynote Address: Suzanne Asha Stone "When We're Ready to Stop Huffing & Puffing: The Steps to Coexisting with Wolves" Moderator: Shelly Volsche</p>	
16:30-16:45	Break	
16:45-18:15	<p>Channel 1</p> <p>Livestream 8 (L8) - Hooves & Claws Moderator: Karl Prokop</p> <p>Livestock Guardian Dog on Duty Maija Esko</p> <p>Feral & Out of Control: A Moral Panic Over Free-roaming Cats (Felis catus) Kris Hill</p> <p>Animal Representations: Using Participatory Practices to Co-Produce Discursive Understandings of Donkeys</p>	<p>Channel 2</p> <p>Livestream 9 (L9) - Inside the Shelter & Beyond Moderator: Shelly Volsche</p> <p>Characterizing Unsuccessful Animal Adoptions: The Impact of Returns on Animals & Adopters Lauren Powell</p> <p>The Training of Shelter Dogs & Writing of Shelter-Focused Grant Applications in the Undergraduate Psychology</p>

and Donkey Welfare Cara Clancy	Classroom Shlomit Flaisher-Grinberg
Carbon Hoofprints: Exploring Horse Owners' Motivations for Sustainable Land Management Practices Tamzin Furtado	Emergency Fostering of Dogs from Animal Shelters During the COVID-19 Pandemic: Shelter Practices, Foster Caregiver Engagement, & Dog Outcomes Lisa M. Gunter
How Can You Kill Someone You Love? Lisa Märzc	The Effect of Baby Schema in Cats on Length of Stay in an Irish Animal Shelter Sam G. Jack
	Precarious Ties & Geographic Othering in Animal Transport Rescue Networks Lori L. Jervis

Saturday, July 9

9:00-9:50 **Interactive Opportunities - [Q&A with OnDemand Presenters](#)**
Note: This session will only be a Q&A opportunity. Please watch OnDemand content prior to this session.

10:00-10:45 **Annual General Meeting for ISAZ members**
All ISAZ Members are invited to attend.

10:45-11:00 **Break**

11:00-12:00 **[Keynote](#): Dr. Michelle Rodrigues “Primate Entanglements: Understanding Human-Primate & Human-Human Relationships to Conserve Primates”**
Moderator: Nikki Bennett

12:00-12:30 **Lunch**

12:30-13:15 **Early Career Award Winner Presentation**

13:15-13:30 **Break**

13:30-15:00	Channel 1	Channel 2
	Livestream 10 (L10) - Companion Animals in the Home Moderator: Shelly Volsche	Livestream 11 (L11) - Flash Talks: Emerging Trends Highlights Moderator: Janee Wise

**Pet Ownership Challenges:
Socio-demographic & Pet Type
Variations**

Joanne M. Williams

**Characteristics of Human Caregiving
& Companion Animal Attachment in a
Finnish Sample**

Shelly L. Volsche

**She is Totally my 'Dogther': Reasons
to Include & Exclude Non-human
Animals as Family Members**

Javier López-Cepero

**The Interaction with Companion
Animals in Daily-life: A Study
Protocol for an Experience Sampling
Study into the Role of Animal
Characteristics in the Pet-effect**

Mayke Janssens

**An Evaluation of Consumer
Motivations, Understanding, &
Responses to Direct-to-consumer Dog
Genetic Test Services**

Nikki E. Bennett

**For the Love of Dog: Race, Rescue,
Rehome in Ireland**

Chrissy Skelton

**Animal People: Exploring Their
Worldviews, Moral Frameworks &
Lived Experiences with Animals**

Ondine Sherman

**Pandemic Puppies All Grown Up?
Owner-Reported Problem
Behaviours aged 21-months**

Claire L. Brand

**The Loss ManyDogs Project: A big
team science approach to canine
cognition**

Jeffrey R. Stevens

**Companion Dogs as Colleagues?
Effects of Dog Appearance, Dog
Behavioral Characteristics &
Policy on Employee Preferences
for Office Dogs**

Emma Willemen

**The Deal with Animals: Using a
Podcast Platform to Communicate
Anthrozoological Research &
Topics**

Marika S. Bell

**Buzz off or Bee kind: Have
Humans Forgotten the Importance
of our Relationship with Bees?**

Lindsey H. Roberts

**Online Canine Health
Information-sourcing by UK
Caregivers: Canine Welfare
Threat or Opportunity?**

Michelle L Farrow

**Cats' Behavior in the Secure Base
Test: Comparison between
Domiciliated & Sheltered Animals
Awaiting Adoption**

Cinthia Sayuri Y Takeda

		Exploring Public Perceptions of 'Meet & Greet' Animal Experiences in Zoos Polly Doodson
15:00-15:15	Break	
15:15-16:45	Channel 1	Channel 2
	<p>Livestream 12 (L12) - Continued Impacts of COVID on the HAB Moderator: Sky Sobol</p> <p>Pandemic Puppies: An Ongoing Source of Mental Health Support, but at What Cost to Canine Welfare? Rowena MA. Packer</p> <p>'Puppy Love in Lockdown': A Qualitative Exploration of Topics of Conversation About Dogs on Twitter During the COVID-19 Pandemic Katharine L. Anderson</p> <p>Animal Companionship under Challenging Circumstances – Long-Covid Syndrome & HAI Christine Krouzecky</p> <p>When Everything's Falling: Companion Animals' Role During COVID-19. Yahaira Segarra-González</p>	<p>Symposium 3 (S3) - Virtual Canine Comfort: Considerations & Findings Across Virtual Canine-Assisted Interventions Chair: John-Tyler Binfet Discussant: Megan Mueller</p> <p>Lessons Learned: Transitioning a Therapy Dog Program Online during the COVID-19 Pandemic Colleen A. Dell</p> <p>Supporting College Student Well-being Through Virtual Interactions with Therapy Dogs: Findings from a Randomized Controlled Trial Freya L. L. Green</p> <p>Exploring College Students' Perceptions of a Virtual Canine Intervention Christine Y. Tardif-Williams</p>
16:45-17:00	Break	
17:00-17:30	Awards Ceremony Student & DEI Awards Sponsored by Mars Pet Care & Waltham Petcare Science Institute Session & DEI Awards Sponsored by Pet Partners	
17:30-18:00	Closing Remarks	

Sunday, July 10

10:00-13:00	Workshop: The Affective Café - A Peer Support Space for Sharing Affective Impacts of Conducting Anthrozoological Research Organizer: Samantha Hurn
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Poster Session

Presenting authors for the poster session are listed below and will be available via the Interactive Opportunities channel to answer your questions. Visit the ISAZ Conference Program to read the associated [abstracts](#) and the [Oxford Abstracts](#)' program to access Interactive Opportunities (e.g., Zoom). A host will be available to help you find the correct room - just have the author's name and/or presentation title ready.

Friday, July 8, 14:00-15:15 EDT

See [Oxford Abstracts](#) ISAZ 2022 Conference Program - Interactive Opportunities channel. View posters in advance via the Poster Gallery.

Room 1: Animal-Assisted Interventions / Working & Service Animals in the Public Arena

Cassie Zeiler	Capturing Heart Rate Variability for Children with ADHD during Animal-Assisted Intervention: Feasibility and Acceptability
Helen Lewis	Dogs as playful learning companions in early childhood settings
Diana Peña Gil	Dogs & Stress: A University Program
Geneviève Goulet	Validation of an observation-based assessment tool to evaluate attraction towards dogs in children with autism spectrum disorder.

Room 2: Depictions of Animals in Art, Literature, & Culture

Human-Wildlife Interactions in all Contexts

Victoria A Gersdorf	Fursonas: Communicating Identity In the Furry Fandom
Angela Fournier	Fact or Fiction? An Examination of Psychotherapy and Learning Incorporating Horses on YouTube
	Squirrels, Birds, and Bugs: Benefits and Responsibilities of Human-Animal Interaction in Nature
Alexandria E Graham	Determining if Canines Exhibit Stress-Related Responses when Participating in Therapeutic Interactions with Children with Attention-Deficit/Hyperactivity Disorder (ADHD)
Frances E Carleton	Wildlife carers, the unrecognised first responder: being prepared for the wildlife fallout of natural disaster

Room 3: Contextual analysis of human-animal interactions / Quantitative and qualitative approaches to exploring human-animal dyads

Sara T Clarkson	Exploring the impact of dogs on cat-human interactions
Holly G. Molinaro	Human Perception of Dog Emotions is Influenced by the Situational Context
Junko Akiyama	Frailty suppression effect of dog-walking and horseback riding in middle-aged and elderly people
Hannah K Christensen	Randomized controlled trial examining the physiological mechanisms of equine activities in youth with co-occurring autism spectrum and mental health diagnoses

Room 4: Continued Influences of the COVID-19 Pandemic / Taking the Animal's Perspective

Christine A Kivlen	College Students' Perceptions of the Impact of Pets on their Mental Health during Covid-19 Pandemic
Rachel Y Stokes	Maneuvering Clinical Research during the COVID-19 pandemic: Adapting a Clinical Trial Pilot
Eli D. Halbreich	Perceived Attitudes of Pet Owners About Their Pets During the COVID-19 Pandemic
Hannah J Hedelius	Humane education curriculum encourages middle school interest in Idaho Humane Society
Vijay Rawat	Working like a dog: Examining the standards and practices related to the welfare of Australian visitation-dogs

Room 5: New Research Topics, Methods, and Filling Knowledge Gaps

Bridget Hladky-Krage	Expectations Versus Reality of Designer Dog Ownership in the United States
Shannon Cobb	Factors influencing compassion fatigue in veterinary professionals
Ashley J McFalls	Hens who raise chicks late in the season may be better mothers Dogs who require encouragement to approach a novel object make more eye contact with owner
Agnieszka Potocka	The moral foundations and the perception of animal mind as predictors of instrumental violence against animals

OnDemand Q&A Session

Presenting authors for OnDemand presentations that were not livestreamed are listed below and will be available on the Interactive Opportunities channel (via Zoom) to answer your questions. Visit the ISAZ Conference Program to read the associated [abstracts](#) and [Oxford Abstracts](#) program to access Interactive Opportunities. A session host will be available to help you find the correct room - just have the author's name and/or presentation title ready.

Saturday, July 9, 9:00-9:55 EDT - OnDemand Q&A Session

Room 1: Animal Law & Policy Considerations; Depictions of Animals in Art, Literature, & Culture

Bo Li	Developing Animal Law systems and education: a critical approach to construct and maintain a virtuous human-animal relationship in China
Richard E Kelaher	The War on Cats of 1880: Forcing Felines to Sign the Social Contract
Molly H Sumridge	“Re-Viewing the Many Dimensions of Domestication”: A hermeneutic review of animal domestication
Ella Bartlett	Comparing apples and pears? Consistency in the description of horse training methods in the published scientific literature
Jessica Ullrich	Octopus aesthetics and ethics

Room 2: Animal Assisted Interventions #1

James A Oxley	An international survey investigating the role of participant demographics and dog related experience on approach behaviour to a simulated dog displaying aggressive behaviours
Alexa M Carr	Assessing Attendance Frequency and Duration in a Drop-in Canine Visitation Program Among First-Semester University Students Separated from their Family Pets
Emily Cooke	Australian University staff members' perspectives of an Animal Assisted Intervention
Celeste N Tomasulo	Chronic Illness, Quality of Life, and Equine-Assisted Activities
Laura Poleshuck	College student perceptions of campus-integrated therapy dogs: A mixed-methods study

Room 3: Animal Assisted Interventions #2

Ana L González-Amador	Cortisol levels in children with reading difficulties: effects of dog-assisted therapy
Aliya Khalid	Human-Animal Interaction to Support Well-Being at University: Experiences of Undergraduate Students in the UK
Luke T Argyle	Effects of animal-assisted interventions on wellbeing, memory and cognition
Sara Brisson	The Impact of a Therapy Dog Team on Medical Student's Physiological Stress and Perceived Anxiety Prior to an Exam

Room 4: New Research Topics, Methods, & Filling Knowledge Gaps #1

Anne Gelhardt	Embodied Human-Animal Interaction Analysis: In search for the 'In-Between' & adequate Methodologies
Katie Potter	Does dog ownership impact Alzheimer's dementia risk factors and biomarkers?
Courtney J Bolstad	Dog Tired: Examining the Relation Between Dog and/or Cat Ownership and Owners' Sleep
Hannah Gunnip	Dogs Produce Distinctive Play Pants: Confirming Simonet
Tania Signal	Steve, Christina and Felix the cat: Attribution of blame when deliberate animal harm is part of domestic violence

Room 5: New Research Topics, Methods, & Filling Knowledge Gaps #2

Melvin C.-H. Chan	Engaging in human-animal interactions to promote social and emotional competencies: A scoping review
Brian Bello	Evaluation and Validation of the Positive Youth Development (PYD) scale in Clinical population actors
Carol E Tinga	Exploring the validity of published human-animal scales for use with companion rabbit owners
Erika Friedmann	Pet Ownership and Maintenance of Physical Function in Older Adults– Evidence from the BLSA
Karin Hediger	Psychological effects of hippotherapy in neuropsychiatric patients

Room 6: New Research Topics, Methods, & Filling Knowledge Gaps #3

Jane K Yacilla	Systematic Reviews on Human-Animal Interactions Topics: An Examination of Methodologies
Karen L Luke	The role of learning theory in horse welfare and rider safety (time for a re-think?)
Caroline Ritter	Using short-text questionnaire responses to elicit public attitudes towards surplus dairy calf management
Katrina Merkies	Why the heck is my horse erect? Preliminary characterization of dropping during training of male horses

Room 7: Quantitative and Qualitative Approaches #1

Colleen J Chase	A novel approach to quantifying dog-facilitated physical activity in youth
Tanya K Bailey	A repeated cross-sectional study of a campus-based animal-assisted interactions program on college student stress management
Aubrey L Milatz	An Exploratory Study Examining the Impact of Personality, Mental Health, and Gender on University Students' Interest in On-Campus AAls and Preference of AAI Species
Lori R Kogan	Caring for an Aging Dog: An Exploratory Study of the Worries and Rewards
Roxanne D Hawkins	Child-Dog Attachment, Emotion Regulation and Psychopathology: The Mediating Role of Positive and Negative Child-Dog Behaviours

Room 8: Quantitative and Qualitative Approaches #2

Linda Charmaraman	Companion Animal Relationships and Trajectories of Socio-Emotional Functioning in Adolescence
Imogen Lloyd	Creatures of Habit: A Qualitative Exploration of Dog Owners Feeding Behaviours and Weight Management Experiences
Hanna E Benne	Differences in Performance Anxiety in Expert and Amateur Dressage Riders
London M Wolff	Do owners know how impulsive their dogs are?
Heather K Pugh	Equine-Human Interactions: A Multi-Modal Qualitative Inquiry

Room 9: Quantitative and Qualitative Approaches #3

Anne M Gadomski	Impact of pet dog or cat exposure during childhood on mental illness during adolescence: a cohort study
Suzana H Luchesi	Measuring attachment to cats: Psychometric Properties of the Brazilian Version of the Pet Attachment Questionnaire (PAQ)
Claire Neveux	Personality and training of post-racing Thoroughbred horses in Equine Assisted Services: online survey and pilot study
Beth A Pratt	Spouses of military veterans with mental health challenges and pet dogs: Exploring the human-animal bond
Takumi Nagasawa	Study on the relationship between the urinary oxytocin and social interaction on house cats

Room 10: Continued Influences of the COVID-19 Pandemic

Elizabeth A Walsh	Impact of COVID-19 lockdowns on companion animal welfare
Unaiza Iqbal	Impact of pets on children during COVID-19 pandemic: Pet attachment, pet care and comfort from pets
Renata Roma	Stressors associated with the COVID-19 pandemic among young adults and the supporting role of dog walking
Emily Shoesmith	The perceived impact of the first UK COVID-19 lockdown on companion animal welfare and behaviour: a mixed-method study of associations with owner mental health
Lisa Townsend	Utilization of a Hospital-based Dog Visitation Program During a Pandemic

Room 11: Contextual Analysis of Human-animal Interactions

Kristen M Schmidt	“Bad dog!”: Individual differences in choosing appropriate training responses to a virtual dog
Allison K Pachunka	Human-animal interaction and positive youth development: a replication study
Daiana S Machado	Management Type and Attitudes Related to Cats: A Questionnaire Survey
Birgit Ursula Stetina	The dilemma around the “pet effect” and why it is important to deal with all aspects of the human-animal relationship – a current example from research

Kristen C. Jacobson	Individual differences in observed child behaviors during an experimental intervention with unfamiliar therapy dogs
Robert M Christley	What's in a name? Exploration of patterns of dog and human naming in the UK

Room 12: Human-wildlife Interactions; Taking The Animal's Perspective; Media Portrayal & Communications; Working & Service Animals in the Public Arena

Ashley Taeckens-Seabaugh	Perceptions of nature-based interventions as a context for positive youth development: An exploratory study
Shannon Johnstone	Picturing the Umwelt: Communicating Research and Art
Kassandra Giragosian	The Good, the Bad and the Anthropomorphic: High Prevalence of Signs Indicating Compromised Canine Welfare in Dog GIFs
Cori Bussolari	The loss of a service dog through death or retirement: How the care team can support partners through transitional stages
Jessica B. Maricevic	Therapy Dogs in Secondary Schools: Implementation Processes and Relationships to Students' Social-Emotional Competencies

Room 13: Investigating HABs Abroad

Danielle Marie A. Parreño	"You don't turn your back on family": Exploring the Possibility of Pets as Members of Filipino Families
Seola Joo	Entangled care in multi-species households
Rubina Mondal	Owner reported behavior of adopted free-ranging dogs in India
Biyu Huang	The effect of childhood socioeconomic status on adult' s contact with companion animals: The mediation role of behavioral life-history profile
Francisca Cuevas-Pavincich	The effect of the presence of a Chinese hamster on stress during a categorization task in Chilean preschoolers
Xuan Gu	The link between attitudes toward animals and empathy with humans: The mediating role of empathy with animals
Xiaoshan Yin	A systematic review of research on the psychological and health effects of pet ownership among children in China

Room 14: The Interdisciplinary Nature of Anthrozoology #1

Elin Lundberg	Animal Assisted Psychotherapy Informed By Polyvagal Theory
Fernanda P. de Freitas Garcia	The Antrozoo Project: The construction of a scientific dissemination project
Mirela De Oliveira Figueiredo	Assessment of Children in Canine-Assisted Occupational Therapy
Margo E Lockhart	Blockers and enablers to awareness of human/animal relations through the lens of Systems Psychodynamics
Buddhamas P. Kriengwatana	Can listening to music be good for animals? The need for an interdisciplinary approach

Room 15: The Interdisciplinary Nature of Anthrozoology #2

Grainne A O'Connor	Defining commonly used terms for animals working in support roles for vulnerable people
Janet Oostendorp-Godfrey	Educators, children and school dogs: using research to support the development of human-animal partnerships that benefit all
Celeste M. Morales	Helping People and Animals Together: Implementing a Trauma-Informed, Culturally Safe Approach in the Animal Services Sector
Megan M Ross	Horse Caretakers' Attitudes and Perceptions Toward Horse Care on Prince Edward Island
Valerie K Sims	Personality Characteristic Predict Method of Acquiring a Dog

Room 16: The Interdisciplinary Nature of Anthrozoology #3

Tammie King	SHINETM – A framework for pet emotional wellbeing
Jill Steel	Teacher-Researcher Collaboration in Animal-assisted Education: Co-designing a Reading to Dogs Intervention
Laura A Reese	The Emotional Aspect of Dog Fostering: Both Ends of the Leash
Rebecca C Smith	The older horse consultation: using sociological research to support equine veterinarians in practice
Jessica Bibbo	Uncovering Pet Issues, Benefits, and Challenges: A Survey of Professionals Working with Older Adults and Care Partners

Social and Networking Opportunities

We are excited to offer a range of networking and socializing opportunities. Below is a schedule of events taking place on the **Interactive Opportunities** channel in [Oxford Abstracts](#).

Thursday, July 7, 11:45-13:15 EDT

See [Oxford Abstracts](#) ISAZ 2022 Conference Program - Interactive Opportunities channel.

Interactive Opportunities: General Social Networking

This general networking session provides a place to stop in, catch up with old friends and colleagues, and meet new people before the conference reaches full swing.

Thursday, July 7, 13:30-15:00 EDT

See [Oxford Abstracts](#) ISAZ 2022 Conference Program - Interactive Opportunities channel.

Interactive Opportunities: Continuing Conversations

Conference presenters and general audience members are invited to continue their conversations from livestreamed sessions. The session host will assist each participant with assigning breakout sessions or to join social/networking opportunities.

Interactive Opportunities: Conference Lobby

This room is for attendees to relax and converse. All attendees, regardless of profession, level, etc. are invited to interact with one another in a digital space.

Thursday, July 7, 15:00-15:30 EDT

See [Oxford Abstracts](#) ISAZ 2022 Conference Program - Interactive Opportunities channel.

Conference “Speed Dating”

Join us for fast paced fun during this brief networking event! All participants will get a chance to share their work with others in a short, 2 minute format. Think of this as the classic business card exchange, but with a bit more spice.

Thursday, July 7, 15:30-17:15 EDT

See [Oxford Abstracts](#) ISAZ 2022 Conference Program - Interactive Opportunities channel.

Interactive Opportunities: Continuing Conversations

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Interactive Opportunities: Conference Lobby

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Thursday, July 7, 17:30-18:45 EDT

See [Oxford Abstracts](#) ISAZ 2022 Conference Program - Interactive Opportunities channel.

Student Mixer - Hosted by Shannon Cobb

Students at all levels, from undergraduate to graduate, are invited to get together and discuss all things anthrozoology. After introductions, attendees will be sent to breakout rooms for smaller discussions and a chance to learn from each other. This vertically integrated mixer is a chance for peer mentorship that you don't want to miss!

Friday, July 8, 9:00-9:55 EDT

See [Oxford Abstracts](#) ISAZ 2022 Conference Program - Interactive Opportunities channel.

ISAZ 2023 Conference Planning

Interested in hosting the ISAZ 2023 conference? We want to hear your input! Please join Patricia Pendry, the ISAZ President, to learn more about the process of hosting ISAZ 2023 and the institutional support made available by the ISAZ Board. This meeting is an informal discussion during which you can ask questions and explore the possibilities of hosting ISAZ 2023. We look forward to seeing you there!

Friday, July 8, 11:55-12:45 EDT

See [Oxford Abstracts](#) ISAZ 2022 Conference Program - Interactive Opportunities channel.

Interactive Opportunities: Continuing Conversations

Conference presenters and general audience members are invited to continue their conversations from livestreamed sessions. The session host will assist each participant with assigning breakout sessions or to join social/networking opportunities.

Interactive Opportunities: Conference Lobby

This room is for attendees to relax and converse. All attendees, regardless of profession, level, etc. are invited to interact with one another in a digital space.

Friday, July 8, 13:00-14:00 EDT

See [Oxford Abstracts](#) ISAZ 2022 Conference Program - Interactive Opportunities channel.

Interactive Opportunities: Lunch With the ISAZ Fellows

Come engage with our ISAZ Fellows as they discuss significant contributions to and the future of the field of anthrozoology. The ISAZ Fellows are honored members of our academic community whose work advances the field of Anthrozoology by enriching understanding of critical issues, addressing familiar problems or identifying a problem that has not been previously recognized, and serving ISAZ.

Friday, July 8, 16:45-18:15 EDT

See [Oxford Abstracts](#) ISAZ 2022 Conference Program - Interactive Opportunities channel.

Interactive Opportunities: Continuing Conversations

Conference presenters and general audience members are invited to continue their conversations from livestreamed sessions. The session host will assist each participant with assigning breakout sessions or to join social/networking opportunities.

Interactive Opportunities: Conference Lobby

This room is for attendees to relax and converse. All attendees, regardless of profession, level, etc. are invited to interact with one another in a digital space.

Saturday, July 9, 13:30-15:00 EDT

See [Oxford Abstracts](#) ISAZ 2022 Conference Program - Interactive Opportunities channel.

Interactive Opportunities: Continuing Conversations

Conference presenters and general audience members are invited to continue their conversations from livestreamed sessions. The session host will assist each participant with assigning breakout sessions or to join social/networking opportunities.

Interactive Opportunities: Conference Lobby

This room is for attendees to relax and converse. All attendees, regardless of profession, level, etc. are invited to interact with one another in a digital space.

Saturday, July 9, 15:15-16:45 EDT

See [Oxford Abstracts](#) ISAZ 2022 Conference Program - Interactive Opportunities channel.

Interactive Opportunities: Continuing Conversations

Conference presenters and general audience members are invited to continue their conversations from livestreamed sessions. The session host will assist each participant with assigning breakout sessions or to join social/networking opportunities.

Interactive Opportunities: Conference Lobby

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Workshop Information

Workshops are organized by ISAZ members to run in conjunction with the conference. The content, structure, and organization of workshops is the sole purview of the organizers and does not reflect the views of ISAZ or the conference organizers. **Questions about workshops should be directed to the workshop organizers, at the emails listed below.**

A Brief Introduction to Qualitative Research Methods in Human-animal Interaction Research

Date: Wednesday, July 6th at 9:00-13:00 EDT (14:00-18:00 BST).

Cost: Non-ISAZ Members: £20 (21.00 USD)

ISAZ Members: £10 (10.50 USD)

Register: Click the link below to register

<https://payments.liv.ac.uk/conferences-and-events/events-at-liverpool/institute-of-infection-and-global-health/isaz-preconference-workshop>

Participants will be limited to 25 so that in-depth discussion is possible within breakout groups (5-6 each) and can be effectively facilitated by the course instructors.

Hosted by: The PATHS (People and Animals and Their Health in Society) group, Institute of Infection, Veterinary and Ecological Sciences, University of Liverpool, UK.

Lead instructors: Dr. Carri Westgarth (carri.westgarth@liverpool.ac.uk), Dr. Tamzin Furtado, Rebecca Smith (plus facilitators).

Introduction

The purpose of this workshop is to provide a brief introduction to the role of qualitative research within the study of animal health and welfare related issues and of the impact of animals in societies. Qualitative methods are specifically designed to explore the intricacies of everyday behaviour and social relationships, including with animals, and the reasons why people act in the way they do. They are particularly suited for understanding how people interpret and respond to messaging related to health and welfare (their own or that of their animal). These methods are therefore key to understanding human behaviour, which can subsequently facilitate behaviour change to improve animal wellbeing. As a result, qualitative methods have been successfully used in pragmatic research across the animal sciences, including in exploring the experiences of laboratory animal-handlers; livestock farmers; equestrians; animal tourists; pet owners; veterinarians; dog-handlers, and more.

Despite its usefulness, qualitative research is often misunderstood, and considered a “nice to have” add-on to quantitative studies. Unlike quantitative methods, research staff are often expected to conduct and analyse qualitative research data from interviews and focus groups, with no experience or training. Moreover, peer reviewers of qualitative research are often unfamiliar with key concepts, such as sample sizes and reporting standards. As a result, it is important that introductory information is made available to researchers to enable them to better understand, utilise, and review qualitative research within the animal sciences.

This introductory workshop covers key concepts, research methods and ethical issues related to application of social sciences to the study of human-animal interactions. The specific objectives are

to:

- 1) Introduce a sociological perspective on the interactions between humans and animals
- 2) Explain where qualitative methods can be useful instead of or in addition to more traditional positivistic and quantitative research methods
- 3) Identify the key types of data collection methods commonly used in qualitative research and their ethical considerations.
- 4) Introduce the concept of 'coding' qualitative data during analysis
- 5) Introduce key concepts in relation to critically appraising qualitative research (for example, when peer reviewing a paper)

In order to achieve this, we bring together an experienced, diverse team with expertise in qualitative research methods in anthrozoological research. The team have taught research skills to a range of audiences, from undergraduate students to research field officers and veterinarians.

No prior knowledge is required to attend the workshop, as it aims to give an introduction to those unfamiliar with qualitative research methods.

The workshop will be delivered over 4 hours by zoom (including an extended break) in a mixture of lecture format, group discussion and integrated breakout activities.

Learning outcomes:

The workshop will be split into four components:

- The whys and wherefores: when are qualitative research methods useful?
- The nuts and bolts: what sorts of methods are involved in qualitative research methods?
- The how: an introduction to coding a research study
- The myths and mysteries: discussing common concerns about qualitative research methods, and addressing specific questions participants may have.

By the end of the course, participants will be able to:

- Give examples where qualitative research methods are useful in anthrozoological research
- Understand how qualitative research is different to quantitative research and in what context is each most appropriate
- Formulate research questions appropriate for addressing through qualitative research
- Outline the main types of data collection methods which are used in qualitative research
- Appreciate key ethical issues to be considered when conducting qualitative research
- Understand how qualitative data is analysed through 'coding' and have practiced this
- Critically evaluate published qualitative research and its contribution to the field



Before Your Pet Comes to Work: Preparing for Successful Animal-assisted Interventions

Date: Wednesday, July 6th 13:00-15:00 EDT

Cost: Free

Register: Participants may email the Workshop Organizer or use the [Oxford Abstracts](#) ISAZ 2022 Program to join the workshop.

Organizer: Dr. Taylor Griffin (taylorc@petpartners.org)

There are many considerations that must be made before you bring your pet to work with you to participate in animal-assisted interventions (AAI). This workshop will explore the steps that prepare the therapy animal, clients, colleagues, and the facility where AAI will take place. We will discuss the documentation that often accompanies these processes and templates that professionals can customize will be provided. Topics to be covered include animal training and welfare, zoonosis and infection prevention, informed consent, facility buy-in, insurance coverage, and more.



The Universal Human-Animal Bond: Using Groundbreaking Research to Improve Animal Welfare and Human Health Around the World

Date: Wednesday, July 6th, 15:00-17:00

Cost: Free

Register: Participants may email the Workshop Organizer or use the [Oxford Abstracts](#) ISAZ 2022 Program to join the workshop.

Organizers: Lindsey Braun (lbraun@habri.org), Oliver Knesl (oliver.knesl@zoetis.com)
Hosted By: Human Animal Bond Research Institute (HABRI) & Zoetis

The Human Animal Bond Research Institute (HABRI) and Zoetis teamed-up to conduct the largest-ever human-animal bond survey, reaching 18,000 dog and cat owners and 1,350 veterinarians across 9 countries and 4 continents. The data provides a detailed understanding of how the human-animal bond is perceived around the world. To more precisely measure the human-animal bond among pet owners, a new scale called the Human Animal Bond Score (HABSCORE) was developed that builds on existing scientifically validated scales. The HABSCORE examines the human-animal bond across four distinct dimensions: attachment, humanization, commitment, and integration. This presentation will provide an in-depth look at the survey findings, which offer strong evidence that pets positively impact their owners' health. The research also shows how stronger human-animal bonds are connected to clear, measurable increases in veterinary treatment and care for pets around the world. The data also explores the knowledge and training that veterinarians have with respect to the human-animal bond, along with the positive implications of incorporating this knowledge into veterinary practice. Finally, the presentation will discuss strategies for disseminating these results to various audiences, including veterinarians, pet owners and the general public. The survey findings have the potential to improve health for both people and companion animals, and to support the veterinary profession worldwide. Attendees will be given the opportunity to complete their own HABSCORE as an activity to further gain an understanding of the HABSCORE and to discuss potential future applications of the scale. Attendees will also be asked to discuss and suggest areas for secondary analysis of the survey data and follow-up research. These activities will facilitate greater understanding of the survey methodology, design and help to improve upon the way the human-animal bond is measured and understood on an international level.

No prior knowledge is expected of workshop attendees, although a basic understanding of the human-animal bond and animal care and welfare is encouraged.

¹ The emotional connection the owner feels to the pet

² Empathic attributes owner projects onto the pet

³ The changes/sacrifices an owner is prepared to make to accommodate their pet

⁴ The extent to which the pet is integrated in the owners' everyday life



The Affective Café - A Peer Support Space for Sharing Affective Impacts of Conducting Anthrozoological Research

Date: Wednesday, July 6th, 15:00-17:00

Cost: Free

Register: Participants may email the Workshop Organizer or use the [Oxford Abstracts](#) ISAZ 2022 Program to join the workshop.

Organizers: Prof Samantha Hurn (s.hurn@exeter.ac.uk), Dr. Fenella Eason (F.Eason2@exeter.ac.uk)

Dealing with the affective challenges associated with the anthrozoological endeavour, this workshop aims to help anthrozoologists in navigating their own and others' emotional landscapes. It explores the following question: How do we resolve what we find difficult, complex or uncomfortable during our research as anthrozoologists? As humans concerned with the lives of otherthanhumans, our emotions can become knowledge to inform how we assimilate and analyse our experiences. Our anthrozoological research may directly impact our own affective states for better or worse. Emotions may be a pervasive aspect of the human condition, yet 'in the field' or in the production of academic scholarship, they may also be placed under unique pressures. As a result of this emotional load, our affective responses may be contained, repressed and perhaps even become inexpressible or overwhelming (Gillespie & Lopez 2019). Disenfranchised grief (Doka 1999) describes a stigmatized grief whereby feelings of loss may conflict with normalised social and societal values. Such experiences are likely felt at the interface of multispecies encounters. Both Hurn (2020-2021) and Eason (2021) have discussed disenfranchised grief and its existence in the anthrozoological field of research. As researchers, we may experience a pressure to maintain affective neutrality when gathering and analysing data, which may place strain on our emotions. Research encounters may thus also render anthrozoologists disenfranchised grievers. Wilkie (2015) notes the unique challenges for Human-Animal Studies (HAS) scholars, describing how 'those who study interspecies interfaces are engaged in polluted and risky scholarship' as a consequence of their engagement with 'dirty' labour practices in the field, and a greater orientation towards a politicised scholarship (p2). Making the case for a buddy system in the academy, as a result of their own confronting research, Lopez and Gillespie (2016) note 'a need for shared experience and a recognition of relationality and vulnerability in the research process' (p2). The Affective Café, therefore, seeks to 'meet' the difficult encounters that we may face during our research, providing place, space and opportunity to share these in a safe way. These difficulties may be as a consequence of connecting with the perspectives of our human and other than human research subjects, or through feeling conflict or ambiguity in relation to how our findings sit with our own ethics and ideals. Taking inspiration from the Death Café model, the Affective Café is a confidential and non-hierarchical space within which to explore some of these challenges. It was developed by members of the EASE (Exeter Anthrozoology as Symbiotic Ethics) working group at the University of Exeter, UK and piloted at EASE's inaugural Reframing Anthrozoology as Symbiotic Ethics conference in 2021. The Café is currently provided to postgraduates and staff on the Anthrozoology programmes at Exeter and is being offered to a wider audience at ISAZ 2022. Co-produced for a peer group and designed for anyone navigating the affective impacts of their research, this workshop will be immersive and offer interactive options, including breakout groups, verbal discussions, a chat feature and the opportunity to continue the conversation through social media.

Abstracts

Abstracts represent the information submitted by the corresponding author. Content has been checked for English and corrected. Not all submitted information was included and abstracts were restricted to 300-word count. Appearance may have changed when exporting from Oxford Abstracts.

Livestream Oral Presentations

Click on the links below for a shortcut to the abstracts for a specific Livestream Oral Presentation session

[**L1. Animal Perspectives & Welfare**](#)

[**L2. Stress & Grief**](#)

[**L3. Promoting & Improving Positive Human-animal Bonds**](#)

[**L4. Workers & Wildlife**](#)

[**L5. Anthrozoology in Japan & Australia**](#)

[**L6. Between Professionals & the Public**](#)

[**L7. Human Health & Wellbeing**](#)

[**L8. Hooves & Claws**](#)

[**L9. Inside the Shelter & Beyond**](#)

[**L10. Companion Animals in the Home**](#)

[**L11. Flash Talks - Emerging Trends Highlights**](#)

[**L12. Continued Impacts of COVID on HABs**](#)

L1 Animal Welfare & Perspectives

Channel 1

11:45-13:15 Thursday, July 7

L1.1 Assessing the Emotional States of Dogs & Unfamiliar Human Handlers Using Simultaneous Cardiac & Behavioral Measures

Emma K. Grigg¹, Serene Liu¹, Denise G. Dempsey², Kylee B. Wong¹, Melissa J. Bain¹, John J. Sollers³, Rani Haddock³, Lori R. Kogan⁴, Jennifer A. Barnhard¹, Ashely A. Tringali¹, Abigail P. Thigpen¹, Lynette A. Hart¹

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Although positive interactions with humans can have a beneficial effect on dogs, many companion dogs display significant stress during routine veterinary visits, risking injury to staff and potentially compromising quality of care. Dogs can detect human emotions through visual, auditory, and chemical channels, and have been shown to exhibit emotional contagion, particularly with familiar humans. We investigated relationships between the emotional states of dogs and unfamiliar human handlers (n=38 pairs), using simultaneous measures of cardiac activity and behavior, during two sessions of three consecutive handling sets (two before and one after the introduction of a verbal stressor to handlers only). Measures of cardiac activity, obtained using Polar H10 cardiac sensors, included mean heart rate (HR_{mean}) and two measures of heart rate variability (HRV): RMSSD and HFlog. Behavioral data were collected via digital video, and a canine stress index (SI) was calculated by tabulating behaviors indicative of stress during handling. We also compared human handlers' emotional states during dog handling sessions following an intervention designed to reduce stress, vs. sessions following a control activity. The strongest influence on the dogs' stress levels appeared to be familiarity with the setting and the handler. We found that HR_{mean} and SI decreased, and HRV (as RMSSD) increased, from the first to the third handling set. The canine HRV measure HFlog was also highest in set 3, although not significantly. No strong patterns were found in the human cardiac data across handling set, session, or by pre-handling activity. We did not find consistent support for emotional contagion between the dogs and their handlers, perhaps due to the brief time that the dogs spent with the handlers. Recommendations for application to dog handling are discussed, and possible limitations of our methods are described.

L1.2 Can Dogs Discriminate Between Baseline & Stress Condition Human Odours?

Clara Wilson¹, Zachary Petzel², Kerry Campbell¹, Catherine Reeve¹

¹ Queen's University Belfast, Belfast, United Kingdom

² Newcastle University, Newcastle, United Kingdom

Introduction: Previous studies have suggested that dogs are capable of detecting human emotional states, however no study has empirically tested dogs' ability to discriminate odours taken during baseline and stress conditions using a controlled paradigm. Our study addresses the question of whether dogs can detect an odour cue associated with human stress.

Methodology: Breath and sweat (combined) samples were obtained from participants at baseline and after a stress-induction task (Mental Arithmetic Task). Participants' stress was validated with physiological measures recorded on a Biopac MP150 system and self-report measures. Samples were presented to four dogs across 36 sessions (2, 7, 11 and 16 sessions, respectively) using a double-blind, three alternative forced choice procedure. Each session comprised of 20 discrimination trials in which a dog was presented with a single individual's stress sample, their baseline sample, and a blank.

Results: The dogs' accuracy ranged from 70% to 100% per session, with an overall combined accuracy of 93.75% (n trials = 720). A binomial test, where the probability of success on a single trial is 0.33, and alpha is 0.05, indicated that the proportion of correct trials (675/720) was higher than that expected by chance ($p < 0.001$).

Principal Conclusions and Impacts for Field: The dogs' performance suggests that participants' stress samples had a detectable odour that it was discriminable from the odour of their baseline samples. These results add to our understanding of human-dog relationships and could have applications to Emotional Support and Post Traumatic Stress Disorder (PTSD) assistance canines.

L1.3 The Power of Personhood: Does Categorization of Animals into a Superordinate Group that Includes Humans Result in Improved Prosocial Attitudes?

Cluny South¹, Catherine E Amiot², Brock Bastian³

¹ University of British Columbia, Vancouver, BC, Canada.

² Université du Québec à Montréal, Montréal, Quebec, Canada.

³ University of Melbourne, Melbourne, Victoria, Australia

Introduction. Advocates of biodiversity have suggested that allocating personhood status to animals may serve to foster improved status and rights. This research examines whether there are downstream benefits to the belief that animals are persons across a range of prosocial variables.

Methodology. A sample of 204 participants were recruited online via Prolific Academic. An experimental 3-level (personhood; human-animal; control) single-factor design was used. Prosocial attitudes were probed through a series of measures which included charitable donation intentions, a human/dog life-raft dilemma, a volunteer pledge and intention to save the earth. Scores on the IWAM scale were collected (Amiot, Sukhanova & Bastian, 2020).

Main Results. Significant positive correlations were found between belief in the personhood of animals and the following dependent variables: donation support for animal charities $r(202)=.432, p<.001$; intention to save a dog in a life-raft dilemma $r(202)=.376, p<.001$; intention to volunteer time on a charity stall $r(202)=.153, p=.029$; and intention to save the earth for biodiversity motives $r(202)=.389, p<.001$. Significant negative correlations were found between belief in the personhood of animals and donations to human charities $r(202)=-.432, p<.001$ as well as intention to save a human rival in a life-raft dilemma $r(201)=-.226, p=.001$. Belief in the personhood of animals was also significantly positively correlated with three IWAM measures (Pride, Solidarity and Similarity). No main effects were found for the condition although a moderation effect was noted. Future studies will probe these mechanisms.

