

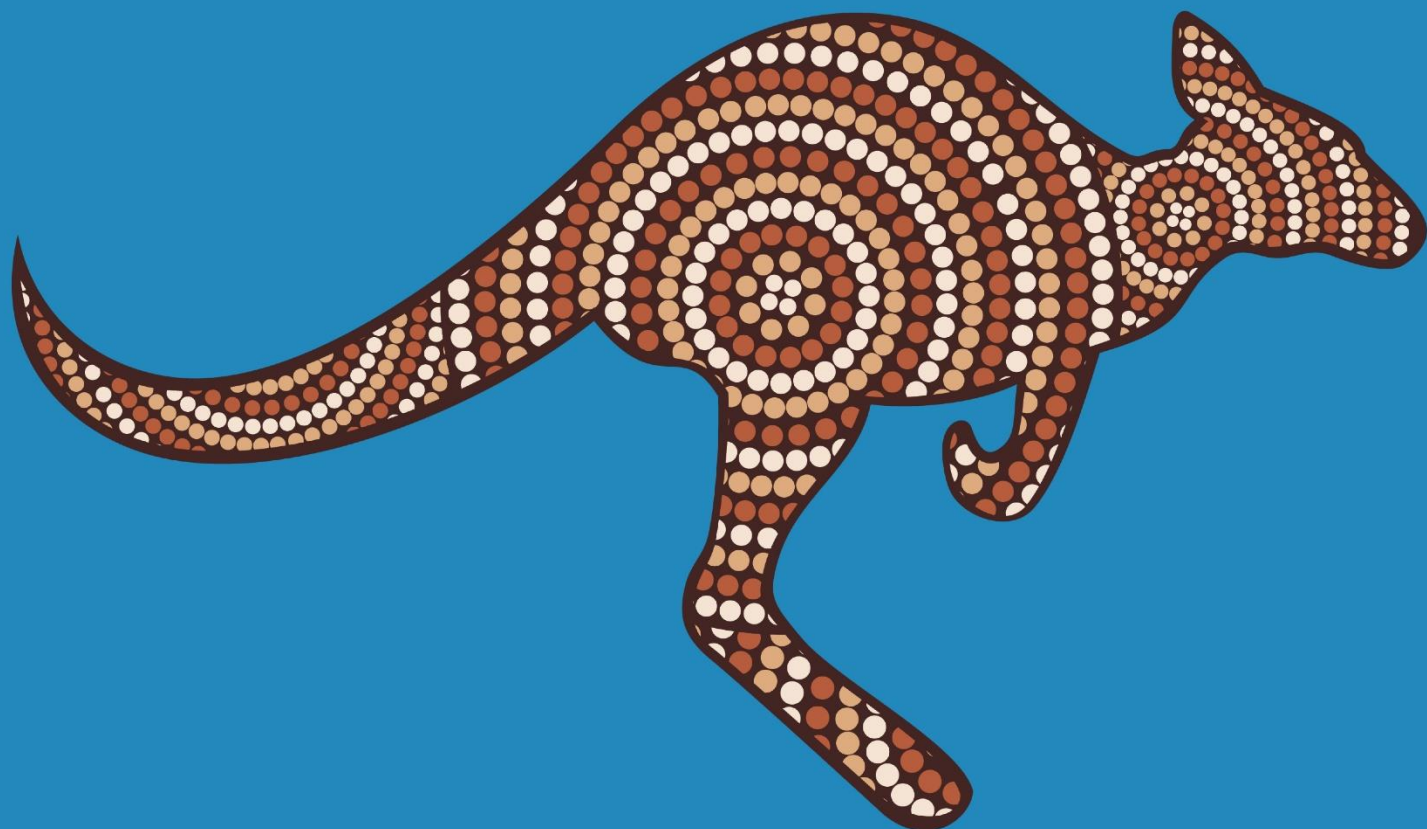
27TH INTERNATIONAL ISAZ CONFERENCE



"ANIMALS IN OUR LIVES:
MULTIDISCIPLINARY APPROACHES TO
THE STUDY OF HUMAN-ANIMAL
INTERACTIONS"

2ND - 5TH JULY, 2018

CHARLES PERKINS CENTRE, UNIVERSITY OF SYDNEY,
NEW SOUTH WALES, AUSTRALIA



DELEGATE HANDBOOK

Map of University of Sydney

ROOMS AND LOCATIONS

Footbridge Theatre
Public Lecture/Opening Plenary
(Monday 2 July, 6 pm)

The Refectory
Registration & Welcome
Reception (Monday 2 July)

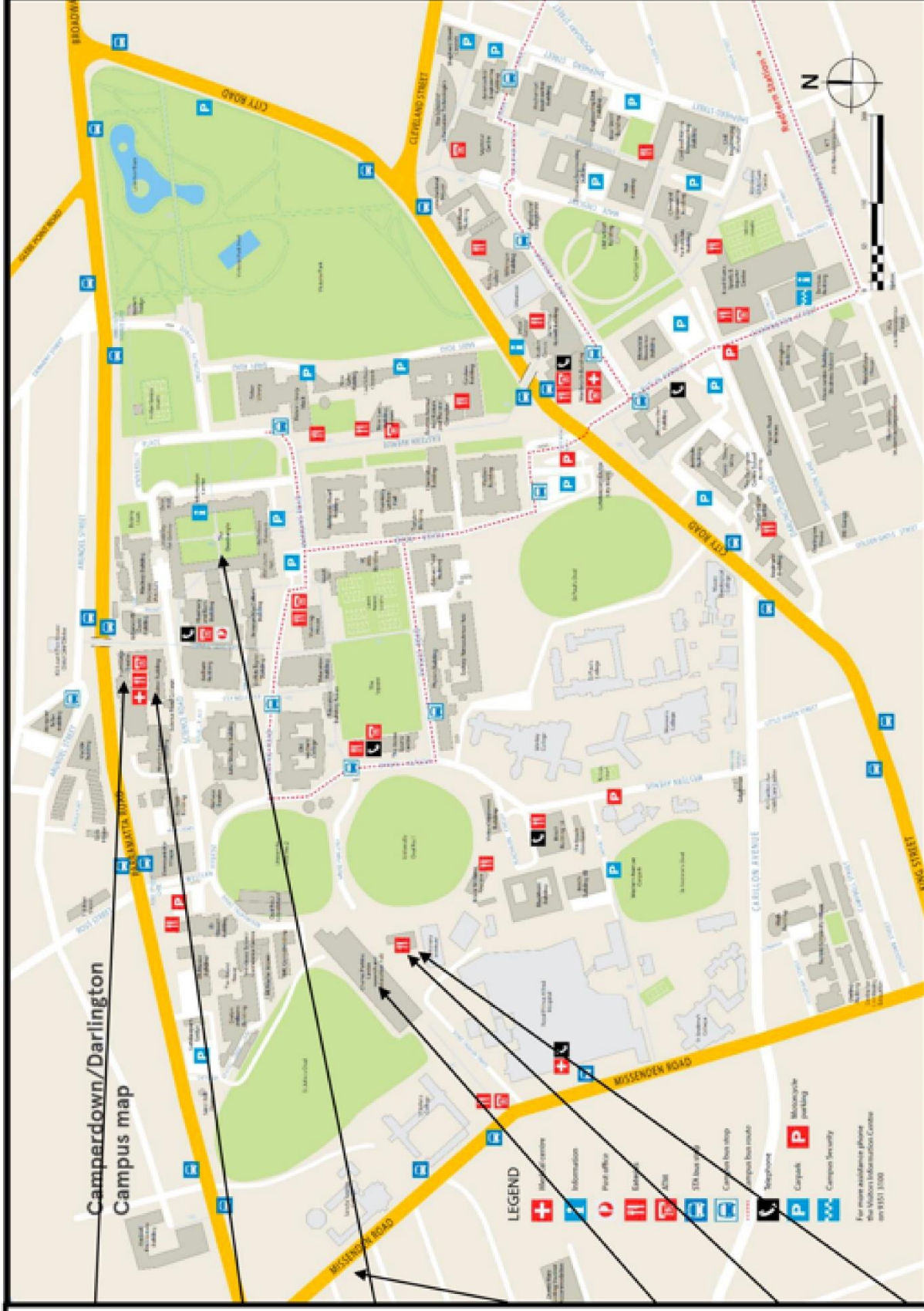
Quadrangle
(Lunch and music on
Tuesday 3 July)

Hotels
Ryldges Camperdown
Quality Apartments Camperdown

Charles Perkins Centre
Breakout rooms, posters, exhibits
and catering

**Kangaroo Room (Auditorium) &
Registration (Tuesday 3 –
Thursday 5 July)**

Poster Reception (Taste Café)



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WELCOME TO ISAZ 2018

G'day,

We are thrilled to welcome you to Sydney, Australia and the 27th annual conference of the International Society for Anthrozoology (ISAZ).

ISAZ has never held a conference in the southern hemisphere before, so we are even more excited to welcome you here. Australia represents a perfect location because we have a large and ever-growing anthrozoology community, and we are home to some of the world's unique wildlife! With this in mind, we have named several of our rooms after our favourite Aussie animals - including the kangaroo, dingo, platypus, galah, and the kookaburra.

We had an overwhelming response to our call for abstracts and symposia. This has resulted in ISAZ's biggest program ever, with four concurrent sessions per day - six plenary talks, almost 100 oral presentations, 11 symposia and over 50 posters.

In the true spirit of anthrozoology, this conference is open to all disciplines relevant to the study of human-animal interactions. We are so proud to be able to boast a jam-packed program that includes something for all of our 200+ delegates, covering a variety of topics from dogs wearing diapers, to conflict with wildlife, to snails on YouTube.

Please spend your time enjoying the social events (including a magical dinner cruise along the iconic Sydney Harbour), making new collaborations and catching up with old ones, engaging with the speakers, and participating in the many wonderful symposia.

Whether you are here for just a day or the whole conference, you are very welcome, and we hope you'll enjoy the show! We also encourage you to stay a while in Australia so that you can visit some of our world-famous heritage sites and our thriving and very liveable cities and towns.

Your Aussie mates,



Anthony Podberscek
The University of Sydney



Bradley Smith
Central Queensland University



Pauleen Bennett
La Trobe University

ISAZ 2018 VOLUNTEERS

The ISAZ committee would like to acknowledge the support of the following volunteers. They will play an integral role in ensuring the meeting runs smoothly.

Jennifer Gravrok, La Trobe University
(Volunteer Coordinator)

Hal Conyngham, University of Sydney

Dac Loc Mai, La Trobe University

Chey Paoli, Bairnsdale Regional Health Service

Lauren Powell, University of Sydney

Nicholas Rutter, La Trobe University

Deanna Tepper, La Trobe University

Joshua Trigg, Central Queensland University

Jessica Woodhead, La Trobe University

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 nonprofit, nonpolitical 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



ISAZ Board and Contact List

President	president@isaz.net	Cheryl Krause-Parello
Treasurer (Secretary)	treasurer@isaz.net	Kristen Jacobson
Secretary for Development	development@isaz.net	James Serpell (Interim)
Sec. Comm. & External Relations	communications@isaz.net	Maggie O’Haire
Editor, Anthrozoös	editor@anthrozoos.org	Anthony Podberscek
Admin Mgr/Membership/Website	adm.manager@isaz.net	Abigail Thigpen
Conference Organizers 2018	conferences@isaz.net	Anthony Podberscek Pauleen Bennett Bradley Smith

The Journal

Anthrozoös: A Multidisciplinary Journal of the Interactions of People and Animals

Official Journal of the International Society for Anthrozoology (ISAZ)

© International Society for Anthrozoology (ISSN: 0892-7936; e-ISSN: 1753-0377)

Published by



Anthrozoös 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.

SPONSORS AND SUPPORTERS

PLATINUM SPONSOR

WALTHAM Centre for Pet Nutrition

www.waltham.com

About Mars Petcare

Mars Petcare is a diverse and growing business with 75,000 Associates across 50+ countries dedicated to one purpose: A BETTER WORLD FOR PETS. With 75 years of experience, our portfolio of almost 50 brands serves the health and nutrition needs of almost half the world's pets – including brands PEDIGREE®, WHISKAS®, ROYAL CANIN®, NUTRO™, GREENIES™, SHEBA®, CESAR®, IAMS™ and EUKANUBA™ as well as The WALTHAM Centre for Pet Nutrition, which has advanced research in the nutrition and health of pets for over 50 years. Mars Petcare is also the world's largest veterinary health provider through a network of over 2,000 pet hospitals including BANFIELD™, BLUE PEARL™, PET PARTNERS™, and VCA™. We're also at the forefront of emerging innovation and technology for pets, pet owners and veterinarians, with WISDOM PANEL genetic health screening and DNA testing for dogs, the WHISTLE™ GPS dog tracker, and LEAP VENTURE STUDIO accelerator and COMPANION FUND™ programs that drive innovation and disruption in the pet care industry. As a family business and guided by our principles of mutuality and freedom, we are privileged with the flexibility to fight for what we believe in – and we choose to fight for: A BETTER WORLD FOR PETS.

About the WALTHAM Centre for Pet Nutrition:

The WALTHAM Centre for Pet Nutrition is the fundamental science centre for Mars Petcare and focuses on the nutrition and wellbeing of dogs, cats, horses, birds and fish, and their benefits to humans. Located in Leicestershire, England, WALTHAM™ expertise and knowledge informs the development of innovative products that meet the needs of companion animals in a practical way. The centre recently celebrated its half century and has pioneered many important breakthroughs in the field, publishing over 600 peer-reviewed scientific papers. Today, WALTHAM continues to collaborate with the world's foremost scientific institutes, driving Mars Petcare's vision to create 'A Better World for Pets' and delivering the science that underpins leading Mars brands such as PEDIGREE®, WHISKAS®, ROYAL CANIN®, BANFIELD Pet Hospital, IAMS®, PERFECT FIT®, CESAR®, NUTRO®, SHEBA®, DREAMIES® and EUKANUBA®.



SILVER SPONSORS

Nestle Purina

www.purina.com | www.purinavet.com

PURINA is a world leading Petfood Company with an extensive global research network, comprising over 500 scientists covering a multitude of disciplines including experts in behaviour and the companion animal bond. For over 90 years, Purina has been guided by the belief that pets and people are better together. Purina is committed to delivering innovative nutritional solutions for healthy cats and dogs and those requiring specialised clinical nutrition so that pets can live better, longer lives.



IFAW – International Fund for Animal Welfare

www.ifaw.org

Founded in 1969, the International Fund for Animal Welfare (IFAW) is a global non-profit organisation that protects animals and the places they call home. With offices in 15 countries and projects in over 40, we rescue, rehabilitate and release animals into secure landscapes around the world. In collaboration with both governments and local communities, our experienced campaigners, legal and political experts, and internationally acclaimed scientists pioneer lasting solutions to some of the most pressing animal welfare and wildlife conservation issues of our time.



BRONZE SPONSOR

Anthrozoology Research Group/National Disability Insurance Agency

www.anthrozoologyresearchgroup.com

The Anthrozoology Research Group (ARG) includes post-doctoral researchers and research students interested in studying the relationship between humans and other animals. ARG is led by Pauleen Bennett, in the School of Psychology and Public Health at La Trobe University, in Victoria, Australia. The background of ARG members is diverse, ranging from psychology and social science, to animal behaviour, biological science, zoology, and veterinary science.



PLENARY SPEAKER SPONSOR

RSPCA

www.rspca.org.au

The RSPCA is Australia's leading animal welfare organisation and charity that works to prevent cruelty to all animals by actively promoting their care and protection across all of Australia. RSPCA centres operate animal care and adoption facilities and are responsible for enforcing animal welfare legislation. Nationally, the RSPCA facilitates events and campaigns, develops science-based policy and promotes the interests of animal welfare with Government and industry.



SYMPOSIUM SPONSORS

The Humane Society of the United States

www.humanesociety.org

The Humane Society of the United States is the nation's most effective animal protection organization. We and our affiliates provide hands-on care and services to more than 100,000 animals each year, and we professionalize the field through education and training for local organizations. We are the leading animal advocacy organization, seeking a humane world for people and animals alike. We are driving transformational change in the U.S. and around the world by combating large-scale cruelties such as puppy mills, animal fighting, factory farming, seal slaughter, horse cruelty, captive hunts and the wildlife trade

Celebrating Animals | Confronting Cruelty



Zoetis

www.zoetis.com.au

Zoetis is the leading animal health company. Building on more than 75 years' experience in Australian animal health, Zoetis discovers, develops, manufactures and markets veterinary vaccines and medicines, complemented by diagnostic products, genetic tests, biodevices and a range of other services. Zoetis serves veterinarians, livestock producers and people who raise and care for farm and companion animals with sales of its products in more than 100 countries. For more information, visit www.zoetis.com.



Animal Medicines Australia

www.animalmedicinesaustralia.org.au

Animal Medicines Australia members (Bayer, Boehringer Ingelheim, Elanco, Jurox, MSD, Phibro, Vetoquinol, Virbac and Zoetis) are the innovators of veterinary medicine products that prevent, control and cure animal diseases. Our One Health approach means better health outcomes for us, our animals, and the environment.



SUPPORTING SPONSOR

Taylor & Francis

www.taylorandfrancis.com

Routledge is the world's leading academic publisher in the Humanities and Social Sciences. We publish thousands of books and journals each year, serving scholars, instructors, and professional communities worldwide. Routledge is a member of Taylor & Francis Group, an informa business.



SUPPORTERS



DELEGATE INFORMATION

Venue

University of Sydney
Charles Perkins Centre Research and Education Hub
Building D17
Johns Hopkins Drive (off Missenden Road)
The University of Sydney NSW 2006

Map

Please refer to the inside front cover of this booklet or your conference satchel for a campus map of the University of Sydney. See a map of the Charles Perkins Centre below.

Session rooms located in the CPC Building

Kangaroo Room (Auditorium)
Galah Room (Dry Teaching Room 1.3)
Dingo Room (Dry Teaching Room 1.2)
Platypus Room (Seminar Rooms 1.2/1.4)
Kookaburra Room (Seminar Rooms 1.1/1.3)



THE UNIVERSITY OF
SYDNEY

Level 1
Charles Perkins Centre

Registration Desk

The registration desk is located on the ground floor (Level 1) of the Charles Perkins Centre Auditorium building – above the Kangaroo Room, except Monday 2nd July. The registration desk will be open at the following times:

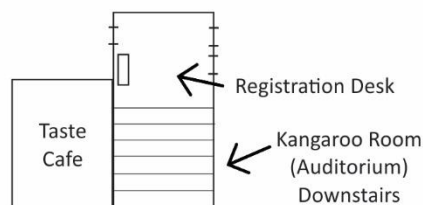
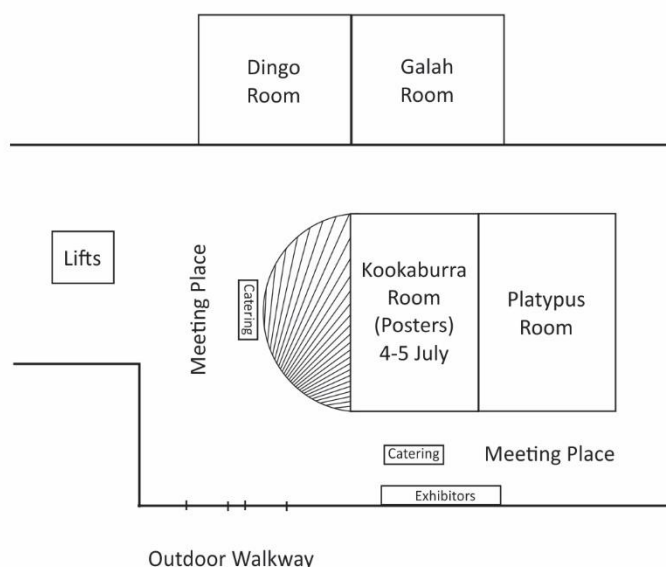
Monday 2nd July: 1:30PM – 9:00PM
(Registration desk located at The Refectory, Holme building)

Tuesday 3rd July: 7:30AM – 6:00PM

Wednesday 4th July: 7:30AM – 6:00PM

Thursday 5th July: 8:00AM – 5:00PM

All enquiries can be directed to the registration desk, except those enquiries related to accommodation, which should be directed to your hotel reception.



Meal Locations

Meeting Place (exhibition area): all meal breaks including morning, afternoon tea and lunch, except for lunch on Tuesday 3rd July.

Lunch location Tuesday 3rd July: The Quadrangle: "Animalia" - a selection of animal-themed music - will be played on the University Carillon: 1:00PM – 1:45PM.

The Footbridge Theatre

Public Presentation /Opening Plenary: Sandra Barker

Name Tags

Delegates are required to wear their name tags to all scientific and catered sessions. Delegates should note that within their name tag pouch are any specific function tickets they have ordered as well as voting coupons for the photo competition.

Registration Inclusions

Conference delegates receive the following services as part of their registration:

- Access to the sessions of your choice
- Conference satchel complete with abstract book
- Use of the Conference App
- Morning and afternoon tea
- Lunches on the day(s) of nominated attendance
- Welcome Reception (Monday 2nd July)
- Poster Reception (Tuesday 3rd July)

Uploading an oral presentation at ISAZ

Presentations should be loaded direct to the PC/laptop in the session room you have been allocated, at least a full session in advance of your session. You should bring your talk on a USB, saved in a format for display on a PC within the room. Those who wish to present on a Macintosh should bring their own adaptors and check in with ASN events staff/volunteers (wearing a blue hoodie) so they can notify the technician onsite of your request.

Displaying your poster at ISAZ

Delegates with posters can find the correct position for their poster by locating the appropriate abstract number on the display panels. Use the program handbook poster listing to identify your abstract number and poster position. It is a requirement of all poster presenters to stand by their poster during the Tuesday night poster session running in Taste Café. The poster boards will be relocated to the Kookaburra Room (Seminar Rooms 1.1/1.3) for display on Wednesday 4th July and Thursday 5th July. Delegates can display their poster from Tuesday evening, just prior to the poster session commencing. Posters can be removed at the conclusion of the conference on Thursday 5th July.

The poster reception will take place from 7:00PM until 9:00PM, Tuesday 3rd July, 2018. Drinks and canapés will be available during this session.

Photography Competition

At the ISAZ meeting, there will be three boards displaying a range of photographs submitted by conference attendees. The images will be displayed according to the following categories:

- Humans and Wildlife
- Humans and Companion Animals
- Animals Working with Humans

The ISAZ committee encourages conference delegates to nominate their favourite photo within each category by completing the 'photo competition coupon' located in the back of your name badge. You can only nominate once for each category so please choose wisely. Each category will be defined by a different colour and there will be a matching submission box located next to the posters where you can place your coupon to vote for your choice.

Nominations close **12:00 noon on Thursday 5th July.**



The location of the conference- Charles Perkins Centre, University of Sydney

Social Functions

Welcome Reception

Date: Monday 2nd July 2018 | Time: 7:30PM – 9:30PM | Location: The Refectory, University of Sydney | Cost: Included in your registration | Includes: Drinks and canapés

Please note: Additional tickets can be purchased for your spouse/partner/other, from the registration desk.

Evening Poster Reception

Date: Tuesday 3rd July 2018 | Time: 7:00PM – 9:00PM | Location: Taste Café, Charles Perkins Centre | Cost: Included in your registration

Conference Dinner

Date: Wednesday 4th July 2018 | Time: 7:00PM – 11:00PM | Location: Sydney Harbour Dinner Cruise | Cost: \$100.

Includes: 3-hour buffet dinner and drinks included | Bus transfer to and from Charles Perkins Centre, Camperdown to the pier. Meeting point: Delegates will be collected from the bus stop located just down from The Corner Cafe on Missenden Road. Volunteers will direct you to the pick-up point. Please note if you are not taking the bus, the Cruise will be embarking and disembarking from the Pier: No.1 King Street Darling Harbour. Dress in smart casual and bring a jacket.

*Please note *no vegan-friendly alcoholic drinks available on the cruise. Additional tickets can be purchased for your spouse/partner/other from the registration desk.*

Conference Dinner Sponsored by



The magnificent Sydney Harbour- the location of the conference dinner (Source: Pixebay/Creative Commons)

Campus Walking Tours

Heritage Tour, University of Sydney, Sydney, New South Wales

Date: Monday 2nd July | Time: 2:00PM | Duration: 60 minutes | Cost: \$15.00 | Meeting point: Underneath the clock tower in the Quadrangle.

Indigenous Tour, University of Sydney, Sydney, New South Wales

Date: Monday 2nd July | Time: 3:00PM | Duration: 90 minutes | Cost: \$15.00 | Meeting point: Underneath the clock tower in the Quadrangle.

Conference App

The App is displayed in a simple and easy to read format on your phone, iPad, or even your computer. To get the App, please open the link in your internet browser on your phone (Android or iPhone), iPad or laptop:

<http://isaz2018.m.asnevents.com.au>

Once you have the link open in your browser, you can save the app onto your device home screen by following these steps:

iPhone: Click the rectangle button with an upwards pointing arrow (at bottom of screen). This will then display various options. Scroll the bottom row to the right until you see a button called 'Add to home screen'. It should have a + symbol. From here you have the option to re-name the App. Once you've entered your text click 'add' and the app should appear on your home screen.