Principal Conclusions and Implications for Field. This study provides preliminary support that belief in a superordinate categorization of personhood which also includes animals, is associated with more prosocial intentions towards animals.

References: Amiot, C. E., Sukhanova, K., & Bastian, B. (2020). Social identification with animals: Unpacking our psychological connection with other animals. *Journal of personality and social psychology*, 118(5), 991.

L1.4 Emotional Expressions in Dogs' Faces & Dog's Eyes

Laura B Burza¹, Tina Bloom², Pedro H.E. Trindade³, Harris Friedman^{4, 5}, Emma Otta¹

¹USP, São Paulo, São Paulo, Brazil

² The Floraglades Foundation, Fort Myers, Florida, USA

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⁴ Harvard University, Cambridge, Massachusetts, USA

⁵ University of Florida, Gainesville, Florida, USA

Introduction: We investigated human ability to recognize emotions (anger, sadness, happiness, fear) from dogs' faces or from only dogs' eyes. The previous studies using these canine photographs were completed in the United States (see Bloom et al, 2021), and our study extended the validation of the photographs to a Latin American population in Brazil.

Methodology: Participants (N= 120 adults) viewed behaviorally-anchored photographs of the face or the eyes of three dog breeds (Belgian Malinois, Rhodesian Ridgeback, and a Doberman). We used black and white pictures produced in emotion-evoking situations. Half of the participants were given a two-word forced choice while the others, a four-word forced choice. Google forms were used for data collection.

Results: One-sample t-tests showed that all groups correctly identified emotions at a higher rate than chance (Face 2 words: $t(29) = 16.155$, $p < .001$; Face 4 words: $t(29) = 19.199$, $p < .001$; Eyes 2 words: $t(29) = 5.682$, $p < .001$; Eyes 4 words: $t(29) = 4.087$, $p < .001$). Fear was the most accurately recognized emotion. Eyes with four choices was the most difficult task and face with two choices was the easiest task. It is noteworthy that although Eyes 4 was the most difficult task, the maximum score achieved was 100% correct. The maximum score for Eyes 2 was 83.33%, for Face 4 was 91.67%, and for Face 2 was 100%.

Conclusions: Facial or eye expressions alone are sufficient for recognizing canine emotions. The association of dogs and humans for at least 14,000 years may have been an association for mutual benefits that shaped emotional interconnectedness that would naturally include reading dogs' faces and eyes.

Reference: Bloom, T., et al (2021). Identifying facial expressions in dogs: A replication and extension study. *Behavioural Processes*, 186, 104371.

Funding: FAPESP; CNPq, Purina

L2 Stress & Grief

Channel 1

13:30-15:00 Thursday, July 7

L2.1 The Influence of Psychiatric Service Dogs for Posttraumatic Stress Disorder (PTSD) on Military Spouses

Leanne O Nieforth, Elise Miller, Shelley MacDermid Wadsworth, Marguerite E O'Haire Purdue University, West Lafayette, IN, USA

Introduction: Previous literature suggests that the benefits and challenges associated with psychiatric service dogs for veterans with posttraumatic stress disorder (PTSD) may extend beyond veterans and affect the broader veteran family. The purpose of the current study is to explore clinically validated and empirical survey measures in a longitudinal study of veterans and their spouses to provide insight regarding psychiatric service dogs for veterans with PTSD and veteran families.

Methodology: A total of 88 United States military veteran spouses completed a survey composed of multiple standardized measures at baseline and three months later. In the intervention group (n=48), veterans received service dogs shortly after baseline while the waitlist control group (n=40) did not receive a service dog until after the study was completed. Linear regression was used to analyze the standardized survey responses.

Main results/findings: Linear regression analyses demonstrated significantly lower caregiver satisfaction ($p=0.046$, $d=-0.46$), higher caregiver burden ($p=0.048$, $d=0.38$) and higher participation in life activities ($p=0.014$, $d=0.59$) among spouses who had service dogs in their homes compared to those on the waitlist. Though not significant, small effect sizes were present among additional measures.

Principal conclusions and implications for the field: Results suggest that although previous literature demonstrates psychiatric service dogs may offer significant improvements for veterans, spouses and children may not experience those same benefits. Clinicians should consider how to prepare veteran spouses and families for integrating psychiatric service dogs into their home. Future studies should explore family-focused approaches for service dog integration, defining an optimal strategy for the benefit of the entire family.

L2.2 Speaking With & For Disenfranchised Grievors: Advocating on Behalf of Children Following Companion Animal Loss

Samantha Hurn, Emily Stone, Fenella Eason, Alexander Badman-King
University of Exeter, Exeter, United Kingdom

Companion animals are widely regarded as family members in much of the developed world. However, while grief following the death of human family members is socially acknowledged and validated, grief following the loss of companion animals is not always recognized in the same way and may even be trivialized. Such cases constitute what psychologists term 'disenfranchised grief'. When grief is disenfranchised, the bereaved are more likely to experience prolonged, damaging psychological distress. Because children are often closely bonded with companion animals, there is potential for them to experience significant distress following their deaths. Existing research on pet keeping suggests that caring for companion animals can teach children vital skills including empathy and responsibility. It is also through

the loss of companion animals that many children learn about death. However, there is no existing research which considers whether or not children experience disenfranchised grief following companion animal loss.

The project which will be presented was entitled 'How best to say goodbye' (funded by the Society for Companion Animal Studies) and investigated the experiences of a wide range of stakeholders. The aim was to explore whether or not children in our sample (n = 140) might constitute disenfranchised grievers; and to understand the impacts of companion animal loss on children's wellbeing. Participants included (i) children who had lost a nonhuman companion, (ii) adults who had lost nonhuman companions in their childhood, and (iii) adults from diverse professions (including education, veterinary and mental health professionals) who had observed children experiencing childhood companion animal loss. The research found that children are indeed disenfranchised grievers, that they are often excluded from end of life care and decision making in relation to their companion animals, and that childhood experiences of companion animal death can impact individual wellbeing and relationships with animals across the life course.

L2.3 Emotional Support Animals in College Campus Housing

Angela L Curl

Miami University, Oxford, OH, USA

Emotional support animals are increasingly common in residence halls. This study examines the benefits and challenges of having an Emotional Support Animal (ESA) while living in campus housing, from the perspective of ESA owners and roommates. Using a mixed methods approach, qualitative and quantitative data were collected via an online survey and focus groups. The following themes emerged as benefits of ESAs, as identified by participants: improved or maintained mental health, motivation to take care of oneself, and increased social interactions. Challenges to having an ESA included having to disclose one's mental health diagnosis, needing to educate others about ESAs, "sharing" their ESA with others, ESA-related expenses, pet supplies availability, barriers to respite care, transportation and parking difficulties, potential pet loss, and the difficulty obtaining a letter from a health professional as part of the application process to have an ESA on campus. Despite these challenges, participants reported that the mental, social, and physical health benefits of having an ESA far outweighed the challenges, and helped them function personally and academically. This research includes implications and recommendations for ESA owners as well as university/academic audiences.

L2.4 Assistance Dogs for Military Veterans with PTSD: A Systematic Review, Meta-analysis, & Meta-synthesis

Sarah C Leighton, Leanne O Nieforth, Marguerite E O'Haire

Purdue University, West Lafayette, IN, USA

Introduction. Psychiatric assistance dogs for veterans with posttraumatic stress disorder (PTSD) make up over 19% of assistance dog teams in the United States. We conducted a systematic review of the literature relating to these partnerships, with specific aims to (1) summarize their characteristics, (2) evaluate the quality of existing evidence, and (3) summarize outcomes.

Methodology. A total of 432 records were independently screened by authors SL and LN (Cohen's kappa=0.90). Of these, 41 articles (29 peer-reviewed publications and 12 unpublished dissertations) met inclusion criteria. Data extraction was conducted to address the research aims, including a meta-analysis

(quantitative outcomes) and meta-synthesis (qualitative outcomes).

Results. All peer-reviewed publications on the topic of psychiatric assistance dogs for veterans with PTSD were published within the last 5 years. The majority of included articles were quantitative (53%), 41% were qualitative, and 6% employed mixed methods. Mean methodological rigor scores were 78% for peer reviewed articles and 71% for dissertations, where higher scores represent more rigorous methodology. Quantitative articles reported significant improvements in the domains of PTSD severity, mental health, and social health. Impacts on physical health and global quality of life appear inconclusive. Meta-analysis revealed that partnership with an assistance dog had a clinically meaningful, significant, and large effect on PTSD severity scores ($g=-1.129$; $p<0.0001$). Qualitative meta-synthesis identified two third order constructs: (1) Impact on the individual: mental & physical health and (2) Impact beyond the individual: building relationships & connection.

Conclusions. A synthesis of increasingly prevalent research on assistance dogs for veterans with PTSD provides support for the impact of this complementary intervention on PTSD symptom severity, and signs of meaningful improvements in adjacent domains including mental and social health. Gaps between quantitative and qualitative findings, along with the need to report greater demographic detail, highlight key opportunities for future research.

L3 Promoting & Improving Positive Human-animal Bonds

Channel 2

13:30-15:00 Thursday, July 7

L3.1 A Mixed Method Analysis of Owner Expectations & Surprises of Dog Ownership in the UK

Katrina E. Holland, Katharine L. Anderson, Ben Cooper, Robert M. Christley

Dogs Trust, London, United Kingdom

Although many owners are satisfied by dog ownership, high numbers of dogs are relinquished annually. Unrealistic ownership expectations are a potential factor in the decision to relinquish, therefore understanding what surprises owners about the realities of ownership and how this meets their expectations is vital.

As part of Dogs Trust's National Dog Survey (<https://www.dogstrust.org.uk/latest/2021/national-dog-survey>), owners were asked 'what has surprised you most about owning a dog?' and to rank how their experiences had compared with their expectations on a list of aspects of ownership as either more, less or as expected. Free text responses were analysed using reflexive thematic analysis in NVivo Pro (v.12 QSR). A quantitative summary of ranked expectations was conducted in R.

Quantitative analysis included 354,224 responses; qualitative analysis used a random sample of 2,000 free text responses. Many aspects of ownership were reported to be as expected, however a discrepancy between expectation and reality regarding some aspects was revealed. The cost of vet visits was greater than expected for the majority of respondents (52%), whilst other factors that often exceeded expectations included rehoming cost (33%) and patience needed (25%). Damage to furniture was less than expected for many (50%) as was damage to garden (33%). From the thematic analysis, four themes were generated that reflected what surprised owners most about ownership: emotional connectedness of human-dog relationships; dog's impact on human health/ wellbeing; understanding what dogs are like; meeting the demands of ownership.

This study's results are reassuring given many aspects of ownership were as expected, and surprises were often positive. However, some areas had greater impacts than expected, raising opportunities for intervention, resources or support. The aim would be to manage owners' expectations or ensure these are more realistically met, reducing the likelihood of negative welfare implications for both dog and owner.

L3.2 The Sons of Sam: Black Dogs, Psychopomps, & Serial Killers

Margo DeMello

Carroll College, Helena, MT, USA

Dogs are associated with death and the afterlife in a wide variety of cultures; dogs guard the entry to the next world, or are responsible for accompanying deceased humans across the border between worlds. This set of beliefs evolved into the English legend of the Black Dog, a canine apparition whose appearance signals a coming death and who is often thought of as the Devil himself.

This talk connects the religious conception of the psychopomp with Black Dog folklore, and with narratives surrounding modern serial killers. I am interested in exploring how animals are included in narratives surrounding serial killers, whether that representation is connected to ancient beliefs about the dog's role

in human death, the prevalence of dog-keeping by serial killers, and how the relationship(s) that killers have with dogs can add to our understanding of serial murder.

To evaluate these questions, I conducted a literature search (focusing on both scholarly articles and popular material—including podcasts, books, and films) on serial killers to look for the presence of animals—especially dogs—and combined that data with folklore about the Black Dog and ethnographic information about canine psychopomps.

The idea that serial killers can form relationships with dogs challenges our understanding of these murderers. Investigating these relationships may give us insight into the ways in which serial killers manage their public face and attempt to project a sense of normality to others.

Dogs are border crossers, with one foot in the human world and one in the animal world. They are also the animal most likely to cross the border between this world and the next. This talk aims to not only add to the literature on serial killers, but will contribute to the continuing discussion on the role(s) and figure of dogs in contemporary society.

L3.3 Canine Ministries: A Multispecies Religious Practice

Heather Frigiola

University of Nevada - Las Vegas, Las Vegas, Nevada, USA

There is a new trend among US evangelical Christians to use therapy dogs in ministry work. The canine therapy ministry is set apart from other applications of animal-assisted therapy by its religious setting.

Canine ministries aim to bring the love of Christ to others through a therapy dog. Chaplains bring their certified therapy dogs to visit hospital patients, people with stressful jobs, nursing home residents, children in foster care, homeless people, and others.

The current research utilizes multispecies ethnography to examine the role of the therapy dog within a ministry setting, approaching the canine ministry as an emergent cultural phenomenon. This research reveals an emergent form of human-canine partnership, new religious attitudes toward dogs, and changing ontological conceptions of human-animal relationality in the twenty-first century. To conduct this research, I interviewed six therapy dog chaplains living in five different states and then shadowed one of them in the field for two weeks. I focused on the beliefs and attitudes of the chaplains and the dogs' role as active subjects. This occurred in the summer of 2021. Additional fieldwork is being arranged.

This research suggests that therapy dogs and evangelical chaplains form strong partnerships because the dogs' supposedly lowly status as animals is counterbalanced by an additional set of qualities that Christians idealize. Ministry dogs not only provide comfort, but also aid in evangelism and symbolically embody the love of Christ. This relatively new application of canine-assisted therapy has the potential to become more prevalent in the future.

L3.4 A Psychobiological Approach to Promoting Low-stress Interactions in Equine-assisted Services

Christine Rudd¹, Emma Pasiuk¹, Katy Schroeder¹, Nichole Anderson², Nathaniel Hall¹

¹ Department of Animal and Food Sciences, Texas Tech University, Lubbock, TX, USA

² School of Veterinary Medicine, Texas Tech University, Lubbock, TX, USA

Introduction: There is a growing consensus in the scientific community that animal-assisted intervention research lacks uniformity and methodological rigor. This exploratory study utilized a large sample size

and multiple data types to identify key variables that influence the horse and human experience during common equine-assisted services (EAS) activities and generate recommendations that promote low-stress interactions.

Methodology: The current study employed a mixed-methods, repeated measures design. A sample of 60 humans and 15 therapy horses were paired (1:1) to complete three, 7-minute activities: grooming (G), leading (L) and leading through a maze (M). Measures of human mood state, activity enjoyment, and impact of horse characteristics were assessed. Equine measures include heart rate variability (HRV), eye-temperature (ET), and behavior.

Main Results: A mixed effects model indicated that horses showed greater sympathetic activity in G than baseline ($p = 0.045$), and greater parasympathetic activity in L ($p = 0.003$) and M ($p = 0.018$) than G. ET in L ($p = 0.021$) and M ($p < 0.001$) was significantly lower than G. Human mood remained positive and was not different across the activities, or which horse they were paired with ($F = 0.93$, $p = 0.60$). Paired samples t-test suggested a difference between participants' enjoyment of the leading and maze activity ($t = 2.18$, $p = 0.034$), however, the effect size was relatively small ($d = 0.22$). These findings will be compared with behavioral data for a robust assessment of the interactions.

Principal Conclusions and Implications for Field: Preliminary data suggests horses experience greater physiological indicators of stress levels in G than moving activities while human mood remained consistent. These findings provide valuable information on equine affect and variables that impact human experience during common interactions in EAS, providing a preliminary guide for practitioners to design low-stress interactions for their sessions.

L4 Human-Wildlife Interactions in Multiple Contexts

Channel 1

15:30-17:15 Thursday, July 7

L4.1 Ambiguity & Conflict among Texas Suina: Human-Javelina-Hog Relations in Texas

Adam P Johnson

University of Texas at San Antonio, San Antonio, TX, USA

Texas is home to a native peccary species, the javelina (*Pecari tajacu*), who live throughout much of the state's central, western, and southern regions. Peccaries belong to the suborder Suina, including the Eurasian wild boar (*Sus scrofa*) and domestic pig (*Sus domesticus*). *Sus* sp. were introduced into Texas during the European colonization of the Americas and have established feral populations in all but one county. Feral hogs are estimated to inflict millions of dollars in agricultural damage in Texas per year. Consequently, the state has authorized lethal control measures to reduce populations throughout the state which have not sufficiently addressed ecological problems that arise from their presence. Additionally, Texan perceptions of feral hogs have confounded human-javelina relations as they bear a superficial similarity. Javelinas are inadvertently affected by trapping and hunting. Furthermore, feral hog fecundity results in asymmetrical ecological competition with javelinas through competition and displacement. Despite the material costs of feral hog presence for both humans and javelinas, this tripartite conflict is the consequence of a history of colonization, poor land management, and animal husbandry. Consequently, both feral hogs and javelinas bear the burden of this history. Ethically informed decision-making that recognizes the role humans played in the current circumstances surrounding feral hogs in Texas is necessary for creative and effective solutions for reducing feral hog populations without the degree of legitimized violence currently employed.

L4.2 Application of the Animal-Visitor Interaction Protocol (AVIP) on the ring-tailed lemur walk-in enclosure at Pistoia Zoo (Italy)

Iaria Pollastri^{1,2}, Simona Normando^{1,2}, Daniela Florio^{3,2}, Linda Ferrante², Francesca Bandoli⁴, Elisabetta Macchi⁵, Alessia Muzzo², Barbara de Mori^{1,2}

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Zoos, sanctuaries, and other tourist facilities commonly offer Animal-Visitor Interactions (AVIs). Nevertheless, the overall impact of these activities on animals, visitors and staff is not regularly assessed. We designed the Animal-Visitor Interaction Protocol (AVIP) to perform a multidisciplinary and integrated assessment of AVIs providing a final rational ethical analysis to highlight potential conflicts of values and develop target actions. As lemur walk-in enclosures are very common in zoos, we applied AVIP to an AVI involving five ring-tailed lemurs (*Lemur catta*) hosted at Pistoia Zoo (Italy). Data were collected before, during and after 26 AVIs and in 10 control sessions from August to September 2018. Animal behaviours and enclosure use were recorded with the continuous focal animal sampling method and 41 faecal samples were collected to analyse faecal glucocorticoid metabolites. Animal Welfare and Human Risk

Assessments were performed to highlight potential risks to animal welfare and visitor safety and health. Two surveys (post-AVI and general) were administered to 291 visitors to investigate their perceptions and self-reported changes in attitude towards animals and conservation issues. Results were used to fill in an Ethical Matrix for the ethical evaluation. A final Ethical Overall Assessment allowed to depict ethical concerns. Behavioural and physiological analyses suggested no changes in animal welfare level. Low animal welfare risks and low and medium risks to the health and safety of visitors were found. Visitor surveys showed that the AVI could help promote the zoo's conservation objectives and visitor education. Some potential ethical concerns emerged from the Ethical Overall Assessment, but the outcomes indicated that these conflicts were well managed. This first application of AVIP to animal encounters involving non-human primates confirmed its potential as a tool for the overall evaluation of AVIs, following the One Health – One Welfare approach.

L4.3 Aspects of Zoo Experiences that Increase Feelings of Connectedness & Conservation Caring

Alaina M Macri, Deborah Wells

Queen's University Belfast, Belfast, United Kingdom

Introduction: Increasing zoo visitors' feelings of care and connectedness to animals is a common goal of modern zoos. However, more research is needed in measuring these feelings and identifying which aspects of the zoo experience can enhance these. This study aimed to assess whether animal taxon, behaviour, proximity and activity influenced people's feelings of connectedness and conservation caring for a specific species.

Methodology: An online survey asked participants to recall their last zoo visit and discuss which animal they felt most connected to, and to provide details of what happened during that experience (e.g. animal proximity, behaviour etc). A visual scale of connectedness was used to assess how connected they felt, and the construct of 'conservation caring' was utilised to assess a species-specific connection. The survey was completed by 494 participants who accessed it through social media and survey exchange sites. Respondents were adults who had visited a zoo within the last 5 years.

Main Results: ANOVA analyses showed that activity ($F(3,460) = 1.39, p = .246$) and proximity ($F(5,460) = 0.39, p = .859$) did not significantly affect the feelings of connectedness, however taxon did ($F(7,480) = 3.21, p = .002$). A multiple regression between 'conservation caring' and 'behaviours seen' highlighted two of the eight behaviours as significant predictors. Seeing the animals eating ($t = 3.15, p = .002$) and seeing them interact with other animals ($t = 2.16, p = .031$) had positive influences on 'conservation caring' scores.

Principal Conclusions and Implications: These findings suggest that the animals' activity level and proximity are not the most important factors in promoting feelings of connectedness. However, seeing the animals feeding and interacting with each other may promote feelings of connection with the species, which further supports the benefits of public feeding displays.

L4.4 Hand-reared Wolves Show Attachment Behaviours Comparable to Dogs & Use Human Caregiver as a Social Buffer in the Strange Situation Test

Christina Hansen Wheat^{1,2}, Linn Larsson², Patricia Berner², Hans Temrin²

¹ Lund University, Lund, Sweden

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Introduction. Domesticated animals are generally assumed to display increased sociability towards humans compared to their wild ancestors. Dogs (*Canis familiaris*) have a remarkable ability to form social relationships with humans, including lasting attachment, a social bond based on emotional dependency. Since it has been specifically suggested that this ability evolved post-domestication in dogs, attempts to quantify attachment in wolves (*Canis lupus*) have subsequently been performed.

However, while these rare wolf studies do highlight the potential for wolves to express attachment behaviour towards humans, the varied, and in some cases, contrasting results highlights the need for further testing of wolves.

Methodology. We used the standardized Strange Situation Test to investigate attachment behaviours expressed in wolves and dogs, hand-reared and socialized under identical conditions. Furthermore, we simultaneously quantified stress and fear behaviours to evaluate how wolves and dog are affected by the test situation.

Results. 23-week old wolves and dogs equally discriminated between a stranger and a familiar person, and expressed similar attachment behaviours toward a familiar person. Additionally, wolves, but not dogs, expressed significantly elevated stress behaviour during the test, but this stress response was buffered by the presence of a familiar person. Wolves also expressed quantifiable fear responses toward the stranger, whereas no such response was detectable in dogs.

Conclusions. Together, our results suggest that wolves can show attachment behaviours toward humans comparable to that of dogs. Importantly, this demonstrates that the ability to express attachment behaviours towards humans exists in relatives of the wild ancestor of dogs, thereby refuting claims that this phenotype evolved either during or after the onset of dog domestication.

From an applied perspective, the stress and fear induced by the test situation exclusively in the wolves highlights the importance of actively mitigating aversive behavioural responses in both research and captive settings.

L4.5 Lumber Layoffs & Ecocentric Solutions: Investigating Affective & Educational Outcomes of Elephant Encounter Facilities

Rebecca L Madrid

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Background: Myanmar features one of few remaining old-growth teak forests, owed in part to the labour of Asian elephants for selective harvesting. Between 2014 and 2017 the Burmese government reduced annual revenue targets, ended subcontracting agreements, and implemented logging bans leaving many captive elephants unemployed. After a lifetime of physical labour, these individuals require both management of industry-related injuries and abundant sources of enrichment. Tourism facilities, referred to as “retirement camps”, take in these new retirees, either permanently or on contract rentals from the elephant’s owner. The sites offer their elephant residents lodging, food, and medical care while also employing oozies (elephant trainers or ‘mahouts’), and financially supporting the human owners.

Objectives: This paper investigates the tourism viability of such ecocentric elephant encounter sites, as well as public perception of the facilities and their residents. The objectives are to evaluate: (1) driving factors that contribute to the choice to visit Asian elephant encounter sites, (2) emotive response to various activities at these facilities – i.e. riding, bathing, and feeding, (3) the reported educational impact of the facility on visitor perspectives and understanding of Asian elephants as a species and as individuals.

Methods: Conclusions are informed by an analysis of visitor reviews of the four top-reviewed tourism camps in Myanmar, including a thematic review of patterns in the emotive and affective language used, discussion of self-reported visitor learning outcomes, and a consideration of calls to action found in the

text reviews. This data is supplemented by autoethnographic discussion of the author's experience working as a short-term volunteer at a case study camp.

Implications: Conclusions will highlight the factors most effective at motivating visitors towards ecocentric sites, over more anthropocentric options, and offer a starting point for activism efforts that seek to reduce exploitation in elephant encounter contexts.

L5 Anthrozoology in Japan & Australia

Channel 1

17:30-18:45 Thursday, July 7

L5.1 The Dog-owner Relationship Compared: Japanese Dog Owners Focus on Emotional Closeness While Italian Owners Focus More on Pet-owner Interactions.

Miki Kakinuma, Izuru Nose

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It is known that there are cultural differences in the relationship between owners and their dogs. However, few studies have examined them using the same scale. In this study, we translated the Cat/Dog-Owner Relationship Scale (C/DORS), a questionnaire aimed to assess specific aspects of the pet-owner relationship into Japanese and compared it with an Italian study (Riggio et al. 2021).

A survey was conducted using the Internet among 300 dog owners. The factor analysis resulted in three-factor structure (Perceived Emotional Closeness = PEC, Pet-Owner Interactions = POI, Perceived Costs = PC). The order is different from the Italian version (POI, PEC, PC). The items in three factors were basically the same. There were some differences in items removed. The item “my dog gives me a reason to get up in the morning” was excluded in Italian data due to the low threshold. This item is in the PEC in Japan.

The following items were excluded due to the low threshold in Japan and are part of POI in Italy: How often do you kiss your dog? How often do you buy your dog presents? How often do you tell your dog things you don't tell anyone else? Another item excluded, How often does your dog stop you doing things you want to? is in PC in Italy.

The factor analysis results indicate that Japanese owners focus more on emotional closeness than Italian owners and less on interactions. While the Italian survey was conducted via SNS, the Japanese survey conducted by a commercial survey company may have some impact on the results based on the demography of the dog owners. Overall, the perception of pet dogs is similar in Italy and Japan. They enjoy and cherish the companionship.

L5.2 Management of Animal Interactions in Australian Residential Aged Care Facilities: A Mixed-methods Pilot Study

Wendy M Newton¹, Tania D Signal², Jennifer A Judd¹

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²CQUniversity, Rockhampton, Queensland, Australia

Introduction. The provision of animals in Australian Residential Aged-Care facilities (RACF) is poorly understood. However there are risks to residents (e.g., zoonosis, allergies, scratches, trips and falls) and to the animal visitors (e.g., lack of exercise, overfeeding, injuries and other welfare issues). In this pilot, study managers were asked about their facility's current policies and practices via survey and invited to participate in a follow-up interview.

Methods. A link to a 15-minute Qualtrics survey was emailed to 1097 RACF Managers and Nursing Directors. The survey collected data concerning demographics, the presence of animals, willingness to

provide animals, types of interactions and the presence of policies and their content.

Managers were also offered the opportunity to participate in a semi-structured interview to discuss the provision of animals in RACF. Following transcription of the interview, two researchers independently coded the data before cross-checking codes.

Results. Although the sample was small it covered the range and diversity of Australian RACF and provided an interesting snapshot of the sector. While most facilities indicated having animal-related policies to some degree, policy content was lacking with notable omissions including animal welfare considerations. Importantly, most visiting animals came from sources other than Animal Assistance Intervention (AAI) organisations. The manager interview highlighted the need for policy development and implementation and although there was some recognition of animal welfare issues by the manager more needs to be done in this area.

Conclusion. While adverse animal-related incidents appear to be rare Australian, RACF lack the basic policies to prevent future occurrence. An important and significant gap has been identified whereby RACF relies on AAI organisations to maintain human and non-human animal safety despite the majority of visiting animals arriving via other avenues.

L5.3 Does Temperature of the Object Being Touched Affect the Person Touching It?

Asami Tsuchida, Shu Kawashima, Yutaka Tsuchihashi

Tokyo University of Agriculture, Atsugi, Kanagawa, Japan

Introduction: Physical contact with animals has a positive effect on people. When we touch a companion animal, we feel warmth and relief. Majority of the companion animals are homeotherms. Therefore, we hypothesized that the temperature of the object being touched, such as a companion animal or even a non-living thing, psychologically and physiologically affects the person touching it.

Methodology: The experiment was performed by keeping an object in the lap for touching. The following three conditions were set: a real guinea pig (GP), a stuffed guinea pig (sGP), and a warmed stuffed guinea pig (wsGP). During touching, the participants (N=10) rated their impression of the object (GP, sGP, and wsGP) using the semantic differential scale. Temperature of the objects was measured with a thermometer at the start and end of the trial. Before and after touching, saliva cortisol concentration and mood level of the participants were measured.

Main Findings: GP was rated "more pleasant," "smoother," "more active", and "more exciting" than sGP and wsGP ($p < 0.05$). There were no significant differences in impression between sGP and wsGP. At the end of the trial, temperature of sGP was significantly lower than that of GP ($p < 0.048$), as GP was rated "warmer" significantly than sGP ($p < 0.01$) but not wsGP. However, there were no significant differences in the rating of "warmth" between GP and wsGP or between sGP and wsGP. Psychological stability was significantly greater while touching GP than while touching sGP and wsGP ($p < 0.05$). Mean saliva cortisol concentration decreased after touching GP and wsGP but not sGP, although there were no significant differences among the three conditions.

Principal Conclusions and Implications for Field: The positive psychological effect results from the fact that the object being touched is living rather than its temperature.

L5.4 A Questionnaire Survey on Evacuation Readiness with Pets & Intention to Evacuate in the Event of an Earthquake

Mitsue Motomura

Osaka University of Economics, Osaka City, Osaka, Japan

Introduction. Countless earthquakes have hit the Japanese archipelago. People are well aware of the necessity of preparing for evacuation. However, the evacuation of animals has not necessarily been part of well-thought-out preparation plans. People who are less prepared to evacuate their pets may encounter various problems, such as evacuation failure, disease transmission, and animal bites. The purpose of this study was to evaluate the associations between the evacuation readiness of pet owners and their intention to evacuate with pets if an earthquake were to occur.

Methodology. Online and paper surveys featuring self-administered questionnaires were distributed to dog and cat owners in Higashi-Yodogawa-ward, Osaka City, Japan. Flyers with a QR code for online and paper questionnaires were distributed at veterinary clinics, dog salons, a cat café, and pet food shops. Chi-squared and Fisher's exact tests were used to assess the independences between two variables.

Main Results. A total of 243 people participated in this study. Of the participants, 79% ($n = 192$) answered that they wanted to evacuate to local shelters with their pets. No associations were found between the intention to evacuate with pets and pet type; family members in a household; owner's age; knowledge about the shelter location; and whether they had prepared a name tag, collar, leash, and carrier ($P > 0.05$ for all). A weak association was found between evacuation intention and the number of pets ($P = 0.049$). No associations were found between evacuation intention and vaccination, neutering, training, and problematic behavior ($P > 0.05$ for all).

Principal Conclusions and Implications for Field. The majority of participants expressed their intention to evacuate with their pets regardless of the participants' age, household size, knowledge about the shelter location, or their readiness for evacuation. Therefore, preparation for the evacuation of pets should be promoted to mitigate related problems.

L6 Between Professionals & the Public

Channel 1

11:15-12:45 Friday, July 8

L6.1 Owners & Veterinary Professionals Differ in their Perceptions of Preventative & Treatment Healthcare Needs in Dogs

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Introduction: The perceptions of dog owners (DO) and veterinary professionals can impact preventative healthcare and treatment provided to dogs, especially at the senior life stage. This study investigated attitudes to dog healthcare between DO and VP.

Methodology: Data from two online surveys (DO: N=636, VP: N=305) were used to compare the perceived need for veterinary visits, vaccinations and prevalence and importance of 48 clinical signs. DO were subdivided into two groups: those whose dog had experienced each sign (DOE), and those who had not (DOU). All DO and VP rated each sign on their urgency to seek veterinary advice. Groups were compared using descriptive statistics and chi-squared (post-hoc tests with Bonferroni correction).

Results: DO most often believed a “healthy” senior dog (>7 years) should go to the vet once a year (46.5% DO vs. 25.2% VP, $P<0.001$) compared to VP who most often believed every 6 months (39.2% vs. 72.8%, $P<0.001$). 14.3% of DO would only take the dog if they got sick compared to only 0.3% of VP who believed this ($P<0.001$).

Nearly all VP (92%) believed that dogs of all ages should receive yearly vaccinations, however, 28% of owners' dogs were not vaccinated in the previous year, and of these 33% did not believe that older dogs need vaccinations.

The three most common clinical signs were slowing down on walks (57% of dogs), dental tartar (53%) and being stiff on rising (50%). VP rated all signs as more important to seek care, and DOE rated the importance as lower than DOU ($P<0.005$).

Conclusions: Dog owners and veterinary professionals differ in their opinions about canine healthcare seeking behaviour, highlighting the need for different educational initiatives, and more effective communication between DO and VP.

L6.2 'Our Lives are Bound Up with One Another': A Culturally Responsive Approach to Teaching Anthrozoology To/With Non-majors

Tara Bahl

City University of New York - Guttman Community College, New York, NY, USA

This presentation will explore the role, goals, and impact of taking a culturally relevant approach to teaching Anthrozoology to/with non-majors in a community college context. There is a marked gap in research on this topic, with even less research grounded by student perspectives and experiences. Drawing on narrative analysis of student reflections and signature assignments, alongside reflective

teaching and autoethnography, this presentation will examine student and instructor experiences of teaching and learning Anthrozoology. Preliminary findings lift up effective practices that increase student engagement with course-related material, and identify key challenges associated with teaching Anthrozoology to/with non-majors in a post-secondary setting. Recommendations highlight considerations that instructors and colleges should consider when developing Anthrozoology curricula for non-majors.

L6.3 Knowledge & Attitudes of Indian Veterinarians Towards Animal Abuse & its Management

Georgitta J. Valiyamattam, Ayisha Rushda. P

Department of Psychology, Gitam University, Visakhapatnam, Andhra Pradesh, India

Background: Between 2010 and 2020, India recorded nearly 500000 cases of animal cruelty, including cases of violent assault (beating, kicking, burning, sexual assault). In addition to the disturbing nature of this data, it is also important to note that the figures emerged only from records maintained by independent groups of animal activists, with no avenue for a systematic reporting/recording of these instances with the National Crime Records Bureau.

Prior studies have emphasized the fundamental role veterinarians can play in the recognition and reporting of animal abuse and its often-present links to human interpersonal violence. The increasing and often unreported cases of animal abuse in India juxtaposed with India's emergence as one of the fastest growing pet markets, further underline the potentially important contribution Indian veterinarians can make in the handling of animal abuse cases. However, presently there is little data available on the documentation/management of animal abuse cases among veterinarians in India.

Objectives: The present study seeks to understand within the Indian context- a) veterinarians' personal encounter with and definitions of animal abuse b) veterinarian preparedness in the management of suspected/confirmed cases of animal abuse and c) veterinarian knowledge of the link between animal abuse and other crimes.

Methods: In line with previous research in the area, the study uses a survey method, and an investigator designed questionnaire is currently being administered to registered veterinary professionals practicing within India (distributed both physically and via online platforms).

Implications: Based on the data obtained, conclusions will be drawn regarding the incidence and manifestations of animal abuse as encountered by veterinarians in India, their attitudes/beliefs regarding the management of animal abuse and the adequacy of existing education and training in enabling this process. These findings can then inform recommendations for a restructuring of veterinary training and animal welfare laws.

L6.4 A Grounded Theory of Humane Education

Erin Flynn^{1,2}, Sarah Bexell¹

¹ Graduate School of Social Work, University of Denver, Denver, CO, USA

² Institute for Human-Animal Connection, Denver, CO, USA

Introduction: Humans are causing climate change, deforestation, habitat loss, a sixth mass extinction, and subsequent resource instability for humans and other species. Scalable and widely accessible interventions are needed that effectively engage learners in considering the complex, intersecting issues of animal rights, human rights, and ecosystem regeneration. Comprehensive humane education is one such approach

that represents an expansion of traditional humane education offered by animal shelters to include the wellbeing of humans, other species, and nature.

Methodology: A grounded theory qualitative method was used to develop a theoretical understanding of how and why the use of comprehensive humane education leads to individual attitudes and behaviors that promote equity, ecosystem regeneration, and the collective health of humans and other species. Interviews were conducted with 30 humane educators and five youth humane education participants. Theoretical sampling was used to jointly collect, code, and analyze the data so that the theory could be developed as it emerged. Coding involved open coding of raw data, focused coding to categorize the most significant codes, and connection of themes into an explanatory framework.

Results: Use of a critical systems approach to learning is theorized to enhance learners' intrinsic motivation, agency, empowerment, and cognitive, affective, and behavioral growth. These gains are thought to translate to increased civic engagement, global thinking, and "solutionary" behaviors; the identification of inhumane, unsustainable, and unjust systems and development of solutions that are healthy and equitable. Participants identified the need to be inclusive of learners from diverse identities and contexts.

Conclusions: This theory of humane education identifies potential curricular mechanisms of change that can be examined in future studies and to inform development of evaluation tools to measure targeted program outcomes. These strides support development of an evidence-based approach to comprehensive humane education that may be scalable to diverse, mainstream education settings.

L6.5 Why They Do & Why They Don't: Designing an Intervention to Help Vets Provide Support for Problematic Dog Behaviour

Melissa Upjohn¹, Naomi Harvey¹, Rachel Casey¹, Robert Christley¹, Tamsin Durston¹, Cassandra Giragosian¹, Helen Zulch²

¹ Dogs Trust, London, United Kingdom

² University of Lincoln, Lincoln, United Kingdom

Introduction: Behavioural problems are a leading cause of relinquishment to shelters and euthanasia of healthy dogs. Dogs Trust, the UK's largest dog welfare charity, engages with veterinary professionals to support management of dog behaviour. We aim to understand perceptions of clinical veterinary professionals of drivers and barriers to provision of canine behavioural support and advice to inform intervention design.

Methodology: A short online survey was shared with practising vets and veterinary nurses attending a UK CPD conference and via social media. Closed-ended single choice or multiple answer questions and open-ended questions with free text boxes asked about experience and perceptions of delivery of behaviour support to owners. A personal mean confidence score (ranging from 0-10) was calculated by averaging self-reported scores for providing preventative behavioural advice and for providing support for behavioural problems. Univariable linear regression assessed associations between confidence score and other variables. Free text data were analysed to identify key themes.

Results: Completed surveys were received from 93 vets and 50 veterinary nurses. The only significant variable predictive of confidence score was survey group (social media group scored higher; linear regression est=1.35, se=0.375, t=3.60, p<0.001). Themes of factors affecting referral of a dog for behaviour support related to the owner (financial, motivation, logistics), the issue (severity, type, previous medication), the individual professional (knowledge, expertise, personal confidence), the animal (aggression, threat to others) and behaviourists (availability, qualifications, accessibility).

Principal conclusions and implications for the field: Veterinary professionals recognise that, alongside their own capability, several owner- and dog-related factors influence the likelihood of effective behavioural support being delivered. Interventions designed to facilitate this must therefore address barriers affecting owner support-seeking behaviour and the current scope of existing and appropriate professional services. In-depth interviews with veterinary professionals will further inform intervention development.

L7 Human Health & Wellbeing

Channel 2

11:15-12:45 Friday, July 8

L7.1 Going Beyond the Positive Impact of Pets: Does Identifying with Animals in General Benefit Human Psychological Well-Being?

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Introduction. Our contacts with pets can be beneficial to human health and well-being. Going beyond this common and concrete relationship with animals, this study tested if a more abstract type of connection with other animals – i.e., our feeling of identifying with animals in general – can be beneficial to human psychological well-being. We specifically tested which of the three facets or dimensions of identification with animals (solidarity with animals, human-animal similarity, animal pride) predicts well-being.

Methodology. A representative study (N=2,424) was conducted online among Canadian participants recruited by a professional survey firm. Participants provided sociodemographic information and completed the Identification with Animals Measure, along with diverse scales of psychological well-being (vitality, life satisfaction, stress, loneliness, meaning in life).

Results. All analyses included a post-stratification weight to adjust the sample to the Canadian general population. Correlational analyses revealed small correlations between the sociodemographic variables and the dimensions of identification (significant r s ranged from $-.04$ to $.16$, $ps < .05$). In multiple regressions that controlled for these sociodemographic variables, animal pride predicted higher psychological well-being (higher vitality, life satisfaction, presence of life meaning; lower stress, loneliness, psychological inflexibility; β s ranged from $-.10$ to $.15$, $ps < .05$). In contrast, solidarity with animals predicted lower well-being (lower life satisfaction; higher search for meaning; β s = $-.08$ and $.15$, respectively, $ps < .05$).

Conclusions. In line with social psychological research, feeling a connection to, and identifying with, a particularly broad social group (all animals) had beneficial implications for human well-being. The emergence of animal pride dimension as a predictor of well-being could be due to this dimension's deep and non-ambivalent acceptance of being an animal oneself. In contrast, the fact that solidarity with animals predicted lower well-being could be explained by this dimension's strong emphasis on wanting to help animals, which can be depleting.

L7.2 Pet Ownership & Peer Victimization as Predictors of Emotion Regulation in Youth

Erin K King, Megan Mueller

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Introduction: Relationships between adolescents and their peers are vitally important to healthy development, however, these relationships can be impeded by peer bullying and victimization. Strong attachment to family has been shown to protect against the harmful effects of peer victimization. Because pets are often seen as family members, youth-pet relationships may be an important component of social support for when experiencing victimization from peers. The purpose of this study was to understand the relationship between pet ownership, peer victimization and emotional regulation in youth. We

hypothesized that pet ownership would moderate the relationship between peer victimization and emotional regulation.

Methodology: This research used data from the Adolescent Brain Cognitive Development (ABCD) Study®, a longitudinal study of brain development and youth health outcomes in the United States. This study analyzed a preliminary subset of survey data, $n = 1,116$, from the ABCD Release 4.0. Structural regression analyses were performed in which peer victimization and emotional regulation were latent variables. In model one, pet ownership was an observed variable in the structural regression model, whereas in model two, a multiple group structural regression model (pet-owners vs non-owners) was performed to understand if pet ownership moderated the relationship between peer victimization and emotional regulation.

Main Results: In Model 1, $(2(13) = 21.986, p = 0.056, CFI = 0.994, RMSEA = 0.025, SRMR = 0.024)$ pet ownership significantly predicted emotion regulation, with pet owners exhibiting less suppression of emotion than non-pet owners ($\beta = -0.152, p = .049$). However, pet ownership did not significantly moderate the relationship between victimization and regulation ($2(25) = 26.704, p = .371$)

Principal Conclusions: These findings suggest that pet ownership is predictive of less emotional suppression. More research is needed on the mechanisms by which pets provide support in adolescents experiencing peer challenges.

L7.3 Can Pet Ownership Impede Access to Healthcare for People Living with HIV? Preliminary Findings from an Ongoing Cohort Study

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³ Project Response, Inc., Melbourne, FL, USA

Introduction: Previous research reports that bonds with pets can be health-promoting for people living with HIV (PLWH). However, recent studies indicate owning pets may complicate healthcare access for marginalized groups due to a lack of supportive programs for multispecies families. This study's aims were to assess (1) the extent to which pets may impede access to healthcare, and (2) what factors may predict the likelihood of experiencing pet-related barriers to healthcare for PLWH.

Methodology: Pet-owning PLWH ($n=115$; Mage=49; 56% White, 21% Black, 22% Hispanic, Mincome=\$20k-29,999/year) were recruited at healthcare and community sites throughout Florida.

Logistic regression models estimated the effects of HAI (Comfort from Companion Animals Scale, Commitment to Companion Animals Scale) and sociodemographic predictors on the likelihood respondents (1) had experienced pet-related barriers to healthcare (e.g., "Have you ever delayed health services because you had to take care of your pets?"), and (2) anticipated future pet-related barriers to healthcare (e.g., "Would you miss health services if it meant you could not care for your pets?").

Results: Forty-percent of the sample reported at least one pet-related barrier to their healthcare; 17% reported previous barriers, and 36% anticipated future barriers. Respondents who identified racially as Black had greater odds of having experienced any pet-related barriers to healthcare ($OR=4.5, p<.05$). Those who reported greater comfort derived from their pet had greater odds of anticipating future pet-related barriers to healthcare ($OR=1.1, p<.05$).

Conclusions: Findings suggest a notable proportion of pet-owning PLWH may experience barriers to their own healthcare that are associated with owning a pet. This may be especially salient for those from marginalized groups, and those who are particularly bonded to their pet. Given the importance of health

maintenance for PLWH, social safety net programs that support multispecies families are strongly recommended.

L7.4 Empathy, Empowerment, & Enjoyment: Defining Our Relationships with Companion and Working Animals

Risë VanFleet

International Institute for Animal Assisted Play Therapy®, Boiling Springs, PA, USA

Social media and websites are filled with photographs and videos that purport to convey healthy relationships between humans and animals. In fact, they frequently convey animal distress and human intrusion. Many people seem genuinely interested in having a good relationship with their animals but seem unaware of the animals' communications and reactions. In the current literature, the nature of human-animal relationships is not always defined clearly. This presentation is designed to use existing literature in both animal science and human relationships to define a relationship based on empathy, empowerment, and enjoyment. Empathy is needed to help humans recognize and understand animal body language and preferences. Empowerment is needed so that animals can make choices within the relationship and in daily life. Enjoyment must consider animal enjoyment as much as it focuses on human enjoyment or benefit. Drawing from the scientific work in multiple fields, this presentation proposes a view of relationship that reflects reciprocity, in which animal perceptions, motivations, and reactions are given equal consideration with that of humans. Implications and practical applications of these factors are discussed in terms of how we facilitate relationships of families with their companion animals as well as those of individuals involved in Animal Assisted Interventions and other occupations involving working animals.

L7.5 Pet Effect or Garden Effect? Effects of Dog Ownership & Garden Access on Teleworkers' Daily Physical Activity & Loneliness in Two Seasons

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Introduction. Cross-sectional work has shown positive associations between dog ownership and physical exercise and social interactions during telework, yet, the potential confound of garden access was not examined. We investigate, during two different seasons, how teleworkers are impacted by dog ownership and garden access through studying teleworkers' within- person level physical activity and loneliness—to assess daily effects between teleworking and non-teleworking days—and cross-level moderating effects of dog ownership and garden access.

Methodology. A sample of 457 Belgian teleworkers responded to a baseline survey and daily surveys during 10-consecutive workdays in March-June 2021 ($N_{\text{datapoints}}=3353$; 72.1% teleworking-day). A sample of 164 Belgian teleworkers, including 90 participants of the first sample, responded to the same surveys in November-December 2021 ($N_{\text{datapoints}}=1376$; 69.5% teleworking-day). Measures included age, gender, partner, pet-owner, dog-owner, garden, social support and emotionality. Daily measures included teleworking-day, physical activity and loneliness.

Results. Mixed coefficient modeling showed a significant interaction between teleworking-day and dog-owner in spring ($\beta=46.42$; $p<.05$)—with dog owners being buffered from physical activity-drops on teleworking days as observed in non-dog owners—and a significant interaction between teleworking-day

and garden in autumn ($\beta=24.59$; $p<.05$)—with the former effect now occurring for garden access instead of dog ownership. For loneliness, we found the reverse, i.e., a significant interaction between teleworking-day and garden in spring ($\beta=-34.13$; $p<.05$)—with garden owners experiencing less steep loneliness-increases on teleworking days—and a significant interaction between teleworking-day and dog-owner in autumn ($\beta=-14.75$; $p<.05$)—with the former effect now occurring for dog ownership instead of garden access.

Conclusions. Our study is the first to map daily effects of telework on physical and social well-being. Results show important differences between teleworking and non-teleworking days, moderated by dog ownership or garden access depending on the season.

L8 Hooves & Claws

Channel 1

16:45-18:15 Friday, July 8

L8.1 Livestock Guardian Dog on Duty

Maija Esko

University of Turku, Rauma, Finland

"At the time of greatest need, an old man came down from the holy mountain of Tibet. There were two giant dogs running by his side. "These dogs, the wise man said, are your destiny, for they hold on to good and do not let evil come near. So be good to your destiny and it will be good to you."

The history of the livestock guardian dog at man's side goes way back. They have protected grazing flocks of sheep as well as taking care of the people's homes. Primitiveness of the livestock dog, the independent way it has been allowed to live and work with a human being, is interesting. Using disciplinary means in training and raising has not been an option training these dogs. Co-operation relies instead on trust and mutual respect. Allowing this special right to livestock guardian dogs as independently thinking and functioning partners to humans offers an important perspective to teacher training. It opens up the opportunity to examine education and training at the university; collaboration between student and teacher, sense of security and trust between these two. It also makes apparent the objectives of teaching, the methods, the means of training and the leadership culture. A large white colored sensitive dog does not understand the strategic goals, but it notices joy, recognizes threat, reveals fear, defends its own and knows what is true.

In my presentation I offer up the benefits of the livestock guardian dog in teacher training. I will speak of my experience with my dogs Aamu, Lumi and Pilvi, Owczarek Podhalanskis. I will consider the place of a dog and a man in everyday life at the university and in the development of education.

L8.2 Feral & Out of Control: A Moral Panic Over Free-roaming Cats (*Felis catus*)

Kris Hill

University of Exeter, Exeter, Devon, United Kingdom

Introduction: A moral panic describes a phenomenon whereby something or someone is framed as transgressive (the 'folk devil') and subsequent reactions that are disproportionate to any threat (Cohen 2011). Lynn et al. (2019) accused scientists of framing free-roaming cats as a global threat to biodiversity, rather than a localised threat to specific ecosystems. Here I examine discourses surrounding free-roaming cats using a moral panic framework.

Methodology: I performed a discourse analysis of 2500 user comments responding to media related to the topic of free-roaming cats. The data was examined within the framework of moral panic theory, and the concept of glocalization used to understand how discourses are shaped via both lived experience and engagement with global media.

Results: The discourses reflected the confused and convoluted ways people think about cats. Articles were frequently taken out of context, with many comments responding solely to the sensationalist headline. From my data it is apparent that information is being processed through an emotive 'local lens'. For example, UK residents will engage with an article about cat populations in rural Australia and apply elements of

that to their displeasure with neighbourhood cats, or fear for the safety of these cats. The data supports the assertion that conservationists and the media are creating a moral panic over free-roaming cats. Labels such as 'feral' serve to 'other' cats, rendering them objects of disdain and creating 'folk devils' that are deemed more killable than beloved companion animals of the same species.

Conclusions: Results provide insight into how information is processed, sensationalised, and distorted by different interest groups. It demonstrates how conservationist issues need to be disentangled from perceived nuisance behaviours or prejudice against a species.

References:

Cohen, 2011. *Folk devils and moral panics* (3rd Edition). Routledge.
Lynn et al., 2019. A moral panic over cats. *Conservation Biology* 33(4), 769-776.

L8.3 Animal Representations: Using Participatory Practices to Co-Produce Discursive Understandings of Donkeys and Donkey Welfare

Cara Clancy, Emma McClaughlin, Fiona Cooke
The Donkey Sanctuary, Sidmouth, Devon, United Kingdom

"The Donkey is a Living Symbol of Honest Transport" (Focus Group Participant)

Language and communication are one of the primary means through which popular ideas are generated and shared. Those with institutional power and influence (e.g. the media, government) shape public discourse and reinforce collective attitudes and action (Stibbe, 2001, 2012). Studies have shown that the perception and treatment of animals is heavily influenced by language (Goatly, 2006; Stibbe, 2012; Cook & Sealey, 2017; Franklin, 2020). In this paper, we explore the use of participatory practices to co-produce discursive understandings of donkeys and donkey welfare. By incorporating knowledge exchange practices into the research design, researchers can communicate findings, gather feedback on the research, and elicit reactions on specific themes and topics to develop the analysis in an iterative way.

We carried out a corpus-assisted discourse analysis of a 1m-word corpus (digitised body texts) of language from social media and mainstream news about donkeys (McClaughlin et al., under review). In the statistically salient findings from this analysis, we identified key topics and stories to use as stimulus material (tweets, texts, images, and videos) to generate comment, debate and group discussion through a series of focus groups. This unique participatory methodology revealed that popular discourses often 'invisibilise' or obscure the real animal. Popular representations of donkeys can overlook their behavioural and psychological needs and perpetuate negative stereotypes. By identifying common misconceptions and stereotypes of donkeys, our research contributed to the work of The Donkey Sanctuary – to transform the lives of donkeys in need worldwide by fostering greater understanding, collaboration and support. Finally, we offer recommendations for how research, communication and education can be brought together to improve animal welfare.

L8.4 Carbon Hoofprints: Exploring Horse Owners' Motivations for Sustainable Land Management Practices

Tamzin Furtado, Elizabeth Perkins, Cathy McGowan, Gina Pinchbeck
University of Liverpool, Liverpool, United Kingdom

Introduction: Equestrian grazing land is often over-grazed, leading to soil erosion, nutrient run-off, and poor plant diversity; however, well-managed grazing land has the potential for harbouring diverse fauna and flora ecosystems, and even absorbing atmospheric carbon. Therefore it is important to find ways to

communicate and encourage horse owners to use grazing management which conserves native fauna and flora, and contributes to carbon absorption. This study explored owner motivations for using evolving grazing management practices which could potentially be environmentally sustainable, in order to target environmental communications.

Method: A survey explored UK horse owners' use of "alternative" grazing systems, such as rewilding, "flash" grazing of small areas, or the use of perimeter tracks. The survey contained open and closed questions, and was distributed online, with 758 responses from UK horse carers. This abstract reports the result of an iterative thematic analysis of open-ended questions about owner motivation.

Main results: Owners rarely reconfigured paddocks with the initial aim of improving environmental outcomes; instead, they were motivated to use "alternative" grazing systems because they perceived that these systems met horse needs more closely than "traditional" stabling/paddock management. Considering field reconfigurations for horse wellbeing subsequently led owners to develop their awareness of grazing management and ecological principles; in particular plant diversity and health, soil health, and local wildlife present on their land. As a result of improving equine care practices, owners therefore created environments which supported both horses and the environment, for example by encouraging creating diverse ecosystems which provided equine foraging interest as well as conserving native species and providing wildlife habitats.

Principal conclusions and implications for the field: Messaging which promotes the equine welfare benefits of sustainable grazing practices is highly motivational to horse owners, and can lead to the subsequent uptake of sustainable grazing practices, ultimately increasing environmental awareness.

L8.5 How Can You Kill Someone You Love?

Lisa Märzc, Michael Gibbert

Università della Svizzera italiana, Lugano, Switzerland

Introduction. Using animals to produce food creates a cognitive dissonance in many humans (Hartmann and Siegrist 2020). For Swiss farmers the reintroduction of on-farm and pasture killing (OFPK) is a great relief. Those who practice it feel good about a complete life cycle at home, where they have control over their animals' wellbeing from birth to death. OFPK stands for no live transportation and no stress during the killing. Special about this practice is that its success depends completely on the human-cattle relationship: cattle are not forced or pressured into the killing process — if they do not engage, the killing is canceled. The communication from farmers to researchers and especially from farmers to consumers facilitates a renewed connection between humans and farmed animals, and an intimate approach to the questions: "Who am I eating?" and "How am I killing who I love?"

Methodology. Through ethnographic fieldwork with nine Swiss farms we explored how humans and cattle shape life and death at their home, and gained insight into the philosophies and the interspecies interactions that implement OFPK.

Main Results. OFPK is facilitated by a cooperation between cattle and farmer based on individual trust and training. By granting space, the comfort of home, social support from the herd, and time to evaluate the situation of the prepared event, farmers struggle less with killing someone they love.

Principal Conclusions and Implications for Field. These findings illustrate a shift in human-cattle relations and the postmodern attitudes toward farmed animals in central Europe.

References: Hartmann, C. & Siegrist, M. (2020). "Our daily meat: Justification, moral evaluation and willingness to substitute". In: Food Quality and Preference 80 (2020) 103799.

L9 Inside the Shelter & Beyond

Channel 2

16:45-18:15 Friday, July 8

L9.1 Characterizing Unsuccessful Animal Adoptions: The Impact of Returns on Animals & Adopters

Lauren Powell¹, Chelsea L Reinhard¹, Donya Satriale², Margaret Morris², James Serpell¹, Brittany Watson¹

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² Charleston Animal Society, North Charleston, SC, USA

Introduction: Up to 20% of adopted animals are returned to animal shelters which can be stressful for both the animal and the owner. This study aimed to describe return reasons, animal characteristics associated with the likelihood of return, examine animals' outcomes post-return, and investigate the impact of returns on the likelihood of future adoptions.

Methodology: We analyzed the adoption records of 23,932 animals and 1999 return adopters from a South Carolina animal shelter between 2015-2019. Binary logistic regression models were used to describe the associations between age, intake type, sex, breed, and return frequency relative to animals' risk of return, return reasons, and post-return outcomes. A logistic regression model was also used to examine the likelihood of post-return adoption relative to return reason, species, sex, and age.

Results: Dogs were the most frequently returned species, primarily due to behavioral issues. Toy and terrier dog breeds were 65% and 35% less likely to be returned than other breed groups, while Pit bull-type breeds were more likely to be returned multiple times ($X^2=18.11$, $p=0.01$) and euthanized post-return (OR 2.60, 95%CI 1.47-4.61). One in 10 return owners adopted from the shelter within 12 months. Owners who returned cats were 2.5 times more likely to adopt again than dog returners (95% CI 1.62-3.72). Returns due to the animal's health were also associated with greater odds of adoption post-return than behavioral returns (OR 4.20, 95%CI 2.37-7.45).

Conclusions: Findings highlight the importance of animal behavior in the retention of newly adopted animals and provide useful direction for adoption counseling and post-adoption support services. The results demonstrate the need to minimize adopter-animal behavioral incompatibility and ensure adopters' expectations for behavioral challenges are realistic as unsuccessful adoptions may reduce willingness to adopt again.

L9.2 The Training of Shelter Dogs & Writing of Shelter-Focused Grant Applications in the Undergraduate Psychology Classroom

Shlomit Flaisher-Grinberg

School of Health Sciences and Education, Saint Francis University, Loretto, PA, USA

Introduction. Animal shelters around the US are commonly overpopulated, canine-specific behavioral training opportunities are limited, and the ability of shelter personnel to dedicate time and effort to the intricate process of grant writing, restricted. In higher-education, instructors of psychology aspire to enhance students' ability to apply learned concepts to their everyday life, advance students' critical thinking, scientific reasoning and communication skills, and augment their sense of ethical and social responsibility. This presentation describes the construction and evaluation of a course in which

undergraduate students live with shelter dogs for an entire academic semester, train them for obedience and agility, and write funding applications on behalf of animal shelters.

Methodology. Sixty-one college students were enrolled in six iterations of the “Canine Learning and Behavior” course. Between 2016-2021, students fostered and trained a total of 20 shelter dogs, while in 2021, students also learned to prepare and submit shelter-specific grant applications. The students’ learning outcomes were assessed using final grades and self-assessment questionnaires, and the dog’ behavioral outcomes were assessed using ratios of adoption and relinquishment, latency to adoption, performance during behavioral observations tailored to the “American Kennel Club – Canine Good Citizen” (AKC-CGC) test, and the ratio of dogs passing the AKC-CGC test at the end of the semester.

Main Results. Analysis suggests that the course facilitated students’ comprehension, preparation for graduate school and/or for employment in the profession, confidence in acquired skills and sense of social responsibility. The course was also found to benefit the dogs, resulting in improved behavioral repertoire, 100% adoption and no relinquishment for all trained dogs.

Principal Conclusions and Implications for Field. The findings suggest that this academia- community partnership yielded a positive impact on students, their communities, and shelter dogs alike. Future work will seek additional avenues to benefit sheltered animals within higher-education.

L9.3 Emergency Fostering of Dogs from Animal Shelters During the COVID-19 Pandemic: Shelter Practices, Foster Caregiver Engagement, & Dog Outcomes

Lisa M Gunter¹, Rachel J. Gilchrist¹, Emily M. Blade¹, Jenifer L. Reed², Lindsay T. Isernia², Rebecca T. Barber¹, Amanda M. Foster¹, Erica N. Feuerbacher², Clive D.L. Wynne¹

¹ Arizona State University, Tempe, AZ, USA

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Introduction. Between 4.0 and 5.5 million dogs enter animal shelters annually in the United States. One type of intervention that has been shown to improve the welfare of dogs awaiting adoption is human-animal interaction, particularly stays in foster homes. Prior research has demonstrated that temporary, trial, and foster-based adoption programs have been shown to reduce the likelihood of adoption failure.

Methodology. On March 11, 2020, the World Health Organization deemed the coronavirus outbreak a worldwide pandemic, and subsequently a nationwide emergency was declared in the United States. This study explores canine foster caregiving at 19 US animal shelters during the first four months of the COVID-19 pandemic.

Main Results. Shelters’ utilization of foster caregiving changed across time ($F(3,1761.00) = 99.71$, $p < 0.001$), increasing from March to April 2020 and was significantly higher than all other months ($p < .001$), but returned to initial pandemic levels by June 2020. Differences were found in dog outcomes based upon shelter resource level ($X^2(4, N = 1983) = 614.19$, $p < .0001$). Specifically, very low resource shelters made greater use of transferring animals out of their facilities than low or moderately resourced shelters. Additionally, adoptions by foster caregivers were not uniformly distributed across caregiver type ($X^2(1, N = 1686) = 148.23$, $p < .0001$). New community members fostering for the first time were over four times more likely to adopt their fostered dogs than caregivers with a pre-existing relationship to the shelter.

Principal Conclusions and Implications for Field. To our knowledge, these findings represent the first in-depth reporting about dog fostering in US animal shelters and, more specifically, foster caregiving during the COVID-19 pandemic. In total, they provide greater understanding of how monetary and human resources were utilized to affect the care and ultimately, outcomes of shelter dogs during this time.

L9.4 The Effect of Baby Schema in Cats on Length of Stay in an Irish Animal Shelter

Sam G Jack, Grace Carroll

Queen's University, Belfast, United Kingdom

Introduction. Many physical and behavioural factors have been identified as influential on the length of stay (LoS) of cats in shelters. As yet, there have been no studies which address the potential influence of baby schema. Baby schema are facial features which characterise infants and correlate with perceived 'cuteness'. This study investigates the role that baby schema have on adoption within an animal shelter.

Methodology. Objective 'cuteness' scores were created by measuring specific facial features, some which have been shown previously to be associated with perceived cuteness, and some novel facial measurements, of 165 shelter cats. Subjective cuteness scores were obtained through two online surveys (first survey; $n=77$ cat images, second survey; $n=165$ images) which required participants to rate cats on their 'cuteness' using a Likert scale. These ratings were used to create a subjective cuteness score and validate the objective scores. Multiple regression analysis was used to assess the effect of cuteness, adoption profile language, homing requirements, or other features of the cats such as coat colour, sex, and age, on the cats' LoS.

Main Results. Subjective cuteness was the only variable that influenced LoS in the multiple regression model run in the first survey; $F(1, 75) = 6.530, p = .013$. A novel measurement for cuteness was developed which reflects the shape of the eyes which was associated with the subjective cuteness scores given by participants ($T_b = -.435, p < .0001$ for survey 1 results and $r_s(163) = -.521, p < .001$ for survey 2).

Principal Conclusions and Implications for Field. These findings suggest cuteness may influence cats LoS within an animal shelter. In cats, eye shape may be a characteristic of particular importance in relation to perceived 'cuteness', which could be utilised when displaying images of cats for adoption, to help reduce their LoS in shelters.

L9.5 Precarious Ties & Geographic Othering in Animal Transport Rescue Networks

Lori L. Jervis, Laura Bray, Kayla

Jackson University of Oklahoma, Norman, Oklahoma, USA

Introduction: Uneven rates of spay/neuter across the US have created disparate demand for companion animals. Southern states disproportionately struggle with animal overpopulation and high rates of euthanasia. Northern states are challenged to produce enough animals to meet adopters' needs. In recent years, animal rescue groups have increasingly embraced animal transport, creating extensive networks that move animals from high-kill areas to more affluent communities in need of adoptable animals. This project explores animal transport from the perspective of rescuers who export Oklahoma animals and their out-of-state partners.

Methodology: We present early findings based on semi-structured interviews with individuals involved in animal transport networks. This study examines the organization and structure of animal transport networks and animal rescuers' understanding of their work.

Results: The flow of animals in transport networks follows geographic lines (i.e., south to north, rural to urban) that contribute to unequal power dynamics and othering of the humans believed to contribute to animal overproduction. Transport is largely carried out by middle-aged/older white women, primarily volunteers, who see their work as crucial to saving animals. These volunteers and under-resourced southern

shelters/rescues bear the bulk of animal transport costs while exporting the most “desirable” animals, ever mindful that any lapse in established protocol may result in the loss of a vital life-saving partner. Perceptions that Oklahoma is inhospitable to companion animals because of a “southern mentality” also contribute to the power imbalance. Such perceptions motivate transporters to send animals to northern states where presumably they will receive better treatment.

Conclusions: Animal transport is life-saving but tenuous, dependent on the largely unpaid labor of women who find themselves constrained by unevenly powered rescue networks. The narrative of inferior southern treatment of animals looms large, as does the awareness that access to life-saving networks depends on satisfying northern animal rescues.

L10 Companion Animals in the Home

Channel 1

13:30-15:00 Saturday, July 9

L10.1 Pet Ownership Challenges: Socio-demographic & Pet Type Variations

Joanne M Williams¹, Janine C Muldoon¹, Scottish SPCA², Kelly Grellier³

¹ University of Edinburgh, Edinburgh, United Kingdom

² Scottish SPCA, Dunfermline, United Kingdom

³ Blue Cross, Burford, United Kingdom

Introduction: ‘Pet effects’ research has focused on the benefits of pets for human health. The challenges of pet care and pet-related stress are rarely considered. This study focused on Scottish pet owners to examine: 1) Who is most at risk of pet ownership challenges; 2) Specific challenges relating to different species, 3) The circumstances associated with pet relinquishment.

Methods: An online survey was administered from May-June 2021. 1361 Scots participated, 89.87% were female. The survey included questions on: 1) demographics; 2) pet ownership; 3) one particular pet that is posing challenges (types of challenge being experienced, their impact, and access to support), 4) pet relinquishment.

Results: Men reported more pet ownership challenges (e.g., animal-related challenges $t(1,529) = -3.14$, $p < .01$). Those experiencing economic hardship experienced more challenges (e.g., receiving means tested benefits $t(1,512) = 3.584$, $p < .001$; use of food banks $t(1,522) = 6.126$, $p < .001$), as did families under pressure (e.g., large families $F(5,525) = 2.532$, $p < .05$; and lone parents $F(5,526) = 5.603$, $p < .001$). Most concerns with pets related to dogs (23% of sample) and cats (10% of sample). There were species-specific challenges: for dogs, the need for exercise was prominent (43%), 2), and for cats, toileting issues (24%). 395 pet owners had relinquished pets, 64% dogs and 24% cats, the main reasons were pet health issues; dog aggression/destructive behaviour, wanting the animal to have a better life, and not being allowed to keep pets in new housing.

Conclusions and Implications: We have identified typologies of pet ownership challenges which vary by species and those experiencing most pet challenges (those experiencing financial hardship, men, and families under strain). This information will support animal welfare organisations to develop services for pets and owners who are most in need.

L10.2 Characteristics of Human Caregiving & Companion Animal Attachment in a Finnish Sample

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¹ Boise State University, Boise, ID, USA

² Omaeläinklinikka Oy, Helsinki, Finland

Introduction: A growing number of people are choosing to raise companion animals rather than children. This emergent “pet parenting” can be defined as parent-like investment in companion animals and appears linked to countries experiencing or having experienced the Second Demographic Transition (2DT), marked by numerous trends, most notably a flexible life orientation no longer focused solely on

reproduction. We sought to determine if Finland, a country where the 2DT is documented, is experiencing an emergence of pet parenting and whether a difference between parents' and nonparents' attachment and caregiving behaviors toward companion animals exists.

Methods: A total of 1031 participants completed an online survey delivered in Finnish or English which included demographic questions, the Lexington Attachment to Pets Scale (LAPS), and a series of questions designed to probe topics regarding training of companion animals, generalized caretaking, and the ascription of personhood or autonomy to companion animals under the respondent's care.

Results: Nonparents reported more agreement across all scales of the LAPS as well as more frequency across all three scales of the caregiving questions. Nonparents also reported higher frequencies of behaviors related to affective responsiveness and training. However, data also suggest that Finland is still in the process of accepting this change, as both parents and nonparents reported higher use of dissociative words like "owner" and "pet" when speaking to coworkers and strangers, while affiliative words like "parent" or "kids" were more common with close friends and relatives.

Conclusions: From our results, we conclude that Finland seems to be experiencing the emergence of pet parenting in response to the 2DT, and this is demonstrated by marked differences between parents and nonparents in attachment and caregiving behaviors directed at companion animals in the home. This talk also considers the broader implications of the 2DT on the global emergence of pet parenting.

L10.3 She is Totally my 'Dogther': Reasons to Include & Exclude Non-human Animals as Family Members

Javier López-Cepero, Alicia Español

Universidad de Sevilla, Sevilla, Sevilla, Spain

Introduction. Several studies worldwide agree that companion animals are commonly considered as a part of the family. However, few studies have looked at what characteristics differentiate animals integrated into the family nucleus from other individuals – often of the same species – who are excluded. This study analyzes the inclusion and exclusion criteria used by a Spanish sample, extracted from the "Animals and Family" project.

Methodology. Data collection involved the creation of three focus groups conducted online. Final sample included 12 participants who cohabitated with at least one companion animal for a minimum of 6 months. The sample included both men and women, living in both rural and urban areas, aged from 18 to 64 years, who lived only with non-human animals and/or with other relatives (autonomous or in their care), thus guaranteeing diversity. Systematicity of exploration was ensured through an ad hoc semi-structured interview. The interviews were verbatim transcribed and analyzed using thematic analysis (Braun & Clarke, 2021) through the Atlas.ti software.

Main Results. Preliminary analyses pointed to a wide variety of arguments to justify their status as family members, including caregiver responsibility, recognition of animal rights, intensity and quality of interaction, and recognition of the animal's abilities and emotions. Regarding evolution of this status, two themes appeared: changes in family structure (e.g.: birth of a child; emancipation of adult children) and changes in the quality of the relationship (e.g.: establishment of joint routines; aggressiveness towards other family members).

Principal Conclusions and Implications for Field. Although there was an agreement on recognition of companion animals as family members, the reasons for it seem more confusing. Learning more on the topic will lead to improving the evaluation of family structure and functioning, being of special interest for family therapists or social services professionals.

L10.4 The Interaction with Companion Animals in Daily-life: A Study Protocol for an Experience Sampling Study into the Role of Animal Characteristics in the Pet-effect

Mayke Janssens^{1,2}, Jannes Eshuis¹, Sanne Peeters¹, Annelie Beijer-Klippel¹, Simone Verhagen¹, Jennifer Reijnders¹, Marianne Simons¹, Johan Lataster^{1,2}, Karin Hediger^{1,3}, Nele Jacobs^{1,2}

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Companion animals are an important part of life in Western societies. This is reflected in the increasing scientific interest in the contribution of pets to wellbeing, the “pet-effect”. Recent research however suggests that the association between the presence of or interaction with pets and human wellbeing is varied and complex, and underlying mechanisms are often poorly understood. More research focusing on the influence of animal characteristics in the pet-effect is critical to further our understanding of the pet-effect and to disentangle potential mechanisms of benefit. Therefore, in the present study we will investigate the role of animal species and temperament in the pet-effect.

150 individuals aged 18+ and living with either a dog or a cat will be included in the study. Using the Experience Sampling Method (ESM), a validated random signal contingent sampling technique, pet-owners are studied in their natural settings. For five consecutive days at ten random time-points each day, they report in the moment whether a dog or cat is present, how their presence is appraised, and to what extent they interact with their pet. In addition, at each measurement moment they report on their current emotions and experiences, measuring affect, self-esteem and stress-reactivity in daily life. This real time ESM data is complemented with survey data mapping between-person factors related to the animal.

By investigating the role of animal characteristics in the pet-effect we aim to contribute to unravel the mechanisms underlying Human Animal Interaction. This will add to the identification of the contexts and conditions under which these interactions have the most potential in promoting mental well-being.

L10.5 An Evaluation of Consumer Motivations, Understanding, & Responses to Direct-to-consumer Dog Genetic Test Services

Nikki E. Bennett, Peter B. Gray

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Background: The direct-to-consumer (DTC) animal genetic industry has received little recognition in scholarly literature. This is surprising considering the domestic dog and cat genomes were sequenced in 2004 and 2007, in addition to the first dog genetic test (GT) becoming available in 2007. This study presents novel findings about consumer motivations, perceptions, and responses to DTC-GT services.

Methods: An online survey was distributed to Wisdom Panel canine GT customers who submitted a DNA sample and received results between April 2020 and February 2022. Survey questions were adapted from previous human DTC-GT industry research and Bennett et al.’s (2022) conceptual framework. Consumer motivations, perceptions of test results, and responses to their dog’s GT were analyzed using SPSS.

Results: Participants (N=134) revealed they pursued GT services to learn their dog’s breed-identity (86%) and “background” (83%) since they had a limited history (e.g., adopted). Most stated the experience “[satisfied their general] interest in genetics” (44% strongly agree, 30% somewhat agree) and

perceived the results as accurate (54% strongly agree, 27% somewhat agree). Participants reported sharing their dog's results with friends (82%) and/or family (89%). However, 74% reported they would consult a veterinarian if a question arose from the results. Participants also described having their dog genetically tested "made [them] feel like [they] know [their] dog better" (46% strongly agree, 33% somewhat agree).

Conclusions: Expanding from previous research, this study found most consumers used the tests to learn about their dog, perceived the results as accurate, and shared this experience with others. Collectively, this lends consideration to how DTC-GT results are being conveyed to consumers and how they, in turn, convey this information to others.

Reference: Bennett et al. (2022). Exploratory content analysis of direct-to-consumer pet genomics: What is being marketed and what are consumers saying? *PLOS ONE*, 17(1), e0261694.

L11 Flash Talks - Emerging Trends Highlights

Channel 2

13:30-15:00 Saturday, July 9

L11.1 For the Love of Dog: Race, Rescue, Rehome in Ireland

Chrissy Skelton

Maynooth University, Maynooth, Kildare, Ireland

In 2019, Ireland's national broadcaster aired its documentary on the greyhound racing industry. It exposed practices of overbreeding, drugging dogs to fix races, and the euthanasia of thousands annually as they finish their racing careers. The industry vehemently denies these allegations while simultaneously pointing to the 'few bad apples' that have been forced to leave. Many racing owners and trainers spoke out publicly about their love for their dogs, citing the care they provide. But love is also the language of rescue organisations. In the early 2000s, rescue organisations began to export Irish retired racing greyhounds, who were dropped at the local council pound for euthanasia, to the UK, Italy, Sweden and the USA as sought-after pets. As awareness grew through rescue groups' campaigns and word of mouth, keeping them as much-loved pets in Irish homes became more common in the last 10-15 years. But how do these three blurry boundaried-communities (the industry, rescue organisations, and pet homes) practice their love for greyhounds? What insights can we gather about how we understand and value nonhuman sentience through changes in our everyday routines and our practices of care, responsibility, and love?

Although this PhD research is ongoing, initial findings indicate these groups practice their love in line with others in their community. While each community influences the practices within it, there is also disagreement within each group for what is considered best practice. With that caveat, racing greyhound owners and trainers show their love for their dogs in the context of the industry. These are different practices and ideologies than rescue organisations. And rescue organisations practice love in a different way to pet owners. The different practices reflect different values in the ways we think about nonhuman animals' purpose, sentience, and rights.

L11.2 Animal People: Exploring Their Worldviews, Moral Frameworks & Lived Experiences with Animals

Ondine Sherman

University of Sydney, Sydney, NSW, Australia

Background: Animal People are a minority population with an unusual and non-normative worldview. Individuals on the vegetarian-vegan spectrum, they believe animals have moral value, and are subjects-of-a-life. Their animal-rights oriented beliefs greatly differ from the prevailing anthropocentric, hierarchical, and dualistic perspectives which form the backbone of our industries, institutions and societies, based on a long history of western philosophy.

Drawing on current literature across disciplines such as philosophy, sociology, moral psychology, and environmental humanities, research indicates that individuals form pro-animal values via a tangled web of disparate threads. For example, personality types, parental values, gender identity, age, political leanings, knowledge, and religion all play a part.

Academic literature also suggests experiences with animals can have a transformative effect on one's values. These include meaningful relationships with childhood companion animals as well as nature-

wildlife, peak and Significant Life Experiences (SLE). Nature-induced awe experiences can be particularly powerful and have been linked to an increased moral relationship with the natural world and respect, care and honour for other beings.

Objective: To better protect animals in our social, political, cultural, and legal spheres, it is important to foster a larger population of Animal People. To help achieve this, it is useful to increase our understanding as to what has profoundly influenced their worldviews.

Methods: Building on this literature, this research seeks to deepen our understanding of what influences Animal People through in-depth interviews exploring how direct and indirect experiences with animals change moral frameworks. It will dive into participants' moral frameworks, family value orientations, and lived experiences with animals, be it in real life or through books, film or media.

Implications: New understandings as to what influences the worldviews of Animal People could have implications for animal advocacy and humane education strategies.

L11.3 Pandemic Puppies All Grown Up? Owner-Reported Problem Behaviours aged 21-months

Claire L Brand¹, Dan G O'Neill¹, Zoe Belshaw², Camilla L Pegram¹, Fiona Dale¹, Kim B Stevens¹, Rowena MA Packer¹

¹ Royal Veterinary College, London, United Kingdom

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Background: The pandemic resulted in a surge in puppy acquisitions internationally, labelled the 'Pandemic Puppy' phenomenon. Previous work from our team identified deficits in socialisation and/or habituation experiences while this unique generation of puppies were in their critical developmental phase (aged <16 weeks), including a reduced likelihood of attending puppy-classes, or experiencing strangers visiting their homes. In addition, Pandemic Puppies were more likely to be bought without their mother present, and with an international passport, suggesting a poorer early-life rearing environment. In combination, these differences could result in future behaviour and welfare risks to this vulnerable population.

Objectives: To report upon behavioural outcomes of Pandemic Puppies at 21 months of age, as part of a longitudinal study of puppies purchased and brought home aged <16 weeks between 23rd March–31st December 2020.

Methods: From January 2022 onwards, participants who provided informed consent to participate in further research while their puppy was <16 weeks old (n=2345) were surveyed when their dogs reached 21 months of age. The survey explored various outcomes including their current behaviour, capturing data on owner-reported problem behaviours, and training provisions. Early data from n=342 respondents revealed the three most common owner-reported problem behaviours were pulling on the lead (67.3%), jumping up at people (54.7%) and not coming back when called (51.7%), reported at rates markedly higher than published studies of comparable populations. No association was found between attendance of puppy classes aged <16 weeks and the presence of any problem behaviours at 21 months (p>0.05).

Implications: Results will be used to tailor support from the wider canine behaviour and welfare community to protect the future welfare of this unique canine cohort, promote the dog-owner bond, and understand the long-term consequences of puppy-purchasing behaviour and early-life experiences on behavioural outcomes.

L11.4 The Loss ManyDogs Project: A big team science approach to canine cognition

The ManyDogs Project¹, [Jeffrey R Stevens](#)²

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Background: Historically, canine cognition research has involved individual labs recruiting subjects to their facilities and testing dozens of dogs. Occasionally, sample sizes include hundreds of dogs, but this is the exception rather than the rule. While smaller sample sizes can capture important components of cognition, they are limited in their ability to address key questions about moderators of dog cognition, especially breed differences. Moreover, canine cognition studies that replicate previous studies sometimes produce mixed results. And given important cultural differences in how dogs are bred, raised, and trained across countries, differences between studies could reflect cross-cultural variation in the dog-human bond. Therefore, we have developed the ManyDogs Project: an international consortium of researchers interested in promoting large-scale, multi-site collaboration and open science practices in canine behavior and cognition.

Objectives: The primary objectives of the ManyDogs Project are to (1) enhance replicability in the field of canine science, (2) quantify differences across labs and investigate how these differences might influence study results, (3) foster international collaboration, and (4) provide a platform for testing questions that require large and/or diverse samples.

Methods: To achieve these objectives, we have chosen a "single study" approach, in which we select one specific study for all participating labs to conduct in parallel. Once the study is chosen, we codify methods into a written protocol and video record examples of methods. Individual labs who agree to participate train their staff to follow the protocol and submit video examples of their methods for review by project personnel prior to collecting data. We currently have 17 dog labs across North America and Europe beginning the first ManyDogs study.

Implications: We hope this endeavor will provide a robust framework for addressing important questions in canine behavioral science.

L11.5 Companion Dogs as Colleagues? Effects of Dog Appearance, Dog Behavioral Characteristics & Policy on Employee Preferences for Office Dogs

[Emma Willemen](#), [Marijke Verbruggen](#), [Joni Delanoëije](#)

Department of Work and Organisation Studies, KU Leuven, Leuven, Belgium

Background: Bringing dogs to the work environment is gaining interest due to the potential benefits for employee well-being and the organizational climate. Interestingly, research on the effects of dogs in the workplaces on employees remains scarce. We know among others little about employees' preferences for having an office dog around. Understanding these preferences is, however, highly important since research has shown that employees' well-being and performance outcomes strongly depend on the fit between employees' preferences and the work environment. As such, to be able to reap the benefits of an office-dog policy, it is important to better understand employees' preferences for having office dogs around. In this study, we explore to which extent these preferences vary depending on dog characteristics and policy characteristics.