Android: Select the three vertical dots in top right-hand corner of screen. Select the 'Add to home screen' option. From here you have the option to re-name the App. Once you've entered your text click 'add'. Then select "add automatically" and the app should be on your home screen. Hold and drag the app should you wish to position this on another screen.

The App will allow you to:

- View the full conference program
- View abstracts for the conference (in full, including tables, figures and references)
- Save your favourite sessions and plan your day
- Take notes which will then be saved and downloaded from your registration profile
- To use most of these functions, you will be prompted to login each day
- Simply enter the same email and password which you used to register

Internet

There will be complimentary Wi-Fi available to attendees. To login please follow the below instructions:

- Ensure your wireless enabled laptop or device is turned on and you have enabled the wireless switch/button.
- Open your wireless connection list and select the "ISAZ 2018" network. **The password is ZooConf1**

Certificate of Attendance

At the conclusion of the ISAZ 2018 Conference you will be sent a certificate of attendance.

Insurance

The hosts and organisers are not responsible for personal accidents, any travel costs, or the loss of private property and will not be liable for any claims. Delegates requiring insurance should make their own arrangements.

Smoking

Smoking is not permitted on campus.

Abstracts

Abstracts appear as submitted. The content has not been altered, although their appearance may have been changed for stylistic reasons.

Mobile Phones

Please ensure they are turned off or placed on silent during any session you attend.

SOCIAL MEDIA – #ISAZ2018

During ISAZ's 2018 conference, many presenters will communicate novel research results that are not yet published. Whilst we encourage engagement on social media from attendees we realise that sharing unpublished results without the speaker's consent may compromise the ability to publish in scientific journals in the future and/or progress of the research.

We therefore ask attendees to:

- Refrain from recording and/or reproducing audio, video or photos from oral and poster presentations unless explicit permission is granted from the presenter
- Communicate across social media platforms in a respectful manner

We encourage attendees to interact on social media by:

- Following **@ISAZ2018** and tweeting about the 2018 annual meeting using the hashtag **#ISAZ2018**
- 'Liking' and interacting with ISAZ2018 on Facebook

Do

- Keep phones on silent during sessions!
- Engage using **#ISAZ2018** and follow ISAZ 2018 on Twitter **@ISAZ2018** and the ISAZ2018 Facebook page
- Enjoy making new connections at the meeting and communicate in a respectful manner

Don't

- Distribute data online without explicit permission from the presenter
- Take photos/videos of presentations without permission

ISAZ WEBSITE & SOCIAL MEDIA PLATFORMS

ISAZ 2018 Website: www.isaz2018.com

ISAZ Society Website: www.isaz.net

ISAZ Twitter: [@ISAZ2018](https://twitter.com/ISAZ2018)

ISAZ Facebook: [Facebook.com/ISAZ2018](https://www.facebook.com/ISAZ2018)

CONFERENCE SECRETARIAT

ASN Events Pty Ltd

Level 1, 9/397 Smith Street, Fitzroy VIC 3065

Ph: +64 3 8658 9530 | Fax: +64 3 8658 9531

Email: jf@asnevents.net.au



Carillonneur Amy Johansen, at the University of Sydney, will play "Animalia" - a selection of animal-themed music at lunch (1300-1345) on Day 2 (Tuesday July 3) (Source: Pixabay/Creative Commons)

PLENARY SPEAKERS



Dr Sandra Barker

Center for Human-Animal Interaction, Virginia Commonwealth University, United States

Dr. Sandra Barker is Professor of Psychiatry and Bill Balaban Endowed Chair in Human-Animal Interaction at Virginia Commonwealth University, where she serves as Director of the School of Medicine Center for Human-Animal Interaction (CHAI), and Affiliate Scientist in the Center for Biobehavioral Clinical Research. As CHAI Director, she oversees an evidence-based therapy dog program, Dogs on Call, that is fully integrated into a major academic medical center and recently featured on Animal Planet and (Mission Critical Health) healthcare education videos, both aired globally. Dr. Barker has vast teaching and clinical experience in treating trauma survivors, providing and evaluating animal-assisted interventions, and directing and providing a pet loss counseling program. She is internationally recognized for her research on the health benefits of interacting with companion animals, a research program that spans over 25 years. Dr. Barker also holds a joint appointment as Adjunct Professor of Small Animal Clinical Sciences at Virginia-Maryland College of Veterinary Medicine where she established a pet loss support hotline and serves on their Advisory Board for the Center for Animal-Human Relationships. Dr. Barker has published and presented extensively on the benefits of interacting with companion animals and is often interviewed for major media outlets including National Public Radio, Wall Street Journal, and The Guardian. She is an honorary patron of Irish Therapy Dogs, serves on the Pet Partners Human-Animal Bond Advisory Board, and volunteers with a local rescue dog transit team.

For a summary of Sandra's talk, see abs# 1



Dr Neil Jordan

University of New South Wales, Australia

Neil Jordan is a lecturer in the Centre for Ecosystem Science, University of New South Wales (Sydney), Conservation Biologist at Taronga Conservation Society Australia, and Coexistence Director at the Botswana Predator Conservation Trust. His current research focus is in applying behavioural ecology to conservation management problems, particularly in using animal signals to resolve human-wildlife conflicts involving large carnivores in Botswana and Australia.

For a summary of Neil's talk, see abs# 3



Dr Vicky Melfi

Hartpury University Centre, UK

Vicky has worked for almost 30 years within the zoo profession, as well as holding various academic appointments. She brings unique insight to both professional and academic partners about the importance of working together, gathering data which can underpin evidence-based practice, to achieve great animal welfare and conservation outcomes. She is a passionate advocate for empowering people with the knowledge and skills needed to implement evidence-based practice; which she has seen to successfully improve the welfare and conservation status of many animals. Central to Vicky's research, teaching and professional activities, is a keen interest in human-animal interactions. She believes understanding human-animal interactions is critical and can enhance the life of both parties. Vicky has worked and studied at the Universities of Dublin, Edinburgh, Exeter, Nottingham, Plymouth and Sydney, and for Drusillas Zoo Park, Dublin Zoo, Taronga Conservation Society Australia and Whitley Wildlife Conservation Trust. She is the Managing Editor of Journal for Zoo and Aquarium Research, and author of various publications including the book Zoo Animals: Their behaviour, management and welfare.

For a summary of Vicky's talk, see abs# 60



Dr Ted Donelan

Animal Management in Rural and Remote Indigenous Communities (AMRRIC), Australia

Dr Ted Donelan is a veterinarian based in Victoria, where he ran private practices for more than 30 years. He is a Fellow of the Australian Veterinary Association, a Senior Academic Associate of the University of Melbourne and Life Member of RSPCA Victoria. Ted has always been interested in animal welfare and the relationships between animals and their human companions. He was a founding director of the Delta Society in Australia in 1987 and has a long record of contribution to animal welfare issues and urban animal management at local, state and national levels. Ted has also had decades of involvement in Indigenous affairs. For the past fifteen years he has provided a veterinary service including a comprehensive dog health program to the remote indigenous community of Maningrida, which with its outstations encompasses an area of some 10,000 square kilometres in the Northern Territory. Following these interests, it was a natural progression to involvement in Animal Management in Rural and Remote Indigenous Communities, where Ted has served on the Board for eleven years including six as President.



Christine Ross

Animal Management in Rural and Remote Indigenous Communities (AMRRIC), Australia

Christine Ross is an Arrernte/Kaytetye desert woman who was born in Alice Springs and grew up in Darwin. She moved to Perth in 2002. Christine is based in Perth WA and works as the Managing Director of her own Consultancy specialising in Indigenous Employment Programs, Training, Mentoring, and Facilitating Indigenous Conferences and Forums. She is currently the Project Manager of the National NAIDOC Aboriginal and Torres Strait Islander Woman's Conference, to be held 11 -12 July 2018 in Sydney. Christine's career began as a teacher and she spent several years teaching in the Northern Territory, where she was employed by the Department of Education for 14 Years, which included 4 years as the Manager of the Aboriginal and Torres Strait Islander Educators Support Unit. Christine was the General Manager of the Central Australian Aboriginal Media Association (CAAMA) in Alice Springs in 1999- 2001. Christine was employed by the Western Australia (WA) Department of Education in 2005 – 2011 as the Senior Consultant Aboriginal Employment. During this period Christine was also seconded for 2 years 2009 – 2011 to Burswood Entertainment Complex (now Crown Perth) as the Aboriginal Program Coordinator. Christine has worked in the Resource Sector of WA for a number of years both as Indigenous Employment Superintendent in 2011 with Leighton Contractors Mining Division and the former Manager of Indigenous Relations for Laing O'Rourke. Christine is a member of several Boards including Australian Management in Rural and Remote Indigenous Communities (AMRRIC), WA Director of the Aboriginal and Torres Strait Islander Woman's Alliance (NATSIWA). She was a previous Director of Indigenous Woman in Business Australia and Chairperson of Langford Aboriginal Association in Perth 2015 - 2017.

For a summary of Ted and Christine's talk, see abs# 28



Prof Claire Parkinson

Edge Hill University, *United Kingdom*

Claire Parkinson is Professor of Film, Television and Digital Media and Co-Director of the Centre for Human Animal Studies (CfHAS) at Edge Hill University. Her research focuses on media, film and Critical Animal Studies; eco-media; American cinema; activism; and, film and politics. Her publications (as Claire Molloy) include the books *Popular Media and Animals* (2011), *Memento* (2010), *Routledge Companion to Cinema and Politics* (2016), *American Independent Cinema: Indie, Indiewood and Beyond* (2012) and *Beyond Human: From Animality to Transhumanism* (2012). Her forthcoming book (as Claire Parkinson) is *Another Point of View: Anthropomorphism and Animals*.

For a summary of Claire's talk, see abs# 37



Dr Courtney Plante

Iowa State University, United States

Dr. Courtney Plante is a co-founder of, and the lead analyst at, the International Anthropomorphic Research Project, a team of social scientists studying members of the furry, therian, and brony communities. This work often involves studying the felt relationships people have with animals, including their attitudes toward animals and animal characters in media, their identification with animals, and dehumanization. Dr. Plante's work on these communities has been published in psychological, clinical, and fandom journals, as well as in a self-published book entitled *FurScience*. He is a graduate of the University of Waterloo, completed a Postdoctoral Fellowship at Iowa State University, and is currently a sessional instructor at MacEwan University in Edmonton, Alberta, Canada.

For a summary of Courtney's talk, see abs# 97

PROGRAM OVERVIEW

Day 1. Monday, July 2, 2018 – Various locations, University of Sydney	
0900–1700	<p style="text-align: center;">ISAZ Board meeting <i>Chancellor's Room, The Refectory, Holme Building, University of Sydney</i></p>
1330–2100	<p style="text-align: center;">Registration <i>The Refectory, Holme Building, University of Sydney</i></p>
1800–1930	<p style="text-align: center;">Public presentation, co-sponsored by Sydney Ideas Chair: Anthony Podberscek</p> <p style="text-align: center;"><i>Sandra Barker, Virginia Commonwealth University, USA</i> <i>“Dogs Helping People: In Families, Hospitals, Colleges, and at Work” (abs# 1)</i></p> <p style="text-align: center;"><i>Footbridge Theatre, University of Sydney</i></p>
1930–2130	<p style="text-align: center;">ISAZ welcome reception <i>The Refectory, Holme Building, University of Sydney</i></p>

Day 2. Tuesday, July 3, 2018 - Charles Perkins Centre, University of Sydney

0730	Registration opens <i>Kangaroo Room Foyer</i> (including tea/coffee/juice/pastry)			
0840–0910	Welcome/Introduction <i>Welcome to Country</i> <i>ISAZ2018 Organisers welcome and housekeeping (Anthony Podberscek)</i> <i>CPC Director (Prof. Steve Simpson) welcome</i> <i>ISAZ President (Cheryl A. Krause-Parello) welcome</i> <i>Platinum sponsor (Mars/WALTHAM) welcome</i> <i>Kangaroo Room</i>			
0910-0930	Special Presentation: Romane Cristescu <i>Sniffing solutions to enhance koala conservation (abs# 2)</i> Chair: Pauleen Bennett Sponsored by IFAW <i>Kangaroo Room</i>			
0930–1030	Plenary Presentation: Neil Jordan <i>Managing human–wildlife interactions: conflicts and communication (abs# 3)</i> Chair: Bradley Smith <i>Kangaroo Room</i>			
1030–1100	Morning tea (Meeting Place)			
	Kangaroo Room (Auditorium)	Dingo Room (Dry Teaching Room 1.2)	Galah Room (Dry Teaching Room 1.3)	Platypus Room (Seminar Rooms 1.2/1.4)
	Session 1A: Animal-assisted interventions with children Chair: Brinda Jegatheesan	Session 1B: Human–wildlife interactions Chair: Samantha Hurn	Session 1C: Representations of human–animal interactions Chair: Agata Mrva-Montoya	Symposium 1 Chair: Anthony Podberscek
1100–1120	<i>Marine Grandgeorge</i> Social rivalry triggers visual attention in children with autism spectrum disorders during sessions of animal–assisted intervention. (abs# 4)	<i>Samantha J. Chiew</i> Zoo-visitor attitudes towards little penguins. (abs#7)	<i>Katherine FitzHywel</i> Translating the animal in literature: how can the language employed in literature affect the interpretation and perception of nonhuman animals? (abs# 10)	Veterinarians, veterinary nurses and anthrozoology. (abs# 101) <i>Patrick Flynn</i> <i>Anne Fawcett</i> <i>Imke Tammen</i> <i>Paul McGreevy</i> Sponsored by Zoetis
1120–1140	<i>Minal Kavishwar</i> Animal assisted intervention in pediatric dentistry for children with dental fear and anxiety. (abs# 5)	<i>Ivan Tacey</i> Tigers and elephants are people too! The effects of forest loss and international poaching on relations between Bateks and keystone species in Malaysia. (abs# 8)	<i>Emily Plec</i> Animated animal nativity tales. (abs# 11)	
1140–1200	<i>Cheryl A. Krause-Parello</i> The effect of an animal-assisted intervention on biological stress indicators in children undergoing forensic interview for child sexual abuse allegations. (abs# 6)	<i>Swapnil Kumbhojkar</i> Human–leopard (<i>Panthera pardus fusca</i>) co-existence in Jhalana Nature Reserve (JNR), Jaipur, North West India. (abs# 9)	<i>Vicki E Hutton</i> Lingering perceptions of non-human animals as property and toys: the role of animated media. (abs# 12)	
1200–1205	Five-minute break			

	Kangaroo Room (Auditorium)	Dingo Room (Dry Teaching Room 1.2)	Galah Room (Dry Teaching Room 1.3)	Platypus Room (Seminar Rooms 1.2/1.4)
1205–1225	<i>Angela Matijczak</i> The influence of interaction with a dog on mood, anxiety, and arousal in children. (abs# 13)	<i>Lucy E. Bearman-Brown</i> The scale and impact of wildlife rehabilitation on the West-European hedgehog (<i>Erinaceus europaeus</i>). (abs# 15)	<i>Bradley P. Smith</i> What's in a (pet) name? (abs# 17)	<i>Symposium 1 Continued</i> <i>Sponsored by Zoetis</i>
1225–1245	<i>Tania Signal</i> In the eye of the parent: the potential of dogs to improve the acceptability of trauma-focused therapies for sexually-abused children. (abs# 14)	<i>Lief Erikson D. Gamalo</i> Human–macaque conflict in Puerto Princesa Subterranean River National Park (PPSRNP), Philippines. (abs# 16)	<i>Johanna Gibson</i> The life of the author: sentience, creativity, and agency in the animal before the law. (abs# 18)	
1245–1400	Lunch (Quadrangle – “Animalia” - a selection of animal-themed music, will be played on the University Carillon - 1300–1345)			
	Session 2A: Effects of pet ownership Chair: Sandra McCune	Session 2B: Human–animal interactions around the world Chair: Cluny South	Symposium 2 Chairs: Marie-Jose Enders-Slegers & Brinda Jegatheesan	Symposium 3 Chairs: Bradley Smith & Neil Jordan
1400–1420	<i>Sandra B. Barker</i> Four-year longitudinal study of the relationship between pet ownership, internalizing symptoms, and social support in a cohort of college students. (abs# 19)	<i>Stephen Albone</i> Gender differences in Mauritanian children’s anthrozoic attitudes. (abs# 21)	IAHAIO Symposium Perspectives on bridging the gap between researchers and practitioners in HAI: current challenges and future pathways in animal-assisted interventions. (abs# 102)	Human–wildlife conflict: rebuilding conscious co-existence. (abs# 103) <i>Bradley Smith Neil Jordan Cathy Herbert Alex Mayers Casey O’Brien</i>
1420–1440	<i>Aliya Khalid</i> Effect of pet interaction on stress reduction and positive mood enhancement among pet-owners and non-owners. (abs# 20)	<i>Noriko Nijima</i> Why diapers for dogs sell well in Japan? Research on nursing homes for elderly dogs and cats in Japan. (abs# 22)		
1440–1445	Five-minute break			
1445–1505	<i>Dac Loc Mai</i> Does pet ownership affect how well Vietnamese people adjust to living in Australia? (abs# 23)	<i>Alexandra Onofrei</i> The politics of private pig slaughter in northern Romania. (abs# 25)		
1505–1525	<i>Carri Westgarth</i> Dog owners are more likely to meet physical activity guidelines. (abs# 24)	<i>Raphael Richter-Gravier</i> Bird narratives of Polynesia: a study of human–bird interactions through the analysis of traditional Polynesian stories. (abs# 26)		
1525–1545		<i>Quixi Sonntag</i> Utilising participatory reflection and action to facilitate rabies awareness in a rural community in South Africa. (abs# 27)		
1545–1615	Book Launch: Animals and Leisure + Wild Animals and Leisure <i>Janette Young</i> Kangaroo Room			

1615–1715	<p align="center">Plenary Presentation: Ted Donelan and Christine Ross <i>Cultural connections: Understanding the relationship between Aboriginal and Torres Strait Islander people and animals, and the implications for delivery of dog health and community wellbeing programs in these communities. (abs# 28)</i> Chair: Bidida Jones</p> <p align="center"><i>Sponsored by RSPCA Australia</i></p> <p align="center"><i>Kangaroo Room</i></p>			
1715–1720	<p align="center">Five-minute break</p>			
	Kangaroo Room (Auditorium)	Dingo Room (Dry Teaching Room 1.2)	Galah Room (Dry Teaching Room 1.3)	Platypus Room (Seminar Rooms 1.2/1.4)
	Session 3A: Neutering effects and attitudes Chair: Lynette Hart	Session 3B: Animal carers Chair: Carri Westgarth	Session 3C: Animals in farming Chair: Lee Zasloff	Session 3D: Successful and unsuccessful interactions Chair: Erika Friedmann
1720–1740	<i>Bronwyn Orr</i> Veterinarian attitudes and behaviours to prepubertal desexing in the Australian Capital Territory. (abs# 29)	<i>Pauleen Bennett</i> Compassion fatigue in people who care for animals: An investigation of risk and protective factors. (abs# 31)	<i>Philip Marriott</i> The shepherd as a model for human–animal interaction on small farms. (abs# 33)	<i>Lisa Emmett</i> From playing frog baseball to anthropomorphizing them: searching for predictors in human–animal interactions that went wrong; a systematic review. (abs# 35)
1740–1800	<i>Marta Zlotnick</i> Incidence of health and behaviour problems in service dog candidates neutered at various ages. (abs# 30)	<i>Bruce Englefield</i> A review of roadkill rescue: Who cares for the mental, physical and financial welfare of Australian wildlife carers? (abs# 32)	<i>Carolina A. Munoz</i> Farmer attitudes and its relationship with sheep welfare. (abs# 34)	<i>Karen Thodberg</i> Does successful participation in activities with a dog during a nursing home visit affect the subjective assessment of the residents' experience? (abs# 36)
1830–1900	<p align="center">ISAZ Student Poster Award Contenders (3-min talks) Chair: Bradley Smith</p> <p align="center">Mei-Mei Heng Yee Tan- <i>Interactions between Singapore's wild smooth-coated otters and people. (abs# 219)</i> Emily Kieson- <i>Equine-human interactions in therapy: A lack of research in horse-human bonding. (abs# 230)</i> Melissa Laing- <i>Social work with vulnerable groups and their companion animals. (abs# 232)</i> Tomoha Mikayama- <i>The effects of animal-assisted interventions using dogs on first-year university students in Japan. (abs# 235)</i> Rachel Yerbury- <i>Human-dolphin interactions: Relationships, connections and the reinforcement of an ongoing nature relationship. (abs# 255)</i></p> <p align="center"><i>Kangaroo Room</i></p>			
1900–2100	<p align="center">Evening event: Poster Reception <i>Taste Café (above Kangaroo Room)</i></p> <p align="center">Days 3 and 4: Posters will be displayed in the Kookaburra Room (Seminar Rooms 1.1/1.3)</p>			

Day 3. Wednesday, July 4, 2018 - Charles Perkins Centre, University of Sydney

0730	Registration opens (<i>Kangaroo Room Foyer</i>) (includes tea/coffee/juice/pastry)			
0830–0845	Announce new ISAZ Fellows (<i>Cheryl-Krause-Parello, ISAZ President</i>) Early Career Award Announcement (<i>Cheryl Krause-Parello, ISAZ and Sandra McCune, WALTHAM</i>) Chair: Cheryl A. Krause-Parello <i>Kangaroo Room</i>			
0845–0915	ISAZ Early Career Award Presentation <i>Kangaroo Room</i>			
0915–1015	Plenary Presentation: Claire Parkinson <i>Animals on screens: Thinking critically about animals, audiences and empathy. (abs# 37)</i> Chair: Anthony Podberscek <i>Kangaroo Room</i>			
1015–1045	Morning tea (<i>Meeting Place</i>)			
	Kangaroo Room (Auditorium)	Dingo Room (Dry Teaching Room 1.2)	Galah Room (Dry Teaching Room 1.3)	Platypus Room (Seminar Rooms 1.2/1.4)
	Session 4A: Human–wildlife interactions Chair: Alan McElligott	Symposium 4 Chair: Angela Fournier	Symposium 5 Chairs: Marie-Jose Enders-Slegers & Brinda Jegatheesan	Symposium 6 Chair: Catherine Amiot
1045–1105	<i>Kirin Apps</i> In the water with white sharks: can cage-diver tourism influence conservation behaviour? (<i>abs# 38</i>)	Developing a theory on animal-assisted psychotherapy: discussions across disciplines, species, and outcomes. (<i>abs# 104</i>) <i>Elizabeth Letson</i> <i>Jennifer Laitala</i> <i>Angela Fournier</i>	One health: strategies for strengthening global connection. (<i>abs# 105</i>) <i>Brinda Jegatheesan</i> <i>Marie-Jose Enders-Slegers</i> IAHAIO Symposium	Adopting an inclusive perspective to understand our relations with animals and their important (but sometimes conflicting) place in human lives: a role for social psychology. (<i>abs# 106</i>) <i>Catherine Amiot</i> <i>Brock Bastian</i> <i>Cluny South</i> <i>Matthew Ruby</i>
1105–1125	<i>Kate Marx</i> Chirps, quacks, croaks, howls and “What was that?” How long-distance hikers on the Appalachian Trail came to know trail animals through their sounds. (<i>abs# 39</i>)			
1125–1145	<i>Verena Schröder</i> Framing the wolf: notes on representation of a returning predator. (<i>abs# 40</i>)			
1145–1205	<i>Katherine Whitehouse-Tedd</i> Stakeholder perceptions of a livestock guarding dog programme in South Africa. (<i>abs# 41</i>)			
1205–1230	Lunch (<i>Meeting Place</i>)			
1230–1315	NIH/Mars-WALTHAM partnership presentation on funding opportunities for HAI research <i>Sandra McCune, Jim Griffin, Nancy Gee</i> <i>Kangaroo Room</i>			