Objectives: Our research objective is to determine which dog characteristics (i.e., appearance and behavioral characteristics) and policy characteristics (i.e., whether the dog is on leash or off leash) influence employees' preferences for involving dogs at the on-site office.

Methods: We will design a video vignette survey experiment in which we will manipulate dog external appearance, dog behavioral characteristics, and policy characteristics (2x4x2 design) to predict employee preference for involving this dog at work. Respondents will be directly asked about their preference. We will control for respondent personality and affinity with dogs. Data will be collected with 520 employees, and we will combine a within- and a between-subject design.

Implications: Our findings will allow us to make causal claims about which characteristics will influence employee preferences for involving office dogs. As we know little about the factors which determine the beneficial or harmful effects in the organizational context, elucidating how dog and policy features impact employee preferences, will improve our understanding of the effects of office dogs on employee well-being and performance outcomes.

L11.6 The Deal with Animals: Using a Podcast Platform to Communicate Anthrozoological Research & Topics

Marika S. Bell

The Deal With Animals- Podcast, Issaquah, WA, USA

Even humans who do not live with or work directly with animals are touched by Anthrozoological issues, although many have never heard of the anthrozoology. If a member of the general public is interested in these topics, they often don't have access to research in the way that those in academia do. They will likely get their information through social and other media platforms, many of which do not provide analysis of the research/story/or other information. Alternatively, researchers and others in academia can lose sight of the topics and interest level of the general public and can seem out of touch with practitioners and professionals working with the public.

I am using a podcast platform to introduce and engage audiences to topics related to the connection between humans and other animals. The podcast is interview based and each series has a theme. Each interview covers a topic within that theme. Interviewees or 'guests' are researchers, academics, philosophers, authors, practitioners, professionals and/or enthusiasts. I will then document the progress and growth of the podcast using host analytics and reflective journaling.

The podcast allows for guests to promote their work and engage wider audiences than would typically be reached through journal publication alone. It gives them the opportunity to explain their work, in their own words rather than through a social media filter. While practitioners, professionals and enthusiasts have the opportunity to share their experiences in an ethnographic form.

The popular podcast medium is an inclusive way of sharing Anthrozoological research and topics. My goal is to document the use of the podcast platform in this way and create a PhD proposal which would allow others to follow my methods and perhaps choose to create other science based podcasts to share research in the field.

L11.7 Buzz off or Bee kind: Have Humans Forgotten the Importance of our Relationship with Bees?

Lindsey H Roberts

University of Buckingham, Buckingham, Buckinghamshire, United Kingdom

The relationship between humans and bees has been recorded as over 9,000 years old. People originating from the Stone Age were found to have harvested and used bee products, while traces of beeswax have also been found in Europe and Africa from the Neolithic period. Ancient Egypt bee iconography dates back to at least 2400 BC and the intrinsic value of the bee's ability to pollinate plants was well understood, with hives being transported along the Nile to cross-pollinate flora throughout the country.

In the 21st century, we know more about the secret life of bees than ever before, yet some things remain the same. Honey is still being consumed by people, applied as a wound dressing and is a key ingredient in a range of cosmetic products. Bees appear in our historical literature and popular culture (e.g. 'Bee Movie') and as symbols of 'busy-ness', beauty and nature, continually re-emerging in fashion and home décor prints. Yet bees are also capable of harming people through a one-time sting or en masse to protect a hive.

While the majority of people know very little about insects per se, public-perceptions of bees are being shifted through education and wildlife campaigns to encourage an appreciation that bees are essential for plant pollination, human well-being, a healthy planet, and a healthy economy. Without bees, humans would have to rely on more invasive agricultural practices to yield similar food resources, reducing biodiversity and increasing global famine and the effects of climate change. In turn, climate change would limit honey-bee behaviour, reproduction, development and overall health that would lead to mass extinction; threatening our own existence.

Thus, this critical review considers human-insect interactions both past and present to explore human perceptions of insects and consider the Colony Collapse Disorder phenomenon, alongside the environmental impact on the health of all living species should precious bees become extinct.

L11.8 Online Canine Health Information-sourcing by UK Caregivers: Canine Welfare Threat or Opportunity?

Michelle L Farrow, Dan G O'Neill, Rowena MA Packer

The Royal Veterinary College, Hertfordshire, United Kingdom

Background: Online health information-sourcing is increasingly used by canine caregivers when their dogs are ill. Veterinary professionals have expressed concern about caregivers using the internet for this purpose, due to perceived threats to animal welfare. This study aims to explore if and how online information-sourcing affects the quality of decision-making by UK canine caregivers when deciding whether to seek veterinary-care.

Methods: An online survey collected caregivers' responses to vignettes (n=30) from anonymised VetCompass records representing common acute and chronic canine conditions. Caregivers' decision-making regarding three randomly selected vignettes was explored, approaching each vignette as if the dog were their own. For each vignette, caregivers suggested what condition most likely affected the dog, their perception of urgency for veterinary-care and the most likely body system affected. Consensus on the most appropriate responses to each vignette were validated by practising veterinary surgeons working independently of the study. For each vignette, caregivers reported if/how they used the internet to assist their responses. Post-vignette questions explored caregivers' usual online information-sourcing behaviours and decision-making for seeking veterinary-care.

Results: Between February-April 2022, n=1767 responses from n=2826 were complete. Analysis will use generalised linear mixed modelling, accounting for repeated measures (n=3 vignette responses per participant). Outcomes modelled will include appropriateness of caregiver assessments of urgency for veterinary-care, and the accuracy of caregiver assessments of the likely condition and body system affected. Statistical modelling will account for caregiver demographics (e.g. gender, age), current

ownership of a chronically ill dog, current/previous ownership of certain breeds and general habits of online healthcare information-sourcing.

Implications: Deeper understanding of caregivers' online information-sourcing and decision-making regarding their dog's health will enhance our understanding of 21st century dog ownership, and help the veterinary profession better support caregivers in making decisions about their dogs' health.

L11.9 Cats' Behavior in the Secure Base Test: Comparison between Domiciliated & Sheltered Animals Awaiting Adoption

Cinthia Sayuri Y Takeda¹, Suzana H. Luchesi¹, Fernanda P. Martins², Bruno Rafael D. de Barros², Igor S. Gomes², Juliana Roberta S. Monteiro², Caio Vinicius S. Pinto², Doralice A. Lourenço², Alexandro Antônio P. Damasceno², Emma Otta¹

¹ Universidade de São Paulo, São Paulo, São Paulo, Brazil

² Universidade Federal Rural da Amazônia, Belém, Pará, Brazil

Introduction: Cat ownership is increasing in our households and it is important to understand characteristics and consequences of relationships between people and cats. From this perspective, we investigated the behavior of domiciliated or sheltered cats in an unfamiliar environment in the presence and absence of a familiar human.

Methodology: A sample of 15 domiciliated and 15 sheltered cats from the Cattery of the Universidade Federal Rural da Amazônia participated in a Secure Base Test, which is divided in 3 phases of 2 min: 1) cat accompanied by a person who sits inside a circle in the middle of a novel room, 2) the person leaves the room and the cat is left alone, 3) the person returns to the room, and sits inside the circle again. The person can caress the cat inside the circle, without restricting its movements. The sessions were filmed and the time each cat stayed inside the circle was extracted from these videos with the program BORIS. The Student's Independent samples t-test was used to compare the two groups using Jamovi software.

Main Results: The Cattery group spent significantly more time inside the circle, on the person's lap or nearby during the reunion Phase 3 (72.4% of the phase time on average) than the domiciliated group (39.22% of the phase time on average), $t(28) = 2.36$, $p < .05$. There was no significant difference in the time spent inside the circle between the two groups in Phase 1, $t(28) = 1.89$, $p > .05$, and Phase 2, $t(28) = 1.75$, $p > .05$.

Principal Conclusions: The results showed that a cat uses a familiar person as a secure base during the Secure-Base Test, especially during the reunion after a short separation, differentiating between domiciliated and sheltered animals. Attachment theory can be used as a framework to examine cat-human relationships.

Funding: CNPq, FAPESP

L11.10 Exploring Public Perceptions of 'Meet & Greet' Animal Experiences in Zoos

Polly Doodson

Hartpury University, Gloucestershire, United Kingdom

Opportunities to interact with non-human animals have become a commodity sold by tourist attractions worldwide. People want to touch, feed and be photographed with wildlife and are willing to pay for these opportunities. Many zoos offer opportunities where visitors can 'meet' their chosen species at an additional cost to the zoo entrance fee.

Existing studies have explored the impact of these interactions on animal welfare, or educational benefits to participants, however the wider impact has largely been ignored; what are the general public's perceptions of zoos offering these experiences?

As zoos strive to be educational conservation organisations, they must ensure that all operations are supporting their mission and not undermining it. However, we currently do not know how these 'Meet & Greet' (M&G) opportunities are interpreted by the people exposed to them. M&Gs have the potential to encourage support for conservation or to reinforce an image of zoos as entertainment centres that are exploiting animals for profit.

I propose that there are five main aspects of public perceptions that need to be explored in relation to M&Gs; where other areas of zoo research and research in other disciplines suggests that there could be potential negative outcomes for zoos. These are: (1) Entertainment value of M&Gs, (2) Image of zoos and zoo animals, (3) Animal welfare perception, (4) Good pet perception, and (5) Conservation concern

This research will explore M&G opportunities currently available in the UK, how these are advertised by zoos, and the general public's perceptions of them. The results will be used to provide recommendations for zoos and other wildlife tourism attractions, to ensure that animal interactions are offered in a responsible way.

L12 Continued Impacts of COVID on HABs

Channel 1

15:15-16:45 Saturday, July 9

L12.1 Pandemic Puppies: An Ongoing Source of Mental Health Support, but at What Cost to Canine Welfare?

Rowena MA Packer¹, Claire L Brand¹, Zoe Belshaw², Fiona Dale¹, Camilla L Pegram¹, Kim B Stevens¹, Dan G O'Neill¹

¹ Royal Veterinary College, London, United Kingdom

² EviVet, Nottingham, United Kingdom

Introduction: The pandemic resulted in global reductions in human mental health. Many households purchased a puppy in 2020, with almost half driven by the desire to improve their mental health (46.9%, increased +8.8% from 2019), precipitating the 'Pandemic Puppy' phenomenon (Packer et al, 2021). This phenomenon was associated with detrimental changes to puppy-purchasing behaviours, including more puppies being sold without their mother present (+10.7%) and with an international passport (+3.1%). This study aimed to monitor changes in UK puppy purchase motivations/behaviours between 2019-2021.

Methodology: Owners of UK puppies purchased aged <16 weeks between 23rd March 2021 to 31st December 2021 (n=2084) were recruited into an online survey using snowball sampling. Statistical analyses compared 2021 purchase motivations/behaviours with data from the same calendar-periods in 2019 (n=1150) and 2020 (n=4397).

Findings: In 2021, motivation to acquire a dog to improve mental health (41.9%) had significantly reduced from 2020 (46.9%; $p < 0.001$) but had not returned to 2019 pre-pandemic levels (38.1%; $p = 0.03$). Although the proportion of puppies seen with their mother at sale had recovered to 2019 levels (85.8%) in 2021 (85.1%; $p = 0.65$), the proportion of owners conducting pre-purchase visits in-person had not yet recovered (2019: 80.6%; 2020: 59.6%; 2021: 70.5%, $p < 0.001$), and the proportion of puppies sold with an international passport in 2021 (10.5%) had significantly increased from 2020 (7.2%; < 0.001).

Conclusions: Some pandemic-induced changes to puppy buying have persisted into 2021, with many owners risking purchases from unscrupulous puppy breeders/importers, leaving a negative legacy for canine welfare.

References: Packer RMA et al. (2021) Characterising motivations and behaviours of UK owners who purchased puppies during the 2020 COVID-19 Pandemic. *Animals*. 11(9), 2500.

L12.2 'Puppy Love in Lockdown': A Qualitative Exploration of Topics of Conversation About Dogs on Twitter During the COVID-19 Pandemic

Katharine L. Anderson, Kirsten M. McMillan, Robert M. Christley
Dogs Trust, London, United Kingdom

With the COVID-19 pandemic posing ever-evolving challenges to canine welfare, understanding the impacts of the pandemic on dogs and their owners is imperative. As social media acts as a common outlet to express ideas, thoughts, and concerns, the aim of this study is to explore the conversations surrounding dogs during COVID-19 on Twitter.

Using a combination of relevant search terms, English language tweets were gathered from the official Twitter application programming interface using R package rtweet between 27th March-22nd August 2020. Data cleaning and manipulation were carried out in R. Thematic analysis was applied utilising a hybrid deductive and inductive approach, coding tweets into themes using NVivo.

4250 tweets from personal accounts in the UK and ROI were collected. Twitter conversations encompassed five key themes: acquisition of dogs, treatment of dogs, impacts of COVID, daily lived experience, and lives and roles of dogs during the pandemic. The latter three themes were common across the full study period, whilst topics such as treatment of dogs fluctuated across time, often in reaction to topical issues. The above themes capture and represent elements of lockdown life and daily experiences of humans and dogs during the pandemic. Dogs commonly featured in the daily lives/activities of their owners, demonstrating their important role during the pandemic, whilst many Twitter users expressed concern for canine welfare during the pandemic, such as surges in acquisition.

This study identified key conversations on Twitter relating to dogs during the COVID-19 pandemic, highlighting concerns surrounding canine welfare, as well as the importance of animals to people during difficult times. Understanding feelings and concerns allows those within the field to respond effectively and efficiently, such as in the design of interventions or resources. Further research using mixed method approaches to the analysis of tweets could provide valuable insights in anthrozoology.

L12.3 Animal Companionship under Challenging Circumstances – Long-Covid Syndrome & HAI

Birgit Ursula Stetina, Jan Aden, Anastasiya Bunina, Katharina Hametner, Armin Klaps, Zuzana Kovacovsky, Nora Ruck, [Christine Krouzecky](#)

Sigmund Freud University, Vienna, Austria

Introduction: The COVID-19 pandemic and the global biopsychosocial burden encourages research regarding health-promoting aspects. Studies underline the human-animal-bond as a source of physical and psychological well-being. However, the impact of the relationship to pets on the biopsychosocial wellbeing of caregivers regarding the pandemic has not been investigated sufficiently. The present study examines the relationship with companion animals focusing on individuals who suffered from a COVID-19-infection and Long-Covid- Syndrome.

Methodology. To investigate the influence of the human-animal relationship on individuals with long-term effects caused by a COVID-19-infection, animal caregivers diagnosed with Long-Covid-Syndrome as well as healthy animal caregivers and people not living with companion animals were surveyed online regarding symptoms of depression, quality of life and effects of social isolation. So far, a total of 150 animal caregivers and 84 individuals not living with companion animals were included in statistical analyses conducted via SPSS 24.0.

Results. Preliminary results demonstrate significant differences between pet-owners suffering from Long-Covid-Syndrome and healthy pet-owners regarding symptoms of depression ($t(137)=5.507, p=.001$), quality of life ($t(140)=-3.29, p=.001$), feelings of loneliness ($t(149)=3.45, p=.001$) as well as feeling socially supported ($t(142)=-3.17, p=.002$). In this context, animal caregivers diagnosed with Long-Covid-Syndrome overall show higher levels of biopsychosocial stress than healthy animal caregivers. With regards to the strength of the relationship, findings indicate a subjectively stronger relationship with pets in the Long-Covid-Group ($t(137)=3.32, p=.001$). Overall, data demonstrate significant differences between pet-owners and non-pet owners regarding biopsychosocial wellbeing ($t(115)=-2.38, p=.019$).

Conclusions: The burden of Long Covid needs to be highlighted. It seems that the relationship with an animal gains importance for patients. Although it needs to be mentioned, a health promoting effect for patients living with companion animals cannot be found.

L12.4 When Everything's Falling: Companion Animals' Role During COVID-19.

Yahaira Segarra-González¹, Liza M. Meléndez-Samó²

¹Albizu University, Mayaguez, PR, Puerto Rico

²Albizu University, San Juan, PR, Puerto Rico

Introduction. Past studies have highlighted the supportive role that companion animals play in their guardians' lives. Considering that the COVID-19 pandemic impacted people's social connection and routines, this paper explores the human-animal attachment and the benefits that companion animals bring to their guardians, during the emergency COVID-19 lockdown in Puerto Rico.

Methodology. A sample of adult guardians (n = 3,663) living in Puerto Rico during the COVID-19 emergency closure was recruited via social media networks and email. Data collection was performed through online measures that assessed socio-demographic information, guardian-companion animal attachment, and animal-related experiences, during the 5th and 8th week of lockdown. Data were analyzed using SPSS software, and nonparametric tests were performed.

Main Results. Analysis suggests a moderately significant positive correlation ($r = 0.458$, $p < 0.01$) between attachment level and guardians' perceived benefits from companion animals during the lockdown. Perceived benefits included companionship and unconditional support, a sense of security, relaxation, and the elimination of boredom (Segarra-González & Meléndez-Samó, 2021). Concerning animal species, guardians' attachment levels, and perceived benefits, the segmented analysis suggests that the attachment levels and the perceived benefits are higher among people who chose their cat when answering ($r = 0.526$, $p = 0.01$). The second strongest correlation was people who chose their dog ($r = 0.442$, $p = 0.01$).

Principal Conclusions and Implications for Field. These findings suggest that companion animals have a valuable role in their guardians' lives, especially in stressful situations. Thus it is a priority to consider companion animals in emergency planning efforts and public policy.

References: Segarra-González, Y. & Meléndez-Samó, L. M. (2021). "If the world was ending: Companion animals and their guardians in COVID-19 times," *People and Animals: The International Journal of Research and Practice*, 4(1). <https://docs.lib.purdue.edu/paij/vol4/iss1/8>

Symposia

Click on the links below for a shortcut to a specific symposium.

[S1. Ecological Momentary Assessment \(EMA\) as a Tool for Assessing Human-animal Interaction Across Contexts](#)

[S2. Advances in Research Methodology and Practical Utility of Equine Assisted Therapies for Youth](#)

[S3. Virtual Canine Comfort: Considerations and Findings Across Virtual Canine-Assisted Interventions](#)

S1 Ecological Momentary Assessment (EMA) as a Tool for Assessing Human-animal Interaction Across Contexts

11:45-13:15 Thursday, July 7, 2022

Symposium Chair:

Nancy R. Gee

Virginia Commonwealth University School of Medicine, Richmond, VA, USA

Email: Nancy.Gee@vcuhealth.org

Discussant:

Erika Friedmann

University of Maryland School of Nursing, Baltimore, MD, USA

Email: friedmann@umaryland.edu

Description:

The field of human-animal interaction (HAI) is evolving in the breadth and depth of methodological approaches that are used to assess the complex processes and mechanisms involved in HAI in various contexts. Ecological momentary assessment (EMA) is one such approach that provides the opportunity to capture repeated sampling of behaviors and emotions in real time, within a real-world environment. EMA has the potential to allow for a more time-sensitive, nuanced understanding of dyadic human-animal interactions and how particular interactions of behaviors and experiences may lead to specific outcomes. This symposium will discuss the use of EMA within three contexts of HAI research: animal-assisted interventions (AAIs) with therapy animals, trained facility dogs in a healthcare setting, and companion animal dogs in the family. The three studies presented in this symposium will highlight how EMA can be feasibly used in different HAI environments to assess different types of research questions.

Presentation #1 will share the results of a randomized control trial for an AAI focused on test anxiety for college students. This study involves using EMA to assess reactivity to a stress-inducing activity to establish if dosage of HAI impacts reactivity.

Presentation #2 highlights the use of EMA methods over a 14-day period in assessing the role of facility dogs on momentary emotional affect in a national sample of pediatric healthcare providers (n=61), relative to the amount of human social support they receive within their work environment.

Presentation #3 assesses the feasibility of using EMA methods for adolescent participants with social anxiety (n=40) and their dogs over two 24-hour periods in their home and school settings, allowing for integration of data on human social interactions, interactions with a pet dog, and adolescent psychophysiological reactivity to assess the momentary effects of these interactions on anxiety.

The discussant (Dr. Erika Friedmann) will integrate the results from these three examples of EMA HAI research. She will synthesize some of the strengths and challenges of the application of EMA in HAI contexts, and suggest recommendations for use in future research.

S1.1 Feasibility of using ecological momentary assessment to measure the effects of interactions with pet dogs on psychophysiological reactivity in adolescents with social anxiety

Megan K Mueller¹, Eli D Halbreich¹, Eric Anderson^{2,3}

¹ Tufts University, Grafton, MA, USA

² Maine Medical Research Institute, Scarborough, ME, USA

³ Tufts University School of Medicine, Boston, MA, USA

Introduction: The relationship between pets and youth anxiety reduction is complex and highly individual. There is a lack of research approaches allowing the measurement of specific psychophysiological effects of pet interactions on adolescents with social anxiety. This study tests the feasibility of using an ecological momentary assessment (EMA) approach for assessing physiological responses to dog interactions in the home.

Methodology: The sample includes 40 dog-owning adolescents; 35 with high levels of social anxiety, and 5 with low levels of social anxiety (n=21 completed, remaining will be completed by May). Participants wore an Empatica wristband and reported their interactions with their dog, social interactions, and physical activities using an EMA app over a two- day period. Electrodermal activity (EDA) was collected using the wristband, and EMA was used to quantify the emotional valence of interpersonal social interactions and dog interactions. Participants also completed a feasibility survey about the EMA protocol.

Results: Preliminary results found that participants reported on average actively interacting with their dogs for 14 min/day, 32 min/day of social time, and 22 min/day of physical activity. On a scale of 1 to 5, participants reported the Empatica and the EMA app were relatively easy to use (M=3.44, SD=1.1; M=4.17, SD=0.92 respectively). EDA was generally of good quality, and of the 42 data collection days, there were only 6 instances of >80% unusable EDA data. 32 days had <10% unusable data, and 24 days had <5% unusable data. Final analyses will include integration of dog and social interaction reports with EDA data.

Conclusions and Implications: Our preliminary results show that the collection of physiological and EMA data is feasible for adolescents with social anxiety, with clear indications of how to optimize the EMA protocol for adolescent participants. These results will help lay the foundation for future EMA research exploring youth-dog interactions.

S1.2 Social Support Theory and the Momentary Well-Being of Healthcare Professionals with Facility Dogs

Clare L. Jensen¹, Kerri E. Rodriguez², Jessica Bibbo³, Marguerite E. O'Haire¹

¹ Purdue University, West Lafayette, IN, USA

² Colorado State University, Fort Collins, CO, USA

³ Benjamin Rose Institute on Aging, Cleveland, OH, USA

Introduction: Evidence suggests that full-time therapy dogs (facility dogs) in pediatric hospitals provide benefits to professionals (handlers), including less burnout and more positive perceptions. As social support among humans has been found to reduce detrimental effects of burnout (i.e., the social support theory), a key theory for understanding effects of human-animal interaction is that support from animals may be similarly meaningful. However, targeted research exploring social support in professional human-animal partnerships has been limited. Thus, this study investigates whether the effect of working with a facility dog on handlers' emotional affect differs based on whether they already receive social support from human coworkers.

Methodology: Participants included N=61 facility dog handlers in pediatric hospitals (Mage=38±10, 92% female). Ecological momentary assessment (EMA) was used to measure emotional affect and facility dog presence at randomized times twice daily for 14 days. Participants also completed the Workplace Social Support questionnaire regarding perceived support from coworkers. Multilevel modeling was used to test for an association of facility dog presence with emotional affect at work and assess for potential interaction effects with perceived coworker social support.

Results: Handlers reported more positive affect at work during assessments in which the facility dog was present ($\gamma_{10}=0.16$, $p=.009$). There was a significant interaction between the effect of facility dog presence and perceived coworker social support ($\gamma_{12}=-0.07$, $p=.008$) such that participants reporting below-average social support from coworkers experienced a greater effect of facility dog presence on momentary emotional affect.

Principal Conclusions and Implications: Results suggest that facility dogs may function to supplement human social support at work with similarly positive effects for healthcare professionals' well-being. Further, findings suggest facility dog support as a potential mechanism for their benefits to professionals, thereby helping to elucidate the role of social support as a theoretical underpinning in human-animal interactions.

S1.3 Effects of Human Animal Interaction and Psychoeducational Content on University Students' Salivary Cortisol Reactivity to and Recovery from Test- Anxiety Using Moment-to-Moment Assessments

Patricia Pendry

Washington State University, Pullman, WA, USA

This study investigated university students' salivary cortisol reactivity and recovery from a test-anxiety induction and release exercise. We collected five cortisol samples during a stress - management workshop, which was embedded in a randomized efficacy trial (N = 348) of a 4-week campus-based AAI. Data were collected during the 4th session of once-weekly, one-hour workshops that exclusively featured Human Animal Interaction (HAI-Only) with canine PETPartner teams or psychoeducational content on stress management (No-HAI), or an equal 50-50 combination of both (HAI-Enhanced). After a 7-minute 'meet and greet', students in each condition participated in a 5-minute, guided anxiety-inducing activity through visualization, followed by a 10-minute anxiety-release activity through cognitive reappraisal. Four cortisol parameters were calculated reflecting both cortisol output (AUC_G) and change (AUC_I) during the test-anxiety induction and test-anxiety release. Results of linear regression analyses showed that students in the HAI-Only condition exhibited significantly lower cortisol output (HAI-O: $\beta_{\text{output}} = -0.31$, $p < 0.001$, -34.37%) and cortisol change (HAI-O: $\beta_{\text{change}} = -0.228$, $p < 0.001$) during anxiety induction compared with those in the No-HAI condition, whereas those receiving HAI in combination with content were only marginally lower (HAI -E: $\beta_{\text{output}} = -0.08$, $p = 0.09$, -10.13%; HAI-E: $\beta_{\text{change}} = -0.005$, $p = 0.946$). Similar results were found for cortisol output during the anxiety recovery (HAI-O: $\beta_{\text{output}} = -0.12$, $p < 0.02$, -13.90%; HAI-E: $\beta_{\text{output}} = -0.098$, $p < 0.059$), while cortisol change during the recovery paradigm was not significantly lower for either HAI conditions ($p_{\text{HAI-O}} = .232$; $p_{\text{HAI-E}} = .336$). Contributions of baseline cortisol, student risk status, total credits, and baseline anxiety were controlled. Results provide support for the HAI-HPA Transactional Model of stress and coping in HAI contexts (Pendry & Vandagriff, 2020), particularly regarding the hypothesized direct effects of physical petting or touching on cortisol down-regulation and recovery in the face of a perceived stressor.

S2 Advances in Research Methodology & Practical Utility of Equine Assisted Therapies for Youth

15:30-17:15 Thursday, July 7, 2022

Symposium Chair:

Kimberly Hoagwood

New York University Langone Health, New York, NY, USA

Email: Kimberly.Hoagwood@nyulangone.org

Discussant:

Megan Mueller

Tufts University, Medford, MA, USA

Email: megan.mueller@tufts.edu

Description:

What benefits does the horse offer that other animals do not? Of unique characteristics, most prominent are the horses' size, which is in direct juxtaposition to their prey nature; horses do not have the ability to be incongruent like predators. The core attributes of a successful, bidirectional, interspecies relationship are: trust, utility, respect, and acceptance (Halberg, 2017; Lac, 2017; Wilsie & Vogel, 2016). When humans partner with horses, they report feelings of trust, non-judgmental interaction, calm, and love. As a result, the horse-human interaction seems to mimic core elements of the therapeutic process.

While randomized controlled trials are the gold standard for generating evidence for the effectiveness of interventions and are needed, there are other opportunities for researchers to advance the field: capturing equine-human interaction via developing and integrating novel measures and consolidating findings through systematic reviews and meta-analyses. In doing so, researchers explore and identify the mechanisms potentially responsible for the biopsychosocial changes equine-human interactions bring about.

The researchers included in this symposium are using a range of designs and methodologies to address youth mental health through Equine Assisted Services. Acri and Morrissey will present research on a manualized protocol for youth with anxiety. The protocol, which is grounded in evidence-based practices from PracticeWise®, is a melding of Cognitive Behavioral Therapy and Therapeutic Riding for youth ages 6-16 with mild to moderate anxiety. This intervention, Reining in Anxiety, is translated into practice to develop skills to address symptoms of anxiety. Vincent will share research methods and findings for the inclusion of physiological data collection to study equine welfare. Jedlicka builds on this presentation with findings from a program evaluation for youth engaged in the EAGALA model. The presentation by Ballard and Collins will review findings from the peer-reviewed literature for youth engaged in EAS for mental health to address whether insurance coverage for services would increase access. Mueller, a developmental psychologist with expertise in animal-assisted interventions and EAS will discuss the importance of translational sciences, how these studies illustrate key points in advancing EAS research, and describe implications for practitioners, services users, and funders.

S2.1 Evaluation of a Modified Bit Device to Obtain Saliva Samples from Horses

Aviva Vincent¹, Lauren Seibel², Robin Peth-Pierce³, Meghan Morrissey², Mary Acri², Kimberly Hoagwood²

¹ Veterinary Social Work Certificate Program, Knoxville, Tennessee, USA

² NYU, New York, New York, USA

³ Cleveland State University, Cleveland, OH, USA

Background: Equine-Assisted Services (EAS) have demonstrated beneficial impact for children in reducing stress and anxiety. As investments in this research infrastructure grow, so do calls to assess the welfare of equine participants. Researchers are using physiological indicators, such as minimally invasive salivary samples, to assess EAS mechanisms of change to improve scientific rigor and depth of understanding. A 10-week adaptive horseback riding protocol was created that combined evidence-based practices for treating childhood anxiety with progressive horsemanship skills; the study protocol included the collection of saliva from equines, riders, and volunteers to assess the trio's stress response to the intervention by analyzing cortisol, alpha-amylase, and oxytocin.

Methods: Standard equine saliva collection uses a cotton swab inserted in the horse's cheek. A modified bit, created by a Spanish research team, was replicated using clear plastic tubing, cut to 6 inches, with a 4.5-inch by .25 cm wide slit cut laterally on the rough side (towards the horse's throat). The bit was secured to the cheek piece of a bitless bridle, and a 5-inch by 0.5-cm gauze was placed in the bit. Eight horses had two samples collected in succession: one using the modified bit, and one using the cheek swab; both collected saliva for 90 seconds.

Results: Data analysis demonstrated that ample saliva was captured by the modified bit. Observational data supported that the horses demonstrated fewer physical stress signals to the bit than to the swab. Thus, the modified bit is a feasible and valid method for equine salivary sample collection.

Conclusions: Results suggest that the modified bit is a viable way to collect equine saliva and supports national calls to prioritize animal welfare analysis, and specifically horses used within EAS.

S2.2 Reining in Anxiety: Cognitive Behavioral Therapy & Equine Assisted Services for Youth with Anxiety

Meghan Morrissey¹ & Mary Acri¹

¹ NYU, New York, New York, USA

Introduction: Between 15% to 20% of youth meet diagnostic criteria for anxiety, yet most do not receive treatment due to workforce shortages, under-detection, or barriers that dissuade families from seeking services in traditional settings. Equine-assisted services (EAS) include several promising approaches to reach populations who do not access traditional therapies. Few studies using rigorous methods have been conducted on EAS for youth. This study examined feasibility and outcomes of a 10-session Cognitive Behavioral Therapy (CBT)-based adaptive riding intervention (hereafter called Reining in Anxiety) delivered by trained equine professionals.

Methods: Forty-one youth 6-16 years of age were recruited from GallopNYC, an adaptive horseback riding center in the NYC metro area. Youth were randomized to an experimental group (n=22) or services as usual (n=19), a standard adaptive riding group (services as usual or SAU). Severity of anxiety symptoms, anxiety in close relationships, and emotional self-efficacy were assessed at baseline and at the end of treatment.

Results: Fidelity to the manual was excellent, ranging from 88.9% to 100%. There was a

non-significant trend in the experimental group towards greater improvement with a higher number of sessions completed. Youth in the experimental group displayed significant reductions in anxiety ($t=4.426$, $df=38$, $p=0.042$) and improvement in emotional self-efficacy at posttest ($t=4.132$, $df=38$, $p=0.049$) in comparison to the SAU group. No significant differences were found between groups for anxiety in close relationships.

Conclusions: This study suggests that a CBT-based adaptive riding intervention delivered by non-mental health equine professionals following a detailed manual can reduce youth anxiety symptoms and be delivered with fidelity by PATH Certified Therapeutic Riding Instructors. These findings have implications for families seeking non-traditional services and for riding instructors seeking to ameliorate anxiety symptoms in their clientele.

S2.3 Reining in Anxiety: Cognitive Behavioral Therapy & Equine Assisted Services for Youth with Anxiety

Isabel Ballard¹, Cyleste Collins², Aviva Vincent³

¹ CWRU, Cleveland, Ohio, USA

² Cleveland State University, Cleveland, OH, USA

³ University of Tennessee, Knoxville, Tennessee, USA

Background: An increased understanding of integrated behavioral healthcare highlights the importance of mental and physical wellness anchored by person-centered interventions. Evidence is accumulating in support of non-traditional, empirically supported mental health interventions such as equine-facilitated psychotherapy (EFP). Historically and currently, insurance companies neglect to cover EFP as a prevention and treatment strategy for children, youth, and families. Without coverage, the cost of participating in EFP is a financial barrier to accessing the intervention. Not covering and not reimbursing costs for this non-traditional intervention represents a crucial misstep by the insurance industry. EFP's strong history and professionalization, its comparable cost to talk therapy, a growing research base demonstrating EFP's benefits for youth, and policy efforts toward increasing person-centered, innovative, integrated healthcare approaches suggest greater access to interventions such as EFP is needed. Because EFP may be more accessible to those who might not traditionally attend or respond positively to talk therapy sessions, it should not be available only to those with the most privilege.

Objective: This paper is a review of findings from the peer-reviewed literature for youth engaged in EAS for mental health to address whether insurance coverage for services would increase access. This paper aims to serve as a resource for social work practitioners looking to recommend, engage in, or advocate for EFP.

Method: A review of the EAS field with a focus on EFP and the professionalization of the practice. The field was surveyed for current cost per session and evidence of insurance coverage. Researchers used an applied framework for creating goals and specific recommendations for integrated healthcare inclusive of EFP.

Conclusion: Insurance coverage and reimbursement for EFP is necessary to advance the field, aid service standardization, integrate service tracking systems, and increase the research quality, all of which would ultimately benefit youth mental health.

S2.4 A PONY Program: Program Evaluation of an Equine-assisted Psychotherapy Program for Children & Adolescents

Holly Jedlicka¹, Carol Harvey², Sandra Martinez²

¹ PBJ Connections, Pataskala, OH, USA

² The Ohio State University College of Social Work, Columbus, Ohio, USA

Background: The evaluation of A PONY Program was designed to evaluate the impact of social behavior in children and adolescents struggling with issues of mental health diagnosis and/or family-home issues. Central topics included skill building in leadership, listening, emotional self-control, problem-solving, setting boundaries, self-awareness, authenticity, and emotional safety. The aim of this evaluation was to explore the effectiveness of the program towards reducing mental health issues and the positive impact on skill development.

Methods: Data from the Behavior Assessment System for Children (BASC-2), Second Edition, was collected for 19 participants, from both their parents and teachers, following participation in the 10-week program. A paired-samples t-test was conducted with pretest and posttest data. A Cohen's *d* was done to calculate the effect size. P-values were used to determine statistical significance at .05 or below.

Results: Parent reports indicated improvement in behavioral change index, as well as in attention. Positive results were more prevalent in the teacher reporting scales in children than in adolescents. Participants demonstrated significant improvement in both primary and composite scales that included: hyperactivity, depression, aggression, conduct problems, adaptability, anger control scale, externalizing and behaviors. Results are triangulated with those from collateral sources with mixed findings from parent and teacher reporting.

Conclusions: Findings suggest that though the program evaluation supports positive outcomes of the A PONY Program.

S3 Virtual Canine Comfort: Considerations and Findings Across Virtual Canine-Assisted Interventions

15:15-16:45 Saturday, July 9, 2022

Symposium Chair:

John-Tyler Binfet

University of British Columbia, Kelowna, BC, Canada

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Discussant:

Megan Mueller

Tufts University, Medford, MA, USA

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Description:

Canine-assisted interventions (CAIs; Binfet et al., 2022) or Canine Visitation programs (Pendry & Vandagriff, 2019) are a popular way to support college student stress-reduction and well-being. They are considered a low-cost and low-barrier way for students to interact with therapy dogs and findings from multiple studies attest to the efficacy of this approach in reducing ill-being and fostering well-being (Barker et al., 2016; Rothkopf & Schworm, 2021). Due to the disruptions to in-person CAIs arising from Covid-19, researchers and practitioners have had to adjust the way in which programs are conceptualized and offered. Many in-person CAIs were temporarily suspended or saw their capacity reduced thereby encouraging a transition to a virtual delivery model. The aim of this symposium is to showcase three papers (from two different HAI labs) that explicate the considerations involved in creating a virtual CAI, the effects of a virtual CAI, and the perceptions of participants who experience virtual interactions with therapy dogs, and collectively, illuminate our understanding of virtual human-animal interactions (HAI).

To understand both the challenges experienced and the solutions generated in response to transitioning to a virtual delivery model, the first paper by Dell and colleagues provides readers with an in-depth consideration of the varied elements involved in pivoting a program from in-person to virtual delivery, especially around dog-handler training and preparation. The second paper by Binfet and colleagues showcases findings from a randomized controlled trial that saw college students assigned to either dog or no dog virtual conditions that were either synchronous (i.e., virtual interactions with a live dog and handler) or asynchronous (i.e., virtual interactions with a dog and handler via a pre-recorded video). The third paper by Tardif-Williams and colleagues explores the insights and perspectives of students who virtually interact with therapy dogs in an effort to understand perceptions of the varied nuanced dimensions of this novel delivery model. Through her skilled questioning, the discussant, Dr. Megan Mueller from Tufts University, will identify connections across these three papers, helping to showcase the nimble and flexible approaches to HAI research arising from a research context hampered by Covid-19.

S3.1 Exploring college students' perceptions of a virtual canine intervention

Christine Y Tardif-Williams¹, John Tyler-Binfet², Freya L. L. Green², Renata Roma¹, Akshat Singal², Camille X. Rousseau², Rebecca J. Godard²

¹ Brock University, St. Catharines, Ontario, Canada.

² University of British Columbia, Okanagan, British Columbia, Canada

Canine-assisted interventions (CAIs) are a popular and well-utilized means of bolstering the well-being of university students (Binfet et al., 2022; Crossman & Kazdin, 2015). However, little is known about how participating in CAIs is experienced by university students. This study explores the insights and perspectives of undergraduate students who participated in a virtual CAI.

Understanding students' experiences is important as this holds potential to inform program design and delivery and elucidate mechanisms within the intervention that were found to be especially efficacious. Undergraduate students (N = 467) from a mid-sized western Canadian university participated in a virtual CAI and were asked to share their perceptions of their experience by rating statements and responding to open-ended prompts (e.g., "How did participating in this study make you feel?", "Was this intervention helpful?", "Why was the intervention helpful/not helpful?"); participants also shared their perceptions regarding session length, the role of the handler, and their own level of engagement. Content analysis of the prevalent themes (analyzed by question) was conducted and identified salient themes characterizing CAIs as follows: destressing/calming ("I felt a bit more at ease because it reminded me of sitting at home and studying with my dog"); a positive online experience ("This video gave me a sense of security"); a boost to happiness ("It made me happy right away to the dog all happy and fluffy"); and as fostering a sense of community ("The session made me feel more connected to students, the handler, and the dog."). Findings inform our understanding of the key role played by therapy dogs in fostering student well-being within a virtual context and are discussed within the broader context of the role of CAIs for supporting the well-being of university students.

S3.2 Lessons Learned: Transitioning a Therapy Dog Program Online during the COVID-19 Pandemic

Colleen A Dell, Linzi Williamson, Holly McKenzie, Ben Carey, Maria Cruz, Maryellen Gibson, Alexandria Pavelich

University of Saskatchewan, Saskatoon, Saskatchewan, Canada

In 2015, the University of Saskatchewan PAWS Your Stress Therapy Dog program partnered with St. John Ambulance for therapy dog teams to visit our campus and offer attendees love, comfort and support. We recognized at the start of the COVID-19 pandemic that students, staff and faculty may require mental health support, particularly with the challenges of isolation and loneliness. In response, our team transitioned from an in-person to a novel online format at the start of the COVID-19 pandemic. We designed online content for participants to: (1) connect with therapy dogs and experience feelings of love, comfort and support as occurred in in-person programming; and (2) learn about pandemic-specific, evidence-informed mental health knowledge. Our unique approach highlighted what dogs can teach humans about health through their own care and daily activities. From April to June 2020, we developed a website, created 28 Facebook livestreams and 60 pre-recorded videos which featured therapy dogs and handlers, and cross-promoted on various social media platforms. Over three months, first a combined process-outcome evaluation helped us determine whether our activities contributed to the program's goals. A subsequent needs assessment allowed us to elicit participant preferences for the program moving forward. This presentation will reflect on these findings and our teams' collective experiences to share the key lessons learned related to program personnel needs, therapy dog handler training and support requirements, and online programming

prerequisites. This combined understanding is informing our current activities with the virtual program and should be of interest to other therapy dog programs transitioning to an online model.

S3.3 Supporting college students well-being through virtual interactions with therapy dogs: Findings from a randomized controlled trial

John Tyler-Binfet¹, Christine Y Tardif-Williams², Freya L. L. Green¹, Renata Roma², Akshat Singal¹, Camille X. Rousseau¹, Rebecca J. Godard¹

¹ University of British Columbia, Okanagan, British Columbia, Canada

² Brock University, St. Catharines, Ontario, Canada.

Being a university student is known to be a stressful experience and researchers across studies have reported elevated stress and compromised mental health for university students when compared to findings from the general population. The unexpected disruption to their studies arising from COVID-19 and its corresponding social isolation added to the stress experienced by students. This study assessed the effects of a virtual canine-assisted intervention to support student stress reduction and well-being. Participants (N = 467) were recruited from undergraduate psychology classes at a mid-size Western Canadian university and were randomly assigned to either synchronous (i.e., live Zoom) or asynchronous (i.e., pre-recorded YouTube videos) sessions with or without a dog present. An abbreviated, small group, dose intervention of five minutes was used and handlers across conditions followed a script that mirrored as closely as possible the dialogue shared during a typical live, in-person visit (i.e., shared information about their dog, asked participants to reflect on their well-being, etc.). Measures of well-being included 1-item measures of connectedness to campus, loneliness, and stress, the PANAS, State-Trait Anxiety Inventory, Circumplex Model of Affect, and self-ratings of engagement during the intervention. Results of paired samples t tests revealed that participants, regardless of condition, reported significant reductions in anxiety, stress, loneliness, decreased negative affect, and more positive emotional states and stronger feelings of connectedness to their campus. Regarding the impact of platform delivery, participants reported greater campus connectedness following their participation in the synchronous conditions; however, type of platform was not associated with other aspects of well-being as noted above. As hypothesized undergraduate students in this study did report feeling less stressed at the end of the intervention when a dog was present. The implications of the findings are discussed within the context of human-animal interactions amidst Covid-19.

Poster Presentations

[Animal-assisted Interventions](#)

[Contextual Analysis of Human-animal Interactions](#)

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[Taking The Animal's Perspective In Clinical & Academic Settings](#)

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Animal-Assisted Interventions

Capturing Heart Rate Variability for Children with ADHD during Animal Assisted Intervention: Feasibility and Acceptability

Cassie Zeiler¹, Rachel Azar¹, DeWayne P. Williams¹, Julian F. Thayer¹, Rachel Y. Stokes¹, Peyton Groves¹, Elissa Monteiro², Sabrina E.B. Schuck¹

¹ University of California, Irvine, Irvine, California, USA

² University of California, Riverside, Riverside, California, USA

Introduction: This study examines the feasibility and acceptability of using a wearable heart rate monitoring device (FirstBeat TM), in children with Attention Deficit Hyperactivity Disorder (ADHD) to capture heart rate variability (HRV) during animal-assisted intervention (AAI) with dogs. It is established that individuals with ADHD experience autonomic nervous system dysfunction, marked by an increase in overall heart rate (HR) and a decrease in HRV. AAI has been found to increase HRV but little is known about cardiac responses to AAI in children with ADHD.

Methodology: Four children with ADHD, aged 7-9 years (3 males), participated in the first cohort of a randomized clinical trial pilot study examining physiological measures thought to be responsive to AAI. Following each condition, beat-to-beat HRV was analyzed via Kubios HRV Analysis software.

Findings: Acceptability of affixing and continued wearing of the device was mixed (3 of 4 wore the device). Despite frequent movements and fidgeting with the device, obtained HR data was robust to such routine artifacts. Preliminary analyses showed a high correlation between time and frequency-domain indices of vagally-mediated HRV ($r = .898, p < .001$), signifying excellent internal validity. Simple contrasts showed a significant difference between first and final intervention day on overall HR ($t(2) = -5.07, p = .037$), trending towards significance for both inter-beat-intervals ($t(2) = 3.69, p = .066$) and HRV ($t(2) = 3.16, p = .087$).

Conclusions: Preliminary analyses indicate capturing reliable cardiac data in children with ADHD during AAI is feasible. Acceptability across participants, however, is a threat to power and interpretability. Key issues for future research emerged; ensuring a highly structured experimental setting, capturing detailed descriptions of activity during collection, the necessity of a robust device, and careful post-hoc inspection and correction of the HR series. Future studies should consider deployment challenges when calculating sample size for power.

Dogs as playful learning companions in early childhood settings

Helen Lewis

Swansea University, Swansea, United Kingdom

In recent years there has been a growing interest in the involvement of dogs in schools. The purpose of this study was to explore whether the presence of a dog had an impact on interactions during playful learning with 24 three- to five- year-old children.

Four teachers in four different schools and their dogs were involved in the study over the period of one academic year. Six children in each teacher's class were invited to participate. They were observed regularly during play-based activities over the year, with one regular observation made when the dog was present and one when the dog was not there (but a large stuffed toy dog was present).

Findings indicate that for many children the presence of a living dog offered an opportunity to develop social skills, particularly oral language. The dog provided a stimulus for conversation between children, between the children and the dog and between adults and children. Children made more verbal utterances when the living dog was present. In some cases, the presence of the dog also facilitated more cooperative play.

The paper also considers how the dog participated in the play and makes recommendations for best practice in animal assisted sessions in early years contexts.

Contextual analysis of human-animal interactions.

Dogs who require encouragement to approach a novel object make more eye contact with owner

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Lebanon Valley College, Annville, PA, USA

Introduction: Neophilia (approach of novel objects/situations) is thought to be an adaptive and selected trait that has been influenced by and has aided the relationship between dogs and humans.

Novelty-seeking in several species has been linked to polymorphisms in the dopamine type 4 receptor (DRD4). Moreover, eye contact between dogs and humans is an important aspect of interspecies communication as well as bonding and has been linked to polymorphisms in the oxytocin receptor (OXTR). The aim of this study is to investigate the genetic and environmental factors underlying the reaction to novel stimuli in the domesticated dog.

Methodology: Participants were a group of dogs of various breeds with a mean age of 4 years. The novel object was a remote controlled bubble machine. Dogs were brought into a room with the novel object 15 feet away and a treat of high value was placed next to it. The experiment began when the bubble machine turned on. The dog's behavior was monitored and recorded through a two-way mirror. Dogs were scored on measures of approach, avoidance, aggression, exploration and number of eye contact initiations between the dog and owner. Owners completed a survey about their dog's history and temperament.

Main findings: The results of the study show that dogs who needed encouragement from the owner to approach the treat+novel object made significantly more eye contact with the owner ($p < 0.01$). Owner-reported temperament and training level were not significantly associated with the dog's behavior toward the novel object. Analysis of DRD4 and OXTR genotypes is ongoing.

Principal conclusions and implications for the field: These findings may reflect the desire of some dogs for guidance from the owner in novel situations, a behavior which may be desirable in certain human-dog dyads and may be linked to genotype.

Exploring the impact of dogs on cat-human interactions

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Despite the growing numbers of dogs and cats cohabiting, little research has focused on the two species in one household and the effects of interspecific interactions on the human-animal bond. The present study investigated whether cohabiting with a dog has an impact on the way in which cats interact with humans. A 53-item survey was administered to 435 US cat owners via social media to collect data on demographics, interaction quality and frequency, behavioral issues, and pet-owner bond. Data were analyzed using Welch unpaired t-tests. Owners of cat-only households reported higher bonds with their cat ($p = 0.00097$), spent more time in the same room as their cat ($p = 0.03072$), and spent more time daily talking to

($p=0.00074$), petting ($p=0.00246$), and playing with their cat ($p=0.00370$) than owners in households with cohabiting cats and dogs (mixed household). Furthermore, owners reported that cats in cat-only households spent significantly more time vocalizing per day ($p=0.00582$) and rubbing on their owners ($p=0.02292$) than cats in mixed households. All other interaction frequencies revealed no significant differences between household types. No differences were found in the frequency of behavioral issues nor the degree to which owners were bothered by the behavioral issues present between cat-only and mixed households. Most notably, we found no difference in how often cats initiated interactions with their owners ($p=0.2885$) nor how often owners initiated interactions with their cats ($p=0.3626$) when comparing cat-only and mixed households. Collectively, our results indicate that cohabiting with dogs impacts the bond and various interactions between owners and their cats, but not who initiates the interactions between cats and humans.

Human Perception of Dog Emotions is Influenced by the Situational Context

Holly G. Molinaro, Clive D. L. Wynne

Arizona State University, Tempe, AZ, USA

Introduction: This study investigated the possible impact of the situational context on people's perception of emotion in dogs.

Methodology: One dog was videotaped in a variety of situations to elicit distinct emotional responses: 3 positive (praise, play, treat) and 3 negative (cat, novel object, and reprimand). The background of the videos was edited out in software and videos with and without background were presented in an online survey to undergraduate students ($N = 348$). Participants were first shown the videos without background, then with original context. They rated the valence and arousal of the dog in each video from 1-10 and identified the dog's emotion(s). Differences between the valence and arousal responses of the no-background and background-present videos and the putatively positive and negative videos were analyzed using ANOVAs.

Results: Valence responses did not differ whether background was present or not ($F_{1,340} = 3.02$), but were larger to positive situations ($F_{1,340} = 232.82$, $p < .01$). The interaction was significant ($F_{1,340} = 427.55$, $p < .01$) indicating that responses were greater to positive videos with background and less to negative videos without background. Arousal responses also did not differ based on presence or absence of background ($F_{1,339} = 1.45$), but were higher to positive situations ($F_{1,339} = 109.98$, $p < .01$). The interaction was significant ($F_{1,339} = 130.74$, $p < .01$) indicating that arousal responses were higher to positive videos without context and lower to negative videos with context.

Conclusions: These findings showed that people have great difficulty interpreting dogs' emotions when contextual information is removed. Without background, people's valence responses are reduced and yet their arousal responses to positive scenarios are increased. This has far-reaching implications for human-animal interactions and the welfare of and care we give to animals in human care.

Continued Influences of the COVID-19 Pandemic

College Students' Perceptions of the Impact of Pets on their Mental Health during Covid-19 Pandemic

Christine A Kivlen

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Introduction: COVID-19 has had a negative impact on college students' mental health and well-being. Researchers found that canine assisted interventions improved student well-being by decreasing self-reports of stress, anxiety, and peer isolation; however, little is known about the impact of pets on college students' mental health. This qualitative research explored the impact pets had on college students during the COVID-19 pandemic.

Methodology: College students (with and without pets) responded to a series of open-ended prompts; students with a pet were asked to respond to another set of open-ended prompts. Prompts included asking participants to identify significant events and coping mechanisms that occurred during the COVID-19 pandemic. Students with pets were asked about the impact of pet ownership on mental health, coping with significant events, and being a college student.

Findings: Frequency distribution revealed, 78% of participants reported a significant event occurred. Of the participants, 57% used coping mechanisms during the pandemic. Reported coping mechanisms included exercise, nature, friends, family, pets, meditation, alcohol, and eating. 94% of participants reported pets positively affected mental health (e.g. "my dogs are a comfort for me generally...I'm doing not-so-well mental health wise they give me something to focus on and care for"). 71% of participants felt pet ownership positively impacted student success, (e.g. "While my dogs were generally a comfort, they also serve to structure days (taking them out/feeding them) that become suddenly unstructured when everything moved online"). Finally, 71% of students felt their pet affected the way they coped with significant events during the pandemic, (e.g. "Having my sweet dog helped me immensely during the pandemic...she brought me joy when I felt alone and she was such a light in my life").

Conclusions: Findings suggest college students perceive pets have a positive impact on their mental health.

Maneuvering Clinical Research during the COVID-19 pandemic: Adapting a Clinical Trial Pilot

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Introduction: The COVID-19 pandemic gave rise to several deployment challenges for researchers around the globe, especially within the confines of a federally funded, time-bound study with children and volunteer animal/handler dyads. This qualitative study examines emerging research trends and aims to communicate how researchers, in response to the pandemic, identified barriers to conducting research and adapted data collection procedures for a randomized control trial pilot study investigating potential physiological responses to Animal Assisted Intervention with dogs (AAI) in children with Attention Deficit Hyperactivity Disorder (ADHD).

Methodology: Significant challenges emerged through our clinical research while implementing a manualized AAI with dogs in a school-based setting. Investigators systematically reviewed barriers encountered in the first year for which adaptations were considered.

Findings: Key barriers revealed included factors primarily driven by extended public health restrictions and university policies which required (a) adaptation to remote training for research staff, (b) response to delays due to quarantines/exposures thwarting planned start times and intervention length, (c) restrictions and on the collection of biomarkers including saliva and heart rate, and (d) alterations to the manualized treatment to allow for physical distancing. Overall, these challenges were implicated in recruitment success rates for participants and the regularity of volunteer animal/handler dyads as well as delaying the intervention start time for the initial cohorts of participants (12-month delay).

Implications: Fluctuating public health restrictions and pandemic safety protocols adversely impacted the conduct of intervention and resulted in frequent disruption to protocolized data collection. Investigators must consider how adaptations and alterations may compromise interpretation of information gathered during this time. Future directions might include detailed recruitment and intervention implementation plans for emergency situations (i.e., “Plan B”) and it may be beneficial for researchers to consider whether it is appropriate, considering the design of the study to be moved virtually.

Perceived Attitudes of Pet Owners About Their Pets During the COVID-19 Pandemic

Eli D. Halbreich

Tufts University, Medford, MA, USA

Introduction: Research conducted during the early phases of the COVID-19 pandemic indicated mixed but generally positive relationships with pets, which were exacerbated both positively and negatively during the early lockdown phases of the pandemic. This longitudinal study aims to investigate perceived attitudes of pet owners about their pets during the COVID-19 pandemic in the U.S.

Methodology: This longitudinal study of U.S. residents ($n = 63$) sought to collect data at two points during the COVID-19 pandemic. Measures of attitudes toward and attachment to pets, as well as a measure specific to pets and COVID-19 were distributed via online survey, and participants were asked to complete quantitative measures and answer open-ended questions about their attitudes and attachment toward their pets. Data were analyzed using Wilcoxon signed rank and rank sum tests as well as Spearman’s rank correlations.

Main results/findings: There were no significant differences between responses to the initial survey (IS) and follow-up survey (FS) in any of the domains explored. However, there was a significant positive correlation between the attitudes toward and attachment to pets in paired participants at both IS ($s = 790.67$, $p = .002$, $\rho = .61$) and FS ($s = 414.06$, $p = .00$, $\rho = .79$). Qualitatively, many participants reported a positive relationship with their pets and appreciated the increased amount of time they could spend with them during the pandemic. Some participants noted an increase in negative behaviors—such as separation anxiety—in their pets.

Principal conclusions and implications for the field: Future research should be conducted with a more representative sample to capture the full experience of U.S. residents. Overall, this study shows that participants held generally positive attitudes toward pets, which was maintained over time; and

additionally, that participants reported generally positive relationships with their pets during the COVID-19 pandemic.

Depictions of animals in art, literature, and culture.

Fursonas: Communicating Identity In the Furry Fandom

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Fursonas are unique anthropomorphized animal identities created by members of the furry fandom, also known as furies. The furry fandom can be defined as a community of people who enjoy anthropomorphized depictions of animals in art and other media who meet and connect in both online spaces and in person at conventions and regional meets. Fursonas are created by members of the furry community to serve as a vehicle to explore and express their own identity in a social space where they feel more safe and comfortable than they otherwise would. This paper analyzes how furies perceive, display and communicate their identity and gender using their fursonas in the spaces of the furry fandom. Study design includes a 12 question survey with multiple choice, long-answer questions, and the observation of publicly available social media profiles on FurAffinity, a website created by furies. Chi-square analysis of multiple choice survey questions and FurAffinity public profiles and the qualitative analysis of the long-answers of the survey indicate that fursonas are used within the furry community to interact with other members of the community as well as to communicate and explore their identity. Furthermore, members of the furry fandom experiment with aspects of identity, which can include physical and behavioral facets of gender through portrayals of their fursona in art. Published research and the results of this paper indicate that fursonas allow furies a unique outlet for socialization, identity and gender experimentation and self-expression. Additionally, insights on characteristics of the furry fandom provide information on how non-human animals can be depicted and used as an outlet for the expression of identity within culture. Focus on other facets of fursonas and the use of different methodologies in future studies to account for the different aspects of furies and their community may provide more information on furry culture and the symbolic use of non-human animals.

Fact or Fiction? An Examination of Psychotherapy and Learning Incorporating Horses on YouTube

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This poster will address the presentation of psychotherapy or learning incorporating horses in the media and its accuracy in relation to empirical research. Despite an increase in mental health interventions incorporating horses, health professionals are skeptical and have not wholly accepted the practice (Stapleton, 2021; Wilson et al., 2017). Research suggests the skepticism is due to the public's limited knowledge of interventions incorporating horses (Lee et al., 2020). The media is an influential source of information, and studies support the notion that social media platforms, such as YouTube, may serve as sources of information for health diagnoses (e.g., Sangeorzan et al., 2019) and treatments (e.g., Samuel et al., 2017). The present research examined YouTube as a source of information on psychotherapy and learning incorporating horses. Researchers conducted a content analysis, examining YouTube videos for (1) references to explanatory theory, (2) mention of credential requirements for practitioners, and (3) suggestions for the role of horses in psychotherapy or learning. Results indicate videos rarely (10% of videos analyzed) refer to theory when describing psychotherapy or learning incorporating horses. Regarding the role of horses in intervention, common themes of explanation were noted. The most common explanations for the horse's role were providing emotional support (29%) and "mirroring" (28%). Data also suggest a substantial portion of YouTube videos lack information on practitioner credential requirements; 46% of the videos analyzed included no such information. These findings will be discussed in comparison with data from practice reports and the scholarly literature. The presentation will conclude with suggestions for bridging the divide between presentation in the popular media and empirical support.

Human-wildlife Interactions in Multiple Contexts

Squirrels, Birds, and Bugs: Benefits and Responsibilities of Human-Animal Interaction in Nature

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The purpose of the present study was to further our understanding of human-animal interaction (HAI) in nature. Researchers investigated attitudes toward animals and nature, as well as the effects of HAI in nature on human mood and emotion. Although research investigating the process and outcome of HAI is on the rise, the field is lacking research on the specific behaviors humans engage in when interacting with other animals. In addition, studies tend to address HAI with companion animals (i.e., cats and dogs) in the context of health interventions (e.g., animal-assisted psychotherapy). To date, there is limited research on behavioral HAI in nature. This study was designed to address that gap. 60 college students participated in a sit-spot activity. Using a between-group experimental design, students were randomly assigned to do the sit-spot activity (a) outdoors, (b) outdoors focusing on animals, or (c) indoors. Students reported a range of previous interactions with animals in nature (e.g., watching, feeding, hunting), with differences based on species. HAI during the sit-spot activity consisted of watching a range of animals; the most common animals were squirrels, birds, and bugs. There was a positive correlation between HAI quantity and positive emotion. A one-way analysis of variance indicates reported positive emotion was greatest for participants who spent time in nature with animals, relatively lower for participants who spent time in nature without focusing on animals, and lowest for participants in the control condition. The presentation will expand on these findings and address implications for HAI benefits in nature in the context of animal welfare and conservation.

Wildlife carers, the unrecognised first responder: being prepared for the wildlife fallout of natural disaster

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Wildlife in Australia is rescued, rehabilitated and released predominantly by volunteers. These folks are faced on a daily basis with loss, grief, trauma, and dismissal of the work they do. This leaves wildlife workers and volunteers facing significant mental health challenges that many aren't prepared for, or equipped to cope with, without support. This paper focuses on adults and the need for their work to be considered as 'frontline' in order for their mental and physical health, and safety to be taken care of as a priority.

Since January 2020 we have undertaken more than one thousand debriefing and counselling sessions. In most cases, clients report their licensing bodies (state and territory governments) and organisations pay little more than lip service to mental health support of their volunteers, despite the trauma experienced, especially during critical incidents, but also during day to day rescue activities. This denial leaves a massive

gap in support both practically and financially for carers to support their own mental health. WildTalk fills that gap.

Due to the dispersal of approximately 60,000 wildlife workers and volunteers across the country, we used a brief survey to answer the following questions in relation to WHS, working in isolation, and the importance of any mental health support understanding the work they do.

New research topics, methods, and filling knowledge gaps

Expectations Versus Reality of Designer Dog Ownership in the United States

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Introduction: “Designer dogs,” or the hybrid offspring of two purebred dogs, are an extremely popular pet choice in the United States. However, there are many misconceptions surrounding them, and the reality of owning one may not match owner expectations. For instance, many people believe these dogs to be non-shedding, hypoallergenic, and low maintenance; however, this is not always the case. This study compared owner expectations and reality associated with owning purebred dogs, mixed breed dogs, and designer breeds—specifically, doodles (i.e., poodle hybrids, such as Labradoodles, Cockapoos).

Methodology: A total of 2,987 dog owners took a survey assessing satisfaction with their dog and the degree to which the reality of owning their dog matched prior expectations. A combination of chi-squared tests, logistic regression models, and qualitative analysis coding revealed trends in the data.

Main Findings: Quantitative analyses showed that there was a greater mismatch between expectations and reality regarding the maintenance (e.g., grooming) among doodle dog owners compared to other dog owners. For instance, 23.8% of doodle owners reported that their dog’s maintenance was worse than expected compared to 11.0% of purebred owners and 10.1% of mixed breed owners ($\chi^2 = 67.6$, $df = 2$, $p < 0.001$). Additionally, qualitative analyses revealed that doodle owners commonly report that their dogs’ grooming needs are more time-intensive than expected.

Principal Conclusions and Implications for Field: This study addresses an important disconnect between doodle owner expectations versus reality. Specifically, the maintenance and grooming needs of doodle dogs are often more intensive than owners expect. These findings suggest that those interested in owning doodles would benefit from having more information about doodles’ grooming needs so they can make a properly informed decision. Importantly, doodle owners who are aware of the grooming requirements can better meet their dogs’ welfare needs.

Factors influencing compassion fatigue in veterinary professionals

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Introduction: The American Veterinary Medical Association continues to report high rates of suicide among veterinary professionals. Veterinarians are exposed to animal harm and owner grief, with minimal resources for support. This study aims to measure veterinary professionals’ experience of compassion fatigue, and discuss ways to better support this profession.

Methodology: Seventy-eight veterinary professionals completed a compassion fatigue survey. We used Kruskal Wallis nonparametric tests to analyze the impact of age, length in profession, role in profession, practice type, and income, against compassion fatigue data.

Results: We found no significant differences between age groups or income groups. Significant differences were found in Satisfaction ($H = 7.495$; $p = 0.058$) and Trauma ($H = 9.153$; $p = 0.027$) based upon length in the profession. Results suggest veterinary professionals experience the most satisfaction mid-career (10-15 years); and experience the most trauma in early career (0-5 years) and late career (15+ years). A significant difference in Satisfaction ($H = 5.701$; $p = 0.017$) was also found for professional roles, with veterinarians and owners experiencing less satisfaction than those in office, kennel, and technician roles. A significant difference was also found among practice types for Burnout ($H = 4.878$; $p = 0.027$) and Trauma ($H = 5.805$; $p = 0.016$), with individuals working in emergency practices experiencing more burnout and trauma than individuals working in non-emergency practices.

Conclusion: Our findings support the hypothesis that veterinarians are experiencing compassion fatigue; especially individuals in emergency practices, at the beginning or end of their careers, and in decision-making roles like veterinarian or practice owner. Further research and literature review needs to be done to find ways to alleviate compassion fatigue and better support veterinarians, especially those in the identified groups.

Hens who raise chicks late in the season may be better mothers

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Introduction: Most terrestrial animals are indelibly linked to the changes of the seasons and circadian rhythms. Reproductive behaviors are seasonal and amplified according to gestation length with the ultimate goal of offspring beginning their lives in a climate that is favorable to young, vulnerable life. The chicken has been selectively bred to lay eggs past the confines of warmer, kinder months, with some chickens laying well into winter. Desire to brood has been selected against in many breeds. Regardless, the pressure to lay wanes with the sun and egg production drops as the days grow shorter. As eggs are a means of perpetuating the species, broodiness also increases in the spring and summer months. Chicks are fully feathered by 4-6 weeks, a hen who incubates eggs in the spring is able to raise at least 1, if not 2+ broods of chicks before fall. The principle hypothesis of this study was: Hens who brood chicks in the fall will stay in the mothering role longer than hens who raise their brood earlier in the season.

Methodology: A survey was sent to chicken owners in the northern hemisphere who had witnessed a hen in the mothering role. Owners reported on flock, location characteristics, and hen characteristics (e.g., length of broodiness, month the hen hatched/adopted chicks, length, quality of mothering).

Findings: Hens that hatched/adopted chicks in late summer, fall and winter stayed in the mothering role an average of two weeks longer than hens that begun mothering in the spring/early summer months ($p > 0.05$). More hens brooded chicks in spring/summer ($N=20$), than late summer/fall/winter ($N=13$) though late season mothers had slightly better (non-significant) ratings on mothering skills ($p=0.07$).

Implications: Chicken owners should consider season when using a hen to brood chicks.

The moral foundations and the perception of animal mind as predictors of instrumental violence against animals

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Instrumental violence against animals derived from human domination over animals is limited by moral judgment of the public and the perpetrators themselves. In this study we investigated the relationship of the moral foundations of care and authority, as well as the perception of animal mind to instrumental violence against animals. 504 participants from Poland completed paper-based questionnaires that measured acceptance and participation in instrumental violence against animals, moral foundations, and perception of the experience dimension of the animal mind. We conducted the correlation analysis and estimated the mediatory model in order to explain instrumental violence against animals. The proposed model contained two predictors: moral foundations of care and authority, and perception of the experience dimension of animal mind as a mutual mediator. The results of the path analysis of structural equation modeling, performed using smaller sub-models for Pet, Pest, Profit, as a separated category of animals, revealed that moral foundations give contrary premises: care was a negative and authority a positive predictor of instrumental violence against animals in each model. Moreover, perception of animal mind was negatively associated with instrumental violence and plays an indirect role in the relationship between both moral foundations and violence. It suggests that perception of the animal mind is a mechanism that is activated during the moral judgment of violence against animals. Thus, the level of moral foundations of care and authority in the society is important for animal welfare during animal work in Animal Assisted Interventions, police and other uniformed services as well as during farm husbandry, pet breeding, transport, training, and treatment.

Quantitative and qualitative approaches to exploring human-animal dyads

Frailty suppression effect of dog-walking and horseback riding in middle-aged and elderly people

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Background: In a super-aging society, regular exercise would be recommended for the effect of suppressing frailty, which tends to occur especially in middle and old ages. The effects of horse riding are known to improve muscle strength, balance, and mental health. However, few studies have clarified the effect of horse riding on middle-aged and elderly people from a physiological point of view. The purpose of this study is to examine changes during and after horseback riding by saliva sampling and to clarify the physiological effects when compared with other physical activities such as dog-walking and golfing.

Methodology: Subjects had horse riding training for 45-minutes, and the others played golf in a half-round. Saliva samples were collected twice - before and after the activity. Quantitative analysis of oxytocin and cortisol used an enzyme-linked immunosorbent assay kit, and the high performance liquid chromatography was used to measure monoamines and GABA.

Findings: After riding and golf, the subject's saliva oxytocin levels did not change. Compared to walking a dog, it showed a different change. Also, noradrenaline neurometabolite was low after activity. It is considered that other physical activities have the same anti-aging effect as walking a dog.

Conclusions: Evidence suggests that the physiological effects of horse riding differed from walking with dogs. Walking with dogs may have a preventive effect on Alzheimer's disease because it suppresses the activity of noradrenaline nerves, increases the activity of dopamine nerves, and motivates them. However, the exercise by horseback riding varies greatly from person to person and, naturally, may not have a positive effect for everyone. In order to have a clear effect in a horseback riding program for preventing frailty for middle-aged and elderly people, it is necessary to consider the difference in horse vibration and set the vibration and strength that the subject can enjoy.

Randomized controlled trial examining the physiological mechanisms of equine activities in youth with co-occurring autism spectrum and mental health diagnoses

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Introduction: Therapeutic Horseback Riding (THR) has demonstrated efficacy in a randomized controlled trial for children with autism spectrum disorder (ASD), including those who have co-occurring mental health conditions. A next step is to understand how the presence and interaction with horses produces beneficial effects. The primary aim of this study is to examine the potential underlying physiological mechanisms using a robust methodological approach.

Methodology: Youth ages 6-16 years with ASD and mental health diagnoses are being recruited at two sites. Participants are randomized to one of two manualized 10-week interventions (THR or barn activity control) stratified by non-verbal IQ (< 85 or > 85). Immediately preceding each lesson, electrodermal activity (EDA) and heart rate/heart rate variability (HR/HRV) devices are placed on participants. Participants then give a saliva sample while seated in a quiet area. Physiological data (HR, HRV, and EDA) measurements are continuously recorded at lesson weeks 1, 5 and 10. HR/HRV and EDA analyses will be segmented from four lesson time periods (5 min. baseline, 45 min. intervention, 15 min. wrap-up, and 5 min. post). Study personnel and caregivers complete a log of environmental and participant factors that may affect physiological measurements.

Preliminary Findings: We will present demographic statistics on randomized participants to date on age, sex, race/ethnicity, non-verbal IQ level, and ADOS symptom severity. We will also provide correlations of participants' pre-lesson week one salivary cortisol level compared to their number and type of mental health diagnoses and irritability/hyperactivity behavior levels.

Principal Conclusions and Implications for the field: To date, we have observed that participants adapt quickly to wearing physiological monitoring devices during lessons and devices do not interfere with intervention activities. Participants are providing enough salivary cortisol for analyses and the majority of the EDA and HR/HRV signals are sufficient for analyses.

Taking The Animal's Perspective In Clinical & Academic Settings

Determining if Canines Exhibit Stress-Related Responses when Participating in Therapeutic Interactions with Children with Attention-Deficit/Hyperactivity Disorder (ADHD)

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Introduction: This study describes behavioral responses of canines during clinical research studying an animal-assisted intervention (AAI) for children with Attention-Deficit/Hyperactivity Disorder (ADHD). While AAI has been found to improve treatment outcomes for these children, this setting may induce stress in some dogs, a potential threat to their welfare. As such, further development of methods for identifying potential animal stress during AAI are needed.

Methodology: Two therapy dogs participated in AAI sessions with a group of 4 children with ADHD in the first cohort of a clinical trial pilot study. Each session consisted of four separate dog activities. Utilizing a novel ethogram developed in earlier work, video recordings were coded by two coders who were blind to the aims of the study and met inter-rater reliability ($r = .90$ to $.96$).

Results: One-zero interval-sampling of ten stress-associated behaviors for each dog was conducted every other minute for the entire duration of each session (86.5 minutes \pm 6.5). Similar to previous findings utilizing the ethogram, dogs demonstrated few stress-associated behaviors. Only two of the ten state behaviors, "licking" and "panting", emerged in greater than 10% of observed intervals (.52 and .78, respectively). Detailed characteristics of the participating dogs, behaviors across each of the four AAI activities, and possible contributing factors to this early preliminary data are discussed.

Conclusions: This preliminary data suggests experienced therapy dogs participating in AAI with children with ADHD demonstrate relatively few state behaviors of stress when structured protocols are implemented in efforts to protect the safety and welfare of the dogs, but that more work is needed to better assess the utility of this tool and animal participation in these settings. These data on human- animal interaction will help researchers to better understand how AAI with dogs can be implemented safely and minimize stress on the dog.

Humane education curriculum encourages middle school interest in Idaho Humane Society

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The Idaho Humane Society previously had a Junior Vet Tech camp for 5th and 6th grade students, however it lacked discussion in animal behavior and body language, important topics for animal and human safety. We proposed a 2-hour workshop on body language, Fear Free[®] handling, observations of animals, and opportunities to practice skills during the workshop, while targeting career information for veterinary

technicians. Depending on the success of this workshop, a series of career related themes will be created in collaboration with the Idaho Humane Society.

A Humane Education curriculum was created using foundational vet tech skills, handling techniques, and animal behavior. A PowerPoint utilizing pictures, videos, and text was used to assist in the discussion. Life-size stuffed dogs and cats were used to demonstrate and practice techniques. Each student was provided a packet of information and 10 minutes were spent observing the animal behavior previously discussed.

A total of 10 students attended the first Junior Vet Tech camp. All students were able to fully participate in practicing exam and handling techniques as well as in the cattery observations. 5 students communicated their want to attend another camp; 3 discussed adopting animals from the shelter; and 1 further engaged in possible volunteer opportunities.

In these 2-hour camps, we are combining career exposure, education on Fear Free[®] Handling, and building critical thinking techniques by observing animal behavior. We plan to build a curriculum for a variety of different careers including animal trainers and wildlife biologists, which will eventually be given to the Idaho Humane Society to be delivered by their trained volunteers, making Humane Education an ongoing program. Two to three more sessions of Junior Vet Tech and of Junior Animal Trainer will be held during the summer of 2022, with possible changes including increases in length and addition of dog observations.

Working like a dog: Examining the standards and practices related to the welfare of Australian visitation-dogs

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Background: Throughout Australia organisations provide visitation-dog services to locations such as hospitals and aged-care facilities. The aim of these programs is to improve wellbeing for individuals through receiving visits from volunteers and their dogs. Although these visitation-dogs bring comfort and support to vulnerable individuals, emerging evidence has suggested these programs may have the propensity to adversely impact dog-welfare.

This study aims to examine the standards and practices which are implemented by Australian visitation-dog organisations with respect to ensuring the welfare of visitation- dogs. The two research questions include: (1) What are the standards and practices implemented by organisations to safeguard the welfare of visitation-dogs; and (2) How do the rates of implemented standards and practices compare to best-practice guidelines?

Methodology: The inclusion criteria for organisations to participate included (1) being located in Australia; (2) dogs being the visitation animal; (3) the program involving visitation to external facilities; and (4) the visitation program being volunteer-based. Organisations were identified through online searches, a publicly available register of Australian animal-service providers, and through the research team's professional networks.

Organisations who provided visitation-dog services outlined on their webpages the requirements for handlers and their dogs to be suitable for the organisation's visitation program. Data was extracted from these websites and formed the basis of an environmental scan. Welfare-related standards and practices for the environmental scan were benchmarked to items from international best-practice guidelines.

Results and implications: The results will indicate the extent to which Australian visitation-dog organisations are adhering to dog- welfare in the domains of dog requirements and screening standards; dog health and safety standards; dog welfare standards; handler health and safety standards; and handler training/education standards. Overall, the findings will identify areas where improvements can be made for organisations with respect to the standards and practices for ensuring visitation-dog welfare.

Working and service animals in the public arena

Dogs & Stress: A University Program

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Dog-Assisted Interventions (DAI) are a new interaction methodology backed by biophilia theory, in which a trained and educated animal supports a professional in their interventions.

This research aims to evaluate the effectiveness of DAI program as a method to reduce physiological stress (salivary cortisol) in first-year university students. A quasi-experimental study was designed. The sample were 102 first-year undergraduate students (93.1% women), with a mean age of 19.48 years (SD = 1,954). The experimental group (n = 53) participated in 3 DAI sessions of 45 minutes each while the control group was on the waiting list. The instrument used was the collection of saliva samples for later analysis in the laboratory.

Two weeks before the start of the program, the pretest measurement was carried out. In addition, two weeks after the end of the program and coinciding with the last school week prior to the beginning of the exam period, the post-test measure was taken. Finally, four weeks later, and coinciding with the last days of the examination period, the last sample collection was carried out as a follow-up measure.

The results show significance in both cases. The experimental group had a significant decrease between pretest-posttest ($p < .001$; $d = 1.201$) and pretest-follow-up ($p < .001$; $d = .724$) results with a large effect size. The control group had a significant increase ($p < .001$) in both the posttest and follow-up measurements. Therefore, the effectiveness of DAIs as a method to reduce the students stress was confirmed.

The results found in this study support the effectiveness of DAI programs with university students, which is consistent with previous research. These results support the implementation of DAIs in university settings as methods of reducing student stress. In future research we must increase our sample, measure long-term effects, and control all the intervening variables.

Validation of an observation-based assessment tool to evaluate attraction towards dogs in children with autism spectrum disorder.

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Introduction: Animal assisted interventions such as the use of service dogs represent an increasingly popular therapeutic avenue for youths with autism spectrum disorder (ASD). Before engaging anyone in this type of intervention, it could be justified to assess their level of interest towards animals. However, this aspect is rarely documented and no existing instrument suit the specific challenges of ASD clients and the

reality of clinical setting. This paper describes the use and validation of an observation-based assessment tool to evaluate the level of attraction towards dogs.

Methodology: The 9-item scale has been used by the Mira Foundation team throughout the evaluation process of 1010 potential candidates for a service dog. It is designed to describe and quantify observed behaviors during a standardized encounter with a non familiar dog. The participants were aged between 2 and 26 years old (mean age 8.13 ± 4.3 years old) and 88% had an ASD diagnostic. A total of 323 participants were assessed by a second rater, which allowed for interrater-reliability analyses on each item of the scale. Factorial structure of the scale was determined by applying an exploratory factor analysis (EFA) on one half of the sample followed by a cross-validation study consisting of a confirmatory factor analysis (CFA) on the other half. Cronbach's alpha was used to assess internal consistency.

Results: Based on weighted kappa statistics, interrater-reliability showed strong to moderate agreement for individual items (Kw between 0.66 and 0.85). A two-factor solution was produced with EFA and confirmed through CFA. Cronbach's alpha of 0.89 when items from the first factor (attitude) were combined and 0.92 for the second factor (interaction) indicate good reliability for the identified subscales.

Conclusions: These findings support the reliability of this assessment tool and its potential uses in clinical and research domains.

OnDemand Presentations

[Animal-Assisted Interventions](#)

[Animal Law and Policy Considerations](#)

[Contextual Analysis of Human-animal Interactions](#)

[Continued Influences of the COVID-19 Pandemic](#)

[Depictions of Animals in Art, Literature, and Culture](#)

[Human-wildlife Interactions in Multiple Contexts](#)

[Investigating Human-animal Relationships Abroad](#)

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Animal-Assisted Interventions

An international survey investigating the role of participant demographics and dog related experience on approach behaviour to a simulated dog displaying aggressive behaviours

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Introduction. Dog bites are a complex global public health issue. The assessment of human-dog interactions in real-time is problematic from ethical and welfare perspectives. This study used videos of a simulated dog model to investigate the association between demographic and experiential factors with approach-stop behaviours.

Methodology. An international online survey collected data on demographics (e.g., gender) and dog experience (e.g., dog ownership). Videos of a simulated dog model, DAVE (Dog Assisted Virtual Environment), displayed increasingly aggressive behaviours. Participants were asked to play the video and stop at the point they would stop approaching the dog. Kruskal-Wallis and Mann-Whitney U tests were used for analysis.

Results. 1590 participants from 59 countries were included in analysis. Males took longer to stop the video (median 32.6s) than females (median 20.1s; $p < 0.001$). Those aged 18-29 (median 22.4s), 50-59 (median 27.9s) and ≥ 60 (median 29.3s) moved closer to the dog than participants aged 30-39 (median 16.6s; $p < 0.001$). Participants from the 'Other' countries (e.g., Middle East) took longer to stop the video (median 33.2s; $p < 0.001$) compared to participants from the 'UK/Ireland/Isle of Man' (median 20.9s), 'North America' (median 21.0s), 'Australasia' (median 20.2s) and 'Other European' (median 17.4s). Participants who had never owned (median 32.9s) and/or worked with dogs (median 27.5s) moved closer to the dog compared to those who own (median 20.2s; $p < 0.001$) and/or work with dogs (median 17.7s; $p < 0.001$).

Conclusions. Findings suggest that approach behaviour to dogs displaying aggressive behaviours may explain why males appear to have a higher risk in dog bite data. Dog experience and victim demographics should be used to target dog bite interventions to males and those with limited dog experience.

Assessing Attendance Frequency and Duration in a Drop-in Canine Visitation Program Among First-Semester University Students Separated from their Family Pets

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Introduction: Anxiety and stress among university students are associated with mental health disorders and decreased academic success. One approach implemented by universities to address these problems are Canine Visitation Programs (CVPs), though little is known about links between students' characteristics, attendance frequency and duration.

Methodology: Randomly selected first-year university students (N=2000) were assigned access to seven-two-hour-long CVP sessions (N=105) or a control group (N=104). Using logistic and multiple regression modeling, contributions of program participants' (N=77) mental health history, mood, and relationship with their pet were used to predict students' attendance frequency and duration to the program.