	Kangaroo Room (Auditorium)	Dingo Room (Dry Teaching Room 1.2)	Galah Room (Dry Teaching Room 1.3)	Platypus Room (Seminar Rooms 1.2/1.4)
	Session 5A: Issues with keeping pets Sponsored by Animal Medicines Australia Chair: Ben Stapley	Session 5B: Historical aspects of human-animal interactions Chair: Bernard Unti	Session 5C: Effects of animal-assisted therapy on animals Chair: Mariko Yamamoto	Symposium 7 Chairs: Deborah E Linder & Nancy R Gee
1315–1335	<i>Taryn M. Graham</i> Searching, settling, and staying put: rental housing in the (dis)placing of dog owners. (abs# 42)	<i>Lydia Bashford</i> The bare essentials: the representation of brown bears in ancient Egypt. (abs# 45)	<i>Ann Baldwin</i> Comparison of effects of three types of facilitated horse-human interactions on stress levels of humans and horses. (abs# 48)	Best practices and standards for animal-assisted interventions. (abs# 107) <i>Deborah E Linder Nancy R Gee</i>
1335–1355	<i>Susan J. Hazel</i> Relinquishment of dogs and cats online. (abs# 43)	<i>Linda Evans</i> Animal behaviour in ancient Egyptian art. (abs# 46)	<i>John-Tyler Binfet</i> Therapeutic for all? observational assessments of therapy canine stress during sessions. (abs# 49)	
1355–1415	<i>Lauren Powell</i> The expectations of prospective adopters for dog ownership. (abs# 44)	<i>Mary Hartley</i> It's a dog's life: votive canid crania from Saqqara. (abs# 47)	<i>Sarah R. Nicholls</i> Perceived stress responses in therapy dogs during animal-assisted activities in aged care facilities. (abs# 50)	
1415–1420	Five-minute break			
	Session 6A: Animal-owner characteristics Chair: Catherine Amiot	Session 6B: Animal-assisted therapy and chronic health issues Chair: Sandra Barker	Session 6C: Service/assistance dogs Chair: Marie-José Enders-Slegers	Symposium 8 Chair: John-Tyler Binfet
1420–1440	<i>Tania C. Plueckhahn</i> Comparing owner rated dog temperament measures with demographics and a measure of owner personality. (abs# 51)	<i>Wanda Arnskötter</i> Effects of animal presence and contact on frontal brain activity in patients in a minimally conscious state (MCS): a randomized, controlled pilot study. (abs# 54)	<i>Megan R. LaFollette</i> PTSD service dogs: associations between training techniques, service dog behaviours, and human-animal bond. (abs# 57)	Therapy canines: screening and assessment safeguarding well-being and innovative programming. (abs# 108) <i>John-Tyler Binfet Elizabeth Kjellstrand Hartwig Haley Silas Carson McKay Brittany Calibaba</i>
1440–1500	<i>James A. Serpell</i> Relationship between owner personality and mood and the prevalence of canine behaviour problems. (abs# 52)	<i>Karin Hediger</i> Effects of animal-assisted therapy in patients in a minimally conscious state: a randomized-controlled trial. (abs# 55)	<i>Jennifer Gravrok</i> Do dogs help people to thrive and are service dogs more beneficial than companion dogs. (abs# 58)	
1500–1520	<i>Joshua Trigg</i> Archotyping relationships with companion animals to understand disaster risk-taking propensity. (abs# 53)	<i>Kristýna Machová</i> The effect of animal-assisted therapy in patients in long-term care: pilot study. (abs# 56)	<i>Fenella Eason</i> Common loss, common gain: dogs and humans learn mutualistic practices of care. (abs# 59)	
1520–1550	Afternoon tea (Meeting Place)			

1550–1650	Plenary Presentation: Vicky Melfi <i>Human–animal interactions in zoos: Balancing urban biophilia with species conservation. (abs# 60)</i> Chair: Pauleen Bennett <i>Kangaroo Room</i>			
1650-1655	Five-minute break			
	Kangaroo Room (Auditorium)	Dingo Room (Dry Teaching Room 1.2)	Galah Room (Dry Teaching Room 1.3)	Platypus Room (Seminar Rooms 1.2/1.4)
	Session 7A: Animal-assisted interventions in mental health Chair: Susan Hazel	Session 7B: Ethics of animal use Chair: Andrew Rowan	Session 7C: Animal-assisted interventions with young people Chair: Sandy Branson	Session 7D: Human–farm animal interactions Chair: Alex Mayers
1655–1715	<i>Emma L. Hawkins</i> Animal-assisted therapy for schizophrenia: a systematic review. (abs# 61)	<i>Catherine M. Smith</i> Bark once for yes and twice for no: applying the capabilities approach to research ethics in human–animal interaction studies. (abs# 64)	<i>Janet Trammell</i> The effects of therapy dogs on stress and memory. (abs# 67)	<i>Lee Zasloff</i> Perspectives on donkey companions. (abs# 70)
1715–1735	<i>Cora Wagner</i> The relation between ward cats and patient satisfaction in psychiatric wards. (abs# 62)	<i>Alexander Badman-King</i> Complete bollocks: Do we have a moral obligation to neuter other animals? (abs# 65)	<i>Shui King Leung</i> An animal-assisted narrative journey for youth with social withdrawal experiences in Hong Kong. (abs# 68)	<i>Alan G. McElligott</i> Goats differentiate human emotional facial expressions. (abs# 71)
1735–1755	<i>Elizabeth Kjellstrand Hartwig</i> There's a dog in my session: practitioner perspectives on animal-assisted counselling. (abs# 63)	<i>Franklin D. McMillan</i> Psychobehavioural outcomes for dogs sold as puppies through pet shops and/or born in commercial breeding establishments. (abs# 66)	<i>Sara F. Boyle</i> Evaluation of infection control and prevention measures in a university-based animal-assisted intervention (AAI) program. (abs# 69)	<i>Joanne M. Williams</i> Enhancing children's understanding of farm animal and wildlife welfare through interactive iPad games. (abs# 72)
1900–2300	Conference dinner <i>Sydney Harbour dinner cruise (including coach transfer: coaches depart from University of Sydney (bus stop located just down from The Corner Café on Missenden Road) at 1900)</i> Sponsored by Mars/WALTHAM			

Day 4. Thursday, July 5, 2018 - Charles Perkins Centre, University of Sydney

0800	Registration opens (<i>Kangaroo Room Foyer</i>) (includes tea/coffee/juice/pastry)			
	Kangaroo Room (Auditorium)	Dingo Room (Dry Teaching Room 1.2)	Galah Room (Dry Teaching Room 1.3)	Platypus Room (Seminar Rooms 1.2/1.4)
	Session 8A: NIH/Mars-WALTHAM: New developments in human-animal interaction (HAI) research Chair: Jim Griffin	Session 8B: Working with animals Chair: Benjamin Hart	Session 8C: Cruelty to animals/animal abuse Chair: Tania Signal	Session 8D: Free papers Chair: Jessica Groling
0900–0920	<i>Sandy Branson</i> Biobehavioural examination of cat ownership and attachment in older adults. (<i>abs# 73</i>)	<i>Emily Kieson</i> Horses prefer food over human contact for task reward: considerations for human-horse bonding. (<i>abs# 76</i>)	<i>Roxanne D. Hawkins</i> Children’s attitudes towards animal cruelty. (<i>abs# 79</i>)	<i>Steve North</i> Computational anthrozoology - a manifesto: ‘as the lens’ and ‘under the lens’. (<i>abs# 82</i>)
0920–0940	<i>Heather L Johnson</i> The role of canine-assisted intervention on improving self-perception in children with Attention Deficit/Hyperactivity Disorder. (<i>abs# 74</i>)	<i>Lisa Emmett</i> The human behind the training techniques: dog trainers and coping. (<i>abs# 77</i>)	<i>Michal P. Pregowski</i> Attitudes to animal abuse in veterinary practice in Poland. (<i>abs# 80</i>)	<i>Samantha Hurn</i> Evaluating anthropocentric versus caninocentric attitudes and approaches to stray dog management: the case of Topoloveni, Romania as a potential example of best practice. (<i>abs# 83</i>)
0940–1000	<i>Nancy R. Gee</i> Research methods used to consider the impact of HAI on older adults’ health. (<i>abs# 75</i>)	<i>Sara Owczarczak-Garstecka</i> Exploring how individuals who work around dog’s experience and practice safety. (<i>abs# 78</i>)	<i>Rick Gibson</i> Slugs snails and YouTube. (<i>abs# 81</i>)	<i>Jane Yacilla</i> How multidisciplinary is <i>Anthrozoös</i> ? (<i>abs# 84</i>)
1000–1030	Morning Tea (<i>Meeting Place</i>)			
	Session 8A Cont. Chair: Nancy Gee	Session 8B Cont. Chair: Benjamin Hart	Session 8E: Animals in schools Chair: Kristen Jacobson	Session 8F: Relationships with wildlife Chair: Michal Pregowski
1030–1050	<i>Rebecca Purewal</i> The impact of pet ownership on emotional health outcomes in children and adolescents: a UK Population study. (<i>abs# 85</i>)	<i>Raffaella Lubiana</i> Does attitude to dominance and dog behaviour influence use of aversive or non-aversive equipment? (<i>abs# 88</i>)	<i>Deborah E. Linder</i> Animal-assisted interventions in child literacy programs. (<i>abs# 91</i>)	<i>Chris Calvert</i> Badger culling and bovine TB in England since 2013: evidence-based policy or policy-based evidence? (<i>abs# 94</i>)
1050–1110	<i>Shelby E. McDonald</i> The role of callous/unemotional traits in mediating the association between animal abuse exposure and behaviour problems among children exposed to intimate partner violence. (<i>abs# 86</i>)	<i>Tiffani Howell</i> Is clicker training (clicker+food) better than food-only training for novice companion dogs and their owners? (<i>abs# 89</i>)	<i>Camille X. Rousseau</i> Turning the page to read to Spot: exploring the potential of dogs to support reading motivation and positive reading behaviours among young children. (<i>abs# 92</i>)	Jessica Groling The applicability of moral panic theory to the study of animal folk devils: the case of urban foxes (<i>Vulpes vulpes</i>) in England. (<i>abs# 95</i>)
1110-1130	<i>Jaymie Vandagriff</i> Characteristics of student canine interaction during meet and greet activity in a university-based animal visitation program. (<i>abs# 87</i>)	<i>Erin Flynn</i> Measuring the psychosocial impacts of prison dog training programs and in-prison outcomes for inmates. (<i>abs# 90</i>)	<i>Donna Carlyle</i> Growing up with school dog "Dave" - An ethnographic study. (<i>abs# 93</i>)	<i>Meggie Callahan</i> Gaming the (eco)system: understanding perceptions of species and the Phylo card game. (<i>abs# 96</i>)

1130–1135	Five-minute break			
1135–1235	<p align="center">Plenary presentation: Courtney Plante <i>Animals like us: Self and identity within the furry and therian communities</i> Chair: James Serpell <i>Kangaroo Room</i></p>			
1235–1330	<p align="center">Lunch <i>(Meeting Place)</i></p>			
	Kangaroo Room (Auditorium)	Dingo Room (Dry Teaching Room 1.2)	Galah Room (Dry Teaching Room 1.3)	Platypus Room (Seminar Rooms 1.2/1.4)
		Symposium 9 Chairs: Tiffani Howell & Pauleen Bennett	Symposium 10 Chairs: Samantha Hurn & Alexander Badman-King	Symposium 11 Chair: Andrew Rowan
1330–1515		<p align="center">Defining and describing companion, assistance, service, and emotional support animals. <i>(abs# 109)</i></p> <p align="center"><i>Tiffani Howell Pauleen Bennett</i></p> <p align="center"><i>Sponsored by the Anthrozoology Research Group as part of a National Disability Insurance Agency Funded Research Project</i></p>	<p align="center">Anthrozoology as symbiotic ethics and the ethics of anthrozoological research. <i>(abs# 110)</i></p> <p align="center"><i>Samantha Hurn Alexander Badman-King Jessica Groling Fenella Eason Ivan Tracey</i></p>	<p align="center">Multicultural perspectives on the human–animal bond. <i>(abs# 111)</i></p> <p align="center"><i>Andrew Rowan Peter Li Bernard Unti</i></p> <p align="center"><i>Sponsored by Humane Society of the United States</i></p>
1515–1545	<p align="center">Afternoon tea <i>(Meeting Place)</i></p>			
1545–1630	<p align="center">ISAZ Annual General Meeting <i>Kangaroo Room</i></p>			
1630–1700	<p align="center">Presentation of student awards: <i>Sponsored by Mars Petcare/WALTHAM</i> Presentation of photo competition award: <i>Sponsored by CSIRO Publishing</i> Announce 2019 conference Conference close</p>			
1700–1800	<p align="center">Post-conference ISAZ Board Meeting <i>Dingo Room</i></p>			

PROGRAM

MONDAY 2 JULY 2018

ISAZ BOARD MEETING

9:00AM - 5:00PM

Chancellor's Room, The Refectory, Holme Building, University of Sydney

REGISTRATION OPEN

1:30PM - 9:00PM

The Refectory, University of Sydney

PUBLIC PRESENTATION /PLENARY: SANDRA BARKER

6:00PM - 7:30PM

Footbridge Theatre, University of Sydney

Chair: Anthony Podberscek

6:00PM

Sandra Barker

Dogs Helping People: In Families, Hospitals, Colleges, and at Work. *abs# 1*

WELCOME RECEPTION

7:30PM - 9:30PM

The Refectory, Holme Building, University of Sydney

TUESDAY 3 JULY 2018

REGISTRATION OPEN

7:30AM - 6:00PM

Kangaroo Room Foyer

*Light Breakfast available between 7:30AM and 8:40AM
Includes: Tea/coffee/juice/pastry*

WELCOME/INTRODUCTION

8:40AM - 9:10AM

Kangaroo Room (Auditorium)

*Welcome to Country
ISAZ2018 Organisers welcome and housekeeping (Anthony Podberscek)
CPC Director (Prof. Steve Simpson) welcome
ISAZ President (Cheryl A. Krause-Parello) welcome
Platinum Sponsor (Mars/WALTHAM) welcome*

SPECIAL PRESENTATION: ROMANE CRISTESCU

9:10AM - 9:30AM

Kangaroo Room (Auditorium)

Chair: Pauleen Bennett

9:10AM

Romane Cristescu

Sniffing solutions to enhance koala conservation. *abs# 2*

Sponsored by  IFAW
International Fund for Animal Welfare

PLENARY PRESENTATION: NEIL JORDAN

9:30AM - 10:30AM

Kangaroo Room (Auditorium)

Chair: Bradley Smith

9:30AM

Neil Jordan

Managing human-wildlife interactions: conflicts and communication. *abs# 3*

MORNING TEA

10:30AM - 11:00AM

Meeting Place

Concurrent Sessions

SESSION 1A: ANIMAL-ASSISTED INTERVENTIONS WITH CHILDREN

11:00AM - 12:00PM

Kangaroo Room (Auditorium)

Chair: Brinda Jegatheesan

11:00AM

Marine Grandgeorge

Social rivalry triggers visual attention in children with autism spectrum disorders during sessions of animal-assisted intervention. *abs# 4*

11:20AM

Minal Kavishwar

Animal-assisted intervention in pediatric dentistry for children with dental fear and anxiety. *abs# 5*

11:40AM

Cheryl A Krause-Parello

The effect of an animal-assisted intervention on biological stress indicators in children undergoing forensic interview for child sexual abuse allegations. *abs# 6*

TUESDAY 3 JULY 2018 (CONTINUED)

SESSION 1B: HUMAN–WILDLIFE INTERACTIONS

11:00AM - 12:00PM

Dingo Room (Dry Teaching Room 1.2)

Chair: Samantha Hurn

- 11:00AM **Samantha J Chiew**
Zoo visitor attitudes towards little penguins. *abs# 7*
- 11:20AM **Ivan Tacey**
Tigers and elephants are people too! The effects of forest loss and international poaching on relations between Bateks and keystone species in Malaysia. *abs# 8*
- 11:40AM **Swapnil Kumbhojkar**
Human-Leopard (*Panthera pardus fusca*) co-existence in Jhalana Nature Reserve (JNR), Jaipur, North West India. *abs# 9*

SESSION 1C: REPRESENTATIONS OF HUMAN–ANIMAL INTERACTIONS

11:00AM - 12:00PM

Galah Room (Dry Teaching Room 1.3)

Chair: Agata Mrva-Montoya

- 11:00AM **Katherine FitzHywel**
Translating the animal in literature: How can the language employed in literature affect the interpretation and perception of nonhuman animals? *abs# 10*
- 11:20AM **Emily Plec**
Animated animal nativity tales. *abs# 11*
- 11:40AM **Vicki E Hutton**
Lingering perceptions of non-human animals as property and toys: The role of animated media. *abs# 12*

SYMPOSIUM 1

11:00AM - 12:45PM

Platypus Room (Seminar Rooms 1.2/1.4)

Chair: Anthony Podberscek

- 11:00AM **Patrick Flynn, Anne Fawcett, Imke Tammen and Paul McGreevy**
Veterinarians, veterinary nurses and anthrozoology. *abs# 101*

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5 MINUTE BREAK

12:00PM - 12:05PM

Concurrent Sessions Continued

SESSION 1A: ANIMAL-ASSISTED INTERVENTIONS WITH CHILDREN (CONTINUED)

12:05PM - 12:45PM

Kangaroo Room (Auditorium)

Chair: Brinda Jegatheesan

- 12:05PM **Angela Matijczak**
The influence of interaction with a dog on mood, anxiety, and arousal in children. *abs# 13*
- 12:25PM **Tania Signal**
In the eye of the parent: The potential of dogs to improve the acceptability of trauma-focused therapies for sexually abused children. *abs# 14*

TUESDAY 3 JULY 2018 (CONTINUED)

SESSION 1B: HUMAN–WILDLIFE INTERACTIONS (CONTINUED)

12:05AM - 12:45PM

Dingo Room (Dry Teaching Room 1.2)

Chair: Samantha Hurn

12:05PM **Lucy E Bearman-Brown**

The scale and impact of wildlife rehabilitation on the West-European hedgehog (*Erinaceus europeus*).
abs# 15

12:25PM **Lief Erikson D Gamalo**

Human–macaque conflict in Puerto Princesa Subterranean River National Park (PPSRNP), Philippines.
abs# 16

SESSION 1C: REPRESENTATIONS OF HUMAN–ANIMAL INTERACTIONS (CONTINUED)

12:05PM - 12:45PM

Galah Room (Dry Teaching Room 1.3)

Chair: Agata Mrva-Montoya

12:05PM **Bradley P Smith**

What's in a (pet) name? *abs# 17*

12:25PM **Johanna Gibson**

The life of the author: sentience, creativity, and agency in the animal before the law. *abs# 18*

LUNCH

12:45PM - 2:00PM

The Quadrangle

Quadrangle – Animal-themed tunes will be played on the University Carillon from 1:00PM – 1:45PM

Concurrent Sessions

SESSION 2A: EFFECTS OF PET OWNERSHIP

2:00PM - 2:40PM

Kangaroo Room (Auditorium)

Chair: Sandra McCune

2:00PM **Sandra B Barker**

Four-year longitudinal study of the relationship between pet ownership, internalizing symptoms, and social support in a cohort of college students. *abs# 19*

2:20PM **Aliya Khalid**

Effect of pet interaction on stress reduction and positive mood enhancement among pet-owners and non-owners. *abs# 20*

SESSION 2B: HUMAN–ANIMAL INTERACTIONS AROUND THE WORLD

2:00PM - 2:40PM

Dingo Room (Dry Teaching Room 1.2)

Chair: Cluny South

2:00PM **Stephen Albone**

Gender differences in Mauritanian children's anthrozoic attitudes. *abs# 21*

2:20PM **Noriko Niijima**

Why Diapers for dogs sell well in Japan? Research on nursing homes for elderly dogs and cats in Japan.
abs# 22

SYMPOSIUM 2

2:00PM - 3:45PM

Galah Room (Dry Teaching Room 1.3)

Chairs: Marie-Jose Enders-Slegers and Brinda Jegatheesan

2:00PM **Marie-Jose Enders-Slegers and Brinda Jegatheesan**

IAHAIO Symposium: Perspectives on Bridging the Gap between Researchers and Practitioners in HAI: Current Challenges and Future Pathways in Animal-Assisted Interventions. *abs# 102*

TUESDAY 3 JULY 2018 (CONTINUED)

SYMPOSIUM 3

2:00PM - 3:45PM

Platypus Room (Seminar Rooms 1.2/1.4)

Chairs: Neil Jordan & Bradley Smith

2:00PM **Bradley Smith, Neil Jordan, Cathy Herbert, Alex Mayers and Casey O'Brien**

Human-wildlife conflict: Rebuilding conscious co-existence. *abs# 103*

5 MINUTE BREAK

2:40PM - 2:45PM

Concurrent Sessions Continued

SESSION 2A: EFFECTS OF PET OWNERSHIP (CONTINUED)

2:45PM - 3:45PM

Kangaroo Room (Auditorium)

Chair: Sandra McCune

2:45PM **Dac Loc Mai**

Does pet ownership affect how well Vietnamese people adjust to living in Australia? *abs# 23*

3:05PM **Carri Westgarth**

Dog owners are more likely to meet physical activity guidelines. *abs# 24*

SESSION 2B: HUMAN-ANIMAL INTERACTIONS AROUND THE WORLD (CONTINUED)

2:45PM - 3:45PM

Dingo Room (Dry Teaching Room 1.2)

Chair: Cluny South

2:45PM **Alexandra Onofrei**

The politics of private pig slaughter in northern Romania. *abs# 25*

3:05PM **Raphael Richter-Gravier**

Bird narratives of Polynesia: a study of human-bird interactions through the analysis of traditional Polynesian stories. *abs# 26*

3:25PM **Quixi Sonntag**

Utilising participatory reflection and action to facilitate rabies awareness in a rural community in South Africa. *abs# 27*

AFTERNOON TEA

3:45PM - 4:15PM

Meeting Place

BOOK LAUNCH: ANIMALS AND LEISURE + WILD ANIMALS AND LEISURE

3:45PM - 4:15PM

Kangaroo Room (Auditorium)

PLENARY PRESENTATION: TED DONELAN AND CHRISTINE ROSS

4:15PM - 5:15PM

Kangaroo Room (Auditorium)

Chair: Bidda Jones

4:15PM **Ted Donelan and Christine Ross**

Cultural connections: Understanding the relationship between Aboriginal and Torres Strait Islander people and animals, and the implications for delivery of dog health and community wellbeing programs in these communities. *abs# 28*

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for all creatures great & small

TUESDAY 3 JULY 2018 (CONTINUED)

5 MINUTE BREAK

5:15PM - 5:20PM

Concurrent Sessions

SESSION 3A: NEUTERING EFFECTS AND ATTITUDES

5:20PM - 6:00PM

Kangaroo Room (Auditorium)

Chair: Lynette Hart

5:20PM

Bronwyn Orr

Veterinarian attitudes and behaviours to prepubertal desexing in the Australian Capital Territory. *abs# 29*

5:40PM

Marta Zlotnick

Incidence of health and behavior problems in service dog candidates neutered at various ages. *abs# 30*

SESSION 3B: ANIMAL CARERS

5:20PM - 6:00PM

Dingo Room (Dry Teaching Room 1.2)

Chair: Carri Westgarth

5:20PM

Pauleen Bennett

Compassion fatigue in people who care for animals: An investigation of risk and protective factors. *abs# 31*

5:40PM

Bruce Englefield

A review of roadkill rescue: who cares for the mental, physical and financial welfare of Australian wildlife carers? *abs# 32*

SESSION 3C: ANIMALS IN FARMING

5:20PM - 6:00PM

Galah Room (Dry Teaching Room 1.3)

Chair: Lee Zasloff

5:20PM

Philip Marriott

The shepherd as a model for human–animal interaction on small farms. *abs# 33*

5:40PM

Carolina A Munoz

Farmer attitudes and its relationship with sheep welfare. *abs# 34*

SESSION 3D: SUCCESSFUL AND UNSUCCESSFUL INTERACTIONS

5:20PM - 6:00PM

Platypus Room (Seminar Rooms 1.2/1.4)

Chair: Erika Friedmann

5:20PM

Lisa Emmett

From playing frog baseball to anthropomorphizing them: searching for predictors in human–animal interactions that went wrong; a systematic review. *abs# 35*

5:40PM

Karen Thodberg

Does successful participation in activities with a dog during a nursing home visit affect the subjective assessment of the residents' experience? *abs# 36*

TUESDAY 3 JULY 2018 (CONTINUED)

ISAZ STUDENT POSTER AWARD CONTENDERS (3-MIN TALKS)

6:30PM - 7:00PM

Kangaroo Room (Auditorium)

Chair: Bradley Smith

- 6:30PM **Mei-Mei Heng Yee Tan**
Interactions between Singapore's wild smooth-coated otters and people. abs# 219
- 6:35PM **Emily Kieson**
Equine-human interactions in therapy: A lack of research in horse-human bonding. abs# 230
- 6:40PM **Melissa Laing**
Social work with vulnerable groups and their companion animals. abs# 232
- 6:45PM **Tomoha Mikayama**
The effects of animal-assisted interventions using dogs on first-year university students in Japan.
abs# 235
- 6:50PM **Rachel Yerbury**
Human-dolphin interactions: Relationships, connections and the reinforcement of an ongoing nature
relationship. abs# 255

EVENING EVENT: POSTER RECEPTION

7:00PM - 9:00PM

Taste Café (above Kangaroo Room)

The posters will be relocated to the Kookaburra Room for Wednesday and Thursday of the conference.