Findings: Student attendance in early program sessions was negatively associated with mental health history ($\beta_{\text{frequency}}=-0.876$, $p=0.03$, $OR=0.417$) and perceived stress ($\beta_{\text{frequency}}=-0.177$, $p=0.04$, $OR=0.838$; $\beta_{\text{duration}}=-0.433$, $p=0.02$, $d=0.607$), and positively associated with levels of anxiety ($\beta_{\text{frequency}}=0.179$, $p=0.01$, $OR=1.196$; $\beta_{\text{duration}}=0.513$, $p=0.01$, $d=0.657$) assessed at the start of the semester. Overall program attendance was negatively associated with levels of pet separation anxiety ($\beta_{\text{frequency}}=-0.286$, $p=0.03$, $d=0.529$); $\beta_{\text{duration}}=-0.342$, $p=0.004$, $d=0.697$) and identifying as male ($\beta_{\text{frequency}}=-0.321$, $p=0.004$, $d=0.682$); $\beta_{\text{duration}}=-0.308$, $p=0.003$, $d=0.721$), and positively associated with attendance to the first session ($\beta_{\text{frequency}}=0.532$, $p<0.001$, $d=1.08$); $\beta_{\text{duration}}=0.627$, $p<0.001$, $d=1.40$).

Conclusions: Findings suggest attendance is enhanced by prioritizing students experiencing anxiety, rather than students experiencing stress, pet separation anxiety or a history of mental health problems. Administrators should promote attendance to the first session as this is most significantly associated with greater program uptake.

Australian University staff members' perspectives of an Animal Assisted Intervention

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Background: Levels of stress and anxiety continue to rise on university campuses. Animal Assisted Interventions (AAIs) (where trained handlers bring therapy animals to campus to provide support) have been implemented in order to address these levels, primarily with university students. Studies with students have found that an AAI can reduce perceived stress and anxiety and improve mood. Research, however, has not yet explored university staff members' perspectives on, and interest in participating in, an AAI prior to implementation. While research has been conducted internationally, there has not been research exploring an AAI in an Australian university setting.

Objectives: This study aims to investigate Australian university staff members' perspectives towards an AAI on campus. Our research questions investigate: (1) What are staff members' attitudes towards animals? (2) What are staff members' perspectives regarding an AAI on campus? (3) How interested are staff members in participating in an AAI on campus? (4) Do staff members believe an AAI could promote health and wellbeing on campus?

Methodology: This study adopts an explanatory mixed methods design, including a quantitative survey and semi-structured interviews. Survey questions include interest in participating in an AAI and details of preferred intervention characteristics either on campus or online. Interviews have been conducted online via Zoom and explore participants' survey responses in more detail. Survey findings will be analysed using SPSS and interview findings will be analysed using thematic analysis. A sample of 150 university staff

members have completed the descriptive survey, and 21 staff members have completed the follow up interviews, to date.

Implications: Conclusions will be drawn about staff members' support for an AAI in an Australian university setting. Findings will be used to inform the development of an AAI on campus, including identifying strategies to promote the welfare of animal and human participants and ensure sustainable implementation.

Chronic Illness, Quality of Life, and Equine-Assisted Activities

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Introduction: People with chronic illness experience a disruption of quality of life. Equine-assisted activities (EAA) have supportive evidence for the benefits it has on mental health, however limited research exists on how EAA contributes to the quality of life in individuals with chronic illness. The purpose of the present study was to explore the quality of life in individuals with chronic illness and to examine if those who interact with horses are impacted by these experiences.

Methodology: Adults (ages 18+) diagnosed with a chronic illness (an illness that lasts for one year or longer and requires continuous medical attention (Centers for Disease Control and Prevention, 2021)) participated in a voluntary survey. The questionnaire included quality of life measures (RAND-36 and WHOQOL-BREF questionnaires), and an assessment of equine-assisted activities.

Main Results: Results of several t-tests revealed two findings approaching significance. Participants who reported EAA (compared to those who did not report EAA) reported better physical health as measured by the physical health subscale of WHOQOL ($t(23) = 1.62, p = .071$) and the physical health subscale of RAND ($t(23) = 1.85, p = .077$). Results of other t-tests were not significant. Spearman's rank correlation was computed to assess the relationship between frequency of involvement with EAA and each measure of Quality of Life. Results of these correlational analyses were not significant.

Principal Conclusions and Implications for Field: Equine-assisted activities may be related to improved physical health in individuals with chronic illness. Results are tentative given the small sample size, yet indicate possibilities that EAA could be an effective therapeutic model for both mental health professionals and physicians to offer patients living with chronic illness.

References: Centers for Disease Control and Prevention (2022). About chronic diseases. National Center for Chronic Disease Prevention and Health Promotion.
<https://www.cdc.gov/chronicdisease/about/index.htm>

College student perceptions of campus-integrated therapy dogs: A mixed-methods study

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Introduction. This talk describes student feedback regarding implementation of two campus-integrated therapy dogs at a small liberal-arts college in upstate New York.

Methodology. Two therapy dogs were integrated into daily college life by greeting students outside of their faculty members' offices, participating in orientation, wellness, leisure, club, and educational activities with students, and when taking walks on campus. All interactions were voluntary for the students and the dogs, with welfare of all being the priority. Seven months into the academic year students were invited to complete a Qualtrics survey consisting of closed and open-ended questions.

Main Results. Over 470 students responded to the survey. When asked where it was most helpful for them to see the dogs, the majority, 80.2%, preferred seeing them informally around campus or outside of professors' offices; only 9.0% preferred structured activities similar to visiting dog events. When asked an open-ended question regarding what they like about having the dogs on campus, student responses demonstrated the importance of familiarity and community. For example, "People seem to have a real bond with them, and it seems to be one of the highlights of their day to see what [the dogs] are up to... I feel like they are friendly faces that we all know, kind of like a mascot ... from someone that we know is not secretly judgmental. Because we all know them so well, I also think they create a better sense of community..." When given a list of possible benefits of having the dogs on campus, the top three chosen were a feeling of happiness (94.2%), stress relief (86.7%), and making the campus feel more friendly (76.2%); these mirrored dominant qualitative themes.

Principal Conclusions and Implications for Field. The integration of therapy dogs as part of a college community may increase positive emotions, decrease stress, and increase campus affinity.

Cortisol levels in children with reading difficulties: effects of dog-assisted therapy

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Introduction. Reading is one of the most important aspects of the human being since it favors the educational and social development of the population, so its early and adequate acquisition is important in children in the school stage. The involvement of therapy dogs can promote reading motivation in developing countries (IAHAIO, 2014-2018).

Methodology. A sample of 34 with a mean age of 18.7 (SD 1.16) years, agreed to participate. All parents or guardians signed the informed consent in which they agreed that their children could participate voluntarily and in which it was specified that they could withdraw from the study at any time. 6 therapy dogs participated and met the following requirements: up-to-date vaccination record, dewormed, clean ears, teeth and hair. All dogs were evaluated for temperament and basic obedience, and are TAA Certified by the CIEAAC. The dogs that participated in the intervention were between 1 and 5 years old,

with a mean of 2.34 years (S.D.=1.02). Cortisol levels were determined by measuring cortisol in saliva using a quantitative enzymatic method.

Main Results. Two saliva samples were taken, one at the beginning of the session and another at the end, at 6 different times. Significant differences were found between the shots in the 6 moments ($F = 11.68$, $p = 0.000$). Furthermore, we found a moderate effect of dog-assisted reading on cortisol levels ($d' = 1.88$).

Principal Conclusions and Implications for Field. These findings suggest that dog-assisted reading exerts a positive effect on the reduction of cortisol levels, during the practice of reading in school children.

References: Kirnan, J., Shah, S., & Lauletti, C. (2020). A dog-assisted reading programme's unanticipated impact in a special education classroom. *Educational Review*.

Human-Animal Interaction to Support Well-Being at University: Experiences of Undergraduate Students in the UK

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Introduction. In the context of increasing concerns about student mental health, there is limited understanding of the potential contribution and therapeutic value of human-animal interaction (HAI) in relation to undergraduate well-being. This study aimed to develop an in-depth understanding of the meaning and well-being roles attributed to HAI by undergraduate students in the UK.

Methodology. Using a qualitative research design, semi-structured interviews were conducted with 60 students aged between 18 to 23 years at a UK university of whom 39 implicated the role of companion animals in their well-being and were included in analysis using inductive thematic analysis.

Main Results. The most reported form of HAI was contact with companion animals who either lived with participants, their families, or other friends and acquaintances. Actual and potential benefits for undergraduate students included helping students to manage a felt or experienced pressure to be independent, ameliorating loneliness and boredom, providing connections to support networks on and off campus, imparting emotional support during times of uncertainty, and directly facilitating social interaction. Companion animals were considered an important connection to students' previous lives, helping them manage the university transition and maintain a positive sense of self. Barriers attributed to companion animal ownership included the lack of practicability of caring for a companion animal while at university, financial constraints, and the time pressures associated with being an undergraduate student. As a result, participants described alternative ways in which students could interact with animals, which included regular and frequent service/therapy dog visitations, links to local animal shelters and zoos, and smaller companion animal presence in classrooms and in university halls.

Principal Conclusions and Implications for Field. This study provides unique and tailored insight into the value of HAI for undergraduate students' mental well-being and the ways in which this could be harnessed to promote well-being.

Effects of animal-assisted interventions on wellbeing, memory and cognition

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Introduction: Animal-assisted interventions (AAIs) can have beneficial effects on human health and wellbeing. Randomised controlled trials (RCTs) are rare and little research has investigated effects of AAIs on cognitive functioning. The current study explores effects of AAIs on working-memory, executive function, and low-level discrimination as well as on wellbeing.

Methodology: RCTs with repeated measures were employed to assess effects of interventions. Participants (N=27, mean age=23 years, 7 months, SD=4.05) were tested before and after a 10-minute dog intervention, an active control (animal video) or a no treatment control (newspaper reading). Testing conditions were randomly allocated and assessments occurred before and after interventions: Warwick Edinburgh Mental Wellbeing Scale, Adult Autism Quotient-10 and 3 cognitive tasks: Stroop, Low-level discrimination, Digit-span. The study had University Ethics committee approval. Dog intervention participants received safety training prior to participation. Dog welfare was upheld according to guidelines.

Results: An ANOVA of Condition by Time showed mean wellbeing scores differed significantly between pre and post-test ($F(1,24)=25.71, p < 0.001, \eta^2=0.52$). The interaction between wellbeing scores and condition was also significant ($F(2,24)=7.08, p=0.004, \eta^2=0.37$) showing the effect as most prevalent within the dog-assisted intervention ($p=.001$), followed by the video-condition ($p=.002$), but not in the control group ($p=.74$). Performance on the Navon task improved significantly from pre to post-test intervals ($p < .001$) within the dog video-condition, but not for the dog-assisted or control condition. No other effects reached significance.

Conclusions: Results demonstrate wellbeing improvements after a 10-minute intervention with a real dog. A 10-minute dog video had similar beneficial effects on wellbeing and low-level discrimination. These findings add to existing research on wellbeing and show effects of dog videos on wellbeing and in new cognitive domains.

The Impact of a Therapy Dog Team on Medical Student's Physiological Stress and Perceived Anxiety Prior to an Exam

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Research suggests that a therapy dog team may have a positive impact on medical students' anxiety. However, no controlled studies have evaluated this intervention's effect on their stress and anxiety before an exam. Twelve medical students participated in this study. Utilizing a repeated-measures design, each participant interacted with a therapy dog team before one exam and engaged in their regular pre-exam

routine before another. Participants then recorded their level of perceived anxiety and had salivary cortisol levels measured. Results: Both conditions significantly decreased salivary cortisol levels from baseline. Additionally, perceived anxiety was significantly lower after interacting with the therapy dog team when compared to engaging in one's regular pre-exam routine. This controlled study is the first to assess the impact of a therapy dog team on medical students' exam stress and anxiety. Results support pre-exam interaction with a therapy dog team to reduce stress and anxiety.

Animal Law and Policy Considerations

Developing Animal Law systems and education: a critical approach to construct and maintain a virtuous human-animal relationship in China

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Against the background of climate change and epidemics, how to build and maintain a virtuous human-animal relationship (HAR) is vital for China, where public health and sustainable development are pursued. Animal cruelty in contemporary China has brought about a serious crisis in HAR, causing serious social problems that cannot be effectively addressed through the existing legal system. There is a profound contradiction in contemporary China. On one side is the growing need for moral progress based on changing lifestyles and values, and the corresponding demand for legal development. On the other side is the desensitisation of people to animal suffering and their unfamiliarity with and rejection of animal welfare. The persistence of this contradiction is not conducive to resolving the HAR crisis. However, ancient China has a rich tradition of treating animals well, including animal ethics and animal law. The current ecological civilisation construction in China also calls for “all living things grow together without harming one another”, and “animal civilisation” is a new form of passing on and carrying forward the wisdom of ancient times. A range of natural sciences, including animal welfare science, have also demonstrated that animals are sentient beings, requiring humans to improve their attitudes and ways of treating animals. During the past several decades, Global Animal Law developments have initiated an effort and a trend to respect animals, to preserve their welfare and minimise their suffering and to recognise their legal status as sentient beings. This trend is not only in common with the traditional Chinese wisdom, but is also in line with the main thrust of China's ecological civilisation. There is an urgent need for China to navigate the legal system to construct Animal Law and use animal treatment as an indicator of the degree of humanity, civilisation and harmony in society.

The War on Cats of 1880: Forcing Felines to Sign the Social Contract

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Background: Examining New York City's forgotten War on Cats in 1880 sheds light on the social status of cats and different viewpoints on the place of animals in human society during this period of social change and focus on animal protection. Public criticism of lethal animal control measures were also candidly expressed in contemporary newspapers, despite the humane intentions of the protection and welfare organizations of the day to ameliorate suffering of animals. In many respects, the cat ordinance raised the social status of the cat to something similar to dogs and invited problems that came with dog population control years earlier, such as abduction by children. How much of this was the result of public contempt or frustration with cats, and how much of it was the effort to find a more humane way to incorporate them into human society?

Objectives: The primary objective of this research is to reconstruct past feline lives and ascertain both the place of cats in society and get a sense of the roles they were playing or niches they were filling. The secondary objective of this research is to get a sense of the public perception around the place of animals in society, the SPCA movement, and the social conditions that led cats and dogs to be pulled into the modern pet roles we know today.

Methods: Archival research of original primary documents from the period was conducted.

Implications: In looking at the public debate around cat populations in the 19th century, it will shed light on the current maelstrom around cat legal and social status. The research also yielded surprisingly poignant examples of due regard for cats in the form of advocacy, illustration, and poetry.

Contextual Analysis of Human-animal Interactions

“Bad dog!”: Individual differences in choosing appropriate training responses to a virtual dog

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Introduction: The overall goal of this study was to investigate how various individual differences, including experience with animals, personality traits, and opinions of animals, relate to how participants would respond while interacting with a simulated friendly, ambiguous, or aggressive dog.

Methodology: 176 participants were included in analysis. Participants completed a brief dog training simulation followed by a survey, including questions on experiences with animals, the mini-IPIP to score personality traits, and the Animal Attitude Survey (AAS). Using stepwise regression, we investigated what factors contributed to participant choice to make appropriate responses (e.g., rewarding good behavior, scolding poor behavior) when attempting to train the simulated dog across conditions.

Main results: Significant predictors were found for all conditions, though included predictors for each regression model differed by condition. For Friendly [$F(6,53) = 6.550, p < .001, R^2 = .426, R^2_{adj} = .361$], positive predictors included openness and neuroticism, while negative predictors included endorsing physical punishment for dogs, experience with aggressive dogs, AAS, and fear of animals. For Ambiguous [$F(5,50) = 6.245, p < .001, R^2 = .384, R^2_{adj} = .323$], perceived control, neuroticism, and feeling like pets understand them were positive predictors, while AAS and endorsing physical punishment were negative. For Aggressive [$F(5,54) = 8.760, p < .001, R^2 = .448, R^2_{adj} = .397$], owning a cat or other non-dog animals were positive predictors, while endorsing physical punishment, fear of dogs, and owning a dog were negative.

Conclusions and implications for the field: These findings show a variety of factors that may contribute to one exhibiting less appropriate behavior when dealing with a difficult dog. Some are unsurprising while others seem counterintuitive (e.g., endorsing physical punishment AND owning a dog predict less appropriate responses). Future research on dog training may want to consider these differences and investigate further how they may impact human-animal interaction.

Human-animal interaction and positive youth development: a replication study

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Background: Understanding the impact of human-animal interaction (HAI) is pivotal in organizations that nurture positive youth development with the use of animals, such as 4-H programs. Mueller (2014) investigated the impact of animal interactions on key measures of positive youth development for 4-H participants, finding that emotions and cognition regarding animals did, in fact, relate to aspects of youth development. However, we do not know if this relationship carries over to other animal-focused youth programs such as the National FFA Organization (FFA) or other young adults with less formal animal interactions.

Objectives: This project has two primary aims. The first aim is to replicate Mueller's (2014) investigation of the effects of human-animal interaction on positive youth development in 4-H participants. For the second aim, we will extend this work by investigating the relationship between human-animal interaction and positive youth development not only in former 4-H members but also in FFA members and individuals with no 4-H or FFA experience.

Methods: We created a survey to assess positive youth development (competence, confidence, connection, character, and caring), animal experience and interaction, well-being, and demographics. We recruited participants from the Agricultural Sciences and Natural Resources undergraduates to capture the 4-H and FFA population (N=238), as well as the Psychology undergraduates to capture the non-4-H and FFA population (N=128).

Implications: With the recent focus on robust and reproducible research, our study will provide an important replication of an existing study and will model replications for the field of HAI. It will also expand the study of HAI effects on positive youth development to new populations that do not have formal training in animal interactions.

References: Mueller, M.K. (2014). Is human-animal interaction (HAI) linked to positive youth development? Initial answers. *Applied Developmental Science*, 18(1), 516.
<https://doi.org/10.1080/10888691.2014.864205>

Management Type and Attitudes Related to Cats: A Questionnaire Survey

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Introduction. Providing adequate management to cats ensures high levels of welfare, and involves issues that go further than food, water and housing. Cats maintained outdoors have less proximity with their owners. We aim to investigate how Brazilian owners treat cats and if management of their cats could be related to attitudes.

Methodology. A questionnaire was applied to Brazilian cat owners and measured socio-demographic data, feline management and attitudes. Participants were recruited using the snowball method.

Results. We got 886 responses; 83.2% raise their cats indoors (737/886) and 16.8% outdoors (149/886). Most owners who keep their cats outdoors (OC) feed stray cats (45%, 67/149), while owners who keep their cats indoors (IC) do not (50.3%, 371/737) ($p=0.042$). OC owners have significantly more cats than IC owners ($p=0.00$). IC sleep more in the respondent's bed (62.3%, 459/737) than OC (36.9%, 55/149) ($p=0.00$); more OC owners reported their cats sleep on furniture in- and outdoors. Both groups did not differ significantly in measures on approaching and caressing stray cats, with most respondents approaching cats ($p=0.54$). Both groups had high percentages of showing concern about their cat eating

potential intoxicants; however, owners who were not concerned differed with OC owners tending to believe their cats know what they eat and IC owners reporting greater control over their cats' food ($p=0.000$).

Conclusion. Owners of both management styles have significantly different attitudes towards the human-cat relationship. The indoors or outdoors choice can have a cultural or ethical basis. Thus, it is important to differentiate the groups so that issues such as the human-animal relationship, animal welfare and population management can be specifically and more efficiently addressed.

Grant: CNPq

Individual differences in observed child behaviors during an experimental intervention with unfamiliar therapy dogs

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Introduction. The efficacy of animal-assisted interventions/activities on child outcomes may be conditioned by the content and quality of the human-animal interaction. Little is known about the factors that may predict individual differences in behaviors during human-animal interactions. This study examined correlates of behaviors observed during children's interactions with a therapy dog in a controlled laboratory setting.

Methodology. BORIS software was used to code videotapes of 5-minute child-dog interactions from $N=66$ children aged 9-12 ($M_{age}=10.5$, 48.5% male; 63.6% pet owners, 39.4% dog owners). Videos were coded for time spent looking at, petting, touching, and talking to the dog. A composite score for overall engagement with the dog was created by averaging standardized scores across behaviors. In addition, an active interaction composite (defined by active petting and looking at the dog's body) and a passive interaction composite (defined by non-active touch, gazing at dog's face, and talking to dog) were created. Active and passive interactions were inversely correlated ($r = -0.70$, $p < .001$). Multivariate regression tested associations between child gender, age, race/ethnicity, and attitudes towards pets (PAS-M) with composite outcomes.

Results. There were no associations with child gender, age, or attitudes towards pets. Minority youth ($N=25$, 37.9% of sample) were less likely to engage in active ($b = -0.51$, $se = 0.23$, $t_{59} = -2.25$, $p = .03$) and more likely to engage in passive ($b = +0.40$, $se = 0.20$, $t_{59} = 1.99$, $p = .05$) interactions than Caucasian youth, although there was no difference in overall engagement ($b = +0.03$, $se = 0.08$, $t_{59} = 0.43$, $p = .67$).

Conclusion. Results indicate that minority and Caucasian youth do not differ in overall engagement with therapy dogs, but the interaction varies. This may reflect cultural differences and/or in rates of pet ownership.

The dilemma around the "pet effect" and why it is important to deal with all aspects of the human-animal relationship – a current example from research

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Introduction. Studies in the field of HAI tend to highlight positive results of the influence of animals on humans which lead to an increasingly popular belief, that the human-animal bond positively affects humans' well-being (=pet effect). Although contradictory results exist which also illuminate the human-animal bond from another side, public media focuses on stories of animals supporting individuals in their well-being. Based on this phenomenon the current COVID-19 pandemic presented an opportunity to explore the human-animal bond and its effects on various psychosocial aspects in humans on a broad mixed-method level.

Methodology. To investigate the relationship between living with a companion animal, symptoms of depression, the quality of life and effects of social isolation during a period of the COVID-19 pandemic, animal-caregivers and non-animal caregivers, 287 participants, were surveyed online using quantitative measurements as well as open questions. Analysis included quantitative statistical (SPSS 24.0) and qualitative content analyses.

Results. Using a combination of qualitative and quantitative methods, our findings show big differences between the subjective experience of having pets during the pandemic and the results of standardized measurements. In this context, statistical evaluation shows no evidence that individuals benefit from the relationship to their animals and moreover, indicate that caring for an animal creates an additional burden. Nevertheless, the qualitative evaluation shows that most caregivers experience their animals as a positive influence on a biopsychosocial level.

Conclusions and implications. Looking into explanations for the present results it might be assumed that according to the pet effect, caregivers want to believe that their animals make life better which is why the subjective estimation of the pets' role is positive. Additionally, findings suggest that the positive influence of animals on human wellbeing which is emphasized in public media and research plays a role that should not be underestimated.

What's in a name? Exploration of patterns of dog and human naming in the UK

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Introduction: As dogs are considered family members in many households it is unsurprising that human names are frequently used for dogs, although this is not true in all cultures. We hypothesised that the majority of dog names would be human names and that name popularity would be correlated for dogs and humans.

Methodology: We explored dog naming practices for 228,045 dogs acquired at <6 months of age by 218,572 dog owners living in the UK who acquired their dogs between 2008 and 2021. These data were obtained through an online survey (The Dogs Trust National Dog Survey). Dog names were compared with human baby names registered in the UK during the same period (2008-2021).

Results: The names of most dogs (86%) were also found among the human baby names, with female dogs (88.2%) being more likely than males (84.6%) to have 'human' names ($p < 0.001$). The most popular 'non-human' dog names were Cookie [JM1] for females ($n=350$, 50th most common female dog name) and Rolo for males ($n=404$, 59th most common male dog name). Comparing the annual frequency

(2008-2021) of the 20 most popular male and female dog names with their use among human babies identified statistically significant positive correlations ($p < 0.05$) for 11/20 male and 13/20 female names (Spearman r 0.50-0.96).

Conclusion: To our knowledge, this is the first-time temporal correlation in name selection for dogs and humans has been identified. This suggests similar drivers for name popularity (for at least some names) among dogs and people in the UK. As (re)naming usually occurs when a dog joins a household (particularly for young dogs as considered here) these findings suggest a desire to assimilate dogs with household relationships and provides further evidence for intimate dog-human relations.

Continued Influences of the COVID-19 Pandemic

Impact of COVID-19 lockdowns on companion animal welfare

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Introduction: The pandemic provided the catalyst for developing new health safety protocols. However, the impact of temporary lockdowns on companion animal welfare requires careful assessment. This study focuses on experiences in veterinary practices in Flanders (Belgium), Ireland and Portugal.

Methodology: Between July 2020-2021, questionnaires (Lime-survey and Google Forms) were distributed to companion-animal veterinarians. The results of 94 questionnaires (37/Belgian, 27/Irish and 30/Portuguese) are presented.

Results: 69 (73.4%) respondents were female and 55.3% were in practice for more than 10 years. 50 (53.2%) veterinarians experienced a lockdown where they could go out: to only purchase food, 24 (25.5%), within a stipulated distance, and 14 (14.9%), only for a few hours per/day. 58.5% of respondents addressed owners' fears regarding dogs and cats infecting humans with COVID-19. 45.7% reported lockdown led to an increase in behavioural problems in dogs and cats and 52.1% felt the measures led to increased health problems in these animals (i.e., weight gain, lack of exercise, stress, delayed diagnosis, and treatment). 64.9% reported that they expected a decrease in the ability of owners to finance their animal's veterinary treatment, for at least 6 months. Before the pandemic, 33.7% of the respondents experienced clients refusing life-saving treatment, and euthanasia, for their pets for economic reasons, at least once a week, with differences among countries ($p=0.02$), with such events increasing by 16.2% during the pandemic.

Conclusions: Most veterinarians reported that they had to address the fear that dogs and cats might spread COVID-19. For future crises, a "One Health" approach could help to avoid stress elicited by unfounded fears based on inaccurate/misleading popular information and provide essential appropriate health and behavioural information to address and prevent, welfare issues, developing for dogs and cats.

Impact of pets on children during COVID-19 pandemic: Pet attachment, pet care and comfort from pets

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Introduction: The current study was focussed on the impact of pets on children during COVID-19, specifically investigating the perceived comfort received by children from pets. There is a growing evidence of mental health issues relating to the pandemic, among adults as well as children within families due to the social isolation and other pandemic related restrictions. Literature suggests that pets act as a source of support, comfort, and relief in times of need such as the COVID-19 pandemic. The current study was aimed at investigating the links between pet attachment, children's treatment of animals and comfort received by children from their pets during the COVID-19 pandemic.

Methodology: The sample comprised 685 parents who completed parent-report measures online for their children. Measures included were the following; Pet Attachment Scale (PAS)-parent report, Children's treatment of animal's questionnaire (CATQ) and comfort received by children from their pets during COVID-19 measure.

Results: The main findings of the paper show that children's pet attachment significantly predicted children's treatment of animals ($\beta = .1989$, $p < .001$) and perceived comfort received from pets ($\beta = .1962$, $p < .001$) during COVID-19. Children's treatment of animals significantly predicted comfort received by children from their pets ($\beta = .7013$, $p < .001$). Mediation analysis showed that children's attachment to pets and comfort received from pets during COVID-19 were significantly mediated by children's treatment of animals ($b = .3357$, 95% BC CI [.3064, .3647]).

Conclusions: In conclusion, the results indicate that higher pet attachment among children may lead them to receive more comfort from their pets, during challenging situations such as COVID-19 pandemic. Higher pet attachment also leads to better treatment of animals by children. Findings of the current study support the evidence available related to the benefits of pets for children and families dealing with challenging circumstances.

Stressors associated with the COVID-19 pandemic among young adults and the supporting role of dog walking

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Introduction: Research indicates that young people are experiencing compromised well-being during the Covid-19 pandemic. Thus, there is a need to understand which stressors affect well-being among young people, and the supportive role of dog walking. This study fills this gap and examines the role of dog walking when controlling for several stressors.

Methodology: In an online survey, 441 participants (390 females; 47 males; 4 non-binaries, Mage=20.7, SD 2.13 range=17-25) reported how many days a week they walked their dogs, and selected which stressors (insecurities about the future, health issues, negative relationships with others, fears related to the Covid-19 pandemic) they were experiencing during the COVID-19 pandemic. Participants also completed measures of well-being including social-connectedness, global self-worth, and loneliness. Regression analyses were then conducted.

Main Results/Findings: Even after controlling for the stressors that participants experienced, dog walking predicted higher global self-worth (1.365 t(5.318), $p < .001$), less loneliness (-.500 t(-1.980), $p = .048$) and an improved sense of social-connectedness (1.197 t(2.394), $p = .017$). Factors related to health issues and insecurities about the future were significantly related to all the measures of well-being. Negative relationships shared with people living with the participants predicted increased loneliness (-1.631 t(-4.309), $p < .001$), and interestingly increased global self-worth (1.102 t(2.857), $p = .004$). Fears related to the Covid-19 pandemic were associated with decreased global self-worth (976 t(2.100), $p = .036$).

Principal Conclusions and Implications for the field: These findings highlight that engaging in daily dog walking can mitigate the effect of stressors associated with the Covid-19 pandemic even when controlling for stressors associated with this context. The results can inform the design of mental health programs for young adults.

The perceived impact of the first UK COVID-19 lockdown on companion animal welfare and behaviour: a mixed-method study of associations with owner mental health

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Background: Companion animals may be a positive presence for their owners during the pandemic. However, the welfare of a companion animal is influenced by their owners behaviour, and their physical and social environment. We aimed to investigate the reported changes in companion animal welfare and behaviour and to examine the association between these changes and companion animal owners' mental health.

Methods: An online survey of UK residents over 18 years of age was conducted between April and June 2020 ($n = 5926$). The questionnaire included validated, bespoke items measuring outcomes related to mental health, human-animal bonds and reported changes in animal welfare and behaviour. The final item of the survey invited open-ended free-text responses, allowing participants to describe experiences associated with human-animal relationships during the first UK lockdown phase.

Results: Animal owners made up 89.8% of the sample ($n = 5323$), of whom 67.3% reported changes in their animal's welfare and behaviour during the first lockdown phase ($n = 3583$). These changes were reduced to positive (0–7) and negative (0–5) welfare scales, following principal component analysis (PCA) of 17 items. Participants reported more positive changes for cats, whereas more negative changes were reported for dogs. Thematic analysis identified three main themes relating to the positive and negative impact on companion animals of the COVID-19 pandemic. Generalised linear models indicated that companion animal owners with poorer mental health scores pre-lockdown reported fewer negative changes in animal welfare and behaviour. However, companion animal owners with poorer mental health scores since lockdown reported more changes, both positive and negative, in animal welfare and behaviour.

Conclusion: Our findings extend previous insights into perceived welfare and behaviour changes on a very limited range of species to a wider range of companion animals. Owner mental health status has a clear, albeit small, effect on companion animal welfare and behaviour.

Utilization of a Hospital-based Dog Visitation Program During a Pandemic

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Introduction: Evidence suggests that healthcare workers, patients, and community members experience negative mental health outcomes associated with the COVID-19 pandemic. Long-term data indicate that symptoms persist far beyond a pandemic's resolution. Interacting with a therapy dog is associated with reduced stress; however, therapy dog programs were placed on hiatus during the pandemic. This study examined characteristics of human-animal interactions during reactivation of a hospital-based therapy dog program during the COVID-19 pandemic.

Methodology: Data were collected from human-dog interactions at an academic medical center in Virginia. Fifty-seven visits were observed, including planned and spontaneous encounters. The researcher recorded interaction length, participant role (patient, healthcare worker, visitor), and demographics. T-tests and analysis of variance were conducted using SPSS and Stata.

Results: Observations from 1,016 interactions were recorded, with most being with healthcare workers (71.69%). Analyses revealed significant differences in interaction length by participant role ($F(4,880) = 72.90, p = <.001$); post hoc Bonferroni analyses using a p value of $.05/3$ showed that patients, both adult ($M=2.58$ minutes, $SD=2.24$) (95% C.I.=.35-1.68) and pediatric ($M=5.81, SD=4.38$) (95% C.I. 3.56-4.97) had longer interaction times than healthcare workers ($M=1.56, SD=1.92$) but not visitors ($p=1.00$). Interaction time did not differ significantly by gender ($t(552)=-.736, p=.462$).

Conclusion: This study provides data regarding human-dog interactions and adherence to safety protocols in a hospital-based program reactivated during the pandemic. The majority of interactions occurred with healthcare workers, suggesting that therapy dog visits are needed for this population. High adherence to COVID-19 safety protocols supports safe return to therapy animal visits in hospitals. Administrators should assess population and animal-specific needs when offering animal-based visitation programs in hospitals. Animal welfare implications of these interactions will be discussed.

Depictions of Animals in Art, Literature, and Culture

“Re-Viewing the Many Dimensions of Domestication”: A hermeneutic review of animal domestication

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Relationships with non-human animals take on many forms. The terminology used to classify these relationships as well as the animals themselves can influence how that animal is valued, and furthermore the autonomy and agency of that animal. The term “domesticated” is defined in numerous contradictory ways by different fields, which may or may not be applicable to how we interact with that species or individual animals today. From the “wild” mustang, who loses its majesty when we remember that the horse is in fact a domesticated animal, to the contested identity of the Australian dingo, whose very survival as a species hangs on the domestication debate. In all of these cases, the animal’s use value and status rest upon varying definitions of domestication. As humans continue to expand their reach and interactions with numerous species, it is urgent that we evaluate the complete picture of domestication and its impact on all species involved.

The goal of this hermeneutic review is to catalog the many articulations of animal domestication and dissect their inference to determine, when possible, the influence of past ideas, cultures and traditions on present and future human animal relationships. Special attention is brought to authors and definitions that support an animal's autonomy and agency without devaluing or undermining its existence. This paper will be a demonstration of the necessity to better classify our complex and complicated relationships with animals beyond the simple binary domestic/wild classifications that exist today.

Implications for Field: The assumed domestic or wild status of an animal places a value on its identity. A hermeneutic evaluation of texts surrounding domestication brings to light the inconsistencies and biases in the literature that require further examination, especially those that validate certain animals’ existences while invalidating others.

Comparing apples and pears? Consistency in the description of horse training methods in the published scientific literature

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Background: The horse fulfils a unique role in modern society, being used for a range of working, entertainment, therapy and leisure purposes, with their success in each area largely dependent on appropriate training being applied. It’s vital that the impact of this training is studied to ensure its efficacy, and because it may have wider implications for both welfare and the human-animal relationship. For this to be achieved, terminology relating to horse training must be used consistently by researchers, and descriptions of the methods employed should be sufficiently detailed to enable replication and facilitate

science communication. However, no formal consensus of horse training methods currently exists. Whilst a range of training approaches are referred to in the literature, how these are applied for horses, and the terms used to describe them can vary between researchers.

Objectives: This study aims to provide an overview of horse training methods (TMs) described within published literature and summarise the defining characteristics associated with the methods identified. Inconsistencies that exist within the reporting of these protocols will also be highlighted, along with suggestions to further standardise TM reporting.

Methods: A systematic search of the published literature will be used to identify studies that apply horse TMs within their methodology. A description of the training protocols will be extracted from each paper verbatim and used to categorise the training approach(es) employed, identify their defining characteristics and highlight inconsistencies within TM description. The learning theory underlying each TM will also be assessed.

Application: A comprehensive summary of existing horse TMs would be useful to inform the development of future study methodologies and facilitate consistent reporting of equine training protocols within the literature. This would further enable comparisons to be drawn across multiple studies, increasing confidence in their findings and ultimately improving our understanding of modern horse training.

Octopus aesthetics and ethics

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Introduction: Much like their soft form, the meaning assigned to octopuses has been malleable. For Donna Haraway the octopus stands for tentacular thinking and decentralized perception in the *Chtulucene*, Timothy Morton explains his concept of an hyperobject via an octopus and Chus Martínez has called art itself “the octopus in love”. Such philosophical approaches are accompanied with a new attentiveness for the living animals as individuals: Recent movies like “Oh Brother Octopus” (2017) or “My teacher octopus” (2020) tell of human-octopus kinship and books like “The Soul of an Octopus” by Sy Montgomery (2016) and “Other Minds” by Peter Godfrey-Smith (2018) stress the intelligence and sentience of these invertebrates who formerly have been regarded as the absolute other.

Methodology: I researched contemporary artworks involving living or dead octopuses as well as representations of octopuses in recent movies, popular science books and philosophy and analyzed the different artistic strategies and epistemological approaches in the material I found.

Main results/findings: In art, octopuses have long been depicted for their aesthetic, ornamental, decorative, and symbolic value. But a new generation of artists takes interest in octopus agency, octopus creativity, and octopus ethics. Artists like Pascal Dreier, Hörner/Antflinger, Madison Bycroft, Shimabuku, and Tuomas Laitinen don’t make universal claims about the octopus as an abstract species but rather focus on individual animals and their specific situation trying to give access to alternate worldviews in imaginary and experimental ways.

Principal conclusions and implications for the field: Many contemporary artworks advocate for the intrinsic value of octopuses by means of storytelling, perspective taking, documentation, satire, and mimesis.

Art has the power to raise empathy for invertebrates, animals with whom human beings seldom interact with or emotionally relate to.

Human-wildlife Interactions in Multiple Contexts

Perceptions of nature-based interventions as a context for positive youth development: An exploratory study

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Introduction: Green Chimneys is a special education school and residential mental health treatment facility for adolescents with psychosocial challenges that incorporates an array of nature-based interventions concerning psychosocial development into the curriculum. This work summarizes student perspectives regarding these complex interventions to glean insights into their potential effects on positive youth development (PYD) for similar populations outside of the Green Chimneys environment.

Methodology: Thirty sixth- to eighth-grade students underwent semi-structured interviews from February to July 2021 regarding the nature-based interventions they had experienced. Transcribed interviews were memoed by three coders before undergoing the iterative process of codebook development. Utilizing consensus coding, phenomenological analysis, and thematic analysis, the authors identified common experiences across the interviews to better understand how these interventions may contribute to the adolescents' psychosocial development.

Main results/findings: Eight overarching themes were identified, including social and emotional development, social skills development, social connection, increased motivation, and perspective-taking. Additionally, barriers to animal-assisted interventions were identified which illuminated potential reasons why said interventions seemed more effective for certain individuals than others.

Principal conclusions and implications for the field: This qualitative study proposes that Green Chimneys students experience an array of developmental supports that may be associated with the nature-based interventions incorporated into their curriculum. Broadly, this work introduces implications of nature-based education and mental health treatment to support youth development beyond the Green Chimneys environment. Future research should assess the presence of relationships between these phenomenological themes to introduce further insights regarding nature-based and animal-assisted interventions as they relate to PYD.

Investigating Human-animal Relationships Abroad

“You don't turn your back on family”: Exploring the Possibility of Pets as Members of Filipino Families

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Family is recognized as the basic unit of society in the Philippines. The definition of what family is has transformed to reflect the changes in society throughout the years. Among these transformations is the inclusion of pets or companion animals as part of the family.

Taking care of pets may provide several benefits, including decreasing stress and loneliness, as well as increasing happiness and sources of social support. These benefits have encouraged other individuals to exert the same effort in taking care of pets as they would with their other family members. This topic has not been further explored in local studies about families. Therefore, this study hopes to answer whether it is possible to consider pets or companion animals as family members of Filipinos.

Filipino respondents (n=103) were invited to answer the online questionnaire that included three of the items from the Pet Attachment and Life Impact Scale (PALS) by Cromer and Barlow (2013) about pets and family, as well as other open-ended questions to further elaborate their answers to these items.

Around 87.379% of the respondents have very much agreed that their pet is a part of their family, while around 80.583% of the respondents have also agreed that a pet completes the family. Despite this, only 56.311% of the respondents agreed that their pet has the same privileges as a family member. Analysis of the qualitative data confirms these findings as well.

These findings support the notion that Filipinos consider their pets as valid members of their families. These results may shift the paradigm and widen the perspective of what a family is within the Filipino context. This can also raise awareness by re-emphasizing the welfare of pets and companion animals within the family.

Entangled care in multi-species households

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Introduction: Caring is required to build a relationship between "significant others" (Haraway, 2003: 83) in which humans and non-human animals tame each other to live, work, and play together. Recent studies have detailed how animals participate in "doing family" and shown how animals actively re-reshape their everyday family practices with their owners. This study aims to understand care characteristics in multi-species households and connect care and human-animal relationships.

Methodology: We analyzed semi-structured interviews with 30 owners from 2019 to 2021 who had raised dogs or/and cats for more than ten years. Participants detailed the life history of companion animals and themselves over the animal's aging, disease, and death. The narratives from the in-depth

interviews on participants' lived experiences related to care for their animals were extracted for coding analysis using MAXQDA.

Main result / findings: In this study, companion animals and owners became significant others through daily care practices and the framing and keying process that defines their name, relationship, and role. The care in multi-species households is holistic; not only physically, mentally, emotionally, and socially, but also ongoing throughout the animal's whole life span from birth or growth to aging and death, based on reciprocal interaction with (inter)dependency and communication. Care is also shaped by the "veterinary regime (Swabe, 1999: 8)," from animal registration to medical intervention such as preventive vaccines, routine anti-parasite, pathologic and behavioral diagnosis and treatment.