WEDNESDAY 4 JULY 2018

REGISTRATION OPEN

7:30AM - 6:00PM

Kangaroo Room Foyer

*Light Breakfast available between 7:30AM and 8:40AM
Includes: Tea/coffee/juice/pastry*

INTRODUCTION

8:30AM - 8:45AM

Kangaroo Room (Auditorium)

Chair: Cheryl Krause-Parello

*Announce new ISAZ Fellows (Cheryl-Krause-Parello, ISAZ President)
Early Career Award Announcement (Cheryl Krause-Parello, ISAZ and Sandra McCune, WALTHAM)*

ISAZ EARLY CAREER AWARD PRESENTATION

8:45AM - 9:15AM

Kangaroo Room (Auditorium)

Chair: Cheryl Krause-Parello

PLENARY PRESENTATION: CLAIRE PARKINSON

9:15AM - 10:15AM

Kangaroo Room (Auditorium)

Chair: Anthony Podberscek

9:15AM

Claire Parkinson

Animals on screens: Thinking critically about animals, audiences and empathy. *abs# 37*

MORNING TEA

10:15AM - 10:45AM

Meeting Place

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Concurrent Sessions

SESSION 4A: HUMAN-WILDLIFE INTERACTIONS

10:45AM - 12:05PM

Kangaroo Room (Auditorium)

Chair: Alan McElligott

10:45AM

Kirin Apps

In the water with white sharks: Can cage-dive tourism influence conservation behaviour? *abs# 38*

11:05AM

Kate Marx

Chirps, quacks, croaks, howls and "What was that?": how long-distance hikers on the Appalachian Trail came to know trail animals through their sounds. *abs# 39*

11:25AM

Verena Schröder

Framing the wolf: notes on representation of a returning predator. *abs# 40*

11:45AM

Katherine Whitehouse-Tedd

Stakeholder perceptions of a livestock guarding dog programme in South Africa. *abs# 41*

WEDNESDAY 4 JULY 2018 (CONTINUED)

SYMPOSIUM 4

10:45AM - 12:05PM

Dingo Room (Dry Teaching Room 1.2)

Chair: Angela Fournier

10:45AM **Angela Fournier, Elizabeth Letson and Jennifer Laitala**

Developing a theory on animal-assisted psychotherapy: discussions across disciplines, species, and outcomes. *abs# 104*

SYMPOSIUM 5

10:45AM - 12:05PM

Galah Room (Dry Teaching Room 1.3)

Chairs: Marie-Jose Enders-Slegers and Brinda Jegatheesan

10:45AM **Brinda Jegatheesan and Marie-Jose Enders-Slegers**

One Health: Strategies for strengthening global connection. *abs# 105*

SYMPOSIUM 6

10:45AM - 12:05PM

Platypus Room (Seminar Rooms 1.2/1.4)

Chair: Catherine Amiot

10:45AM **Catherine Amiot, Brock Bastian, Cluny South and Matthew Ruby**

Adopting an inclusive perspective to understand our relations with animals and their important (but sometimes conflicting) place in human lives: A role for social psychology. *abs# 106*

LUNCH

12:05PM - 1:15PM

Meeting Place

Sponsored by



NIH/MARS-WALTHAM PARTNERSHIP PRESENTATION ON FUNDING OPPORTUNITIES FOR HAI RESEARCH

12:30PM - 1:15PM

Kangaroo Room (Auditorium)

Chair: Angela Fournier

Including NIH Presentation: Kangaroo Room (Auditorium)

Presenters: Sandra McCune, Jim Griffin, Nancy Gee

Concurrent Sessions

SESSION 5A: ISSUES WITH KEEPING PETS

1:15PM - 2:15PM

Kangaroo Room (Auditorium)

Chair: Ben Stapley

1:15PM **Taryn M Graham**

Searching, settling, and staying put: Rental housing in the (dis)placing of dog owners. *abs# 42*

1:35PM **Susan J Hazel**

Relinquishment of dogs and cats online. *abs# 43*

1:55PM **Lauren Powell**

The expectations of prospective adopters for dog ownership. *abs# 44*

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WEDNESDAY 4 JULY 2018 (CONTINUED)

SESSION 5B: HISTORICAL ASPECTS OF HUMAN–ANIMAL INTERACTIONS

1:15PM - 2:15PM

Dingo Room (Dry Teaching Room 1.2)

Chair: Bernard Unti

1:15PM **Lydia Bashford**
The bare essentials: the representation of brown bears in ancient Egypt. *abs# 45*

1:35PM **Linda Evans**
Animal behaviour in ancient Egyptian art. *abs# 46*

1:55PM **Mary Hartley**
It's a dog's life: votive canid crania from Saqqara. *abs# 47*

SESSION 5C: EFFECTS OF ANIMAL-ASSISTED THERAPY ON ANIMALS

1:15PM - 2:15PM

Galah Room (Dry Teaching Room 1.3)

Chair: Mariko Yamamoto

1:15PM **Ann Baldwin**
Comparison of effects of three types of facilitated horse–human interactions on stress levels of humans and horses. *abs# 48*

1:35PM **John-Tyler Binfet**
Therapeutic for all? Observational assessments of therapy canine stress during sessions. *abs# 49*

1:55PM **Sarah R Nicholls**
Perceived stress responses in therapy dogs during animal-assisted activities in aged care facilities. *abs# 50*

SYMPOSIUM 7

1:15PM - 2:15PM

Platypus Room (Seminar Rooms 1.2/1.4)

Chair: Deborah E Linder and Nancy R Gee

1:15PM **Deborah E Linder and Nancy R Gee**
Best practices and standards for animal-assisted interventions. *abs# 107*

5 MINUTE BREAK

2:15PM - 2:20PM

Concurrent Sessions

SESSION 6A: ANIMAL-OWNER CHARACTERISTICS

2:20PM - 3:20PM

Kangaroo Room (Auditorium)

Chair: Catherine Amiot

2:20PM **Tania C Plueckhahn**
Comparing owner rated dog temperament measures with demographics and a measure of owner personality. *abs# 51*

2:40PM **James A Serpell**
Relationship between owner personality and mood and the prevalence of canine behavior problems. *abs# 52*

3:00PM **Joshua Trigg**
Archotyping relationships with companion animals to understand disaster risk-taking propensity. *abs# 53*

WEDNESDAY 4 JULY 2018 (CONTINUED)

SESSION 6B: ANIMAL-ASSISTED THERAPY AND CHRONIC HEALTH ISSUES

2:20PM - 3:20PM

Dingo Room (Dry Teaching Room 1.2)

Chair: Sandra Barker

- 2:20PM **Wanda Arnskötter**
Effects of animal presence and contact on frontal brain activity in patients in a minimally conscious state (MCS): A randomized, controlled pilot study. *abs# 54*
- 2:40PM **Karin Hediger**
Effects of animal-assisted therapy in patients in a minimally conscious state: a randomised-controlled trial. *abs# 55*
- 3:00PM **Kristýna Machová**
The effect of animal- assisted therapy in patients in long-term care: pilot study. *abs# 56*

SESSION 6C: SERVICE/ASSISTANCE DOGS

2:20PM - 3:20PM

Galah Room (Dry Teaching Room 1.3)

Chair: Marie-Jose Enders-Slegers

- 2:20PM **Megan R LaFollette**
PTSD service dogs: associations between training techniques, service dog behaviors, and human-animal bond. *abs# 57*
- 2:40PM **Jennifer Gravrok**
Do dogs help people to thrive and are service dogs more beneficial than companion dogs. *abs# 58*
- 3:00PM **Fenella Eason**
Common loss, common gain: dogs and humans learn mutualistic practices of care. *abs# 59*

SYMPOSIUM 8

2:20PM - 3:20PM

Platypus Room (Seminar Rooms 1.2/1.4)

Chair: John-Tyler Binfet

- 2:20PM **John-Tyler Binfet, Elizabeth Kjellstrand Hartwig, Haley Silas, Carson McKay and Brittany Calibaba**
Therapy canines: screening and assessment safeguarding well being and innovative programming. *abs# 108*

AFTERNOON TEA

3:20PM - 3:50PM

Meeting Place

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PLENARY PRESENTATION: VICKY MELFI

3:50PM - 4:50PM

Kangaroo Room (Auditorium)

Chair: Pauleen Bennett

- 3:50PM **Vicky Melfi**
Human–animal interactions in zoos: Balancing urban biophilia with species conservation. *abs# 60*

5 MINUTE BREAK

4:50PM - 4:55PM

WEDNESDAY 4 JULY 2018 (CONTINUED)

Concurrent Sessions

SESSION 7A: ANIMAL-ASSISTED INTERVENTIONS IN MENTAL HEALTH

4:55PM - 5:55PM

Kangaroo Room (Auditorium)

Chair: Susan Hazel

- 4:55PM **Emma L Hawkins**
Animal-assisted therapy for schizophrenia: a systematic review. *abs# 61*
- 5:15PM **Cora Wagner**
The relation between ward cats and patient satisfaction in psychiatric wards. *abs# 62*
- 5:35PM **Elizabeth Kjellstrand Hartwig**
There's a dog in my session: practitioner perspectives on animal-assisted counselling. *abs# 63*

SESSION 7B: ETHICS OF ANIMAL USE

4:55PM - 5:55PM

Dingo Room (Dry Teaching Room 1.2)

Chair: Andrew Rowan

- 4:55PM **Catherine M Smith**
Bark once for yes and twice for no: applying the capabilities approach to research ethics in human-animal interaction studies. *abs# 64*
- 5:15PM **Alexander Badman-King**
Complete bollocks: Do we have a moral obligation to neuter other animals? *abs# 65*
- 5:35PM **Franklin D McMillan**
Psychobehavioural outcomes for dogs sold as puppies through pet shops and/or born in commercial breeding establishments. *abs#66*

SESSION 7C: ANIMAL-ASSISTED INTERVENTIONS WITH YOUNG PEOPLE

4:55PM - 5:55PM

Galah Room (Dry Teaching Room 1.3)

Chair: Sandy Branson

- 4:55PM **Janet Trammell**
The effects of therapy dogs on stress and memory. *abs# 67*
- 5:15PM **Shui King Leung**
An animal-assisted narrative journey for youth with social withdrawal experiences in Hong Kong. *abs# 68*
- 5:35PM **Sara F Boyle**
Evaluation of infection control and prevention measures in a university-based animal assisted intervention (AAI) program. *abs# 69*

SESSION 7D: HUMAN-FARM ANIMAL INTERACTIONS

4:55PM - 5:55PM

Platypus Room (Seminar Rooms 1.2/1.4)

Chair: Alex Mayers

- 4:55PM **Lee Zasloff**
Perspectives on donkey companions. *abs# 70*
- 5:15PM **Alan G McElligott**
Goats differentiate human emotional facial expressions. *abs# 71*
- 5:35PM **Joanne M Williams**
Enhancing children's understanding of farm animal and wildlife welfare through interactive iPad games. *abs# 72*

WEDNESDAY 4 JULY 2018 (CONTINUED)

CONFERENCE DINNER

7:00PM - 11:00PM

Sydney Harbour

*Sydney Harbour dinner cruise
(including coach transfer: coaches depart from University of Sydney at 7:00PM)
Delegates will be picked up from the bus stop located just down from The Corner Cafe on Missenden Road.*

Sponsored by



THURSDAY 5 JULY 2018

REGISTRATION OPEN

8:00AM - 5:00PM

Kangaroo Room Foyer

*Light Breakfast available between 8:00AM and 9:00AM
Includes: Tea/coffee/juice/pastry*

Concurrent Sessions

SESSION 8A: NIH/MARS-WALTHAM: NEW DEVELOPMENTS IN HUMAN-ANIMAL INTERACTION (HAI) RESEARCH

9:00AM - 10:00AM

Kangaroo Room (Auditorium)

Chair: James Griffin

9:00AM

Sandy Branson

Biobehavioral examination of cat ownership and attachment in older adults. *abs# 73*

9:20AM

Heather L Johnson

The role of Canine Assisted Intervention on improving self-perception in children with Attention Deficit/Hyperactivity Disorder. *abs# 74*

9:40AM

Nancy R Gee

Research methods used to consider the impact of HAI on older adults' health. *abs# 75*

SESSION 8B: WORKING WITH ANIMALS

9:00AM - 10:00AM

Dingo Room (Dry Teaching Room 1.2)

Chair: Benjamin Hart

9:00AM

Emily Kieson

Horses prefer food over human contact for task reward: Considerations for human-horse bonding. *abs# 76*

9:20AM

Lisa Emmett

The human behind the training techniques: dog trainers and coping. *abs# 77*

9:40AM

Sara Owczarczak-Garstecka

Exploring how individuals who work around dog's experience and practice safety. *abs# 78*

SESSION 8C: CRUELTY TO ANIMALS/ANIMAL ABUSE

9:00AM - 10:00AM

Galah Room (Dry Teaching Room 1.3)

Chair: Tania Signal

- 9:00AM **Roxanne D Hawkins**
Children's attitudes towards animal cruelty. *abs# 79*
- 9:20AM **Michal P Pregowski**
Attitudes to animal abuse in veterinary practice in Poland. *abs# 80*
- 9:40AM **Rick Gibson**
Slugs snails and YouTube. *abs# 81*

THURSDAY 5 JULY 2018 (CONTINUED)

SESSION 8D: FREE PAPERS

9:00AM - 10:00AM

Platypus Room (Seminar Rooms 1.2/1.4)

Chair: Jessica Groling

- 9:00AM **Steve North**
Computational anthrozoology - a manifesto: 'as the lens' and 'under the lens'. *abs# 82*
- Please note: Steve North's presentation will be pre-recorded, Christopher Calvert will introduce and answer any questions post-presentation.*
- 9:20AM **Samantha Hurn**
Evaluating anthropocentric versus caninocentric attitudes and approaches to stray dog management: the case of Topoloveni, Romania as a potential example of best practice. *abs# 83*
- 9:40AM **Jane Yalcilla**
How multidisciplinary is Anthrozoös? *abs# 84*

MORNING TEA

10:00AM - 10:30AM

Meeting Place

Concurrent Sessions Continued

SESSION 8A: NIH/MARS-WALTHAM: NEW DEVELOPMENTS IN HUMAN-ANIMAL INTERACTION (HAI) RESEARCH (CONTINUED)

10:30AM - 11:30AM

Kangaroo Room (Auditorium)

Chair: Nancy Gee

- 10:30AM **Rebecca Purewal**
The impact of pet ownership on emotional health outcomes in children and adolescents: a UK Population study. *abs# 85*
- 10:50AM **Shelby E McDonald**
The role of callous/unemotional traits in mediating the association between animal abuse exposure and behavior problems among children exposed to intimate partner violence. *abs# 86*
- 11:10AM **Jaymie Vandagriff**
Characteristics of student canine interaction during meet and greet activity in a university-based animal visitation program. *abs# 87*

SESSION 8B: WORKING WITH ANIMALS (CONTINUED)

10:30AM - 11:30AM

Dingo Room (Dry Teaching Room 1.2)

Chair: Benjamin Hart

- 10:30AM **Raffaella Lubiana**

Does attitude to dominance and dog behaviour influence use of aversive or non-aversive equipment.
abs# 88

10:50AM

Tiffani J Howell

Is clicker training (clicker+food) better than food-only training for novice companion dogs and their owners? *abs# 89*

11:10AM

Erin Flynn

Measuring the psychosocial impacts of prison dog training programs and in-prison outcomes for inmate's.
abs# 90

THURSDAY 5 JULY 2018 (CONTINUED)

SESSION 8E: ANIMALS IN SCHOOLS

10:30AM - 11:30AM

Galah Room (Dry Teaching Room 1.3)

Chair: Kristen Jacobson

10:30AM

Deborah E Linder

Animal-assisted interventions in child literacy programs. *abs# 91*

10:50AM

Camille X Rousseau

Turning the page to read to Spot: Exploring the potential of dogs to support reading motivation and positive reading behaviours among young children. *abs# 92*

11:10AM

Donna Carlyle

Growing up with school dog "Dave" - An ethnographic study. *abs# 93*

SESSION 8F: RELATIONSHIPS WITH WILDLIFE

10:30AM - 11:30AM

Platypus Room (Seminar Rooms 1.2/1.4)

Chair: Michal Pregowski

10:30AM

Chris Calvert

Badger culling and bovine TB in England since 2013: evidence-based policy or policy-based evidence?
abs# 94

10:50AM

Jessica Groling

The applicability of moral panic theory to the study of animal folk devils: the case of urban foxes (*Vulpes vulpes*) in England. *abs# 95*

11:10AM

Meggie Callahan

Gaming the (eco)system: understanding perceptions of species and the Phylo card game. *abs# 96*

5 MINUTE BREAK

11:30AM - 11:35AM

PLENARY PRESENTATION: COURTNEY PLANTE

11:35AM - 12:35PM

Kangaroo Room (Auditorium)

Chair: James Serpell

11:35AM

Courtney Plante

Animals like us: Self and identity within the furry and therian communities. *abs# 97*

LUNCH

12:35PM - 1:30PM

Meeting Place

THURSDAY 5 JULY 2018 (CONTINUED)

SYMPOSIUM 9

1:30PM - 3:15PM

Dingo Room (Dry Teaching Room 1.2)

Chairs: Pauleen Bennett and Tiffani Howell

1:30PM **Pauleen Bennett and Tiffani Howell**

Defining and describing companion, assistance, service, and emotional support animals. *abs# 109*

Sponsored by the Anthrozoology Research Group as part of a National Disability Insurance Agency Funded Research Project



SYMPOSIUM 10

1:30PM - 3:15PM

Galah Room (Dry Teaching Room 1.3)

Chairs: Samantha Hurn & Alexander Badman-King

1:30PM **Samantha Hurn, Alexander Badman-King, Jessica Groling, Fenella Eason and Ivan Tacey**

Anthrozoology as symbiotic ethics and the ethics of anthrozoological research. *abs# 110*

SYMPOSIUM 11

1:30PM - 3:15PM

Platypus Room (Seminar Rooms 1.2/1.4)

Chair: Andrew Rowan

1:30PM **Andrew Rowan, Peter Li and Bernard Unti**

Multi-cultural perspectives of the human animal bond. *abs# 111*

Celebrating Animals | Confronting Cruelty

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AFTERNOON TEA

3:15PM - 3:45PM

Meeting Place

ISAZ ANNUAL GENERAL MEETING

3:45PM - 4:30PM

Kangaroo Room (Auditorium)

CONFERENCE CLOSE

4:30PM - 5:00PM

Kangaroo Room (Auditorium)

*Presentation of student awards: Sponsored by Mars Petcare/WALTHAM
Presentation of photo competition award: Sponsored by CSIRO Publishing
Announce 2019 conference
Conference close*

POST- CONFERENCE ISAZ BOARD MEETING

5:00PM - 6:00PM

Dingo Room (Dry Teaching Room 1.2)

POSTER LISTING

W. Leigh Atherton

The Influence of an Animal Assisted Therapy-Mindfulness Based Intervention on Anxiety in College Students. *abs# 201*

Lucy Bearman-Brown

Attitudes of residents to feral wild boar (*Sus scrofa*) in the Forest of Dean, England. *abs# 202*

Lucy Bearman-Brown

Animals on prescription the effect of animal handling sessions on student wellbeing. *abs# 221*

Simone A Blackman

Considering Canines - The role of regulation in producing companions not commodities. *abs# 203*

Terri Brosnan

The Development of a Unique Multidisciplinary Service Combining Occupational Therapy with Existing Equine Therapeutic Practices, showing improved outcomes in children between 2 and 18 years of age with a diagnosis of Autism Spectrum Disorder. *abs# 204*

Chris Calvert

Dog rescue journeys in Romania as flows within a system: a schematic approach. *abs# 205*

Janne W Christensen

Do you see what I see? Subjective assessment of nursing home visits with and without dogs by visitors and observers. *abs# 248*

Myung Sun Chun

Pet demographic data analysis in a Social Survey in Korea. *abs# 206*

Kristy Donaldson

Sit stay support dogs in court. *abs# 207*

Lisa Emmett

Distract More – Ruminant Less! Coping Strategies in Female Vets. *abs# 244*

Maija Esko

Animal stories - learning with animals. *abs# 208*

Narora Etxebarria

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ORAL ABSTRACTS

Abstracts appear as submitted. The content has not been altered.

1

Dogs helping people: In families, hospitals, colleges, and at work

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This public lecture will focus on how pet dogs and therapy dogs help people in a variety of settings. The special place dogs have in our families will be discussed along with how bringing dogs to work can help employees and businesses. A model hospital therapy dog program will be described, including how therapy dog visits help patients and staff and how therapy dogs help college students during stressful times.

2

Sniffing solutions to enhance koala conservation

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Koala populations have seen sharp declines across most of their range over the past 20 years. Monitoring koalas and their key threats has always been problematic due to the koala's cryptic nature and the fact that they often occur at low densities. Both these factors mean koala surveys are inherently difficult and costly, yield little data and often have large biases. For example, during visual koala surveys up to 80% of koalas present in an area are missed. This hinders our ability to understand koalas, monitor their population trends, identify koala threats and quantify the efficiency of management actions in terms of population recovery. The need for better methodologies is pushing koala researchers and conservationists to think outside the box. Recently, the University of the Sunshine Coast "Detection Dogs for Conservation" has been working on "sniffing out" better solutions through the use of specially trained detection dogs. The team has shown that for koala habitat surveys, koala scat detection dogs are approximately 150% better than their human counterparts, as well as 20 times quicker. New additions to the detection dog team include a koala detection dog, a fresh koala scat detection dog (employed to increase genetic sampling efficiency) and a diseased (chlamydia) koala scat detection dog. The team has intensively tested the performances of the dogs and they consistently outperform other methodologies – including humans and molecular techniques. The dogs have been deployed on research and consultancy projects in both QLD and NSW, performing thousands of surveys. Together with their handlers, they are delivering robust and unbiased Environmental Impact Assessments, maximizing the benefits of koala offsets (habitat rehabilitation), characterizing and mitigating the consequences of habitat fragmentation for koala genetics and investigating the relationship between koala health and anthropogenic pressures. By working closely with all levels of government, as well as not-for-profit organizations and businesses, the team aims at achieving on-ground, scientifically based, outcomes for the vulnerable koalas.

3

Managing human-wildlife interactions: Conflicts and communication

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2. *Botswana Predator Conservation Trust, Maun, Botswana*

3. *University of New South Wales, Sydney, NSW, Australia*

Human-wildlife conflict is increasingly common around the world, and the consequences of these interactions can be profound. Large carnivores in particular can exert significant economic and social costs by killing livestock, and they may even pose a direct threat to human life. Consequently, attempts to reduce conflicts with carnivores primarily occur through landscape-scale exclusion and lethal control. While it is recognized that ongoing lethal control can be economically, ecologically and culturally costly, most stakeholders perceive few alternatives. Barring a few effective examples of non-lethal conflict prevention tools, such as livestock guardian animals, there is little to suggest otherwise. Arguably however, a major source of potential non-lethal human-wildlife conflict solutions is yet to be fully explored and applied. Although biomimicry - taking inspiration from nature to solve key human problems - has been applied to solve a diverse number of humanity's grand challenges from bird-inspired aviation to swimsuits modelled on properties of shark skin, nature has inspired very few human-wildlife conflict solutions. Focusing on potential tools based on animal signals, I will describe my ongoing biomimetic approach to reduce human-wildlife conflict. I'll explore the potential and complexity of developing "scent-fences" for African wild dogs and dingoes, and acoustic visual deterrents for lions and other ambush predators. While we become increasingly confident that complex technologies will get us out of all kinds of trouble, is it possible that many of our major conservation challenges already have naturally-selected solutions?

Social rivalry triggers visual attention in children with autism spectrum disorders during sessions of animal-assisted intervention

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Here, a procedure based on "model-rival" social learning concept was developed as a potential tool for triggering recipients' visual attention during animal-assisted interventions (AAI). We studied mechanisms underlying recipient-service dog interactions, based on social attention is so crucial that individuals can intervene in dyadic interactions to draw attention, and attention is an intrinsic part of social functioning and social skills' development. To perform these studies, 29 ASD children, 3 trainers in dyad with one of service dogs (3 Labrador, 6 Golden, 8♂, 1♀; mean age: 23.8±0.5 months) were involved. Visual and physical behaviours were recorded using ethological methods.

Study 1: The behaviour of ASD children was compared between an experimental (attention shift of the animal trainer from the dog-child to the dog only) and a control (attention maintained on the dyad) groups (n=20, 18♂, 2♀, mean age: 7.6±1.6yo). The results show that ASD children are sensitive to the direction of (visual) social attention and may act, physically and visually, in order to regain it. When the animal trainer concentrated on the dog, the overall visual attention of the ASD children increased (F=15.44, p<0.001), suggesting a heightened awareness towards their environment. They oriented more towards the trainer and the dog, contrarily to the control group.

Study 2: The repetition of the procedure during three weeks with 9 other children (8♂, 1♀, mean age: 13.7±2.3yo) was even associated with increased joint attention with the trainer (Wilcoxon tests, p<0.05).

Both studies yielded similar results. Educator's attention changes induced ASD children to intervene in the interspecific dyad to draw attention by using both visual and physical behaviours. Their visual attention increased significantly and continued to do so across sessions (e.g more gazes and joint attention towards the educator when educator and service dog were close). This was clearly due to the experimental procedure; none of these changes were observed when educator's attention was oriented towards ASD child.

ASD children improved their communication skills in the presence of the educator-service dog dyad. This experimental attentional change suggests that social competition for attention is a possible mechanism involved in awarding the benefits observed in AAI

1. Grandgeorge M, Gautier Y, Brugailleres P, Tiercelin I, Jacq C, Lebet M-C, Hausberger M. (2017) Social rivalry triggers visual attention in children with autism spectrum disorders. *Scientific Reports*, 7 (10029), 1-8

Animal assisted intervention in pediatric dentistry for children with dental fear and anxiety

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Dental fear and anxiety (DFA) in children, is primary barrier in oral health care, associated with crying, muscular tension, avoiding treatment, tantrums and negative thoughts.* In a first of its kind study in India, benefits of having therapy dog to comfort children with anxiety and fear during dental treatment, was studied.

A study conducted with pre and post randomized controlled clinical trial, was conducted on Indian children (n=100) between the age group of 5 to 10 yrs, requiring simple dental procedures, like oral prophylaxis, restorations, pit and fissures sealants and fluoride applications. EG (n=50) underwent dental procedures in the presence of a therapy dog and CG (n=50) dental procedures were performed in the regular dental setting in the absence of the therapy dog. The study used modified faces version of dental anxiety scale, to measure the child's level of anxiety, before and after the treatment, in both groups. Pulse rate was also measured with the help of pulse oximeter, before, during and after the dental procedure.

Statistical analysis was conducted using unpaired t-test to compare the two conditions. The anxiety measured with the help of modified faces version of the child dental anxiety scale, was found to be seen to be slightly higher in the control group before the treatment (M=22.08, SD=2.320) than the experimental group (M=20.68, SD=3.455) t=2.379, p=0.019*. Anxiety was measured to be significantly higher in the control group after the treatment (M=21.48, SD=2.270) as compared to the experimental group (M=11.98, SD=2.861) t=18.395, P=<0.001

The pulse rate measured in both groups was almost same before the procedure (EG:M=86.12 and CG:M=86.08) t=0.021, p=0.984 and was comparatively higher in the control group (M=104.9) than the experimental group (M=96.07) when measure during the procedure. However the pulse rate measured for the control group after the procedure stayed (M=90.20, SD=9.04) but experimental group measured M=78.44, SD=7.72, t=6.989, p = <0.001

Animal Assisted Interventions is an upcoming field in India, with new applications being tried in the field. This study shows that when applied in the field of pediatric dentistry, it has shown significant results in calming down dental anxiety in children.

1. Klingberg. G, Borberg AG, *International Journal of Pediatric Dentistry* 2007, 17(6):391-406.

The effect of an animal-assisted intervention on biological stress indicators in children undergoing forensic interview for child sexual abuse allegations

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Introduction: Child sexual abuse is a hideous crime against children. During a forensic interview the child is asked to disclose information about the alleged sexual abuse. Disclosure of sexual abuse can be a stressful experience for the child.

The paper discusses the effect of a service-trained facility dog [animal-assisted intervention (AAI)] on biological stress indicators in children undergoing a forensic interview for child sexual abuse allegations.

Methodology: Children were referred to a child advocacy center for a forensic interview following allegations of sexual abuse. A repeated measures design was conducted to examine how an AAI may serve as a mode of lowering biological stress indicators in children during a forensic interview. Children ($N = 51$) ages 4-16 ($M = 9.1$, $SD = 3.5$) were randomized to one of two forensic interview conditions: experimental condition (experimental forensic interview-AAI) or control condition (standard forensic interview–no AAI). Stress biomarkers: heart rate, blood pressure, salivary alpha-amylase, and Immunoglobulin A (IgA) were collected before and after the forensic interview.

Main Results: Results supported a significant decrease in heart rate for children in the experimental condition ($p = .0086$) vs. the control condition ($p = .4986$). Regression models revealed a significant decrease in systolic ($p = .03285$) and diastolic ($p = .04381$) blood pressure in children in the experimental condition-AAI. Statistically significant changes in alpha-amylase and IgA were also found in relation to disclosure and type of sexual offence.

Principal Conclusions and Implications for Field: These findings suggest that an AAI has a biological stress reducing effect in children undergoing forensic interview for allegations of child sexual abuse. AAI as an empirically validated stress reducing modality has real-world value for children, child welfare personnel, and clinical therapists. Based on these findings it is suggested that AAI be expanded to children and other marginalized populations facing sexual and other types of abuse.

Zoo visitor attitudes towards little penguins

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Introduction: Assessing visitor attitudes towards zoo animals is an important area of research which can inform the way zoos manage visitor-animal interactions, by providing an insight on how visitors see and interact with animals and identify visitor interests. However, limited research has been conducted on this topic particularly for understudied taxa such as birds. The present study assessed visitor attitudes towards little penguins (*Eudyptula minor*) and their welfare at Melbourne (MZ) and Taronga Zoo (TZ).

Methodology: Visitor attitudes towards little penguins and their welfare were assessed using an anonymous attitude questionnaire. Visitors were approached after they had finished viewing the penguins and were given two options to complete the questionnaire, either on an iPad on site during their zoo visit or online (URL sent via email) after their zoo visit. Descriptive statistics, principal component analyses (PCAs) and one-way analysis of variance (ANOVA) were performed using SPSS to examine differences in visitor attitudes between zoos.

Main Results: A total of 691 surveys (43% during zoo visit, 57% after zoo visit) were completed, 547 (79.2%) at MZ and 144 (20.8%) at TZ. PCA analyses extracted four components (with eigenvalues greater than 1) which were labelled, based on the questions that loaded on each component, as 'Negative penguin welfare', 'Positive attitudes towards little penguins', 'Positive penguin welfare' and 'Negative attitudes towards little penguins' and accounted for 31.8%, 13.4%, 7.4% and 6.6% of the variance respectively. There were significant differences between zoos for 'Negative attitudes towards penguins' and 'Negative penguin welfare' ($F_{1,556} = 34.41$, $p = 0.000$ and $F_{1,556} = 5.79$, $p = 0.016$, respectively), with questions related to penguins being timid, aggressive, fearful and stressed, loading on those components. Furthermore, little penguin welfare which was rated in a separate question by visitors, differed between zoos ($F_{1,653} = 5.11$, $p = 0.024$).

Principal Conclusions and Implications for Field: These findings suggest there are differences between the two zoos in visitor attitudes which may be influenced by differences in visitor demographics, visitor experience, enclosures and visitor viewing areas and/or penguin behaviour. This highlights potential areas for further investigation to understand why there are differences and the possible implications this could have on visitor experience and behaviour.

Tigers and elephants are people too! The effects of forest loss and international poaching on relations between Bateks and keystone species in Malaysia

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Introduction: Using case-studies researched among Bateks (indigenous people of Peninsula Malaysia), this paper explores transformations in the relations between tigers, elephants and forest peoples. Recasting theoretical developments from new animism and multispecies ethnography within a framework in which animals and humans are equally considered as ethically significant beings, I discuss how environmental degradation and poaching threaten both the biological diversity of the rainforest and the ontological security of indigenous peoples.

Methodology: The paper draws upon extensive interviews with Batek men and women during twenty-months of anthropological fieldwork carried out in forest communities between 2007 and 2014. Interviews focussed on multi-species interactions between community members and tigers and elephants. Additional data were gathered in interviews with park rangers and non-governmental organisations working toward the conservation of tigers and elephants in and around the Taman Negara National Park.

Main Findings: For millennia, Bateks have shared their rainforest homes with tigers, elephants and countless other species. In the Bateks' relational ontology, elephants and tigers are considered as powerful but benevolent other-than-human persons whose bodily forms are seen as cloaks within which the human-like souls of shamans and creator beings are concealed. Recent Batek discourses about elephants emphasize increased aggressive behaviour which is blamed upon poaching, environmental degradation and the relocation of pachyderms to their areas. Concomitantly, Bateks express heightened anxiety about decreasing tiger populations and increasingly represent tigers as bloodthirsty lycanthropes rather than benevolent protectors. Behavioural changes of both species are perceived within the Batek's relational ontology as marking more widespread catastrophic changes.

Principal Conclusions and Implications for Field: Recent approaches by proponents of new animism have focused on cosmological constructs and relations between humans and animals as other-than-human beings in indigenous peoples' shamanic practices and myths. However, the ontological shifts that Bateks describe are informed by real-world problems that they and the keystone species they share the forest with experience as a result of changing ecological conditions and violence. I argue that to successfully implement policies for species conservation, governments and NGOs should advocate for an ethically symbiotic approach that fully respects the rights of both keystone species and indigenous peoples.

Human-Leopard (*Panthera pardus fusca*) co-existence in Jhalana Nature Reserve (JNR), Jaipur, North West India

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Introduction: In India, because of the continuum between the forests and rural areas, Leopards are the largest carnivore that lives on the fringes of human habitations, resulting in human-leopard interactions. JNR, a unique forest-island encircled by Jaipur City, hosts a small population of leopards in an area of 29 km². Two villages, Bhomiyaji and Kho Nagoriyan, are of special interest because residents are predominantly cattle farmers, and where most human-leopard interactions are recorded. In spite of the anthropogenic activities in the area, the leopards are non-homophobic. It is, therefore, imperative to understand the attitude of the villagers towards their "neighbors" and their continued role in the conservation of this predator.

Methodology: We conducted a survey of the residents (N = 480; 382 male, 98 female) closest to JNR. We questioned the villagers their perceptions of the leopard and its existence, its importance in the food chain, recent efforts of the forest department to protect/develop the sanctuary, and about conserving the ecosystem and the leopard in particular.

Main Findings: The residents are minimally educated (95%), unskilled (94%), and from low income (87.29%) groups. Most (92.71%) villagers have encountered leopards, at times from very close quarters (72.29%), were fully aware of its role in the ecosystem (82.39%), stressed the necessity of conserving the leopard to save the forests (99.79%), but few (10.41%) supported the efforts to wall in the reserve in order to prevent human encroachment. Interestingly, the villagers love and respect the leopards in spite of the occasional loss of livestock. Villagers have dug waterholes and never retaliate following losses incurred. The majority are Jains, who believe in non-violence. All (100%) of the villagers are aware of the benefits of ecotourism. Some inhabitants (1.45%) are indifferent to the existence of the leopard as it does not affect their day to day activities. A minority (7.9%) expressed their negative feeling towards the recent conservation effort.

Principal Conclusions and implications for Field: We conclude that the awareness, curiosity, proactive response towards conservation, and positive attitude of the villagers play a vital role in the success of the continued human-leopard coexistence.

Translating the animal in literature: How can the language employed in literature affect the interpretation and perception of nonhuman animals

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Introduction: The language employed in literature can contribute to narratives which reflect and affect readers' perceptions of nonhuman animals. The nonhuman animal is communicated, miscommunicated, or transformed by representation in human language in a multiplicity of ways. Negative or limiting associations can become attached to animal bodies through stereotypical, symbolic, anthropomorphic, or inaccurate representations in literature. These associations influence how people perceive and react to animals in real world encounters, leading to the misunderstanding, containment, and harm of animals.

Key literature references: This presentation examines how language in literature shapes our relationship to the world and the other beings in it by drawing together the philosophical considerations of Jacques Derrida and Donna Haraway, studies in human-animal affect by Rheana Parreñas and Brian Massumi, the ethical ecocritical considerations of Carol J Adams and Marc Bekoff, and examinations of narrative in poetry by Brian McHale and Stuart Cooke.

Principle conclusions and implications for the field: As animals cannot respond to the narratives we create about them, we have an ethical responsibility to question the ways our relationships with animals are constructed and circulated through the acts of writing and reading literature. We can use our knowledge of how our use of language in literature affects our perceptions of animals to create compassion rather than fear or distance. We can also attempt to show the individuality and distinctiveness of animals encountered in the text while not just singling out some individuals as 'special' or an 'exemption', as pets tend to become. By representing animals in literature as individuals who matter, we can open the way for affective connections and relationships to be built between human and nonhuman animals

Animated animal nativity tales

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The Christian Nativity story is often told to children in a manner that features animals as actors or witnesses to the birth of Christ. The 2017 film *The Star* tells the story of the journey to Bethlehem from the perspective of the animals who might have aided and witnessed Mary and Joseph's arrival in the famed manger. This paper analyzes *The Star* from a qualitative, critical-cultural perspective drawing from semiotics, feminist criticism, and animal studies. In addition to the analysis of the film, the paper offers insights into audience members' responses to the film, as it relates to their own relationships with animals. The demonization of particular canine species, the deployment of and resistance to gendered stereotypes, the use of archetypal characters, and issues of animal agency and cross-species communication are among the specific topics addressed in the paper. Ultimately, this yet-to-be-released film which, according to the producers is "The Greatest Story Never Told," uses animated animal bodies to offer a contemporary interpretation of the classic nativity story. The story, and the way in which it is told, has implications for how we understand religious and social values, how we communicate with the animals who witness or accompany us on our journeys as humans, and how we conceptualize our relationships with other animals in our environments.

Lingering perceptions of non-human animals as property and toys: The role of animated media

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Introduction: Media images and discourses from childhood can help shape beliefs about, and interactions with, non-human animals for a lifetime. This has been widely explored and critiqued across disciplines, especially in relation to animated films that often depict an idealised and unrealistic image of non-human animals based on anthropomorphised characteristics and human social systems.

In 2016, the Illumination animated film *The Secret Life of Pets* became a box office success, grossing over \$100 million on its opening weekend in North America. This paper critically examines a darker side of this film's subtext, namely, the troubling analogy of non-human animals as "property" and "toys".

Methodology and Main Findings: Drawing on close textual analysis of the film's mise-en-scene, paratexts and broader marketing strategies, it is argued that the film reinforces persisting trends in representations of non-human animals as property, and condones regular confinement and isolation of animals by re-inscribing acts of confinement in small apartments with notions of enjoyment and free human-like play for the animals. This reductionist and anthropocentric representation of non-human animal adaptation to human environments serves to alleviate human guilt and raises expectations that animals will naturally adjust. The beneficence of human ownership is further reinforced through the character of the "psycho bunny" Snowball who, without this ownership, is driven insane.

When aligned with the popular Pixar animated movie *Toy Story*, which similarly positions toys as capable of entertaining themselves when their humans are absent and being discarded when no longer of use, a dangerous learning experience is reinforced in young minds. This contributes to the ongoing normalisation of cultural attitudes about animal ownership, and undermines real-world advertising campaigns such as the Australian Royal Society for the Prevention of Cruelty to Animals slogan "Pets Are Not Toys" from the early 2000s.

The influence of interaction with a dog on mood, anxiety, and arousal in children

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Introduction: Interactions with animals represent a promising way to reduce the burden of childhood mental illness on a large scale. However, theory as well as basic and applied clinical research are sparse. This study provides well controlled demonstration that unstructured interactions with dogs can improve clinically-relevant symptoms in children.

Methodology: Seventy-eight children (55.1% female; 44.9% male) aged 10 to 13 ($M = 12.01$, $SD = 1.13$) completed the Trier Social Stress Test for Children. Participants were randomly assigned to 1) interaction with a dog, 2) a tactile-stimulation control, or 3) a waiting control. Interactions with the dogs were conducted without involvement (but with appropriate supervision) from handlers or experimenters, in order to isolate the effects of the dogs. A total of 10 dogs participated. The Positive and Negative Affect Schedule for Children, Short Form and State/Trait Anxiety Inventory for Children were completed at baseline and posttest, and salivary cortisol was assessed at five time points.

Main Results: We detected significant effects of condition on positive affect ($F(2, 72) = 4.47$, $p < .05$, partial eta squared = 0.11) and state anxiety ($F(2, 72) = 4.69$, $p = .01$, partial eta squared = 0.12). Participants in the experimental condition showed higher levels of posttest positive affect than participants in the tactile stimulation control condition (a mean difference of 2.38 points, 95% CI [0.70, 4.06], $p = .006$), and lower levels of posttest state anxiety than participants in the waiting control (a mean difference of 3.63 points, 95% CI [-6.56, -0.70], $p = .003$). Negative mood was not assessed reliably and there was no significant effect of the interactions on salivary cortisol. The interactions had moderate effects on children's subjective, but not physiological responses to a stressful situation.

Principal Conclusions and Implications for the Field: Brief interactions with dogs boosted children's positive emotions and reduced anxiety. This work provides evidence under well-controlled laboratory conditions isolating the benefit of these interactions. Additional studies that clarify how these interactions improve children's mental health will be important for further establishing the evidence base.

In the eye of the parent: The potential of dogs to improve the acceptability of trauma-focused therapies for sexually abused children

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Trauma-focused cognitive behaviour therapy (TF-CBT) is well evidenced and is currently the most common treatment for post-traumatic psychological symptoms. However high attrition from, and relatively low acceptability of, TF-CBT approaches with children following sexual trauma have been noted. Adjunct therapies that can improve acceptability, promote treatment adherence and reduce attrition rates for this group would be extremely beneficial. While inclusion of a trained animal, often a dog or horse, is increasingly being viewed as a useful adjunct for therapy little is known about consumer/lay acceptability of including an animal within treatment of childhood trauma. In this study a community sample of Australian parents and caregivers ($N = 267$) read one of two vignettes describing problematic behaviour following sexual trauma in either a 6- or 13-year old girl. Participants then rated their acceptability of three described treatment alternatives: traditional CBT therapy alone, with medication and with canine-assisted therapy. Acceptability of the canine-assisted adjunct was significantly higher than either of the other two options $F(1.66, 435.48) = 72.63$, $p < .001$. Acceptability was unaffected by child age, parental education and/or previous experience with dogs reflecting the broad acceptability seen in other studies surveying professionals. Importantly however, while other researchers have noted that therapy animal welfare is an ethical imperative for AAT clinicians, the current study suggests that animal welfare might not factor into the evaluation of treatment options by (parental) consumers. The implications of this for AAT clinicians, consumers and animals included in therapy in Australia given changes in therapy funding (NDIS) will be discussed.

The scale and impact of wildlife rehabilitation on the West-European hedgehog (*Erinaceus europaeus*)

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Introduction: Up to 71,000 animals per year are admitted to wildlife hospitals in the UK, of which 16% are thought to be hedgehogs. Individual carers, who frequently provide hedgehog rehabilitation, have not been included in previous estimates. With no regulation of wildlife rehabilitation in the UK, unlike Australia, the scale and impact of care is not known, despite the hedgehog's status as a European Protected Species. Population estimates of this nocturnal, native mammal are estimated to be less than one million, with a 40% decline in the last 10 years. This study aimed to determine with more accuracy the scale and impact of hedgehog rehabilitation in the UK, and assess variation in practice.

Methodology: A qualitative, self-administered online questionnaire was promoted to determine the number of hedgehogs admitted, the cause of admission and the outcome of treatment. The questionnaire was promoted to reach small-scale independent rehabilitators as well as large wildlife hospitals run by major charities. A systematic search of online records provided further data.

Main Findings: Responses were received from 177 of ~800 hedgehog known rehabilitators, reporting 30,591 hedgehogs treated between 2012 and 2016, with 10,931 treated during 2016. Further online records of 11,418 hedgehog were found during 2016, suggesting previous estimates could be far too low. The most recorded cause of admission was activity during the day (36.49%, $n=3,546$) and autumn juveniles (25.99%, $n=2,525$). Over 54% ($n=7,507$) of admissions survived to release, which is higher than previous estimates. Practice between centres varied substantially, particularly in relation to support for the animal during release. The controversial practice of releasing animals following limb amputation, which may have a significant impact of welfare, was practiced by 77.7% ($n=115$) of 148 respondents.

Principal Conclusions and Implications for Field: This is the largest scale survey on this topic in the UK, and suggests hedgehog care and rehabilitation is more widely practiced than previously thought. Based on these data, an estimated 5% of the UK population may experience rehabilitation in any one year. Some widespread practices could negatively affect the welfare and survival of this protected species, so greater standardisation of practice would be recommended.

Human-macaque conflict in Puerto Princesa Subterranean River National Park (PPSRNP), Philippines

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Introduction: Human-macaque conflict has already been reported in different parts of the world where there are overlaps between human and macaque resources. In the Philippines, there are limited to no study on human-macaque interactions. In this study, human-macaque conflict was documented in PPSRNP, and the attitudes and practices of the locals towards macaques in the area were also investigated.

Methodology: Direct observation of the conflict was done from August to September 2017 for 15 non-consecutive days in the Central Park Station (CPS) of the park. Continuous-all occurrences sampling on pest behaviors was done. Moreover, a questionnaire was given to 303 households living inside the park. Lastly, the visitor's complaint section was also visited. χ^2 test was used to know the differences between percentages of the answers of the respondents. This allow the researcher to know if a certain answer or a certain type of pest behavior is more common than the other/s. All statistics were tested using SPSS. Statistical significance for all tests was set at $P \leq 0.05$.

Main Results: It was directly observed that the most common pest behavior of the macaque to the park personnel in CPS was littering ($n=9$; 42%; $\chi^2=5.524$, $p=0.03$), while according to the locals, eating of crops was the most common pest behavior ($n=127$; 93.4%; $\chi^2=242.380$, $p=0.000$). Although, there were no existing tourist complains towards the macaques, park personnel reported that aggressive tourist-macaque encounters also happen in the park. Meanwhile, it was also observed that the practices and attitudes of the people toward macaques in the area is still positive. There were lower percentage of households which hunt macaques (19.8%; $\chi^2=110.525$, $p=0.000$), kept macaque as pets (5.3%; $\chi^2=242.380$, $p=0.000$) or eat macaques' meat (34%; $\chi^2=31.053$, $p=0.000$).

Principal Conclusion and Implications for Field: The findings suggest that the human-macaque conflict in PPSRNP is relatively less severe compared to other reports from other countries. Controlling the direct or indirect feeding is very essential for proper management of the macaques as their pest behaviors are much linked to food availability in near human settlement.

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What's in a (pet) name?

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Introduction: Naming is an important part of our society, and speaks to our relationship with humans and non-human animals. Despite high rates of companion animal ownership, we know relatively little about 1) how and why we name these companion animals, and 2) whether there are any psychological predictors related to the choice of name.

Methodology: An online survey was administered to companion animal owners around the world gathering information on the pet name, the justification for that name, as well as details of their personality (Mini IPIP), attachment (LAPS), and demographics. A total of 507 responses (468 females, 33 males; Mean age = 38.19 years, SD=12.75). The majority of pets included dogs (80% of the sample) and cats (19%).

Main Results: A qualitative approach was undertaken to categorise the pet names according to the justification given by the owner. This revealed six categories: *popular culture reference names* (26%), *human names* (21%), *appearance & behaviour names* (19%), *origin & object names* (17%), *unusual names* (7%) and *unclassifiable* (10%).

A multinomial logistic regression was used to predict the naming categories according to personality, attachment, species and demographics. Overall, the model identified a significant relationship between naming category and species ($p = .044$), personality type ($12.854, p = .012$), and relationship status ($17.115, p = .029$). The owner's global attachment score was not a significant predictor of the naming category.

Principal Conclusions and Implications for Field: It is clear that pet owners put considerable time and effort into naming their pets, and the choice of name is reflective of a variety of reasons- for example, pet type, the owners likes/dislikes, relationship status, intelligence, and the observable characteristics of the animal's identity or behaviour.

This study adds further insight into the significance of naming in human culture, and a greater understanding of the human-companion animal relationship. Knowledge of animal names and preferences might have implications for pet marketing, including the fundraising for, or rehoming of, shelter animals.

The life of the author: sentience, creativity, and agency in the animal before the law

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Introduction: Non-human animals are characterised by most legal systems as property, with questions of their welfare often framed by prior concerns of ownership, liability, and responsibility. While the non-human animal as property is often criticised by contemporary animal welfare advocates as ignoring the sentience and autonomy of the animal, the shift to property in most legal systems was ostensibly for the purposes of securing welfare (by ensuring responsibility of guardians). Nevertheless, the characterisation of non-human animals as property raises certain limitations in most legal approaches. A particular limitation is in terms of the inconsistency of the property model with contemporary research and developing knowledge in animal sentience and consciousness, particularly regarding questions of intention and, perhaps most interestingly, creativity. For example, the question of non-human animals as creators was put before the US courts in the "Monkey Selfie" copyright claim from PETA, acting on behalf of Naruto (the Celebes crested macaque). The episode famously asked the court to consider critical questions of authorship, creativity, and accomplishment in a non-human animal.

Methodology: This paper engages current research on the consciousness and creativity of the animal subject in behaviour science and undertakes an interdisciplinary approach to reform in the law, with a particular interest in the "creator" in intellectual property law as a key example. Working from the concept of the "author" in law and culture, this review has examined behaviour science, philosophical ethology, critical theory, and legal theory in order to re-imagine the animal subject in legal systems. The research has been undertaken across an extensive range of species and research in animal cognition and creativity.

Main Findings: Interpretations of intent are often integral to understandings of creativity, and intentionality in animal consciousness research provides some evidence towards the need for a more nuanced understanding of the animal subject before the law, with interests beyond the notion of an inanimate property or chattel.