Principal conclusions and implications for the field: Care is a negotiation and knowledge-making process, grounded on the blurred boundaries of human/animal and messy realities of daily life, leading us to rethink the relationship and ontological status of humans and non-human animals.

Owner reported behavior of adopted free-ranging dogs in India

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Background: No study to date has focused on the pet ownership and welfare of one of the largest populations of free-ranging dogs (FRDs) in the world, India. Euromonitor 2018 report estimated around 18-21 million households in India that have pets. Due to cultural and historical reasons, there is far higher ownership of foreign breed dogs and a very low propensity of adopting native FRD into homes. Understanding owner reports on behavior of adopted FRDs can help us pave the way for better adoption strategies for FRDs in India.

Objectives: Given that India has culturally different perspectives towards animals from Western countries, we aim to understand what drives people to adopt FRDs as well as how owners perceive their adopted dogs' at-home behaviors.

Methods: Online questionnaires on owner and dog demographics, Canine Behavior and Research Questionnaire (C-BARQ, Hsu & Serpell, 2003), and Monash Dog Owner Relationship Scale (MDORS; Dwyer et al., 2006) were circulated via social media. Patterns in ownership and factor structure of C-BARQ have been analyzed. Further, mixed models will be used to examine relationships between factor scores, human-dog relationships and demographic factors.

Findings: Preliminary results from both Indian and international participants show a greater prevalence of female adopted FRDs (54%) over male dogs, were acquired from the streets (63%) compared to shelters (10%), and were neutered (60%). We found a 14-factor structure with some new subscales which probably account for the uniqueness of FRDs from a genetic and cultural perspective. Analysis of human-dog relationship and other analyses are presently ongoing.

Implications: Understanding the suitability of FRDs as appropriate companion animals has multiple benefits: protection of public health by reducing unowned dog numbers, improvements to animal welfare, and bridging the ethnocentric gap in pet ownership by inclusion of human-dog relationship in the Global South.

The effect of childhood socioeconomic status on adult's contact with companion animals: The mediation role of behavioral life-history profile

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Introduction. Previous studies show experiences with companion animals are associated with positive attitudes toward non-human animals. This study aims to explore personal traits predicting the frequency and quality of adult's contact with companion animals from a life-history theory perspective. Accordingly, childhood adversity is linked to a cluster of "fast" life-history-related behaviors (e.g., impulsivity, unstable pair-bonding) that provide short-term gains but are detrimental to long-term relationships. This research extends this prediction to human-animal relationship, with behavioral life-history profile as a mediator between childhood adversity and interaction with companion animals in adulthood.

Methodology. A regionally representative sample of 796 Chinese adults aged 18-65 years old (mean age=25.79, SD=11.06; 551 females and 245 males) participated in the survey. The independent variable was childhood socioeconomic status (SES; measured using an adapted form of the MacArthur ladder scale of subjective SES). Behavioral life-history profile was measured using the K-SF-42 (Figueredo et al., 2017; Zhu, Chen, Lu, & Chang, 2021). The dependent variable was the contact with companion animals scale (Gu, Bexell, & Wang, 2021). All analyses were conducted using SPSS 26.0 with the PROCESS macro.

Results. We found positive correlations among childhood SES, behavioral life-history profile, and contact with pets (r s are between 0.08 and 0.26). The total effect of childhood SES on adult's contact with pets was significant ($\beta=0.08$, $p<0.05$). Behavioral life-history profile significantly mediated the relationships between childhood SES and contact with pets, after controlling for age, gender and current economic conditions (standardized indirect effect=0.02, SE=0.009, 95% CI=[0.004, 0.038]).

Conclusions. Findings suggest lower SES in childhood was associated with faster life-history-related traits, which predicted reduced relationship warmth with companion animals. This highlights the necessity to provide interventions for children from low SES families for better human-animal relationships.

The effect of the presence of a Chinese hamster on stress during a categorization task in Chilean preschoolers

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Introduction. The ability to categorize is crucial in human development, as it allows children to organize the objects and experiences to which they are exposed. In addition, it enables preschoolers to classify

objects according to similarities or differences. One way to cope with it is the presence of animals. Previous studies have reported the benefits of animals in the educational context; for example, the presence of a dog has allowed children to make fewer errors on a categorization task (Gee et al., 2010). This research studies whether the presence of a Chinese hamster could influence stress during a categorization task in preschoolers between 3 and 4 years old in Santiago, Chile.

Methodology. The sample consisted of 40 preschoolers divided into two random groups: the presence and absence of the animal. The preschoolers were asked to categorize 24 objects in two albums: beach and field, while we recorded cardiac activity using a Mobile Impedance Cardiograph (Wireless MindWare® System).

Main Results. The results show a statistically significant decrease in the heart rate of those preschoolers who performed the cognitive task in front of a Chinese hamster (Unpaired t test, $t = -1.80$, $p = 0,04$). These results imply that stress did not increase. In addition, there were no significant differences between groups in the number of correct answers in the categorization task.

Principal Conclusions and Implications for Field. These findings suggest that a Chinese hamster positively affects preschoolers' stress by reducing heart rate activity. Future studies might consider different ages, including kindergartens with animals in their institution to compare stress levels in preschooler-animal interaction.

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The link between attitudes toward animals and empathy with humans: The mediating role of empathy with animals

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Introduction. One rationale of humane education is improving people's empathy with humans, non-human species, and Earth. However, it is still unclear how pro-animal attitudes and empathy are associated, despite previous studies on the association between attitudes toward animals and human-oriented empathy, or between human-oriented empathy and animal-oriented empathy. The present study aims to explore an underlying path from attitudes toward animals to empathy with humans in a Chinese sample.

Methodology. 669 participants (453 females; age range 18-57, mean=26.40, SD=6.39) in China completed the Animal Attitude Scale, Basic Empathy Scale, and Animal Empathy Scale. They also reported their demographics, and the frequency and quality of contact with companion animals. The data was analyzed by SPSS software. Linear regression analyses were conducted with human-directed empathy, animal-directed empathy, and attitudes toward animals as dependent variables separately in each model. The mediation effect was tested following the steps of Baron and Kenny (1986) method by doing a series of regressions.

Results. Females showed significantly more empathy with both humans and other animals, and held more positive attitudes toward animals, compared with males ($ps<.001$). Higher frequency and higher quality of contact with companion animals significantly predicted more empathy with both humans and animals, and more positive attitudes toward animals ($ps<.001$). In addition, older participants showed more empathy with humans than younger participants, but the younger showed more empathy with animals than the older ($ps<.01$). Mediation analysis showed that animal-directed empathy fully mediated the relation between attitudes toward animals and human-directed empathy (regression coefficients $a=0.47$, $b=0.36$, $ps<.001$; $c'=0.06$, $p>.05$).

Conclusions. The findings demonstrate pro-animal attitudes influence an increased human-directed empathy via the mediation of animal-directed empathy, provide support for humane education practices, and expand the literature on human-animal relationships outside western countries.

A systematic review of research on the psychological and health effects of pet ownership among children in China

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Research to date in Western literature has indicated various psychological and health effects of pet ownership among children, while less is known about the role of companion animals play on the health of children in China. As long as there has been a growing interest in HAI in China, it is worthy to systematically review the existing evidence to further investigate the research progress and potential gaps. Above all, the aim of this systematic review was to indicate the psychological and health effects of pet ownership among children in the Chinese background for the first time. Both effects on psychological and physical health were reviewed and recommendations for further research are offered in this review.

Published findings dating up to 27th October 2021 in both human and veterinary databases were collated and reviewed for effects on psychological and physical health of companion animals among children in China.

Overall results from this review indicated that pet exposure was mainly seen as risk factors including animal induced injuries and *T. gondii* infection among children in China. Although pet exposure was mostly reported as a risk on children's respiratory and allergic health, it was also reported as a protective factor between environmental pollution such as environmental tobacco and children's respiratory function. Despite physical health, pet companions can also offer support and reduce anxiety and distress to improve children's cardiovascular health and improve children's reading abilities. However, there is still far less research in China on the impact of pets on psychological and developmental outcomes for children. Given this, further research is required to determine the potential impacts of pet ownership on children's mental well-being.

Media Portrayal & Communications of Human-animal Topics

The Good, the Bad and the Anthropomorphic: High Prevalence of Signs Indicating Compromised Canine Welfare in Dog GIFs

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Introduction. Dog media is popular on social media and Graphics Interchange Formats (GIFs) of dogs are widely used. However, some GIFs include dogs displaying behaviours which may indicate compromised welfare. This scoping study investigated the prevalence of behaviours often indicative of negative and positive affective states, and signs of intended anthropomorphism, in trending dog GIFs. We hypothesised a high prevalence of behaviours indicating compromised welfare would be present in dog GIFs.

Methodology. 266 GIFs of dogs were identified from trending lists on GIPHY and Tenor, over three separate dates (07/07/2021, 06/08/2021, 13/09/2021). Using an ethogram, each GIF was coded based on the presence or absence of the dog showing behavioural signs associated with positive emotional state ('positive behaviour'), negative emotional state ('negative behaviour'), and whether intended anthropomorphism was displayed (dogs were presented as looking or acting like humans). Where available, search tags were also recorded and coded for negative or positive valence (e.g. #happy, #sad).

Results. 38% (n=100) of the GIFs showed a dog expressing at least one positive behaviour, 77% (n=204) at least one negative behaviour, and 74% (n=111) showed intended anthropomorphism. Where search tags were available, three-quarters (74%) of the tags assigned to GIFs with negative behaviours were coded as positively valenced, as were 80% of GIFs containing intended anthropomorphism, and 76% of GIFs containing positive behaviours .

Conclusions. Findings suggest lack of recognition of negative behaviours in dog GIFs with misattribution of positive search tags. Online dog content may cause normalisation and exacerbate misinterpretation of negative canine behaviour, with potentially significant implications for dog welfare. Creating 'dog-friendly' dog GIFs could help encourage appropriate choices when selecting dog GIFs, promote positive attitudes towards dogs and potentially prevent the normalisation of compromised dog welfare on social media.

New Research Topics, Methods, and Filling Knowledge Gaps

Embodied Human-Animal Interaction Analysis: In search for the 'In-Between' & adequate Methodologies

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Background: Even though Human-Animal Interaction (HAI) is a core concept in anthrozoology the process of interaction as such has been scarcely analyzed. To assess how understanding is created an embodied perspective of HAI is proposed. In this frame interaction is understood as an ongoing process of mutual coordination of observable bodily and facial expressions, postures and movements and, beyond that, a level of intercorporeal attunement, graspable as an impression of the atmosphere for instance.

Objectives: The aim is to assess the multiple layers of Human-Animal Interaction empirically, specifically in the dyad of a d/Deaf person and his/ her dog. The research questions are twofold: (1) What does exactly happen in the interaction process? Which processes of coordination/ reciprocal attunement can be observed or experienced? (2) Which methods/ tools are adequate?

Methods: In an experimental single case study (multiple-baseline design with a variation across subjects) video- recorded encounters of dyads will be analyzed. With a mixed-methods design the two levels of attunement are addressed: (1) The observable dimension of coordination patterns is evaluated, therefore automated dynamical systems tools as well as methods of multimodal interaction analysis are checked for suitability. (2) To capture the subjective experience of interacting a structured procedure for eliciting self-perceptions and perceptions of others (PRISMA, De Jaegher et al. 2017) is transferred to the examination of HAI.

Implications: The understanding of interaction as a circular process directs the view on both interaction partners equally as autonomous subjects and provides implications for ethical considerations. Especially with the inclusion of self-perception an approximation to the animal's perspective is intended. Finally, this approach generates novel insights into the underlying mechanism of HAI and the influencing conditions. Thus, conclusions can be derived for the research and practice of Animal Assisted Interventions as well.

Does dog ownership impact Alzheimer's dementia risk factors and biomarkers?

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Introduction: With the rapid aging of the U.S. population, the number of people living with Alzheimer's dementia is expected to more than double by 2060. There are many mechanisms by which caring for a dog in older adulthood may support brain health, including increased physical activity, physical function, and social connectedness; however, few studies have investigated the impact of dog ownership on cognitive function, and none have examined the impact of dog ownership on dementia biomarkers, such as changes in brain structure and function.

Methodology: We recently completed a cross-sectional pilot study of 25 older adults (mean age 75 years; 13 dog owners, 12 non-dog owners). Participants completed the NIH Toolbox Cognitive Battery and a brain scan (MRI). They also completed a physical function assessment (timed-up-and-go task), wore a physical activity monitor and logged physical activity for 7 days, and completed a questionnaire regarding social interactions facilitated by pets.

Results: The primary purpose of this pilot study was to test the feasibility and acceptability of study procedures and inform a grant application to conduct a fully powered study. In the fully powered study, we expect to identify group differences in cognitive function and brain health that indicate dog companionship in older adulthood supports healthy brain aging, and that increased physical activity, physical function, and social connectedness are mediating factors. We do not expect to see statistically significant group differences in the pilot given the small sample, but will present effect sizes for the preliminary cognition, physical activity, physical function, and social interaction findings at ISAZ. Brain data will not be analyzed in time for ISAZ, but the analysis plan and hypotheses will be discussed.

Implications: This line of research could inform interventions that leverage the human-dog bond to address rising rates of Alzheimer's dementia.

Dog Tired: Examining the Relation Between Dog and/or Cat Ownership and Owners' Sleep

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Introduction: Recommendations to promote sleep include exercise, managing stress, reducing anxiety symptoms, etc. Many of these recommendations overlap with benefits observed from pet ownership (PO). Therefore, the present study aimed to examine the relation between PO and sleep, mediators of this relation, and whether mediators depended on walking regularity. It was hypothesized that PO would significantly relate to sleep, five sleep-promoting variables would mediate the relation, and the mediation would differ by walking regularity.

Methodology: Participants (N=1,250; 80.8% White; 50.5% men) residing in the United States reported on their sleep, physical activity, perceived stress, anxiety symptoms, and light exposure. Participants were 25.5% non-pet owners (NPO), 24.1% cat-only owners (CO), 25.7% dog-only owners (DO), and 24.7% owned dogs and cats (DCO). Data analyses included ANCOVA, Moderation, Parallel Mediation, and Conditional Process Modeling.

Results: PO significantly related to sleep, $F=9.43$, $p<.001$, $\eta^2=0.02$. NPO had worse sleep than CO/DO/DCO, $t=5.21$, $p<.001$. CO's sleep was worse than DO/DCO, $t=2.57$, $p=.01$. DCO had better sleep than DO, $t=3.52$, $p<.001$. The five sleep-promoting variables significantly mediated the relation between PO and sleep ($c F=9.04$, $p=.000$; $c' F=2.36$, $p=.07$). Significant mediators included perceived stress, anxiety symptoms, and light exposure. Walking regularity did not change these mediations.

Conclusions: PO was significantly related to better sleep, and this was explained by less perceived stress, fewer anxiety symptoms, and more light exposure for PO than NPO. This study is one of the first to examine daytime mechanisms of the relation between PO and sleep and provides a foundation for future

research examining how the integration of PO behaviors and sleep health recommendations can improve adherence to recommendations, thus improving owners' sleep.

Dogs Produce Distinctive Play Pants: Confirming Simonet

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Introduction: Vocalizations in expressive, nonhuman animals can explain the evolution of human communication. A domain-specific play pant in dogs can signify a similarity or dissimilarity to human laughter and can explain the development of interspecies empathy through social contagion. This project determines whether play with humans can elicit a canine play-pant during training, play or rest to build a foundation for future work on canine play pants and interspecies relationships.

Methodology: A prescreening survey captured basic demographic information about the guardian, the dog, and the dog's training history. Accepted dogs and their guardian wore wireless microphone packs, transmitters, and a harness while a standalone camera captured video. Independent raters analyzed audio and video recordings across training, play and shared rest interactions via an ethogram and RavenLite.

Results: There is evidence that dogs produce a play pant. Their vocalizations are unique to the individual, and when interacting with their guardians, dogs produced significantly more target vocalizations during play than in training or shared rest. A one-way ANOVA resulted in significant differences regarding the presence of vocalizations during the three interactions ($F_{2,39} = 5.897$, $p = 0.006$). While a Tukey post hoc test revealed that drastically fewer play pants were observed during training (0.875 ± 1.30 min, $p = 0.018$) and shared rest (0.875 ± 1.60 min, $p = 0.013$) as compared to play interactions (20.63 ± 29.14 min).

Conclusions: Current evidence suggests a domain-specific play pant occurs most frequently during play interactions when combined with play signals. The vocalizations signify non-violent intentions. In addition to validating the canine play pant, our work is among the first to explore the evolution of laughter as a signal between species. Future studies should investigate the personal characteristics of each dog, the impact of training history, and human-dog attachment.

Engaging in human-animal interactions to promote social and emotional competencies: A scoping review

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Introduction: There is growing interest in the use of universal programs that incorporate human-animal interaction (HAI) to promote the social and emotional competencies (SECs) of children and youth. However, little empirical evidence attests to the effectiveness of such programs. A scoping review was thus conducted to address this knowledge gap and consolidate findings across studies.

Methodology: Three academic databases were searched for relevant publications published between Jan. 1, 1990 and Dec. 31, 2020. The reference lists of included publications were also screened for additional relevant publications. The initial pool comprised 3,618 publications, which was narrowed to 28 unique publications for inclusion.

Results: Most authors reported positive outcomes in their evaluations. Across programs, there was variability in the animal species incorporated (dogs, horses, and wild birds were most common), frequency of HAI (ranged from 1–18 times), duration of HAI (ranged from 10–450 min), SECs promoted (interpersonal skills were most frequently addressed), and program context (school and community settings were most common). There was also a lack of methodological rigour across evaluations, including: scarce reporting of the demographic characteristics of animal participants and animal handlers; infrequent use of randomization or control groups; lack of validity and reliability evidence to support outcome measures used; and minimal attention to implementation fidelity, dosage, and animal welfare.

Conclusions and Implications: The results highlight the emerging, interdisciplinary, and international nature of this research field and promising evidence of effectiveness of these programs. To strengthen the quality of future programs and corresponding evaluations, researchers are encouraged to conduct rigorous studies using reliable and validated measures, monitor the welfare of participating animals, and report programs and studies in greater detail.

Evaluation and Validation of the Positive Youth Development (PYD) scale in Clinical population

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Introduction. Recent research has examined the relationship between animal-assisted interventions (AAs), child development and positive trajectories of development in youth. Positive emotions and cognitions about animals have been found to be correlated with higher levels of PYD. Still, the impact of interactions with animals on positive trajectories of development in youth with special needs is understudied.

Green Chimneys' (GC) special education school integrates a diverse range of AAs into its treatment of youth with persistent psychosocial and educational challenges. This study describes the validation of the positive youth development scale in a new population suggesting modifications to improve the use of the PYD measure in clinical populations and for use to measure broad developmental impacts associated with nature-based interventions.

Methodology. A total 369 students participated in the study during the 2018 -2021 data collection period at green chimneys. A repeated measures design was used to assess social-emotional functioning

and global trends in development at green chimneys. The 34-question Positive Youth Development Short Form (PYD-SF) was used to assess global trends in development. The 12-item Social Emotional Assets and Resilience Scale (SEARS) short form versions for children (ages 8-12) and adolescents (13-18) was used to assess changes in overall social-emotional functioning. Both surveys were administered quarterly.

Main Results: Recent analysis of 7 academic quarters of data with an average of 137 students (ages 8-20) per quarter demonstrated that the instrument behaves reliably with a Cronbach alpha coefficient of .952, but differently, in this clinical population.

Principal Conclusions and Implications for Field. Findings suggest that the instrument works fairly well and quite predictively based on the diagnosis data, but it could work better. Findings identified several facets that might be improved for use in clinical populations and future research will examine these needs.

Exploring the validity of published human-animal scales for use with companion rabbit owners

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Background: Despite being popular pets that can be friendly, playful, and trained, rabbits are abandoned and relinquished at high rates. Thus, further research is needed to understand the human-companion rabbit relationship. Scales have been established for assessing human-animal relationships involving other animals (e.g., dogs and cats). These include the Lexington Attachment to Pets Scale (LAPS), the Cat/Dog Owner Relationship Scale (CDORS), and the Human-Animal Interaction Scale (HAIS). Neither the CDORS nor the HAIS has been used for rabbit owners, but the LAPS was used in a previous companion rabbit study and 30% (863/2890 surveys) missing data resulted. Interestingly, missing data centred on four items asking owners to ascribe emotions or intelligence to their rabbits. Since others have shown that owners who believe more strongly that pet rabbits experience emotions and are intelligent also provide better care, we think that ratings of these perceptions, alongside factors underlying the scales, could be useful for describing human-companion rabbit relationships and reasons for abandonment and relinquishment.

Objectives: (1) Explore the validity of LAPS, CDORS, and HAIS for companion rabbit owners, (2) Test hypothesis that lower perceptions of rabbit emotions and intelligence are associated with missing LAPS data and lower LAPS scores; and (3) Evaluate CDORS and HAIS scores against perceptions about rabbit emotions and intelligence.

Methods: Survey data will be examined using factor analysis (underlying constructs), Cronbach's alpha (reliability), correlation analysis (between scales), content analysis ("missing" and "inappropriate" items per participants), missing value analysis (LAPS items), and statistical modeling (testing associations between perceptions of emotionality and intelligence and scales).

Implications: Conclusions will be made about items and constructs relevant to companion rabbit owners and used to modify/develop the scales as necessary (e.g., a Rabbit Owner Relationship Scale) for use with this population in future research exploring factors that enhance or diminish human-rabbit relationships.

Pet Ownership and Maintenance of Physical Function in Older Adults– Evidence from the BLSA

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Introduction: Studies have found pet ownership (PO) is associated with better physical and mental health outcomes in individuals with existing disease or disability. Here, we examine the relationship of PO to maintaining physical function within community-dwelling older adults participating in the Baltimore Longitudinal Study of Aging (BLSA). We hypothesized deterioration in physical function as participants age; less deterioration among pet owners than non-owners; no differences between dog and cat owners; and less deterioration among dog walkers than dog-owners who did not walk their dogs.

Methods: A total of 637 men (44.1%) and women aged 50-100 years (mean = 68.3, SD =9.6) completed a comprehensive PO questionnaire which ascertained ownership history up to 13 years prior and had serial assessments of physical function every 1 to 4 years. Linear mixed or generalized mixed models with time varying PO were used to examine change in physical function over up to 13 years [mean=6.8, (SD=4.0)] according to PO.

Results: Pet owners (n=185) were significantly younger ($p<0.001$) and had fewer comorbidities assessed ($p = 0.030$) than non-owners; thus, age and comorbidities were included as covariates in analyses. Physical function declined with age across all domains (p 's < 0.001) but was observed to be less severe among pet owners in overall physical performance ($p<0.001$), rapid gait speed ($p=0.03$), usual gait speed ($p=0.032$), cardiorespiratory fitness ($p<0.001$), and physical wellbeing ($p=0.002$) after controlling for age and comorbidities. No significant differences were found between POs and non-owners in changes in leisure time physical activities. Among dog owners (n=73), walking was not significantly related to changes in physical function with aging.

Conclusion: This study provides the first longitudinal evidence that PO may contribute to maintained physical function among community-dwelling generally healthy older adults.

Psychological effects of hippotherapy in neuropsychiatric patients

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Introduction. Hippotherapy is a distinct form of physiotherapy in which the patient rides on a horse with the support of a physiotherapist. The characteristic movements of a horse are used as sensory and neuromuscular stimuli to provide three-dimensional impulses to the patient's musculoskeletal system. Increasingly, research shows the benefits of hippotherapy especially regarding physical functioning and mobility and focus predominantly on children with cerebral palsy. However, there has been little research investigating the psychological effects of hippotherapy in general pediatric neurorehabilitation.

This study aimed at evaluating the potential of hippotherapy in pediatric inpatient neurorehabilitation for severely neurologically impaired children and adolescents, to identify characteristics of patients receiving the therapy, characteristics of the therapy sessions and to evaluate feasibility and extent of goal achievement.

Methodology. We retrospectively analyzed all hippotherapy sessions performed between 2002 and 2020 at an inpatient neurorehabilitation center in Germany. The dataset includes 602 neuropediatric patients suffering from neurological impairments of various etiologies. We extracted information regarding patient characteristics and examined to what extent the pre-defined therapeutic goals were met during the sessions. Data were analyzed using descriptive statistics.

Main Results. Preliminary results show that hippotherapy enhanced positive emotions, reduced anxiety, encouraged social behavior such as interacting and caretaking, and augmented therapy motivation in the patients.

Principal Conclusions and Implications for Field. The findings suggest that hippotherapy can be a feasible approach to facilitate emotional, social, and psychological goals in children and adolescents with severe neurological impairment.

Steve, Christina and Felix the cat: Attribution of blame when deliberate animal harm is part of domestic violence

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Background: A complex form of coercive control involves animal-targeted abuse where, due to the emotional significance for the (human) victim experiencing DV, perpetrators deliberately threaten and/or harm their animals in order to exert control (Johnson, 2018; Riggs et al., 2021). Victims may delay leaving violent relationships due to concerns for their animals given a lack of DV shelters that can accommodate companion animals (Dam & McCaskill, 2020; Volent et al., 2008).

DV myths and attribution of blame combine to create barriers to community members recognizing and supporting DV victims. While researchers have examined how DV myths alter bystander/witness behaviour for physical DV little is known about A-DV; as an e.g., it may not even be recognized as a form of DV (Taylor & Signal, 2006). A-DV may also lead to high levels of victim blaming (Scheffer, 2019).

Objectives: Assess and evaluate community member's attribution of blame (perpetrator and human victim) in a situation where domestic violence includes deliberate harm of a companion animal.

Methods: An online survey was distributed via social media to Australian residents with 226 completed responses received. Participants provided responses to researcher generated items and the Domestic Violence Acceptance Scale (DVMA; Peters, 2003) then read one of three vignettes (DV-physical violence; DV-coercive/non-physical violence and DV-animal directed violence (A-DV)) and completed the Domestic Violence Blame Scale (DVBS, Petretic-Jackson et al., 1994). The current presentation examines the responses of the 73 participants who received the A-DV vignette.

Implications: It is important to understand attribution of blame in situations of animal directed DV because the way that the community responds and their perception of DV directly impacts victims' help-seeking behaviours and wider support for initiatives such as animal friendly DV shelters.

Systematic Reviews on Human-Animal Interactions Topics: An Examination of Methodologies

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Introduction: Human-animal interactions (HAI) are being studied with increased frequency, evidenced by increased numbers of published articles and journals publishing them (Authorblinded, 20XX). Evidence synthesis methods like systematic review and meta-analysis (SR/MA) provide a stronger level of evidence than individual studies and are often used to inform practice guidelines. To ensure SR/MA accuracy and reliability, they must follow rigorous, prescribed methodologies.

Objectives: This study of HAI SR/MAs was designed to determine (1) Which methodological standard was followed? Was a protocol written? (2) Which databases were searched? Was an information professional consulted? (3) Were the database searches replicable? Was grey literature included? (4) Were included studies assessed? Which tool or checklist was used? (5) Were included studies clearly listed?

Methods: Nine bibliographic databases were searched for articles containing both an HAI-related term and an SR/MA term. 766 articles were screened for relevance, and 110 articles were coded for desired data.

Results: Of the 110 articles, 59 were published between 2019-2022. There were 62 SRs, 16 MAs, 16 mixed SR/MAs, and 16 other review types. A majority of studies (70) referred to PRISMA and/or other guidelines, while 40 made no reference to any methodological guideline. Across all studies, 163 different databases were searched, with PsycINFO, PubMed, and CINAHL among the most frequently used. Only 20 studies referred to consultation with an information professional. A slight majority of studies (58) provided a full search strategy for at least one database. Most articles (69) did not include grey literature searches. Most articles (79) assessed included studies for quality or risk of bias. 104 articles provided complete lists of included studies.

Conclusions: This study establishes that the use of SR/MA in HAI research is increasing, and that there is room for methodological improvement within this trend.

The role of learning theory in horse welfare and rider safety (time for a re-think?)

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Introduction. Horse welfare and human safety represent ongoing challenges. Emerging evidence suggests horse welfare is positively related to human safety. Horse training methods directly affect horse welfare and therefore (likely) human safety. Arguably, learning theory (LT) is considered best practice in horse training, yet equestrians don't always utilize this approach. This presentation explores the role of LT in ridden horse welfare and human safety.

Methodology. A convenience sample of 427 horse riders completed an online survey, with questions on positive and negative reinforcement and punishment. Riders who correctly identified all three terms were deemed to have a basic knowledge of LT. Statistical comparisons of riders with and without basic LT knowledge were performed.

Main Results. Participant knowledge of LT was low, with only 24.6% of participants correctly identifying all three LT terms, consistent with previous studies. Ridden horse welfare and rider safety did not differ between riders with and without knowledge of LT (Mann Whitney U, $p > 0.05$). Efficacy of LT is dependent on its application, and knowledge of LT may not result in its correct application. This is something a survey cannot assess and is an important limitation of this study.

Conclusions. Basic knowledge of LT does not appear to affect ridden horse welfare or rider safety. Equestrians' attitudes towards, and adoption of scientific training methods (such as LT), are poor. Learning theory represents a powerful tool for modifying horse behaviour but reinforces the objectification of horses, possibly explaining its underutilization by equestrians. A new horse training framework (within which LT could be embedded), that restores the horse to 'being' status offers a pathway to increase equestrians' engagement with scientific training approaches, allowing existing scientific knowledge to be leveraged more effectively and more fully, thereby contributing to meaningful gains in horse welfare and rider safety.

Using short-text questionnaire responses to elicit public attitudes towards surplus dairy calf management

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Introduction: Public attitudes need to be considered by the dairy industry to be socially sustainable. Yet, there is the challenge to elicit and report public attitudes in a format that includes a large and representative sample while simultaneously providing insights about participant attitudes. We evaluated

two contentious dairy calf management practices to demonstrate that there are benefits in using short-text questionnaire responses to complement quantitative data.

Methodology: Participants from the US and Canada were sampled to be representative of key census demographics. Participants provided their attitudes based on calf management scenarios that differed in the two factors: Separation of the calf from the cow early after birth (yes/no) and calf's age at slaughter (within 2-weeks or after 12-months). Attitudes were analyzed using linear regression models. Responses to an open-ended question asking why participants felt this way were analyzed using inductive thematic analysis.

Results: Among the 998 participants, the Separated/Early Slaughter group had the lowest attitude value and the Not Separated/Late Slaughter group had the highest value ($p < 0.001$). Additionally, three qualitative themes were identified that could explain the reasons behind the different attitude values: ethical appraisal regarding the treatment of animals; production system support; coping with dissonant attitudes. Late Slaughter groups appeared more likely to endorse the calf management practice due to a perceived good purpose of the calves (i.e., contribution to the beef supply). It seemed that if the criterion of a reasonably long life is met, participants became concerned about early cow-calf separation.

Implications: Responses to an open-ended question provided additional insights to the quantitative results. Although short-text answers from questionnaires do generally not provide the same depth for data analysis compared to other qualitative methods, there are benefits in including open-ended questions in large-scale public surveys allowing participants to explain their attitudes.

Why the heck is my horse erect? Preliminary characterization of dropping during training of male horses

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Introduction: Dropping (penile tumescence) in male horses has been anecdotally related to positive reinforcement training (PRT; e.g. clicker training). Trainers interpret this behaviour variably as relaxation, frustration or aggression which can lead to inappropriate management strategies. The objective of this study was to characterize dropping occurrences in relation to other behavioural indicators and offerings of rewards such as treats.

Methodology: Trainers ($n=24$) submitted videos of their training session. Frequency of behaviours (oral, head position, tail swish), rewards (clicks, treats) and duration of penile characteristics (partial or full drop, flaccid or erect) were noted for 3-5 2min segments of the training session. Chi-squared analyses compared penile characteristics to reward offerings. A mixed model analyzed the effects of horse age and training segment on behaviours and penile characteristics.

Results: Dropping occurred 69% of the time. In the first 2min horses spent less time with a fully dropped and erect penis than later in the training session ($p < 0.02$). Horses 11-15yrs were fully dropped (82% of the time) and erect (65% of the time) longer than older and younger horses ($p < 0.0001$). Tail swishing occurred more often when the penis was fully dropped and either flaccid or erect ($p < 0.05$). Clicks did not

affect any dropping characteristic ($p>0.35$) but horses spent less time fully dropped (15%) when trainers did not use treats compared to when they were given treats ($p<0.03$).

Conclusions: Penile tumescence was more frequent in horses at prime age (11-15 yrs) and when using food rewards, with no effect of “clicks”. Tail swishing, a potential indicator of stress, occurred simultaneously with dropping. These observations provide preliminary results for future research to understand the affective state of horses during PRT and to determine if dropping is a sign of relaxation, frustration or aggression.

Quantitative and Qualitative Approaches to Exploring Human-animal Dyads

A novel approach to quantifying dog-facilitated physical activity in youth

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Background: Higher physical activity levels are linked with more favorable health outcomes for children, including better cardiometabolic health, muscular and cardiorespiratory fitness, weight status, and bone health. However, only 1 in 3 children in the United States meet the National Physical Activity Guidelines of 60 minutes/day of moderate-to-vigorous physical activity. Research has demonstrated that adult dog owners have higher physical activity levels than non-dog owners, and current findings suggest a positive relationship between family dog ownership and youth physical activity levels. However, a major limitation of the youth literature is a lack of data on the quantity or quality of physical activity that occurs with the dog.

Objectives: Our primary research objective is to 1) identify the total volume and intensity of physical activity that children perform with the family dog and 2) determine its contribution to (percentage of) overall physical activity levels.

Methods: 10 to 20 families will be recruited. Parents/guardians, children ages 3-10 years old, and dogs will wear ActiGraph GT3X accelerometers with Bluetooth connectivity for 7 days during waking hours. The Bluetooth feature will allow for proximity detection of times that family members are being active with the dog. In addition, parent/guardians will log child physical activity with the dog (i.e., walks and active play).

Implications: This type of novel mixed method approach will more precisely assess the amount of time dog-owning youth engage in physical activity with the dog and whether they are engaging in physical activity at a high enough intensity to yield health benefits (i.e., moderate-vigorous intensity). This work may help inform programs that support dog-facilitated physical activity and reduce dog ownership barriers for families. Data collection is currently ongoing, and findings will be available for presentation at the ISAZ Conference.

A repeated cross-sectional study of a campus-based animal-assisted interactions program on college student stress management

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Introduction: There is a limited but growing body of research that suggests a positive association between college students who attend a campus-based Animal-Assisted Interactions (AAI) program and improved mental health. This manuscript adds to this data by exploring the correlation between dose of attendance at one such program and students' perception that this activity helped them manage their stress.

Methodology: A repeated cross-sectional study for six academic years (2014/15 to 2019/20) was conducted on an AAI program at a large university with over 50,000 students. Logistic regression was used

to examine the correlation between the prevalence of an outcome—perceived stress management—and exposure—dose of attendance.

Main Results: For five of the six years, students who attended because “I thought it might help me relieve stress” had higher odds of stating that the program helped them manage their stress than a student who did not give this reason. For example, 2020 was (OR=2.91, 95% CI=1.81-4.68, $p=.00$). Furthermore, the longer the duration of time spent and the greater the number of visits were associated with higher odds that the person said the AAI program helped them manage their stress.

Conclusions: These results suggest ongoing, multiple-session AAI programs may be more favorable for students’ ability to manage their stress than single-session events which are commonly offered during midterm and final exams (Crossman & Kazdin, 2015). Furthermore, these results also suggest longer lengths of time spent participating in an AAI program may be more beneficial overall, and additional studies are needed to support these findings.

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An Exploratory Study Examining the Impact of Personality, Mental Health, and Gender on University Students’ Interest in On-Campus AAIs and Preference of AAI Species

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Introduction. While HAIs can provide health benefits for many people, how individual characteristics and preferences may shape interest in on-campus AAIs is not well-understood. This study explores the role of participant characteristics in predicting AAI interest and species preference.

Methodology. Participants ($N = 120$) completed an online survey which included the Ten-Item Personality Inventory (TIPI). They also indicated mental health disorders and level of interest in AAI participation, and ranked what species they would most like to interact with (cat/dog/both). Regression analyses were conducted to explore associations between personality, mental health, and gender in predicting AAI interest and species preference.

Main Results. We first modeled all traits measured by the TIPI, leaving only significant traits, and adding mental health and gender in subsequent models. In a final model, a hierarchical regression analysis was conducted wherein AAI participation interest was regressed on emotional stability, mental health, and gender. The model was significant ($F(3, 112) = 4.02, p = .009$), showing negative associations between emotional stability and AAI participation ($\beta = -0.17, p = .057$). Next, logistic regressions were conducted to predict cats or dogs as most preferred species to interact with. The “prefer cats” model was statistically significant ($\chi^2(3) = 9.62, p = .022$), suggesting agreeableness was negatively associated with the probability of ranking cats as most preferred ($\beta = -0.86, p = .012$). The “prefer dogs” model ($\chi^2(3) = 8.05, p = .045$) showed that the probability of ranking dogs as most preferred was significantly and positively predicted by extraversion ($\beta = 0.37, p = .008$).

Principal Conclusions and Implications for Field. This preliminary, ongoing study provides an interesting yet surprising initial finding that lower agreeableness may predict a preference for cat interactions, while extraversion is linked to dog preference. We aim to continue examining the role of personality in AAI.

Caring for an Aging Dog: An Exploratory Study of the Worries and Rewards

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Caregiving for an aging family member can be a difficult and overwhelming responsibility that can involve many physical, emotional and social demands for the caregiver. While much of the caregiving literature examines the stressors associated with caregiving tasks, little attention has been placed on the rewarding and satisfying aspects of caregiving.

Furthermore, even though the literature suggests that for many people, the family dog is viewed as a member of the family, research pertaining to caring for older dogs is limited. To help answer the questions related to what happens when companion animals start to age, slow down, and require more care, this study explores the positive and negative experiences of caring for an aging dog. We began by evaluating qualitative data from an open-ended question online survey designed to explore what it means to people to live with an aging dog. Using these results, we developed an online quantitative survey to investigate the empirical relationships between dog owners' positive and negative experiences, their supportive networks, and their attachment to their dog. Based on results from 284 respondents, it appears that negative and positive experiences are not mutually exclusive, and both are related to the presence or absence of support systems, worry/anxiety, and pet attachment. Better understanding the positives, in addition to the negatives, of caring for an aging dog is important for both guardians and veterinary professionals in helping shape realistic, but hopeful, expectations of the natural progression of being a pet guardian.

Child-Dog Attachment, Emotion Regulation and Psychopathology: The Mediating Role of Positive and Negative Child-Dog Behaviours

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Emerging evidence suggests that pet dogs can offer features of a secure attachment relationship which has been associated with healthy psychological development across the lifespan. Limited research investigates the underpinning mechanisms that may contribute to the benefits and risk of child-dog attachment during childhood. The current cross-sectional study aimed to test the potential mediating role of types of caregiver observed child-dog behaviours, whether positive or negative, on the relationship between child-reported child-dog attachment, and caregiver-reported children's psychopathology and emotion regulation. Data from 117 parent-reports and 77 child self-reports were collected through an online survey in the context of the COVID-19 pandemic. Parallel mediation analyses indicated that child-dog attachment had a significant indirect effect on emotional and behavioural difficulties, and conduct problems, through negative

child-dog behaviours only. Child-dog attachment had a significant indirect effect on emotional symptoms, internalizing problems, peer problems, emotion regulation, and emotional lability/negativity, through both positive and negative child-dog behaviours. The findings suggest that the types of interactions that children engage in with their pet dogs may be additional important mechanisms through which pet ownership and pet attachment contribute to psychological development throughout childhood. Positive and safe child-dog interactions can be facilitated through education and intervention which has implications for promoting positive developmental outcomes.

Companion Animal Relationships and Trajectories of Socio-Emotional Functioning in Adolescence

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Introduction: Adolescence is a key period for the development of autonomy and peer relationships. These developmental skills of early adolescence align with the type of social and emotional support that can be associated with a positive relationship with a pet. Therefore, the purpose of this study was to explore the protective role of pet relationships during early adolescence by examining the role of youth- pet relationship quality in predicting trajectories of socio-emotional functioning.

Methodology: This study used longitudinal data collected across four time points from 940 pet-owning adolescents. Latent class growth analysis and multinomial logistic regression were used to assess if pet relationship quality predicted trajectories of loneliness, social anxiety, and depression.

Results: Satisfaction with a pet relationship was consistently associated with more favorable trajectories of loneliness, social anxiety, and depression. Youth who had high satisfaction with their pets were about half as likely to be in the increasing or high trajectories of these outcomes (odds ratios [OR] ranging 0.30 to 0.59). However, the companionship subscale of attachment (indexing time spent with pets) was not significantly related to trajectories of socio-emotional functioning (OR 0.78 to 1.08). High levels of emotional disclosure to a pet were linked with the increasing and high trajectories for loneliness and depression (OR 1.75 to 3.53), but not related to social anxiety (OR 1.23 to 1.30).