Principal Conclusions and Implications for the Field: There is compelling evidence and a firm basis, from both the scientific and legal literature, for policy and legislative reform in the field of animal welfare, with particular emphasis on developing effective programmes of advocacy for animals as legal subjects. Transforming the animal from property to "personhood" presents important opportunities for addressing animal welfare, animal cruelty, and effecting sentencing reform for offenders.

Four year longitudinal study of the relationship between pet ownership, internalizing symptoms, and social support in a cohort of college students

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Introduction: The prevalence of internalizing symptoms in college students is well established. Recognizing studies suggesting pet ownership may benefit mental health, this study explored the relationship between pet ownership, internalizing symptoms (IS), and social support (SS) in students across 4-years of college.

Methodology: A cohort of 1331 students (mean age 18.46, 65% female, and 53% non-white) participating in an annual, university-wide survey of mental health and substance abuse outcomes completed pet ownership questions included in surveys in Year 2 (items on pet ownership and pet attachment) and Year 4 (items on currently living with a pet and missing absent pets). Annual online surveys included Symptom Checklist-90 items assessing IS and RAND Medical Outcomes items assessing SS. Covariates assessed were Personality (Big Five Inventory) and gender. Independent *t*-tests were used to explore trends in IS and SS by growing up with a pet. A fixed regression model was used to examine effects of pet ownership variables and covariates on IS.

Main Results: With no differences at college entry, students growing up with pets had greater IS in spring of Year 1 ($t=2.73$, $df=1198$, $p=0.006$), Year 2 ($t=5.07$, $df=765$, $p<0.001$), Year 3 ($t=2.21$, $df=819$, $p=0.027$) and Year 4 ($t=2.93$, $df=701$, $p=0.003$) and greater SS in Year 1 ($t=2.30$, $df=1162$, $p=0.021$), Year 2 ($t=2.05$, $df=1276$, $p=0.040$) and Year 3 ($t=3.60$, $df=806$, $p<0.001$) than students growing up without pets. After adjusting for covariates, currently living with a pet ($\beta=-1.14$, $SE=0.55$, $p=0.039$), but not growing up with a pet, contributed to increased IS in Year 4. Unlike males, females experiencing higher IS in Year 1 were more likely to live with pets in Year 4, females in Year 4 living with pets had higher IS than females living without pets, and females not living with their pets and missing them a great deal had higher IS than females missing them less.

Principal Conclusions/Implications for the Field: Results suggest a unique relationship between IS in female college students and their pet relationships that is not seen in males. Further longitudinal studies are warranted on how pet ownership characteristics may impact student mental health.

Effect of pet interaction on stress reduction and positive mood enhancement among pet-owners and non-owners

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The present study was an effort to explore the effect of pet interaction on stress and mood among pet-owners and non-owners in collectivistic culture of Pakistan, where empirical investigation of attitude toward animals and the impact of human-animal interaction has been lacking. The study was experimental in nature, with a pretest-posttest between-subject design. Sample of pet-owners ($n = 90$) and non-owners ($n = 90$) was taken from University of Veterinary and Animal Sciences, Lahore. Both, male and female participants in the age range of 18 to 26 years were included. A Russian Samoyed mix puppy and a Persian kitten were selected for the interaction. The instruments used were Short Stress State Questionnaire (Helton, 2004), Brief Mood Introspection Scale (Mayer & Gaschke, 1988) and Pet Interaction Observation Checklist (PIOC). Four experimental groups (Group 1 and 2: pet-owners interaction with either dog or cat; Group 3 and 4: non-owners interaction with either dog or cat) and two control groups (for pet-owners/non-owners reading magazine) were present. A pre-assessment of stress and mood was taken with the respective questionnaires. Then, on the basis of random assignment, the participant carried out the assigned activity. Interaction of participant was observed and recorded with PIOC. At the end, post-assessment was taken and debriefing was done. Statistical analysis of data showed a significant negative relationship of stress (worry and distress) with pleasant/unpleasant mood. In addition, reduction in stress and increase in positive mood was found for both pet-owners and non-owners for the pet interaction groups as compared to control groups. However, no significant differences were found between the dog interaction group and cat interaction group for both, pet owners and non-owners. Moreover, pet-owners had lower scores on stress (worry) and higher scores on mood after pet interaction as compared to non-owners. Nonsignificant differences were found between men and women for stress and mood among pet-owners and non-owners. Lastly, it was shown that individuals who interacted with pets for more than five minutes had lower scores on worry and higher scores on pleasant mood as compared to those who interacted for five minutes or less.

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Gender differences in Mauritanian children's anthrozoic attitudes

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The results presented here derive from a pilot study to evaluate a children's humane education programme in Mauritania. Data were collected in a community where there is a high dependence on working donkeys, and where productive animals such as goats are also common. A questionnaire of anthrozoic attitudes was developed which consisted of twelve zoocentric and twelve anthropocentric statements. The children were asked to respond 'TRUE', 'FALSE' or 'NOT SURE' to each statement. The questionnaires were administered to 63 primary school children (30 girls, 28 boys, 5 not specified) ranging in age from 7 to 13 years (median = 9).

Interval level measures were constructed from the data using a Rasch modelling approach. Initial analysis indicated that there was no difference in anthrozoic attitudes between boys and girls ($t_{(56)} = 0.74$, $p = 0.47$), however it was noted that there was significantly more variation in the distribution of boy's scores ($F_{(27,29)} = 14.98$, $p = 0.00$). The reliability of the data was also found to be greater for boys ($\alpha = 0.83$) than it was for girls ($\alpha = 0.45$).

To investigate these observations separate measures were constructed for zoocentric and anthropocentric statements. It was found that there was a significant correlation between these measures for the boys ($r = 0.60$, $n = 28$, $p = 0.00$), but unexpectedly this was not the case for the girls ($r = -0.09$, $n = 30$, $p = 0.65$). Analysis of differential item functioning revealed that boys were much more likely to endorse statements that reflect a specific interaction with animals (*animals are only important when they can earn you money; hurting animals for fun is wrong*). By contrast girls were more likely to endorse more general principles that perhaps indicate less familiarity with animals (*animals must always obey their owners; people must work to help animals*).

These results suggest that boys in this community have a more developed system of anthrozoic attitudes that result from greater contact and involvement in the care of animals. The implications will be discussed from a humane education perspective.

Why Diapers for dogs sell well in Japan?: Research on nursing homes for elderly dogs and cats in Japan

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In October 2017 in Japan, 561 elderly dogs were cared for in private nursing homes (Livmo, 2017). More and more owners in Japan have begun caring for their elderly pets at home. Some dog owners are having a hard time caring for their dogs who suffer from dementia, as they howl during the night in silent residential areas. Others have become exhausted from changing their bedridden dogs paper diapers (with a hole for the tail) 24/7 for many years, even being obliged to give up their job in some cases. Currently in Japan, not only people but also their companion pets are increasingly dying at more advanced ages. In 2016, the average mortality rates were 14.36 years for dogs and 15.04 years for cats (Japan Pet Food Association, 2016), which increases yearly. As a consequence, 59% of the domestic dogs in Japan are over 7 years old. As a result, pet related spending increases yearly, with a compound average growth rate of 2.5% in 2015 (Ministry of Internal Affairs and Communications, 2016). This growth is surely caused as a result of the shortened distance between companion animals and us, both psychologically and materially. However, this causes serious problems regarding elderly pet care. This paper analyses the current situation of elderly pet care in Japan. Its background and problems will be examined from the results of semi-structured interviews and participant observation, conducted in nursing homes for elderly pets in Japan in 2017~2018, utilizing the qualitative K-J method (Kawakita, 1970). Analysis suggests that: 1) In Japan, we seldom have euthanasia, not only of humans, but also of companion animals - this arises from the influence of our views on life and death, thus 2) elderly pet care tends to last longer and cost much more than expected and so on. These findings suggest that the enormous impact of: 1) our views on life and death, 2) peer pressure, 3) the distance between owners and pets and so on, multiply the causes and problematic situations faced by owners of elderly pets. More details will be demonstrated in the presentation. This work was supported by JSPS KAKENHI Grants JP15K04043.

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Does pet ownership affect how well Vietnamese people adjust to living in Australia?

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Introduction: Migration to a new culture is a stressful process and much research has been conducted in the search for strategies to facilitate successful acculturation. Meanwhile, companion animals have been found, in many stressful circumstances, to provide owners with psychological and social support. This study addressed the question of whether pet-ownership is beneficial in assisting acculturating individuals.

Methodology: A sample of 134 adults (19 males, 48 females, 1 other) residing in Australia, whose origins were Vietnamese, were recruited. The survey comprised of demographic and pet-ownership questions and four scales: Satisfaction with Life Scale (SWLS); Vancouver Index of Acculturation Scale; Revised Sociocultural Adaptation Scale (SCAS-R); and Pet Attitude Scale-Modified (PAS-M). Pet owners ($n = 22$) also completed Cat/Dog-Owner's Perceived Relationship Scale (C/DORS). Analyses were planned to test hypotheses regarding the effects of several factors on acculturation outcomes and to explore effects of pet-ownership on satisfaction with life after controlling for other relevant variables.

Main Results: ANOVA tests suggested that participants who adopted integration and marginalisation strategies, respectively, had the highest and lowest means scores on both the SWLS and the SCAS-R. Path analysis suggested that more positive attitudes towards the host culture were correlated with higher SCAS-R scores ($p < .001, r = .61, SE = .07$), which, in turn, predicted higher SWLS scores ($p < .05, r = .25, SE = .06$). Although very few participants owned pets, after controlling for the effects of acculturation strategy and the SCAS-R on the SWLS, pet-ownership remained significantly associated with higher SWLS ($p < .05, r = .18, SE = 1.19$).

Principal Conclusions and Implications for Field: The findings confirm previous studies in suggesting a protective role for adopting an integration acculturation strategy. They also identify that more positive attitudes towards the host culture predict better sociocultural adaptation, which, in turn, leads to greater satisfaction with life. The study also tentatively identified a positive role for pets, although, given the extremely low number of pet owners recruited, it was concluded that barriers to pet ownership affecting acculturating individuals require further research.

Dog owners are more likely to meet physical activity guidelines

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Introduction. Dog ownership is of public health interest due to the potential to promote health-enhancing physical activity and improved health outcomes. Previous research suggests that dog owners are slightly more physically active than those without dogs, but have only studied one household member, likely biased towards the person who cares for the dog. Further, it is unclear whether time spent dog walking represents additional exercise to dog owners or replaces other physical activity, possibly of greater intensity.

Methodology. During a survey of a community of 1280 households, data were collected from 191 dog owning adults (DO), 455 non-dog owning adults (NDO), and 46 children. Survey questions included sociodemographic variables, perceived general health, body mass index, frequency and time spent walking with or without a dog, frequency and time spent in moderate-to vigorous activities (MVPA), and perceived social support for walking from friends and family members. Accelerometry was also conducted on a subset of adults from both groups ($n=31$ adults). Physical activity outcomes were modelled for dog ownership using hierarchical logistic and linear regression modelling, accounting for clustering of participants in households and adjustment for confounders associated with physical activity and dog ownership.

Main Results. DO were far more likely than NDO to walk for recreation (OR=14.35, 95% CI=5.77-35.79, $P<0.001$), and amongst recreational walkers DO also walked for 39% longer per week (OR=1.39, 95%CI=1.27-5.91, $P<0.001$). The odds of transport walking was lower in DO than NDO (OR=0.32, 95%CI=0.19-0.53, $P<0.001$). MVPA and participation in different sports and activities did not differ in regards to dog ownership. Overall, DO were 4 times (OR=4.10, 95% CI=2.05-8.19, $P<0.001$) more likely to meet current physical activity guidelines of 150 mins per week than NDO. DO children also reported more minutes of walking ($P=0.01$) and free-time activity (eg. playing) than NDO children ($P<0.01$).

Principal Conclusions and Implications for Field. Dog ownership is associated with large amounts of recreational walking and considerably increases the odds of an adult meeting recommended physical activity guidelines. The difference in physical activity levels between DO and NDO in a UK population is far greater than estimates from previous studies in other countries.

The politics of private pig slaughter in northern Romania

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This paper considers the relationships between peasants and their homegrown pigs in two villages in northern Romania. I analyse the private rearing, their quasi-religious slaughter and consumption before Christmas, showing how pigs influence their owners' daily activities, gender roles and attitudes to agricultural and social politics. Pigs are cheap to keep and fatten, their meat is notionally Romania's national food, making a unique contribution to peasants' empowering status as 'traditional' agriculturalists. I argue that pig rearing has helped peasants cope with their exclusion and misunderstanding by successive political establishments.

This qualitative study of pig rearing, killing and consumption is based on a month of fieldwork in rural Bistrita. With twenty 'gospodari' (householders) in the two villages, I observed and participated in household-related activities, pig care and feeding. I assisted in three pig killing rituals, in which four large white pigs were killed for Christmas and the year to come, observing distinct techniques of care, killing and meat-making. I conducted interviews with the men who killed the pigs, with the women who prepared the pork products and with two prominent Orthodox priests in the region, who have extensive influence over the communities in my study. I also held a self-reflexive journal, which revealed the politics of hospitality and commensality involved in my perception and role in the community. I did archival research about farming and animal rearing in Bistrita, during the twentieth century, exploring agrarian policies as experiential realities by peasants.

I concluded that the pig was the animal of the disenfranchised, rural and multitasking human. I critique the view that the countryside is backwards, arguing that there is no intelligible apparatus for modernisation to disapprove of peasants' traditionalism in Romania. Domestic pigs form affective, corporeal and social bonds with their owners, playing significant roles in their daily struggles, and this is especially played out in the pig slaughter ritual. I contend that a more meaningful collaboration between individuals, and the legislative, regulatory and religious institutions would empower both peasants and their pigs.

Bird narratives of Polynesia: a study of human–bird interactions through the analysis of traditional Polynesian stories

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Introduction: In all traditional Polynesian societies, birds engaged humans' imagination and were very powerful symbols. This paper aims to offer a comparative study of the role of birds in traditional Polynesian narratives and to find commonalities between stories from different Polynesian island groups, in order to provide, through textual analysis, a picture of the spiritual, material and emotional relationship of Polynesian peoples with birds in pre-contact times.

Methodology: Kirtley (1971) has been used as a starting point to locate approximately 300 bird-related traditional Polynesian narratives that were collected and published in the 19th and 20th centuries by travellers, government officials, ethnographers, missionaries, anthropologists and linguists (the research excludes songs and poetry). Those texts are in Polynesian languages, English, French and German. They have all been summarised, and the recurrent themes and motifs involving the birds have been analysed in depth. "Polynesia" is understood as comprising all the island groups within the Polynesian Triangle as well as the Polynesian Outliers, but references have also been made to texts from other parts of the Pacific, particularly Melanesia, Micronesia and Australia.

Main Results: The analysis of the texts suggests that birds appear in the stories in a variety of roles. Some narratives are purely "animal stories" without human characters, which account for and give meaning to the physical and behavioural characteristics of a given species, Polynesian peoples having developed their own bodies of belief to explain a bird's behaviour and appearance. However, birds also play a part in stories about the origin of the world and of humankind, and they appear in many stories as message-bearers sent by a deity to warn or advise humans, as guardians and protectors, as cherished pets, but also as giant man-eating birds.

Principal Conclusions: These findings suggest that birds are far from being restricted to the "animal story" genre: any type of traditional Polynesian narrative may feature a feathered creature. Birds engaged Polynesian peoples' imaginations in such a way that all their narratives could lend themselves to featuring feathered creatures as dramatis personae.

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Utilising participatory reflection and action to facilitate rabies awareness in a rural community in South Africa

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Introduction: Rabies is a fatal zoonotic disease, killing thousands of people every year in Africa and Asia. Rabies control requires regular vaccination of dogs, as dog bites are the main source of rabies in these regions. Appropriate wound management and immunisation directly following a dog bite can save human lives (Lavan, 2017). In spite of canine rabies vaccine and medical treatment being readily available free of charge in South Africa, rabies continues to affect communities (Weyer, 2015). Participatory reflection and action (PRA) is a collaborative engagement methodology that aims to enable communities to take ownership of and responsibility for addressing challenges, using assets already present in the community (Chambers, 2017). This study utilised PRA with a community in a rural village in South Africa, in an attempt to raise awareness and action with regards to rabies control.

Methodology: Eight human participants were purposively selected and participated in several PRA sessions over 11 months. An instrumental case study design was used for this participatory study utilising qualitative data. Data consisted of materials produced during the participatory engagements which included mapping exercises, photovoice, poster making and transect walks, as well as audiovisual recordings of group discussions. Data were analysed utilising thematic inductive analysis.

Main results: Rabies awareness was initially not a priority for the participants, due to more pressing socio-economic issues and traditional and cultural beliefs. Over time, rabies was brought to the foreground resulting in active participation in a community rabies awareness project. Participants' attitudes towards dogs changed during the course of the intervention, contributing to new perceptions regarding rabies control and interactions with dogs. Participants actively framed and disseminated the message of rabies control within their community.

Principal conclusions & implications for the field: This study indicated that building of trust and confidence during repeated participatory engagements resulted in changed perceptions and actions. PRA offers a potential methodology for recognising and mobilising strengths and capacities within communities to address challenges related to the human-animal relationship.

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Cultural connections: Understanding the relationship between Aboriginal and Torres Strait Islander people and animals, and the implications for delivery of dog health and community wellbeing programs in these communities

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Aboriginal and Torres Strait Islander peoples have a unique world view. Relationships with animals are an integral part of the fabric of their societies and culture. Drawing on their lived experiences, this wonderful collaboration between Christine Ross, an Arrernte/Kaytetye woman from Alice Springs NT and Dr Ted Donelan, an Australian-born Anglo-Celtic male veterinarian with decades of experience in animal management and the human-animal bond, explores and explains the cultural background, complexity, sophistication, immediacy and ongoing nature of these relationships with animals. The health and welfare of animals in remote communities is inextricably linked to the health and wellbeing of people in those communities. The management of these animal populations and the ways in which people and animals interact presents additional complexities compared to urban Australian communities. This results from a range of factors including not only the tyranny of distance, lack of infrastructure and access to services and facilities, but also traditional cultural attitudes towards animals and animal behaviour, and the role of animals in communities. This presentation will describe the very real problems relating to animal health and welfare, nuisance, and public health and safety that arise when there is a lack of animal management and control and little access to products and services. There will be a discussion of the implications of the practical and cultural considerations that are critical to the success of programs designed to address these problems. There will be a particular focus on the culturally appropriate, community based approach developed by the NFP organization Animal Management in Rural and Remote Indigenous Communities (AMRRIC) to address these issues, including the positive results that have been achieved.

Veterinarian attitudes and behaviours to prepubertal desexing in the Australian Capital Territory

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Incidence of health and behavior problems in service dog candidates neutered at various ages

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Saint Francis Service Dogs (SFSD) of Roanoke, VA (USA) trains dogs as service animals for people with autism, multiple sclerosis, brain injury, and many other conditions. Organizations like SFSD must carefully consider when to neuter their dogs to give them the best chance at successfully completing lengthy and expensive training. The objective of this retrospective cohort study was to determine if there are differences in training success rates or incidence of health or behavior problems between dogs neutered earlier in life compared to those neutered later in life.

A group of 245 dogs, primarily Labrador retrievers and Golden retrievers, were analyzed; seventy-eight females and 167 males were included. Data on the dogs, including birth date, sex, neuter date, year of dismissal or successful completion of training, and reason for dismissal (where applicable), was collected from records at the SFSD facility. Ranked age at neuter was compared between dogs who successfully completed training and dogs who were dismissed from training; then, age-at-neuter groups were generated and tested to look for nonlinear patterns.

Results: Dogs who were dismissed for orthopedic problems had a lower median age at neuter than dogs who successfully completed training (Mann-Whitney U, $p = 0.03$); this was also true when analyzing only the female dogs (Wilcoxon, $p = 0.01$). Dogs who were neutered between 7 months and 11 months of age were dismissed due to behavioral problems at a significantly lower rate than dogs who were neutered at an older or younger age (Fisher's exact test, $p = 0.04$). Among females, dogs neutered prior to 7 months of age were significantly less likely to successfully complete training compared to dogs neutered between 7 months and 11 months of age and were also less likely to successfully complete training than dogs neutered at over 11 months of age (Fisher's exact test, $p = 0.02$).

This study suggests that there is a relationship between dogs' age at neuter and their ability to successfully complete service dog training, and that this may be especially true of female dogs.

Compassion fatigue in people who care for animals: An investigation of risk and protective factors

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Introduction: Compassion fatigue is a psychological syndrome, comprised of secondary traumatic stress (STS) and burnout (BO), which can adversely affect those who work in caring professions. Caring for sick and dying animals, together with exposure to cases of neglect and abuse, has been reported to make people who work with animals vulnerable to this condition, although volunteers are less well studied. In this study we investigated compassion fatigue risk in a large online sample of paid and volunteer animal carers, examined the extent to which perceived job demands predicted compassion fatigue, and explored the impact of several variables expected to moderate any relationship between job demands and compassion fatigue.

Methodology: An international sample of 559 paid and volunteer animal carers (32 males, 523 females, 4 non-binary) completed on-line, self-report questionnaires measuring compassion fatigue and compassion satisfaction, job demands and resources, personal resources, emotional intelligence, social support and self-compassion.

Main Results: Participants reported predominantly average risk levels for both main components of compassion fatigue and there were no significant differences in risk levels between paid and volunteer animal carers (average risk level for STS for paid workers=71% and for volunteers=68%, $F(2,525)=2.845$, $p=.059$; average risk level for BO=83% for paid workers and 70% for volunteers $F(2,523)=2.478$, $p=.085$). There were, however, significant, positive correlations between perceived job (paid or volunteer) demands and both STS ($r=.44$, $p<.001$) and BO ($r=.49$, $p<.001$). Hierarchical multiple regression analyses revealed that job demands predicted 18% and 17% of the variance in STS and BO after controlling for age, involvement with euthanasia, and hours spent in the animal care role (STS F change (1, 197)=47.46, $p<.001$; BO F change (1, 197)=43.46, $p<.001$). Strong negative relationships were identified between BO and self-compassion, emotional intelligence and compassion satisfaction.

Principal Conclusions and Implications for Field: We showed that perceived job demands are an important risk factor for compassion fatigue in people who care for animals in paid or volunteer roles. This may assist organisations, employees and volunteers to reduce risk of compassion fatigue by focusing interventions on reducing job demands.

A review of roadkill rescue: who cares for the mental, physical and financial welfare of Australian wildlife carers?

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Introduction: Numbers of dead and injured animals are constantly found along Australian roads. When marsupial females are roadkilled, the young in the pouch often survive the mother. The current Australian environmental, ethical and legal frameworks for these orphaned animals involve their being hand-reared by volunteer wildlife carers. This review provides an estimate of the numbers of marsupial roadkill, how many orphans may require care, the financial costs of raising orphaned pouch-young and the number of active carers across the country. The review goes on to describe the other facets of the possible impacts on wildlife carers, including the potential physical demands and psychological costs associated with the task.

Methodology: A systematic search was performed of the Australian research literature from 1973 until 2017. 14 studies of Australian mammalian roadkill were identified and from these an estimate was made for the roadkill per kilometre per day. Using the total road length in Australia, a conservative estimate of the number of Australian mammalian roadkill per annum was produced. Information was received on the number of joeys rescued and released and the number of active wildlife carers in Australia. This data was collated to estimate the workload and financial costs involved in being a wildlife carer. A search of peer-reviewed, international literature (from 1989-2016) was used to predict the different types of grief that could be experienced by a wildlife carer.

Main Findings: A conservative estimate is four million Australian mammalian roadkill per annum, 560 000 orphans and 50 000 of these are rescued, rehabilitated and released by wildlife carers. The financial input to raise one joey is estimated at \$2 000 a year and time input equating to \$31 000/year. It is suggested that wildlife carers most likely experience many types of grief but are also susceptible to burn-out through compassion fatigue.

Principal Conclusions and Implications for Field: The physical, financial and mental contributions made by wildlife carers are considerable. As roadkill increases, volunteering declines and financial costs increase, those volunteers still acting as wildlife carers are likely to experience increasing workloads, and with that, increasing financial, mental and physical stressors.

The wildlife carers who manage Australia's injured and orphaned native animals are a national asset that may require strategic nurturing with empathy, understanding, financial and psychological support if it is to remain viable and sustainable.

The shepherd as a model for human–animal interaction on small farms

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Small farms in Australia (and many other western societies) are mixed and diverse and are often operated by people who are new to farming (Hernandez-Jover et al., 2014) and many of these people farm because of lifestyle "amenity migration" factors (Abrams et al, 2012). It is estimated that there are between 60,000 (Hollier, 2007) - 100,000+ lifestyle farms in Australia (Abrams et al, 2012). Animals on these small farms are at risk of poor outcomes in terms of health and wellbeing (Hernandez-Jover et al., 2014), despite the good intentions of the operators who often implement commercial processes that are ambiguous in the small farm context (e.g. Holloway, 2001). Shepherds have managed small flocks of livestock since the beginnings of agriculture and there is a richness of experience in terms of application and cultural significance. This paper presents a review of the concept of the Shepherd and its application to human-animal interactions on small farms. It proposes a management system where the role of the Shepherd is used as a founding principle for the operators of small farms to develop approaches that allow for the efficient, ethical treatment of animals in their care. The key elements of the Shepherd are identified: leadership, guidance, observation, interaction, empathy, training and kindness. Sensemaking (Weik et al., 2005) and Systems Thinking (Checkland, 1981; Flood 2010) theories are used to propose a model of interaction that has the potential to improve the outcomes for farm animals on these small farms.

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Farmer attitudes and its relationship with sheep welfare

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Introduction: Human-animal relationships may markedly affect the welfare and productivity of farm animals (Hemsworth and Coleman, 2011). However, limited research has been conducted on animals raised under extensive conditions. This project aimed to address this knowledge gap by examining the relationship between farmer attitudes and on-farm ewe welfare.

Methodology: Farmer attitudes and its relationship with sheep welfare was investigated using an attitude questionnaire and an on-farm welfare assessment of breeding ewes. A total of 32 commercial sheep farms in Victoria, Australia were studied. In the questionnaire, farmers rated a set of statements on their attitudes towards sheep, sheep management, job satisfaction, and perceived difficulty in conducting best practice. For the welfare assessment, 100 ewes were randomly selected and assessed at each farm after weaning (spring/summer 2016). Seven measures were used for the assessment: body condition score (BCS), fleece condition, skin lesions, tail length, dag score, lameness and animals needing further care. Data was analysed by principal component analyses (PCAs) and Pearson correlations.

Main Results: The farms studied consisted of 13 (41%) prime lamb enterprises, 12 (38%) meat/wool enterprises and 7 (21%) wool enterprises. Flock sizes ranged from 430 to 9400 ewes (2714 ± 2147). PCAs on the questionnaire identified four main components (Kaiser-Meyer-Olkin value >0.60, Barlett's test of sphericity p<0.05). Based on semantic content, the components were labelled subjectively as: 'positive attitudes towards parasite control', 'positive job satisfaction', 'negative attitudes towards sheep' and 'perceived difficulties to sheep management'. Overall, farmers that had more ewes in adequate BCS had 'positive attitudes towards parasite control' (r= 0.35, p=0.04), 'positive job satisfaction' (r=0.41, p=0.01) and 'perceived sheep management to be easy' (r=0.38, p=0.03). Furthermore, farmers that had more lameness 'perceived sheep management to be difficult' (r=0.40, p=0.02), and farmers that had more ewes needing further care had more 'negative attitudes towards sheep' (r=0.35, p=0.05).

Principal Conclusions and Implications for Field: These results suggest that farmer attitude and perceived behavioural control may be two key drivers behind the behaviour of sheep farmers. Understanding the underlying beliefs that underpin farmer behaviour provides the opportunity, through targeted education and training, to improve the key human-animal interactions and subsequently farmer-ewe relation and animal welfare.

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From playing frog baseball to anthropomorphizing them: searching for predictors in human–animal interactions that went wrong; a systematic review

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Introduction: Forensic and clinical psychology is slowly starting to take human-animal-interaction into consideration as relevant factor to evaluate the mental health status of a human. Therefore there are several questions which need to be asked to complete that picture: What is the effect of a deviant human-animal-interaction on the animal? What are the predictors for a problematic human-animal-interaction from the human side? The review was conducted to give an overview of the current state of research concerning dysfunctional types of human-animal-interaction and assumed predictors for these behaviours.

Methodology: Using the PRISMA Method (Moher et al., 2010) studies published between 2007 and 2018 in psychological, veterinary and forensic literature were collected and reviewed in two steps. In a first step definitions and classifications were reviewed to define the topics of part 2 which was a second literature to identify predictors for human-animal-interaction “that went wrong”.

Main findings: Published research shows several areas of malfunction in human-animal-interaction. Only a very limited number of studies for example is published about abandonment, which is associated with traumatic experiences for animals (Baquero et al., 2017). Obviously the scientific community pays close attention to the link between animal abuse and violent interpersonal behaviour (eg. Krienert et al., 2012). Current considerations refer as well to deviant sexual preferences like zoophilia acting as a predictor for engaging in future child sexual abuse (Abel, 2008). Finally a nexus between failed attachments in early life and resulting inadequate coping strategies to interact with people in adulthood in animal hoarding cases are debated (Steketee et al., 2011). Despite these findings there were no precise concepts concerning dysfunctional human-animal-interactions or related predictors found.

Principal Conclusions and Implications for the Field: Although many studies deal with dysfunctional human-animal-interactions classifications, definitions or predictors for these behaviours are rarely discussed. Hence future research should concentrate on predicting factors for deviant human-animal-interactions and on the potential impact of these on interpersonal relationships? Moreover: What kind of skill set should a pet owner possess to prevent these dysfunctional types of human-animal-interaction?

Does successful participation in activities with a dog during a nursing home visit affect the subjective assessment of the residents' experience?

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Nursing home residents are often encouraged to participate in dog activities during dog-assisted visits. One aim of this inter-disciplinary study was to investigate whether subjective assessments of the residents' response to visits depended on their participation in planned activities.

A total of 108 nursing home residents were divided randomly into 2 treatment groups that either received 12 visits accompanied by a dog, with a new activity involving the dog during each visit (Dog+Activity), or 12 visits without a dog, but with a new activity during each visit (Activity). Apart from the visitor, an observer was present during all the 10-minute visits, and both assessed the residents' immediate experience and satisfaction with each visit. We used a scale running from '-5' (worst) to '+5' (best possible visit). A score of '0' described a neutral response, or a visit that was impossible to assess. For each activity, we further scored the residents' involvement (0-4) from a pre-defined scale, where '0' was no involvement and '4' was reaching maximum criterion and even advancing beyond the planned activity. We analyzed the results in SAS, using a Wilcoxon test (Proc Npar1way) and Spearman correlations (Proc Corr).

Subjective assessments did not differ between visitors and observers (visitor: 4.0 ±1.2; observer: 4.0±1.1), and neither did the assessments of the two visit types. However, the residents' involvement differed, and was highest in Activity ($z=-2.98$, $P<0.01$; Dog+Activity: 1.4 [0; 3.3], Activity: 2.1 [0; 3.9]). Overall we found overall positive correlations between the subjective assessment and the residents' involvement for both visit types, (Dog+Activity (both $P<0.001$), visitor: $r_s=0.47$, observer: $r_s=0.48$; Activity (both $P<0.0001$), visitor: $r_s=0.57$, observer: $r_s=0.57$). However, analyzing the correlations individually for the 12 different activities in both treatments, we found no significant correlations between involvement and perceived satisfaction for four of the activities in Dog+Activity, whereas all were positive in Activity.

In conclusion, the residents in Dog+Activity were not as involved in the activities as residents in Activity, which may reflect the nature of the activities. However, our results also suggest that for dog visits, residents' ability and motivation to participate in activities might not influence their outcome.

Animals on screens: Thinking critically about animals, audiences and empathy

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To think critically about animals and entertainment media, one of the issues that arises repeatedly is anthropomorphism. Such is its prevalence that arguably anthropomorphism shapes ideas about nonhuman animals more than any other aspect of their popular representation. Despite or perhaps due to their undeniable and enduring popularity, anthropomorphised nonhuman animals are considered a problem. The overexpression of similitude between humans and other animals has become synonymous with Disney and a set of representational practices that reduce other species to simple feathered, furred and scaled human analogues. Anthropomorphised animals are subsumed into a human social logic where their commodification, especially for the family audience, is predicated on the erasure of their individual complexity and species difference. In its pejorative sense, anthropomorphism is also weighed down with associations to childishness, a lack of objectivity, and sentimentality. The stakes are high and in humanising nonhuman others we risk losing sight of them as beings in their own right with individual experiences and capacities that are quite different from ours. But, there are also good reasons to be critical of the rejection of anthropomorphism where it is also motivated by anthropocentric concerns that sustain oppression, exploitation and suffering. In this sense, anthropomorphism is a disruptive force, a capacity for imaginative appreciation of another's perspective, it opens up the opportunity for cross-species intersubjectivity, and it can play a role in the development of empathetic relationships with nonhuman animals. In this talk I argue that the processes of mediating animal lives and experiences inevitably anthropomorphizes them. Drawing on a series of case studies, I consider the consequences of anthropomorphism, how it is entangled with the politics of human-animal relations and how it helps or hinders the public understanding of other species.

In the water with white sharks: Can cage-dive tourism influence conservation behaviour?

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Wildlife tourism is often promoted as an activity which supports conservation by enhancing environmental knowledge, attitudes, and behaviour through interpretative messaging and personal experiences with wildlife. Despite these potential linkages, evidence to support such claims is limited. In order for wildlife tourism operators to build a motivated constituency supporting conservation, elements of the tour which contribute to positive attitudes and environmental behaviour must be identified. This study investigated the attitudes and environmental behaviour of 136 wildlife tourists following a white shark cage-dive experience in South Australia. Responses to an online survey revealed a significant increase in participation for seven of the eight conservation-related behaviours explored, and a positive shift in participants' understanding, awareness, attitudes, and concern for sharks following the tour. Results suggest that emotional engagement during the tour is associated with enhancing participants' knowledge, attitudes, and behaviour. Recommendations for complementing the emotional response to viewing wildlife, with interpretative communication, are discussed.

Chirps, quacks, croaks, howls and "What was that?": how long-distance hikers on the Appalachian Trail came to know trail animals through their sounds

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Introduction: At over 2,000 miles long, the Appalachian Trail (AT) is the world's longest hiking-only trail. Every year, thousands of people attempt to hike the entire length of the trail (called thru hiking), trekking through and dwelling in the woods for up to 7 months. The objective of this research was to explore how thru hikers perceived and experienced the autonomous (wild) animals that dwell along and around the trail.

Methodology: The Trek (2017) is a long-distance hiking dedicated website which features a thriving community of bloggers, who write and post narratives about their experiences on the trail. A total of 1,691 blog posts, written and uploaded to The Trek during the years 2015 and 2016, by 166 hiker-bloggers, were reviewed to find references to encounters that hikers had with wildlife on the trail. Blog posts naturally lent themselves to a narrative research approach. Once the collection of narratives that identified hiker experiences of wildlife had been assembled, they were thematically coded, using intuitive analysis to identify commonalities between people's experiences.

Main Results: A notable theme that emerged from hiker accounts was that they frequently heard animals without seeing them, in part due to the density of the woods that they travelled through, and in part because much of the wildlife along the trail was active during the night. This means that some animals were perceived and experienced by hikers principally through the sounds that they made, a unique way of coming to "know" animals that could inspire feelings of awe, joy, surprise, confusion or even intense fear.

Principle Conclusions and Implications for the Field: Hearing animals on the AT was a way of recognising and attending intimately to their Otherness. Hiker narratives provided a relational epistemology of sound, which provided another way of getting to know the nonhumans on the trail, and was the *main* way of getting to know certain species, such as birds and insects. Future research should focus on the importance of sound, particularly vocalisations, in looking at how humans come to relate to nonhuman species, and vice versa.

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Framing the wolf: notes on representation of a returning predator

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The return of the wolf to the European cultural landscape creates tension between farmers, hunters and environmentalists and is a major subject of public debate. This paper investigates human-wolf-conflicts and attitudes towards these predators in the Swiss cantons of Grisons and St. Gallen using the concept of framing. A total of 193 press articles and official statements of 15 interest groups between 2012 and 2017 were collected and analyzed. The results show that reporting on wolves is highly selective. News media predominantly connects wolves with negative frames such as "shooting/control", "watching them close to human settlements", "problem or problematic behavior" and "loss of shyness towards humans". Interest groups with negative attitudes towards wolves argue with "legal change" in order to manage the predator, "missing space or wilderness" and "risk and anxiety", whereas advocates represent the animal as "unproblematic" and as a "key species" with positive effects on woods and wildlife. The latter are less dominant in the discourse and their negations like "unproblematic behavior", "unnecessary culling" or "not risky" amplify the opponents' frames. Both news frames and strategic frames affect the audience and public policy, depending on factors such as repetition, continuity and emotion (anxiety or anger). In conclusion, this paper draws out the implications of wolf framing for society, public administration and political decisions and takes a critical approach to current understanding of wildlife.

Stakeholder perceptions of a livestock guarding dog programme in South Africa

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Introduction: A frequently reported cause of conflict between wild felids and farmers is depredation of domestic livestock, particularly sheep, goats and cattle (Inskip and Zimmerman, 2009). Anatolian Livestock Guarding Dogs (LGDs) have been utilised on South African farmlands for over a decade as a conservation tool to mitigate such conflict between farmers and wild predators, as an alternative to indiscriminate lethal measures. These LGDs have been shown to successfully reduce livestock depredation by up to 100% (Rust *et al.* 2014), but farmer motivation for obtaining a LGD was not assessed. This research was designed to explore the factors affecting participation in an established LGD programme and alternate measures of success, by utilising social research methods.

Methodology: This was a revealed-preferences study utilising a sample of farmers that were recruited onto the Cheetah Outreach (CO) LGD programme in South Africa. Interviews were used to conduct a qualitative survey consisting of open- and close-ended questions; administered telephonically and face to face. Pearson Chi-square tests of independence were used to test for association between variables in cross-tabulation.

Main Results: A response rate of 98% was achieved. Respondents with prior knowledge of LGDs ($n = 75$) more often contacted CO in the first instance, ($1(n = 99) = 4.657, p = 0.031$). With each successive year, a greater proportion of new placements were recruited passively (at less cost to CO). Farmers rated the effect of predation independently of actual losses that they had reported prior to receiving the LGD: with huge variation in ratings given. Primary motivations for joining the programme for 85% ($n = 88$) of farmers were livestock protection and reduction in financial losses. Of the respondents, 94% were very or completely satisfied, and 98% would recommend the use of LGDs to others.

Principal Conclusions: Effective human-wildlife conflict mitigation should focus on achieving goals that are in the interests of the stakeholder. Prior knowledge facilitates programme participation; the importance of word of mouth communication, and extension agents as trusted sources within a close community must not be overlooked. Stakeholder perceptions of success are an important part of evaluating conservation initiatives.

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Searching, settling, and staying put: Rental housing in the (dis)placing of dog owners

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Previous research has shown that housing-related issues contribute to animal relinquishment (Coe et al., 2014) and that tenants with dogs face disadvantages in the rental market (Carlisle-Frank et al., 2005; Power, 2017). Still, little is known about how dog owners navigate rental markets, nor how landlords and property managers perceive dogs and other pets.

To help address this gap, we surveyed 24 landlords and 6 property managers about their perspectives toward pets in rental housing. Also, because younger adults are disproportionately tenants (Hoolachan et al., 2017), we interviewed 28 dog owners, aged 21-31, about their recent experiences in the rental market. Our relatively small sample is not meant to be representative of all younger tenants with dogs, nor all landlords and property managers, but rather to generate new insights in relation to scenarios that may be encountered when it comes to pets and rental housing.

Majority of landlords and property managers indicated that listings advertised as "pet-friendly" tend to receive more applicants than listings in which pets are prohibited. This high demand helps to explain why dog owners, in their searches for rental housing, reported feeling powerless in negotiations and feeling discriminated against. Where properties did accept pets, many dog owners spoke to the substandard quality of these rentals in comparison to the entire pool of available listings. So-called pet-friendly properties were not only of poorer quality, they were often located in less desirable neighbourhoods and subject to higher fees. And yet, dog owners reported staying put in these rentals, given how difficult it had been for them to find a place that would accommodate their pets. Majority of landlords and property managers confirmed that pet owners tend to stay longer in their rentals as compared to tenants without pets. Suggestions for improvement, as provided by landlords and property managers and as supported by tenants, included: meeting pets prior to signing the lease; getting everything in writing; steering clear from furnished units; charging utilities to tenants; and speeding up the pet approval process when dealing with condominium boards. These suggestions offer implications for research, policy, and practice.

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Relinquishment of dogs and cats online

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Introduction: Interventions to protect the welfare of unwanted dogs and cats have concentrated traditionally on those entering shelters, with most research also concentrated in this area. However, the internet is pervading all aspects of human life, and dogs and cats are also traded on the internet. This study aimed to determine the number and types of dogs and cats relinquished on a popular Australian website for pets.

Methodology: Data from gumtree.com.au were extracted using the BeautifulSoup module in python (version 3.2.1) over ~3 weeks for dogs and cats in February 2016. Pets were identified as relinquished if: 1) there was a statement a new home was being sought 2) they were offered for free at any age, and 3) if they were older than 16 weeks of age with no indication they were offered as a pup and not yet sold. Data on breed, cross/purebred status, owner/breeder status, age, price and State/Territory were collected.

Main Results: A total of 2640 ads for dogs (Feb 7 to 24, 2016) and 2093 ads for cats (Feb 9 to 26, 2016) were identified as relinquished animals. Just over half of dogs were purebred (51%) with the top three breeds the Staffordshire Terrier, Kelpie, and American Staffordshire Terrier. A minority of cat ads included breed – in those that did the Ragdoll and Domestic Shorthair were the most common breeds. In 23% of dog ads and 62% of cat ads the animal was offered for free. Using extrapolation, it was estimated the Gumtree ads represent ~14% of the dogs entering RSPCA shelters in a year.

Principal Conclusions and Implications for Field: We estimate thousands of dogs and cats are relinquished on a popular Australian website per year. Only one website was analysed, and if other websites and social media (e.g. Facebook®) could be measured this would represent >14% of the population entering RSPCA shelters. It will be important for future research priorities and interventions to help un-wanted animals to include the internet as a platform used by owners relinquishing their pets.

The expectations of prospective adopters for dog ownership

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Introduction: Dog ownership is highly prevalent worldwide, with many human-dog dyads forming successful attachment bonds. However, millions of dogs are surrendered to animal shelters annually, possibly due to mismatches between owner expectations and the realities of dog ownership. The current study explored the benefits and challenges people expect from dog ownership and how these expectations vary with previous ownership history.

Methodology: An Australian-wide convenience sample of 3465 prospective adopters completed a self-administered online questionnaire about the physical, mental and psychosocial health benefits and challenges associated with dog ownership. Multiple logistic regression models were used to examine associations between dog ownership status and the most common expected benefits and challenges.

Main Results: Among the potential benefits, respondents expected increased walking (89%), happiness (89%) and companionship (61%) and decreased stress (74%) and loneliness (61%). Among the challenges, they expected increased responsibility (64%) and the need for dog training (62%). Ownership history influenced respondents' expectations, with current/previous dog owners having consistently greater odds of expecting physical, mental and psychosocial health benefits than non-owners, including reduced blood pressure (OR current owners 1.62; 95% CI: 1.17 to 2.25; OR previous owners 1.37; 95% CI: 0.99 to 1.89), increased happiness (OR current owners 2.12; 95% CI: 1.36-3.29; OR previous owners 1.67; 95% CI: 1.10-2.55) and getting to know the neighbourhood (OR current owners 1.41; 95% CI: 1.03-1.94; OR previous owners 1.40, 95% CI: 1.02-1.91). Current/previous dog owners also displayed reduced odds of expecting challenges than non-owners, such as increased responsibility (OR current owners 0.42; 95% CI: 0.29-0.60; OR previous owners 0.68; 95% CI: 0.48-0.98) and dog training (OR current owners 0.51; 95% CI: 0.36-0.73; OR previous owners 0.63; 95% CI: 0.45-0.89). A possible explanation is that previous/current dog owners' exhibit bias when considering dog ownership by selectively recalling positive experiences from previous ownership.

Principal Conclusions and Implications for Field: Our findings highlight the need for education of prospective dog owners to ensure their expectations align with the realities of ownership, based on current evidence.

The bare essentials: The representation of brown bears in ancient Egypt

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Introduction: The brown bear (*Ursus arctos*) was never native to ancient Egypt, yet numerous representations of the sub-species, the Syrian brown bear (*Ursus arctos syriacus*), are attested dating from the Early Dynastic (c. 3000 BCE) right through to Roman times (c. 30 BCE). Due to the rarity of the bear's appearance in Egypt's history, Egyptologists have often neglected to discuss its existence in detail.

Methodology: This paper is intended to comprehensively review the historical representations of, and the Egyptians interactions with, the Syrian brown bear in order to determine whether brown bears were imported to Egypt by the Egyptians, and the significance of the bear in Egyptian culture. Archaeological evidence indicating bears being brought to Egypt during dynastic times is non-existent, therefore analysis must rely on artistic and textual representations. In Egyptian iconography, only two extant examples are known from the Old Kingdom (c. 2686-2181 BCE), and five more from the New Kingdom (c. 1550 BC-1077 BC). Other representations are far more dubious, and their validity will be discussed. This study will incorporate both art historical and ethological approaches.

Main Results: The zoological accuracy of these images tells us that the artists must have studied the animals in person in order to have recreated them with such detail, but this does not necessarily imply that they were imported into Egypt. Animals featured prominently in Egyptian art and, as all artwork was chosen with specific meaning and reason in mind, why such an exotic creature was incorporated into these reliefs is a crucial element in analysis of these reliefs as a whole. The representations indicate that, to the Egyptians, the brown bear served as an exotic expression of the power of the king to their neighbours, implying a subjugation of foreigners and therefore legitimising the authority of the king to the Egyptian people.

Principal Conclusions and Implications for the Field: In ancient Egyptian art which included depictions of animals, the human actors usually receive the most scholarly attention, limiting our understanding of the scene. Yet, animals dominate the visual record, and therefore possess the potential to reveal unique information about both the practical and metaphysical lives of the ancient Egyptian people.

Animal behaviour in ancient Egyptian art

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Introduction: The relationship between humans and animals in the ancient world remains a largely neglected topic. Animals are mentioned infrequently in art and archaeological studies and are often viewed by historians as relatively minor players in the development of ancient cultures. Furthermore, when representations of animals in ancient art and texts are described, assumptions are often made about their cultural significance without reference to, or detailed understanding of, the biology and behaviour of their living models. This is unfortunate as animal-related artefacts undoubtedly reflect their makers' intimate knowledge of the species they depicted, and potentially also their beliefs about and emotional response to them. If in our analyses of animal artefacts, we disregard the living creatures that motivated such representations, we see only one side of this relationship and therefore miss a valuable opportunity to understand the experiences of our ancient ancestors at a deeper level.

Methodology: Animals are a predominant feature of ancient Egyptian art. I have confirmed the value of reconnecting with the living creatures hidden behind animal artefacts by examining the representation of animal behaviour in Egyptian tomb paintings and reliefs, in which I compare the pose and context of animal figures with zoological information to identify the behaviour depicted. I will illustrate the potential of this approach via the representation of locomotion, sexual, predatory, defensive, and aggressive behaviour expressed by birds, fish, cattle, hyenas, and lions in tomb art from the cemetery sites of Giza and Saqqara.

Main Results: An ethological analysis has shown that the meaning of Egyptian animal imagery is often revealed unambiguously by considering species-specific behaviour. It has also illuminated both the detailed biological knowledge of the Egyptian people and the ways in which they used this information in their physical and metaphysical interactions with animals.

Principal Conclusions and Implications for the Field: Through the process of evaluating the zoological significance of animal art, the past comes alive, allowing for a more accurate and objective evaluation of the human-animal relationship in the ancient world.

It's a dog's life: votive canid crania from Saqqara

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Introduction: During archaeological excavations in Egypt undertaken by Macquarie University in the Teti Cemetery North (Ockinga 2011: 119-138), more than 1,314 disarticulated canid skeletons were found. Similar deposits provide a relative date of the Late/Ptolemaic Period votive context for these canid remains. Morphological analysis of the crania was undertaken to determine similarities and differences in size and shape to ascertain if different species of canids were present, establish an estimation of the sex and age of each specimen, and investigate observable pathologies to provide evidence for the health, management and treatment of these animals during their lifetime.

Methodology: A sub-sample of 119 crania was selected based on completeness, and metric and visual examination was performed both *in situ* and post excavation. Eight canonical measurements from each cranium were recorded using hand-held sliding calipers, to the nearest 0.5 mm, and high resolution, scaled photographs of the superior, inferior and lateral views were recorded.

Main Results: Cranial morphology indicated that the majority of crania belonged to those of the common dog (*Canis lupus familiaris*) with the possible presence of three jackals (*Canis aureus*). Morphological characteristics identified and analysed provided a sex assessment ratio of 37 males to 4 females. Age estimation showed that the dogs did not reach old age. Evidence of sharp and blunt force traumas plus severe periodontal disease and substantial ante mortem tooth loss indicated the dogs appeared to have been part of a large scale breeding program and had experienced biological and environmental stresses, compounded by poor maintenance.

Principal Conclusions: To meet the high demand for dogs used in the votive practice during the Late/Ptolemaic periods in Egypt, these animals were bred and raised as a commodity with little affection or care going into their upkeep.