Principal Conclusions and Implications: These results suggest that a pet relationship can be positively associated with socio-emotional development, but that there is significant complexity in these associations. For example, results suggest that youth with high levels of disclosure to pets may be at risk for loneliness and depression. Therefore, if youth are reporting that their pet is their only source of emotional support, this could indicate intervention is needed. Future research should continue to explore these patterns in more depth.

Creatures of Habit: A Qualitative Exploration of Dog Owners Feeding Behaviours and Weight Management Experiences

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Introduction: Obesity is one of the top welfare concerns facing pet dogs. Owners are often unable to recognise and manage their dog's condition, even with veterinary assistance. This study's aim was to appraise people's perceptions, attitudes and decision-making around weight management, using in-depth interviews and online data.

Methodology: Data comprised 18 interviews with dog owners, 450 posts on 15 threads from public online discussion fora and 637 comments posted about 5 YouTube videos. Anonymised data was analysed using thematic analysis.

Findings: Two key themes to emerge were:

(1) Co-created routines and habits – Feeding-behaviour was often an established routine, intertwined with owners' routines. This routine became predictable to the dog, anticipated by cues within the owner's routine. Dogs observing these cues would exhibit food-seeking behaviours, often resulting in them gaining food. This reinforced the behaviour for both dog and owner, who experienced vicarious pleasure watching their dog eat.

(2) Hungry eyes – Owners attempting to restrict feeding, by breaking existing habits, reported escalated food-seeking behaviours which became increasingly difficult to ignore. Owners that perceived their dog to be legitimately hungry reported struggling to ignore "puppy eyes" and raised concerns about damaging the dog-owner bond. Owners often felt compelled to alleviate perceived hunger, making it difficult to stick to reduced food diets.

Conclusions: Poor compliance with food restriction may be attributable to the difficulty of breaking existing habits and the emotional reaction to perceived hunger. Feeding habits are engrained and often part of the dog- owner relationship, helping us to understand poor compliance. To achieve successful feeding-behaviour change and weight reduction, practitioners may need to provide several tailored options, advising on (e.g.): avoiding known cues for food-seeking behaviours; creating new, alternative habits (e.g. replacing food with activity or affection); making existing habits healthier (e.g. giving smaller and lower calorie treats via enrichment).

Differences in Performance Anxiety in Expert and Amateur Dressage Riders

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Introduction- Riders who participate in dressage work closely with their horses. Performance anxiety is also a part of dressage sport riding. This study examines the differences in expert and amateurs' performance anxiety; the anxiety level of an expert or amateur who has been involved in a sport related injury; if the individual has a neurotic personality, whether more performance anxiety may occur while riding.

Methodology- Participants were 69 adult dressage riders. They completed several psychological tests including the Mini IPIP- Five Factor Personality test, the Sport Anxiety Scale-2 that measured worry,

concentration disruption, and Somatic Trait Anxiety, and the Sports Injury and Anxiety Scale (SIA) that assessed an individual's anxiety and its relationship to sports-related injury.

Main results- Experts experienced less performance anxiety in concentration scores than amateurs. Surprisingly, those who had not had an injury related to dressage had higher somatic trait anxiety than those individuals who had reported having had an injury. A result was that those riders who scored higher in neuroticism also had higher performance anxiety (worry, concentration, and somatic trait anxiety).

Principal conclusions- Experts and amateurs have differences in performance anxiety, this could be due to experts having more education and exposure to horses and sport dressage. Having a dressage sport-related injury was not related to increased performance anxiety. This was unexpected because prior research suggested that having a sport-related injury is usually associated with increased performance anxiety. It is proposed that anticipation of injury was responsible for this result. This study also found that having a neurotic personality type was correlated with performance anxiety among dressage riders which had not been examined in prior research. This study could further the human-animal interaction research, through the unique relationship between horse and rider.

Do owners know how impulsive their dogs are?

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Impulsivity is an important behavioral trait in dogs that affects many aspects of their relationship with humans. But how well do owners know their dog's levels of impulsivity? Two studies have investigated how owner perceptions of their dog's impulsivity correlate with the distance traveled in a spatial impulsivity task requiring choices between smaller, closer vs. larger, more distant food treats (Brady et al., 2018; Mongillo et al., 2019). However, these studies have demonstrated mixed results. The current project aimed to replicate these studies by correlating owner responses to the Dog Impulsivity Assessment Survey (DIAS) and the dog's maximum distance traveled in a spatial impulsivity task. We found that neither the DIAS overall score nor its three subcomponent scores correlated with dog distance traveled. This result replicates Mongillo et al.'s lack of a relationship but does not replicate Brady et al.'s effect, questioning the generalizability of owner's reports of dog impulsivity. The lack of replication could result from differences in methodology and sample populations, but it raises intriguing questions about possible differences in dog characteristics and owner knowledge of their dogs across cultures.

Equine-Human Interactions: A Multi-Modal Qualitative Inquiry

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Introduction: Despite the broad, multi-disciplinary interest in equine-human relationships, there is a paucity of research related to the nature of equine-human relationships and engagement involving neurotypical individuals who are horse owners. Much of the research in social science surrounds equines' presence in therapeutic settings, with inquiry often focused on the results of their engagement with humans instead of the horse's active participation during the experience.

The primary goal of this study was to develop a preliminary understanding of the characteristics of multi-species engagement involving established human-equine dyads in their natural setting, focusing on the dynamic process of engagement to develop a deeper understanding of the contributions of equines during non-riding tasks.

Methodology: The inquiry followed a multi-modal qualitative design involving six horse-human dyads that had known each other for greater than one year. Dyads were observed and videotaped in their natural environment engaging in non-riding activities while the equine was unconstrained. Video data was analyzed through a qualitative coding process using a fifteen-second interval recording system. Qualitative interviews incorporating video and photo elicitation were also conducted and coded for comparison with visual data. The multi-modal inquiry provided opportunities to highlight the embodied and co-constructed nature equine-human interactions.

Main Findings: Visual data of the dyads demonstrated a variety of observable features, including movement patterns, proximity, mutual touch patterns, and the presence of synchrony. Based on visual and interview data, embodied communication and co-regulation were characteristics of the dyads' engagement, with five of the six participants endorsing increased self-awareness and well-being as outcomes of regular interactions with their equine partners.

Principal Conclusions and Implications: Increasing our awareness of equine contributions is a necessary step in understanding the significance of equine-human relationships and exploring the mechanism of action or change when equines are incorporated into therapeutic interventions.

Impact of pet dog or cat exposure during childhood on mental illness during adolescence: a cohort study

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This follow-up study of our prior study of 643 children, ages 4-11 years examines whether exposure to pet dogs or cats during childhood reduces the risk of adolescent mental health (MH) disorders. Using a retrospective cohort study design, we merged our prior study database with electronic medical record (EMR) data to create an analytic database. Common MH diagnoses (anxiety, depression, ADHD) occurring from the time of prior study enrollment to 10/27/21 were identified using ICD-9 and ICD-10 diagnosis codes. We used survival analysis to compare time to MH diagnoses, between youths with and without pets. From 4/1/20 to 10/27/21, parents and youth in the prior study were interviewed about the amount of time the youth was exposed to a pet and how attached s/he was to the pet. Exposure included having a pet dog at baseline as a child ages 4-11, cumulative exposure to a pet dog or cat during the follow-up, and level of pet attachment measured using the CABS. The main outcomes were anxiety, any MH diagnoses, MH diagnosis associated with a psychotropic prescription. EMR review identified 571 youths with mean age of 14 years (range 11-19), 53% were male, 56% had a pet dog at baseline. During follow-up (mean of 7.8 years), 85 youths were diagnosed with anxiety (52%), 61 with ADHD (37%), 15 with depression (9%) and 4 combined diagnoses (2%). Having a pet dog at baseline was associated with lower risk of any MH diagnosis (HR = 0.74, p=.04) but not for anxiety or MH diagnosis with a psychotropic prescription. Among the 240 (42%) youths contacted for follow-up, parent-reported

cumulative exposure to pet dogs was borderline protective for any MH diagnosis (HR = 0.74, p=.06). Cumulative exposure to the most attached pet (dog or cat) was protective against anxiety (HR = 0.57, p =.006) and any MH diagnosis (HR = 0.64, p=.013).

Measuring attachment to cats: Psychometric Properties of the Brazilian Version of the Pet Attachment Questionnaire (PAQ)

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Introduction. Attachment theory can be used as a conceptual framework for understanding the human- pet bond. Based on this theoretical framework, Zilcha-Mano and colleagues (2011) developed the Pet Attachment Questionnaire (PAQ). The present study aimed to evaluate the psychometric properties of the Brazilian version of this questionnaire among cat owners.

Methodology. The 26-item PAQ was administered online to 301 Brazilian cat owners with ages between 19 and 73 years (M = 38.67, SD = 12.17), 219 women and 82 men. PAQ was rated on a seven-point scale ranging from 1 (not at all) to 7 (very much).

Results. Kaiser-Meyer-Olkin measure of sample adequacy was 0.92, indicating adequacy of the data for performing PCA. The item-total correlations were above 0.30 except for two items ('it2' and 'it8') that were eliminated. Items with loading values ≥ 0.40 or ≤ -0.40 were kept. The use of this criterion resulted in the exclusion of item 10, which loaded high on both dimensions. With this exclusion, the first dimension of the PCA explained 28.8% of the variance and the second dimension explained 25.3% of the variance.

Conclusions. Comparing the structure of the Pet Attachment Questionnaire (PAQ) found for the Brazilian Portuguese version with that found by Zilcha-Mano and colleagues (2011) for the original English version of the instrument, there was a general correspondence of the items loading most highly on a first factor suggestive of an avoidant attachment to pets and on a second factor suggestive of an anxious attachment to pets. We conclude that, like human relationships, pet attachment seems to be organized by two orthogonal dimensions: attachment anxiety and avoidance.

Reference: Zilcha-Mano, S., Mikulincer, M., & Shaver, P. R. (2011). An attachment perspective on human-pet relationships. *Journal of Research in Personality*, 45(4), 345-357.

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Personality and training of post-racing Thoroughbred horses in Equine Assisted Services: online survey and pilot study

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Introduction: Post-racing Thoroughbreds are often retrained for sport or leisure purposes and are increasingly being considered for Equine Assisted Services (EAS). However, Thoroughbreds are supposedly known to be very reactive and anxious (Lloyd et al, 2008). To optimize the transition from racehorse to EAS horse, the selection criteria and the training steps should be assessed.

Methodology: Our objectives were to identify the typology of EAS horses, the methods of selection and the training process, through a detailed online survey. A pilot study was conducted as a practical example on four post-racing Thoroughbreds (3 geldings, 1 mare). The retraining programme consisted of various daily manipulations and habituation to workshop scenarios (groundwork). Personality and behavioural reactivity tests were carried out.

Results: 128 people have responded to the online survey, including 42 from the United States (33.0%), 39 from France (30.0%), 20 from the United Kingdom (15.6%), 4 from the Republic of Ireland (3.1%), and 23 in other countries (18.0%). Respondents to our survey were mostly women (92.2%). EAS practitioners agreed on the three most important criteria for selecting horses: 1- Showing a good temperament, 2- Absence of kicking/biting propensity, 3- Enjoying the work. In our pilot study, all Thoroughbreds showed positive responses to human interactions and little fear responses in personality tests, and two of them were chosen by the EAS practitioners to be used in future workshops.

Conclusions: These first results support the idea that some Thoroughbreds selected on personality and human reactivity criteria and that have followed an adequate retraining period would be suitable for some EAS programmes. 180 horses will be observed and test in the next phase of the project.

References: Lloyd A.S., Martin J.E., Bornett-Gauci H.L.I., Wilkinson R.G. Horse personality: Variation between breeds. AABS.

Spouses of military veterans with mental health challenges and pet dogs: Exploring the human-animal bond

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Introduction: In 2018, 1.7 million veterans have received care for mental health conditions¹. Often, spouses are their major source of support which may cause undue stress that affects well-being. The human-animal bond has potential to improve a person's health and well-being. Although studies have examined therapeutic effects dogs have on veterans, little research has focused on their spouses. The purpose of this study was to explore the lived experience of veteran spouses' and the effects of the human-animal bond on health and well-being.

Methodology: A purposeful sample of 17 veteran spouses participated in this qualitative exploratory study. Spouses completed a demographic questionnaire and a semi-structured, recorded telephone or virtual interview. Descriptive statistics were used to analyze demographic data. Interpretative phenomenological analysis was utilized for the qualitative data.

Main results/findings: Results revealed three superordinate themes; two had subthemes: 1) Unconditional Human-dog Bond, a) Reciprocal Relationship, b) Family Member, and c) Presence; 2) Dog's Impact on Human Health and Well-being, a) Human Health and b) Emotional Well-being; and 3) Drawbacks to Dog Ownership. The findings provided insight on the therapeutic role of pet dogs for veteran spouses.

Principal conclusions and implications for the field: This study uncovered facets of the human- animal bond in veteran spouses. The positive aspects of the dog's influence on physical health and emotional well-being is important to consider for military and veteran spouses especially if the partner is on active duty which may entail multiple moves and deployments. It is suggested that future research builds upon the subjective experiences of the veteran spouses and quantifies the human-animal bond using objective measures.

Reference: VA research on Mental Health. US Department of Veterans Affairs. Updated January 15, 2021. Accessed February 16, 2022. https://www.research.va.gov/topics/mental_health.cfm

Study on the relationship between the urinary oxytocin and social interaction on house cats

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Introduction: Oxytocin, known for its role in the formation of social relationships and the improvement of health and well-being, has recently been the focus of much attention in the field of human-animal relationships. However, no studies have investigated the oxytocin system in the relationship between cats and their owners. This study aimed to examine the social relationship with their owners influences urinary oxytocin levels in cats.

Methods: This study collected urine samples from 32 cats recruited through a social network service. The frequency of multiple daily social interactions (petting, name-calling, etc.) between cats and their owners were quantified using the Likert scale, and principal component scores were calculated using principal component analysis. We analyzed the correlations between cat urinary hormone concentrations with principal component scores and relationships with owners (duration of ownership, number of people living with the cat, etc.).

Results: The results showed that the principal component score, related to physical contact and vocal communication, was positively correlated with cat urinary oxytocin concentration. On the other hand, the number of years of ownership and the number of people living with the cat did not affect urinary oxytocin concentration.

Discussion: The present study revealed that cats who receive daily contact and voice stimulation from their owner have higher oxytocin concentrations. In other words, it suggests that the interaction with the owner is part of the physiological mechanism that promotes cat health, which also means that oxytocin may be a useful biomarker in assessing cat health and welfare.

Taking The Animal's Perspective In Clinical & Academic Settings

Picturing the Umwelt: Communicating Research and Art

Eve D'Vincent, [Shannon Johnstone](#)

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How can research and art be woven together to communicate the experience of another, and ultimately evoke empathy in the viewer? In this presentation we will discuss the collaboration between HAS Scholar Eve D'Vincent and photographer/Professor Shannon Johnstone which examines the experience of individual AZA zoo animals. Drawing from D'Vincent's research, we will lay the framework for how the AZA's focus on species conservation is in direct conflict with the welfare and care for captive animals as individuals. We will also examine Johnstone's photographs of the same animals discussed in D'Vincent's research and consider how these photographs communicate the umwelt of these animals. Through this collaboration we analyze the cruelty inherent in cataloging, observing, and removing individuals from their natural context. However, the heart of this presentation is about communication and collaboration, and with that, we hope to offer examples of how art and research work hand-in-hand to communicate messages of compassion for non-humans while connecting HAS to a wider audience.

The Interdisciplinary Nature of Anthrozoology

Animal Assisted Psychotherapy Informed By Polyvagal Theory

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Introduction: The purpose of the study was to describe the therapy process of Animal Assisted Psychotherapy (AAP) informed by Polyvagal Theory (PVT), with a girl 17 years old who had multiple diagnoses, including ADHD. She had received 14 different treatments before this one, with limited results, plus medication and some adjustments in school.

Therapy included giving the Client knowledge about PVT, and increasing regulation back to Ventral Vagal through interventions with the dog, playing with different levels of arousal and the social engagement system. The therapist tried to improve the Client's self-esteem and self-value through training the dog.

Methodology/Main results/findings: Six different Specific Assessment Tools were used prior to and after eight sessions. They showed no significant changes. However, the Client reported in a post therapy interview that it was good therapy according to her. It made her feel safe exploring difficult things in her life. She realised that she has been captured in freeze and now she wants to get out of it. She felt a connection with the dog. She felt competent and valued by the Therapist in her new dog training skills.

Principal conclusions and implications for the field: AAP informed by PVT could be helpful as a part of treatment. The therapy process and the intervention described in this study brings practical knowledge to AAP providers how they can utilise AAP interventions integrating PVT.

The Antrozoo Project: The construction of a scientific dissemination project

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Introduction. The Antrozoo Project, part of the Research Support Center in the Expression of Emotions in Man and Animals of Universidade de São Paulo, is an international academic network for scientific research and divulgation, which deals with topics related to anthrozoology, the study of the characteristics and consequences of interactions and relationships between people and non-human animals. Our goal is to show our efforts in divulging both the studies being done by the members of the project and other important scientific information pertaining to the topic.

Methodology. The Antrozoo Project brings together researchers from the fields of ethology, veterinary medicine, psychology, and biology, who study animal behavior, emotions, well-being and health. In this space for integration and exchange between researchers, the members of the scientific dissemination group work directly with scientists to produce content related to their areas of expertise. We critically read and discuss scientific articles, which give rise to social media posts making information easy to understand for the average citizen. Images and texts are produced and published weekly on the project's social networks.

Main Results. Forty-one posts have been published on the project's social networks (e.g., <https://www.facebook.com/antrozooUSP/>; <https://www.instagram.com/antrozoousp/>) addressing various aspects of the human-animal relationship. We invited pet owners to take part in our research projects (e.g., shorturl.at/biBVX) and provided feedback and dissemination of our research findings. We also participated in pet adoption campaigns of our partners of the Universidade Federal Rural da Amazonia.

Principal Conclusions and Implications for Field. We have received positive feedback from people who follow the social networks of the Antrozoo USP Project about the posted content. We also count on the support of the Pró Reitoria de Cultura e Extensão Universitária, which granted us two scholarships for dissemination.

Fundings. PUB USP

Assessment of Children in Canine-Assisted Occupational Therapy

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Introduction: Occupational Therapy has been practiced worldwide with different populations, demands, and goals. This study aimed to develop a tool for assessing performance and engagement components and aspects of children's social and emotional behavior undergoing Canine-Assisted Occupational Therapy.

Methodology: Methodological research involving literature review to define the theoretical foundation and construct validity and respective graphic creation in Likert Scale format to record the demonstrated frequency of the components of performance and engagement and aspects of social and emotional behavior.

Main Results: According to the theoretical foundation adopted, performance is the result generated by a set of components, engagement consists of a subjective experience composed of different elements that predict the person's degree of involvement, and social and emotional behavior consist of various reactions of the child concerning and interaction with the dog and activity. The Checklist comprises a total of 29 items. Six are related to the components of sensorimotor performance (balance, fine and global motor coordination, visual, auditory and tactile response) and five are related to the cognitive performance components (attention, comprehension, recognition, memory, problem solving). Five are related to the engagement components (interest, motivation, perseverance, sense of control, and choice). Finally, thirteen are related to the social and emotional behaviors (looking at the dog, smiling at the dog, touching the dog voluntarily, holding the dog, communicating with the dog, approach frequency, closing time, running away from the dog, stopping participating in the activity and stay out of the child-activity-dog relationship, time away from dog/activity, gnashing of teeth, yelling, crying).

Principal Conclusions and implications for the field: The checklist is being applied and shows potential to become a tool for an initial assessment to define therapeutic goals and monitor the child in each session. Future research is still needed to validate the tool to support evidence-based practice.

Blockers and enablers to awareness of human/animal relations through the lens of Systems Psychodynamics

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Background: Systems psychodynamics (also known as Socioanalysis) is the study of the collective psychological behaviour within and between groups and organisations, including the ‘below the surface’ group and organisational dynamics (Long, 2016). PhD student Margo Lockhart and her supervisor, Professor Susan Long, are currently researching our relatedness with animals and the conscious and unconscious psychodynamics involved in these relations. This involves an examination of attitudes to, and emotions about, animals within workplaces, animals we connect with as pets, animals that end up as food on the dinner table, and ‘wild’ animals in our parks, forests and other natural settings. Perverse dynamics and denial are common collective group responses to the mistreatment of animals throughout the world today, so a key question in their work has been: ‘how do we enable open communication about human animal relations in ways that are palatable?’

Objectives: To evaluate: (1) what blocks open communication about human animal relations? (2) what enables awareness and open discussion about the issue?

Methods: Work to date includes socio-analytic discussion methods, auto-ethnographic methods, story-telling and creative drawing processes to enable people involved in discussion groups to actively explore how they personally connect (and don’t connect) with the animals in their lives.

Implications: This exploration examines how we can ‘open up’ truthful dialogue about how human societies are treating animals on the planet today. It ultimately aims to change attitudes towards cruel practices such as factory farming and the alarming rate of land clearing and subsequent biodiversity loss. Additionally, exploring how to have difficult conversations about issues that involve collective denial will inform us on many challenging, or ‘wicked’ societal issues: climate change, racism, and domestic violence, to name but a few.

References: Long, S. (2016) ‘The Socioanalytic Approach to Organisations’: Paper presented to the Annual Conference of the Higher School of Economics, Moscow. November 2016

Can listening to music be good for animals? The need for an interdisciplinary approach

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Background: The last two decades have seen a flurry of scientific publications investigating whether playing music to captive animals has measurable effects, e.g. improving their quality of life. These studies are typically conducted by scientists who are not themselves musicians, and who have little knowledge of the historical and socio-cultural forces that have shaped the various musics of the world, nor of the centuries-long history of philosophical and practical explorations of the relationship between animal songs

and human music. Though these studies are well intended, insufficient understanding of the music stimuli being used leads to difficulties addressing hypotheses about why music could be beneficial for animals, and inappropriate conclusions about what animals' responses towards music imply.

Objectives: Our goal is to demonstrate that involvement of disciplines in the humanities such as musicology, history, and philosophy, are crucial to significantly advance the research being done in ecology, ethology, zoology, and welfare sciences on how music affects animals. A better understanding of the workings of the music itself, the socio-cultural circumstances and values that influenced its creation, and species-typical musicalities, is necessary for helping scientists to 1) select the most appropriate music to test key hypotheses, leading to more refined research questions; 2) consider ethical implications when interpreting animals' responses to music; 3) understand the cultural biases that are involved in, directing, and/or dominating this line of research.

Methods: We apply an interdisciplinary and methodically pluralistic approach, combining scholarly music analysis and discourse analysis with empirical testing of scientific hypotheses.

Implications: The capacities underlying music production and perception may have biological origins shared to different degrees in other animals, but music is a cultural product. Thus, research on how music affects animals needs to take into account biological and cultural factors.

Defining commonly used terms for animals working in support roles for vulnerable people

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Introduction. Animal-assisted services are evolving rapidly, with animals working in a variety of roles to support vulnerable people. However, the terms used to describe these animals can be confusing. Different terms may be referring to the same role, or different roles might be referred to using the same term. Since animals working in certain roles are afforded special legal protections in some jurisdictions, it is necessary to provide clear, operationalized definitions for the terms used to describe animals working in support

roles. The aim of this project was to provide definitions for commonly used terms describing animals working to support vulnerable people.

Methodology. Workshops were held at the ISAZ meetings in 2018 and 2020. Across the two workshops, over 100 delegates created definitions for the following animals: assistance, companion, educational/school support, emotional support, facility, service, skilled companion, therapy, and visiting/visitation. These definitions were refined during and after the ISAZ workshops.

Main Results. The terms have been provided with clear definitions, which describe the animal's working role and how they differ from each other. We recommend phasing out the terms service animal and skilled companion animal, due to functional overlap with assistance animals.

Principal Conclusions and Implications for Field. The definitions we provide could be adopted by researchers, practitioners, and end-users worldwide, to clarify the existing confusion around these working roles for animals. Many regions of the world are just beginning to employ animals in some of these roles, and those places could benefit from clear definitions. In areas where the animals are already working, these definitions could be adopted for clarity, although there may be some challenges with certain terms in some jurisdictions (e.g., service animal, which we recommend phasing out, is used in legal statutes in parts of North America and Europe).

Educators, children and school dogs: using research to support the development of human-animal partnerships that benefit all

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This paper presents the evidence from an international survey of over 800 educators regarding their practices and perceptions of involving dogs in educational settings. The aim of the study was to consider why educators decided to bring dogs into their settings, and to explore their thoughts, experiences and practices. The research design involved an online questionnaire and school document scrutiny and semi-structured group interviews.

We found that dogs are present in a wide variety of educational contexts, working across age phases, and supporting learners with a wide range of needs. A variety of breeds of dog, of varying ages were involved, and dogs and handlers had received varying levels of training and preparation. There was variation in respondent's confidence in reading canine communication signals, and in expectations regarding the dog's own choices and options to participate.

A significant number of respondents ranked supporting learner wellbeing as their primary reason for involving dogs, and most respondents reported seeing benefits for pupils. Many respondents reported unexpected 'incidents' and behaviours, such as barking and toileting while the dog was in the classroom, highlighting the reality of including a sentient animal within busy classroom environments. We consider how exploring these unexpected incidents, and how these were dealt with helped identify best practices that ensure wellbeing for all.

We discuss how the 'Centre for Research into Practice' at Swansea University will allow the findings and recommendations of this research to be disseminated in an accessible manner to educators.

This project received funding from the British Academy/ Leverhulme Small Research Grants scheme.

Helping People and Animals Together: Implementing a Trauma-Informed, Culturally Safe Approach in the Animal Services Sector

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People who have been placed-at-risk by structural and systemic barriers often experience limited access to services, resources, and opportunities for caring for their pets. Often, these individuals have also experienced trauma when accessing other social services. To those who observe a human-animal relationship without an understanding of this context, placed-at-risk peoples' animal care can appear to be neglectful, or even abusive. Current practices in the animal protection and welfare sector (APW) have the potential to re-traumatize people and their pets by focusing on breaking up the human-animal relationship rather than addressing the root issue. Further, APW workers who continuously witness animal suffering often experience mental health challenges, including burnout and compassion fatigue. The aim of this study was to better understand this current context, and provide recommendations for the APW sector. Data was collected through telephone interviews with 9 trauma-informed social service workers, 11 APW workers, and 8 people from across Canada who have had negative experiences with APW. Participant selection was done through purposive sampling, and a thematic analysis was employed to analyze interview transcripts. The results highlighted challenges in regard to both APW workers and people accessing services, and revealed a recurring theme of the current system's top-down, reactive approach that has led to a distrust of services, and increased stress for animals, animal guardians, and APW workers. The interviews also highlighted positive trauma-informed practices currently used in other social service sectors. We concluded that implementing trauma-informed and culturally safe practices can result in better, safer outcomes for animals, animal guardians, and APW workers. Recommendations for improved training and support for workers, changes to practices, and policy suggestions for the APW sector are proposed. Future research can use this study as a framework to seek out a range of experiences within APW work in order to further explore and solidify best practices for the sector.

Horse Caretakers' Attitudes and Perceptions Toward Horse Care on Prince Edward Island

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Introduction: The decisions horse caretakers (owners and managers) make can impact horse welfare, but limited research has assessed this 'human dimension' of horse welfare. The aims of this study were to 1) assess horse caretaker attitudes toward horse housing and welfare in Prince Edward Island (PEI), 2) identify caretakers' motivators and challenges regarding housing practices, and 3) compare caretaker and veterinarian assessment of horse weight.

Methods: Sixty horse farms across PEI were visited, and 76 horse caretakers completed a questionnaire. The questionnaire included housing-related questions and 7-point Likert questions assessing caretaker attitudes regarding keeping horses indoors versus outdoors and in groups versus individually which were analyzed descriptively. Word frequencies were assessed from open-ended questions about housing-related motivators and challenges. Additionally, caretaker and veterinarian perception of horse weight were compared using kappa statistics (n=411 horses).

Results: Between 82-96% of participants agreed that horses' physical health, mental wellbeing, and ability to live a natural life were better when housed outdoors and in groups. However, participant agreement dropped to 62-68% regarding the standard of care for horses kept outdoors and horses kept in group housing. Consistent with these attitudes, 99% of horses had daily access to pasture/paddock and 5% of horses were kept individually. Motivators for housing choices included the horse's happiness, health, and freedom of movement. Housing challenges participants mentioned included pasture management, manure, mud, and insect control. There was fair agreement ($\kappa=0.4$) between veterinarians' and caretakers' weight assessment, but caretakers tended to overestimate (20%) versus underestimate (9%) the horse's weight.

Implications: Some horse caretakers may prioritize other welfare considerations over their ability to provide perceived "best standard of care". Discrepancies in the assessment of horse weight may be a barrier to improvement. Results will provide guidance for programs that aim to support implementation of evidence-based housing practices, accounting for attitudes and perceptions.

Personality Characteristic Predict Method of Acquiring a Dog

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Introduction: Data collected by the ASPCA and APPA show that 44% of US households own a dog. Of these, 34% were acquired through breeders and 23% through shelters, with the remaining acquired through informal situations such as word of mouth. Meanwhile, in a typical year, upwards of 390,000 unwanted dogs are euthanized in the shelter system. However, little research has examined why potential dog owners choose a breeder vs. a shelter or some other form of obtainment.

Methodology: The present work examined the personality traits of 411 female dog owners living in the US and associated these with method of obtainment. Participants answered questions about their dog and completed the Mini-IPIP measure of personality (Donnelson, 2006) which provides five scores: agreeableness, conscientiousness, extraversion, neuroticism, and intellect/imagination.

Results: Fifty-nine percent of participants got their dog from a shelter, followed by 23% from a breeder, The remaining 18% were acquired from other sources. Comparisons between those who got their dogs from shelters/rescues vs. breeders showed that those who got their dog from a shelter/rescue scored significantly higher on agreeableness, whereas those who obtained the dog from a breeder scored significantly higher on conscientiousness. No other personality characteristics were predictive of obtainment method. Those who got their dog from a breeder were most likely to state that they were looking for a specific breed, whereas those who used a pet store were most likely to have chosen based on appearance of the animal.

Conclusions: Personality characteristics predict how dogs are obtained, with conscientiousness associated with using a breeder, and agreeableness associated with using a shelter or rescue. Marketing can be directed to specific individuals to encourage adoption, including the fact that many breeds can be had through rescues and shelters.

SHINETM – A framework for pet emotional wellbeing

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Cat and dog emotional wellbeing is a topic that is gaining attention amongst pet owners, industry professionals and academics, but often with limited consensus on how it is defined and addressed. Recent global issues have made many owners more cognizant of how their pet may be feeling, likely as a result of spending more time together, while they themselves navigate change, and consider the impact it has on their own emotional wellbeing. Pet industries aim to develop products and services to improve pet emotional wellbeing, and the term is often used synonymously with animal welfare in various settings. Despite it being widely accepted that pets experience emotions, pet owners are often met with an array of information that may not always clearly articulate what is required for pets to experience positive emotions and why it is important. As such, we developed a framework which clearly outlines what a pet dog and cat needs to be happy in a human world. The SHINETM framework consists of five dimensions; Socialization, Health, Individuality, Nutrition and Environment which describe the requirements and points to consider for a pet to ultimately experience good emotional wellbeing. The SHINETM framework recognizes the intimate relationship cats and dogs have with people, and acknowledges the unique preferences and personality of an individual pet. Furthermore, the SHINETM framework focuses on emotional wellbeing as a whole, not just as a single element. The framework is currently being used as a communication tool which consists of evidence-based content to educate pet owners and provides guidance on areas where scientific research can address challenges related to improving cat and dog emotional wellbeing.

Teacher-Researcher Collaboration in Animal-assisted Education: Co-designing a Reading to Dogs Intervention

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Introduction. Animal-assisted education (AAE) is of growing international academic and pedagogic interest, and increasingly considered an innovative approach to improving student outcomes across all phases of education. Reading to Dogs (RTD) is a form of AAE thought to benefit student wellbeing and reading outcomes. A new and creative RTD intervention which includes educational/curricular activities may extend and sustain benefits of RTD. RTD intervention design necessitates expertise from both educational and animal-assisted intervention (AAI) disciplines, therefore finding methods of interdisciplinary collaboration is important.

Methodology. Three teachers, with diverse expertise, from different school contexts, and an AAE researcher, collaborated in a structured online process to create a RTD intervention. A three-phase co-design framework was developed, implemented, and evaluated, to ensure that theoretical/empirical

research and professional/pedagogical expertise informed the intervention design. The researcher compiled a research/policy brief for teachers to review in advance. Thereafter collaboration/co-design was conducted via four synchronous meetings, and asynchronous contributions to a shared folder. A framework evaluation questionnaire was completed by teachers on co-design completion.

Results. The framework facilitated productive collaboration and co-design of a RTD intervention informed by research and practice. Teachers reported effective co-design facilitation and valuable professional learning. Facility to contribute synchronously and asynchronously was positively evaluated, allowing contributions at convenient times, and enabling sharing of diverse experience and ideas from a broad geographical area.

Conclusions. This framework facilitates researcher/teacher collaboration, and AAE intervention co-design. By synthesising AAE theoretical/empirical insights with pedagogical practice and expertise, interventions are more likely to be acceptable to and feasible for the education community. Future research should include scientific evaluation of the co-designed RTD intervention itself. This framework could be drawn upon by researchers and practitioners across a range of disciplines who plan to collaborate/co-design a broad range of AAI interventions.

The Emotional Aspect of Dog Fostering: Both Ends of the Leash

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Introduction: A common challenge for animal shelters/rescues is retaining volunteers that provide foster care. This project answers the following questions in the context of canine fostering:

How does attachment to pets among owners and foster care providers compare? Do strong emotional connections with foster dogs increase volunteer retention? What is the extent of emotional stress caused by having a behavioral foster dog? Are there organizational actions that can reduce foster volunteer stress?

Methodology: The study presents the findings of a national survey of over 600 dog foster volunteers in the US. Descriptive statistics are used to portray the sample and frequencies show responses to questions about type of dog fostered, emotional stress, and attachment to the foster dog. Correlation and regression analyses establish relationships between traits of the volunteers, the types of dogs they foster, emotional attachment, and intention to continue fostering.

Main results: Fostering dogs with behavioral issues is more stressful than medical or non-special needs dogs (corr.=.16, sig. @.01). Volunteers more frequently fostering dogs with behavioral issues are more likely to indicate that they would stop fostering due to burnout (corr.=.11, sig@.01). More frequent fostering increases emotional stress (corr.=.34, sig@.01).

Volunteers higher on human substituting attachment to their foster dogs have higher levels of volunteer service (corr.=.11, sig.@.01). Emotional support for foster volunteers is associated with lower levels of stress (corr.=.24, sig. @.01). Greater emotional support is associated with lower intentions to quit due to burnout (Pearson corr.=.17, sig.@.01).

Implications for the field: Emotional attachment to foster dogs is similar to that of pet dogs and more frequent fostering, particularly of dogs with behavioral issues, makes volunteers more likely to entertain

quitting due to burnout and compassion fatigue. Organizational support directed at the human foster can alleviate these feelings, potentially increasing retention.

The older horse consultation: using sociological research to support equine veterinarians in practice

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Introduction: The way in which horse owners seek veterinary services for their animal changes with increasing horse age. Previous research shows that reduced veterinary involvement means opportunities to improve equine welfare are sometimes missed. This study explored how owners and their veterinarian approach older horse management, to highlight opportunities to support these relationships in practice.

Methodology: Data were collected and analysed using a constructivist grounded theory approach. Data included open-access online discussion forum threads focused on older horse care (n=280 comments) and in-depth interviews with 26 horse owners and nine corresponding veterinarians.

Main results/findings: Caring for an older horse involved an ongoing dynamic process of care, in which changes over time were navigated and adjustments made as appropriate. Veterinary advice-seeking varied, taking place alongside independent research and influenced by social norms generated through horse-keeping communities, as well as past interactions with veterinarians. This led to individualised understandings of what constituted an issue requiring veterinary advice. For veterinarians, the way in which owners presented the issue of concern framed a consultation. Through an interplay between owner and veterinarian, problems were identified and solutions negotiated. A veterinarian's perception of appropriate care was influenced by their assessment of a horse and relationship with an owner, therefore, decision-making was not clear cut. During consultations an owner's conceptualisation of their veterinarian as a professional was influenced by their veterinarian's: communication style, interaction with and knowledge of their horse, technical skills and knowledge. This conceptualisation impacted on uptake of veterinary advice and future advice-seeking.

Principal conclusions and implications for the field: Veterinarians provide a service which is situated in a complex horse-keeping environment involving lay and professional knowledge. Understanding the dynamic interplay between owner and veterinarian in constructing horse care will enable improved relationships and encourage veterinary involvement in care decisions for horses as they age.

Uncovering Pet Issues, Benefits, and Challenges: A Survey of Professionals Working with Older Adults and Care Partners

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Introduction: Pets often factor in older adults' health behaviors and decisions. The degree to which these issues are encountered by professionals working with this population remains unknown. This study identified

issues related to pet ownership encountered by professionals working with older adults (OA), persons living with dementia (PWD), and care partners (i.e., caregivers, CP).

Methodology: An interdisciplinary (e.g., social services, healthcare) sample (N=462, 89.13% female, Mage=53.02, SDage=12.18) completed an online survey addressing pet ownership issues encountered in their work. Descriptive statistics, t-tests, and content analysis were used to analyze the data.

Results: The professionals estimated 46.29% of clients had been pet owners, 41.23% regularly asked about pets, and 79.22% had encountered issues related to pet ownership. Professionals reported OAs most often raised concerns about getting pet care items and the pet's health. PWD most often discussed planning for the pet due to a housing transition and basic pet care. CP focused on basic pet care, planning for the pet due to housing transition, and rehoming the pet. The professionals themselves most often raised issues of basic pet care, falling, and concerns about the pet's behavior. The central benefits of pet ownership were companionship and sense of purpose provided by pets. Common challenges were the financial aspect of ownership and needing assistance providing adequate care for a pet. The professionals were very favorable toward pet ownership in general (M=4.49, SD=0.85) (1=extremely unfavorable, 5=extremely favorable), less favorable about OA pet ownership (M=4.17, SD=0.86, $p<.001$), and even less about PWD owning pets (M=3.53, SD=0.95, $p<.001$).

Conclusions: Pet ownership issues are likely encountered in geriatric service settings and may impact the health and wellbeing of people and pets.

Working and Service Animals in the Public Arena

The loss of a service dog through death or retirement: How the care team can support partners through transitional stages

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Service dog partners and their service dogs have a unique and profound relationship. Numerous studies have identified how service dogs positively impact people with disabilities, including the ability to foster socialization and community participation. Service dogs additionally provide emotional support, security, and an increased sense of independence. Thus, the loss of a service dog (from retirement or death) is often a significant life event, due in part to the lost relationship, but also, because of the changes this brings to the handler's independence and activities of daily living. This presentation discusses results of recent quantitative and qualitative research pertaining to the loss of a service dog. It highlights the distinctive aspects of this profound relationship and issues related to its loss. Stemming from this research, the presenters will address the issues important to note across the life course of a service dog and how to best support handlers as they move through pivotal transitions over the dog's life. We will address specific issues pertinent for care team members including: service dog organizations, trainers, puppy raisers, veterinary professionals, and health care professionals.

Therapy Dogs in Secondary Schools: Implementation Processes and Relationships to Students' Social-Emotional Competencies

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Although there is a growing trend for therapy dogs to be situated in elementary schools, and to some extent the middle school setting, there is little research about the related outcomes or processes for bringing a therapy dog into secondary schools for any purposes including those related to SEL development (Gee et al., 2017). This study sheds light on how educators successfully implement a therapy dog program in high schools and, in doing so, improve on students' social and emotional competencies. This study included 16 semistructured interviews of secondary educators who were also therapy dog handlers. It explored outcomes of therapy dogs in the secondary learning environment, the student-therapy dog relationship's influence on secondary students' SEC development and beyond.

Emergent themes supported the value of including a therapy dog in the secondary setting. First, participants' past positive experiences with dogs led to their lead role in successfully implementing a therapy dog program. Second, the therapy dog contributed to secondary students' SEL and SEC development. Third, the student therapy dog relationship was found to have an overall positive impact on

the school environment. Fourth, while there are certain non-negotiables in planning for a therapy dog, varying implementation approaches lead to the same desired outcomes.

This study supports the position that secondary schools can influence SEL and SEC initiatives by integrating a therapy dog into the school day, it also reveals the possibility that such opportunities are not provided for secondary students in high poverty districts. The study concludes with implications and recommendations for educators and policy makers to assist in implementing a therapy dog program in the secondary setting.

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