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Comparison of effects of three types of facilitated horse–human interactions on stress levels of humans and horses

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Introduction: Equine facilitated learning (EFL) helps develop life skills for educational, professional and personal goals. Although EFL appears to benefit people (McCormick & McCormick, 1997), few quantitative physiological data are available. Effects of three EFL activities (grooming, “Con Su Permiso” [observing bodily feelings and sensations that arise from focusing on the horse], and “Rock Back & Sigh” [approaching horse, rocking back and sighing when horse pays attention and inviting horse to follow off-lead]) on heart rate variability (HRV) of horse and human were compared. Heart rate variability is an established marker of autoregulation, or ability to maintain homeostasis, and is diminished by stress.

Methodology: Each activity took place at a different location with different facilitators, participants and horses. Each involved 24 humans (age >55 yrs, mainly female) and 3-4 horses (geldings or mares of various ages/breeds). Before, during and after the activity, HRV was measured for 5 minutes on horses and humans using pulse monitors strapped around the chest/girth. Data were analyzed using repeated measures ANOVA statistics.

Main Results: During grooming and “Con Su Permiso” human heart rate and HRV significantly increased compared to baseline: “Con Su Permiso”, HR: 84.2 ± 7.0 vs 74.5 ± 8.9 (SD) bpm, $p < 0.001$ and HRV: 38.9 ± 12.2 vs 28.8 ± 9.8 (SD) ms, $p = 0.02$; Grooming, HR: 81.2 ± 11.9 vs 75.0 ± 10.1 (SD) bpm $p < 0.001$ and SDRR: 58.6 ± 26.1 vs 36.5 ± 17.8 (SD) ms, $p < 0.001$. The %HRV in the very low frequency range (%VLF) also significantly increased in both cases ($p < 0.001$). During “Rock Back & Sigh” only HR significantly increased from 79.8 ± 12.9 (SD) to 92.4 ± 17.8 (SD), $p < 0.001$. In almost all horses during EFL activities HR and HRV slightly increased with mean %VLF ranging from 51% to 88%, indicating no sign of stress.

Principal Conclusions and Implications for Field: Engaging with horses without trying to influence their behaviour improves human autoregulation and increases %VLF leading to lower susceptibility to inflammation and PTSD (Lampert et al, 2008; Shah et al, 2013). A more challenging activity, involving changing a horse’s behaviour, does not necessarily produce these benefits, although the horses still remain unstressed.

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Therapeutic for all?: observational assessments of therapy canine stress during sessions

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Introduction: Many on-campus therapy dogs are exposed to both novel stimuli (e.g., sessions are often held in public spaces, dogs encounter a rotation of new clients) and student clients who are characterized by heightened stress (Durand-Bush et al., 2015). Such exposure, coupled with the need to develop animal-centric best practices, supports the call for additional research on canine therapy and well-being. We examined if the very intervention designed to reduce stress in human participants increased stress in canine participants.

Methodology: Forty certified therapy dogs (60% female; $M_{age} = 4.75$ years, $SD_{age} = 2.89$ 55% purebred) and their handlers (85% female; $M_{age} = 38.9$ years, $SD = 13.2$) were recruited from an on-campus canine therapy program. Undergraduate students ($N = 754$, 62% female, 46% first-year) self-selected to participate in once-per-week programs throughout the Fall 2017 semester. Stress was assessed using a 5-point scale (1 = low, 5 = high). Handlers and visitors self-rated their stress upon beginning and ending of their session. Each dog’s stress was rated 10 minutes after arrival, at mid-session, and at session’s end, by his/her handler and by a trained research assistant. Students rated the stress of each dog they visited at the end of their visit.

Main Results: Student stress was significantly lower at session-end compared to session-start $t(725) = 43.53$, $p > .001$, $d = 1.62$. Inter-rater agreement of canine stress was low (ICC = .394). Canine stress did not differ significantly across the three timing points $t(38) = 0.22$, $p = .831$, $d = 0.03$; $t(28) = 0.53$, $p = .602$, $d = 0.10$; $t(28) = 0.00$, $p = 1.00$; $d = 0.00$). Canine stress did not appear to be significantly impacted by the number or duration of their student interactions, nor by the number of highly-stressed students (stress scores > 3) present in the session as a whole $F(4, 25) = 1.25$, $p = .315$.

Principal Conclusions and Implications for Field: Findings suggest there is variability in perceptions of canine stress in working therapy dogs. Despite reducing participant stress, therapy dogs do not appear to be stressed when working in on-campus stress-reduction initiatives.

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Perceived stress responses in therapy dogs during animal-assisted activities in aged care facilities

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Introduction: Assessments of stress in therapy dogs have focussed on behavioural and physiological markers of stress during human-animal interactions (Glenk, Thodberg & Berget 2017). This study assessed whether therapy dogs display behavioural stress-related behaviours during Animal Assisted Activity sessions (AAA) in an aged care setting, and also whether therapy dog owners/handlers are familiar with common behavioural signs of stress in dogs.

Methodology: Volunteers from the Caring Canine Companions Community Visitors Scheme (CCCCVS) were recruited. Behaviours of nine CCCCCVS therapy dogs were observed for one AAA session each, in seven locations across metropolitan Adelaide, South Australia. General behaviours were recorded every 30 seconds for the session duration, with stress-related behaviours e.g. lip licking and yawning, recorded at each occurrence. A total of 38 CCCCCVS therapy dog owners completed an online/hard copy survey, with questions focussed on their dog's health status, AAA session structure, and perceived behaviour during therapy sessions.

Main Results: In all observed AAA sessions stress-related behaviours were observed. Lip licking and yawning were the most common behaviours, with 5.0 ± 14.3 licks/20min/dog (9/9) and 1.4 ± 6.8 yawns/20 min/dog (5/9). These behaviours were rarely identified by therapy dog owners as being stress responses. Over 60% of survey respondents reported their dog never showed any of the listed stress-related behaviours during therapy sessions, excluding panting (42.6% 20/47). Panting was often reported by owners as a stress sign (identified 9 times of 82 total responses), and was the most prevalent general behaviour observed.

Principal Conclusions and Implications for Field: This study has found discrepancy between behavioural signs of stress recognised by therapy dog owners, compared to those observed by the researcher. Subtle stress signs, such as lip licking and yawning, were recognised less commonly by owners as stress signals compared to other behaviours, such as panting. This information can be used to help modify AAls to improve the welfare of participating dogs.

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Comparing owner rated dog temperament measures with demographics and a measure of owner personality

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Introduction: The temperament of companion dogs and to what extent this reflects owner characteristics is attracting increasing interest (Gosling, 2003). Following similar developments in human personality research that has resolved into a focus on the 5-factor model of Costa and McCrae (1992), dog personality is also similarly assessed multi-dimensionally using tests such as the CBARQ (Serpell & Hsu, 2001) and MCPQ-R (Ley et al., 2009). Previous research suggested environmental factors (Draper, 1995) and social attribute measures (Kubinyi et al., 2009) that may influence dog temperament. In this study, we examine the relationship between owner demographic characteristics, owner personality and dog ratings on the MCPQ-R and CBARQ dog temperament scales.

Methodology: Owners of companion dogs were contacted through dog clubs, veterinarians and associates of the researchers. Via an online survey owners completed details for the demographic and MCPQ-R surveys (N=123). Owners and their dogs then meet with the researchers to complete the CBARQ and for their dog to participate in the Kong test (N=96). Measures collected from owners included: demographics; Quick Scales (Brebner, 2001) to capture the NEO-5 dimensions; MCPQ-R (Ley et al., 2009); and, CBARQ (Serpell & Hsu, 2001).

Main results: The results indicated that more conscientious owners had dogs which scored higher on measures extraversion, motivation, training focus and amicability, but lower on neuroticism. Owner levels of agreeableness and extraversion were positively related to dog amicability, whereas owner neuroticism is negatively related to dog amicability. Owner neuroticism scores were significantly, positively related to dog temperament scores for owner aggression and dog aggression (CBARQ). Of the dogs who participated in the Kong test, it was found that dogs who completed the task had lower owner ratings of neuroticism ($t(94)=2.17, p=0.033, CI95\% [0.67, 15.42], d=0.44$). Breed height was significantly related to dog extraversion and motivation, with taller dogs rated higher on both measures. The results also suggest breed group is significantly related to dog temperament measures of motivation and amicability.

Principal conclusions and implications for the field: As with the results of previous research (Draper, 1995) owners may be selecting dogs who compare well with their own personality profiles. Future research may investigate the influence of human personality on dog temperament, and how these can be used in the placement of service dogs and re-homing of surrendered dogs.

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Relationship between owner personality and mood and the prevalence of canine behavior problems

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Introduction: Behavioral problems are a major source of poor welfare and premature mortality in companion dogs. Previous studies have demonstrated associations between owners' personality and psychological status and the prevalence and/or severity of their dogs' behavior problems, but the mechanisms responsible for these associations are unknown. Other studies have found links between the tendency of dogs to display behavior problems and their owners' use of aversive or confrontational training methods. This suggests that the effects of owner personality and psychological status on dog behavior may be mediated via their influence on the owner's choice of training methods. The present study investigated this hypothesis.

Methodology: A self-selected, convenience sample of 1564 current dog owners was surveyed using an online battery of questionnaires designed to measure, respectively, owner personality (10-item Personality Inventory-TIPI), depression (Beck Depression Inventory-BDI), emotion regulation (Emotion Regulation Questionnaire-ERQ), use of aversive/confrontational training methods, and owner-reported dog behavior (short form of the Canine Behavioral Assessment & Research Questionnaire-mini C-BARQ). Multivariate linear and logistic regression analyses were used to identify associations between owner psychological variables, training methods, and dog behavior problems.

Results: Positive associations between owners' use of aversive/confrontational training methods and the prevalence/severity of a wide range of dog behavior problems were detected. The regression models also found modest associations between owners' low scores on four of the 'Big Five' personality dimensions (Agreeableness, Emotional Stability, Extraversion & Conscientiousness) and their dogs' tendency to display higher rates of owner-directed aggression, stranger-directed fear, and/or urination when left alone. The study found only weak evidence to support the hypothesis that these relationships between owner personality and dog behavior were mediated via the owners' use of punitive training methods, but it did detect a more than five-fold increase in the use of aversive/confrontational training techniques among male owners with moderate depression.

Conclusions and Implications for the Field: The findings illustrate the independent contributions of both human and dog psychological variables to the maintenance of harmonious human-dog relationships, and have implications for the behavior and welfare of both companion and working dogs, and the impact of dogs on the health and well-being of their owners.

Archotyping relationships with companion animals to understand disaster risk-taking propensity

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Introduction: Human-companion animal relationships (HARs) strongly influence owners' perceptions and risk-taking actions during disaster events. And although originating in human-attachment models, research into these relationships and natural disasters often adopts a unidimensional perspective, disregarding the diverse relational characteristics, and associated risk-propensity differences present in disaster contexts. To address the issue, this paper describes multidimensional archotyping of HARs to estimate owners' propensity towards risk taking aimed at protecting their companion animals during a disaster.

Methodology: Australian companion-animal owners living in disaster susceptible areas ($n = 437$, $M_{age} = 29.76$, $SD = 14.63$, 72.5% female) reported human-animal relational, personality, and attitudinal characteristics via an online survey to reveal differences in HARs and endorsement of acting to secure their animal's safety whilst risking potential harm in a hypothetical bushfire disaster dilemma. A novel risk-propensity measure of potential intensity and perceived efficacy of pet-directed risk taking, and a bushfire 'dilemma vignette,' (breaching a police blockage to access the animal) were used for this purpose (Trigg et al., 2017).

Main results: Two-step clustering and MANOVA (SPSS) identified five archetypal profiles differing in relational, personality, attitude, and risk-propensity characteristics, as well as in endorsement of risking personal safety for the wellbeing of their companion animal ($F(36, 1708) = 26.643$, $p < .001$, Pillai's trace = 1.438). Archetypes were labelled integrated-reliant, integrated-possessive, individuated-independent, individuated-contained, and insular-cautious. Archetype membership varied in strength as a predictor of potential intensity ($\beta_s = -.12$, $p = .020$, to $.47$, $p < .001$), perceived efficacy ($\beta_s = .15$, $p = .010$, to $.33$, $p < .001$), and endorsement of pet-directed risk-taking ($\beta_s = -.11$, $p = .049$, to $.34$, $p < .001$) regarding bushfire threat. Further research should extend archotyping to the analysis of recorded risk-taking, various HARs, and different disaster types.

Principal conclusions and implications for field: Findings indicate that relational, personality, and attitude differences in HARs are associated with variability in owners' risk propensity and risk endorsement for protecting companion animals during disaster. Archotyping is potentially applicable to various human-animal interaction issues, and has clear safety and welfare implications for engaging pet owners about disaster survival.

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Effects of animal presence and contact on frontal brain activity in patients in a minimally conscious state (MCS): A randomized, controlled pilot study

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Introduction: Animal-assisted therapy (AAT) is an emerging treatment for patients with severe disorders of consciousness that can lead to a rise in vegetative, emotional and motoric reactions. The aim of this pilot study is to investigate the effect of animal presence and contact on awareness and reactivity in patients in a minimally conscious state (MCS), reflected via brain activity. The results shall lead to a better understanding of MCS patients' inner perception and their reaction to animal interaction. This could be used for ongoing development of treatment concepts.

Methodology: Three MCS patients (mean age = 44; *SD* = 12.16) and three healthy adults (mean age = 40.33; *SD* = 18.17) participated in this randomized, controlled within-subject study with repeated measurement. Participants were measured during six sessions over a period of two weeks, with three experimental (small therapy dog, guinea pig or rabbit present) and three control sessions (robotic toy animal present). Each session consisted of five different phases: Two baselines, watching animal, animal on lap, stroking animal. Participant's neurovascular response was measured using a portable, non-invasive, functional near-infrared spectroscopy (fNIRS) device. During the sessions, blood oxygen levels (O₂Hb, HHb, total Hb) served as a correlate for brain activity.

Main Results: One MCS patient and one healthy control subject had to be excluded from analysis due to corrupt data. The remaining four participants all showed the largest hemodynamic response to direct animal contact, when either the live or the robotic animal was placed on their lap or when it was stroked. One patient and two control subjects, showed a stronger response while stroking the live animal in comparison to stroking the robotic animal. All participants showed an inverted hemodynamic response when both animals, live and robotic, were stroked. In all other phases the hemodynamic response matched the typical fNIRS response.

Principal Conclusions and Implications for the Field: The data indicates that MCS patients and healthy control subjects react to the presence of and contact with an animal, leading to a measurable difference in their neurovascular reaction. fNIRS can therefore serve as a noninvasive method for investigating the benefits on brain activity during an animal-assisted therapy session in MCS patients. Even though the number of participants is limited, the results indicate that AAT can be a reasonable treatment for DOC patients.

Effects of animal-assisted therapy in patients in a minimally conscious state: a randomised-controlled trial

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Introduction: There are few therapy methods for patients in a minimally conscious state (MCS) and it is therefore important to find new ways to facilitate their rehabilitation process. Experiences from practice and a first case study indicate that animal-assisted therapy (AAT) is a promising treatment (Bardl, Bardl, & Kornhuber, 2013). The presented study investigates whether animal-assisted occupational therapy leads to more vegetative, emotional and motoric reactions in patients in MCS than regular occupational therapy does.

Methodology: 10 patients in a minimally conscious state (mean age = 47.2, *SD* = 19.4) participated in this randomized, controlled within-subject study with repeated measurement. Each patient received 16 therapy sessions over a period of four weeks, while intervention or control sessions alternated. Therefore, each patient received eight intervention and eight control sessions. Each therapy session included a range of activities from occupational therapy. Intervention sessions included a trained therapy companion animal (dog, guinea pig or rabbit), while control therapy sessions were conducted without animals.

Behavioral reactions were assessed via behavioral coding of the videotaped sessions in Noldus Observer, the Basler Vegetative State Assessment (BAVESTA) and a therapist's assessment via visual analogue scale. Moreover, patients' heart rate and heart rate variability were measured. Data were analyzed with SPSS statistics using linear mixed models.

Main Results: The BAVESTA shows that patients communicated more non-verbally in the presence of an animal ($p=0.028$). Behavioral analyses in Noldus Observer are not yet finished but will be presented at the congress. Heart rate did not differ between intervention and control sessions. However, patients showed more HF in the control conditions compared to the AAT sessions ($p=0.045$).

Principal Conclusions and Implications for Field: The results indicate that integrating animals into a therapeutic setting of patients in MCS leads to more non-verbal communication and seems to decrease parasympathetic activity. Therefore, we suggest that AAT might be a method to increase awareness. This leads to the conclusion that animal-assisted therapy is a promising method to facilitate neurorehabilitation of patients in a minimally conscious state.

The effect of animal- assisted therapy in patients in long-term care: pilot study

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Background: Hospitalization, for whatever reason, is always an important interference with the quality of life of an individual, and although it is a purely somatic disease, we always have to pay attention to the personality of the person. Developing a certain degree of change in emotional states (depression, anxiety) is a logical response to perceived pain and other factors, especially during long-term hospitalization. The patient's overall biopsychosocial well-being is an important aspect of the treatment and the entire team must be involved. One of the options for positively influencing the health of patients can be the addition of Animal-Assisted Therapy (AAT) which, if the client has a positive relationship to the animals, can positively affect his mood and affect his pulse and pressure.

Methods: The aim of our study was to find out whether the presence of a dog in a hospital can positively affect the heartbeat and pressure in long-term care patients and whether the mood will be affected. The research was conducted at the Central Military Hospital at the Long Term Care Department. The dog handler went to each patient (n=25) for two months, once a week, and the therapy lasted for 40 minutes. In addition to standard care, an AAT was also performed in the presence of a dog. The dog was Border Colie Mia, 5 years old female, and all welfare conditions of dog were respected. Project was approved by Ethical Committee of Central Military Hospital. and by the Committee of Czech University of Life Sciences. Standard rehabilitation treatment was performed in the experimental group. The patient status was observed the day before the therapy, on the day of therapy and the next day for 8 weeks. The observed parameters were pulse, pressure and also subjective evaluation using the Likert scale.

Results: Based on the results obtained, there was no statistically significant improvement at pulse and pressure. What is important, however, is that patients are subjectively assessing their condition as improving. Patients in the control group also evaluate their condition as improving, but not as many as the patients in the AAT

Conclusion: Although AAT did not influence the improvement of patient's pulse and pressure, subjectively, patients assessed their health as significantly better than in the control group. It is possible to use AAT to improve patients' mental wellbeing and improve their collaboration with other workers such as physiotherapists, ergotherapists, logopedists and others.

PTSD service dogs: associations between training techniques, service dog behaviors, and human-animal bond

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Introduction. Military veterans with posttraumatic stress disorder (PTSD) are increasingly seeking service dogs as a complementary therapy. After initial placement, veterans are often expected to continue training their service dog at home. This study's objective was to explore the associations between veteran's usage of different training techniques, service dog behaviors, and the veteran-dog bond.

Methods. Military veterans with a service dog were recruited from a national PTSD service dog provider. A total of 120 veterans ($M = 40.1 \pm 8.2$ years, 80% male) participated in an online survey regarding training techniques, service dog behaviors, and the human-animal bond. Service dogs (66% male) were of various breeds (37% Labrador Retrievers) and a majority were rescued from shelters. Training techniques were divided into five categories: positive reinforcement (e.g. physical praise), negative reinforcement (e.g. ignoring a behavior), positive punishment (e.g. verbal correction), dominance (e.g. eating before the dog), and bond-based (e.g. co-sleeping). Data were analyzed using general linear models.

Results. All five categories of training techniques were used by veterans. More frequent use of positive reinforcement was associated with increased attention behaviors ($F(1,108) = 6.1, p = 0.02$), playfulness ($F(1,108) = 11.0, p = 0.001$) and a closer bond ($F(1,103) = 5.8, p = 0.02$). More frequent use of negative reinforcement was associated with more overall problem behaviors ($F(1,104) = 4.0, p = 0.04$). More frequent use of positive punishment was associated with higher fear ($F(1,103) = 6.2, p = 0.01$) and less eye contact ($F(1,109) = 12.3, p = 0.0007$). More frequent use of bond-based techniques was associated with a closer bond ($F(1,103) = 7.0, p = 0.01$) and more eye contact ($F(1,109) = 4.0, p = 0.04$).

Conclusion. Military veterans with PTSD service dogs reported using many training techniques that were associated with different outcomes. In general, the use of positive reinforcement or bond-based training techniques were associated with more positive outcomes while the use of positive punishment or negative reinforcement were associated with more negative outcomes. Educating service dog organizations and recipients about the impacts of training techniques could be beneficial for service dog efficacy and welfare.

Do dogs help people to thrive and are service dogs more beneficial than companion dogs

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Companion dogs can provide many psychological and social benefits for their owners. Service dogs reportedly provide similar benefits, in addition to performing the tasks for which they specifically receive training. These additional benefits may increase their handler's quality of life and possibly their ability to thrive – defined as having the ability to grow and flourish, especially in the face of adversity. Currently, no studies directly compare whether service dogs are more effective than companion dogs in assisting their handler/owner to thrive; an important question given that companion dogs are typically much less expensive to acquire. The Thriving Through Relationships (TTR) theory of social support was used to inform development of a human-dog relationship survey, which was distributed online through service dog organizations and the general public. Participants were divided into three groups: persons with a disability who had a service dog (N=165), persons with a disability who had a companion dog (N=249) and persons with no disability who had a companion dog (N=198). Perceived support during times of adversity was statistically different between the three groups ($\chi^2(2, n=518)=18.08, p<.001$), as was perceived support in time of normalcy ($\chi^2(2, n=518)=28.28, p<.001$), with service dog handlers reporting receiving significantly higher support than companion dog owners with or without disabilities ($p<.001$). In fact, service dogs were reported to provide more support ($p<.005$) than companion dogs for owners with or without disabilities on eight out of ten separate indicators of thriving. This confirms that, overall, dogs are perceived to provide support that improves their handler/owner's ability to thrive. Most importantly, however, service dogs provide greater support than companion dogs and, therefore, may be worth the additional time and financial cost associated with their acquisition.

Common loss, common gain: dogs and humans learn mutualistic practices of care

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Introduction: The loss of freedom to act and move as individually desired is as common to 'captive' assistance and companion dogs as it is to humans immured by chronic illness. Here, attention is conversely drawn to a common gain for both species when they share interdependent lifetimes in very close proximity; such gain enables liberation from isolation despite species difference, social boundaries and health limitations. Medical alert assistance dogs learn to use their exceptional sense of smell to warn hypo-unaware people with Type 1 diabetes of dangerously fluctuating blood glucose levels which, untreated, may lead to emergency hospitalisation. Reciprocally, the human partners cherish and care for their close companions with respect, empathy and compassion, and pay significant attention to meeting the dogs' range of daily needs.

Methodology: Seven partnerships between working assistance dogs and chronically-ill humans were observed in the UK between 2014 and 2016. Responses to informal interview questions were recorded and transcribed to provide qualitative ethnographic context around rich narration. Research, based in anthrozoology and the sociology of health and illness, follows a symbolic interactionist approach to make meaning from familiar and unfamiliar discourse and behaviour. Neither species intends, nor effects, harm to the other in these mutualistic partnerships; each is host and symbiont, working flexibly and cooperatively.

Main results: Investigation into the everyday lives of these dyads - sometimes identified by respondents as teams of one, or 'one-self' - reveals interspecies communication that elevates tolerance and trust, engendering mutual appreciation of one another's perspectives and abilities, and opening possibilities to improve, even extend their conjoined lives. Human participants variably view their canine assistants as biomedical instruments and as close friends.

Principal conclusions and implications for field:

Respect and empathy become components of a mutualistic relationship that is ethically conducted, attends to the needs of both species, and achieves a common gain. Such fulfilment enhances the partnerships' social integration, mental wellbeing and physical liberation. The research fills a gap in applied anthrozoology and in anthrozoological literature, adding knowledge for those with chronic illness, health practitioners caring for multiple species, and researchers exploring companion animal welfare.

Human–animal interactions in zoos: Balancing urban biophilia with species conservation

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Human populations are rising, climate is changing, species are becoming extinct: in an increasingly urban world people are having an unprecedented and negative impact. The mission of most modern zoos is conservation, which is achieved through a myriad of programmes, including in-situ captive breeding and ex-situ programmes. But zoos are probably mostly associated with providing human-animal interactions, at a variety of levels. These two activities are both contradictory, whilst being complimentary. This paper will explore, how zoos might be able to achieve a mission of species conservation, whilst providing a large portion of the global population (over 700 million visitors annually) with an experience which meets their needs too connect with nature, and it is suggested to effect positive behavioural change.

Animal-assisted therapy for schizophrenia: a systematic review

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Introduction: More than 21 million people worldwide are affected by schizophrenia, with over 50% not receiving appropriate care. Animal-assisted therapies have become increasingly popular in the treatment of both physical and mental illness, including schizophrenia. However, research has often been criticised as being of low quality, stressing the need for more rigorous methods. We conducted a systematic review of randomised controlled trials to examine the effectiveness of AAT for schizophrenia.

Methodology: We searched PubMed, PsycINFO, CINAHL, EMBASE, The Cochrane Library (trials database), CAB Abstracts, and Web of Science. Hand searches of reference lists and citation tracking were conducted for the final list of studies. Articles were independently screened by two review authors to assess eligibility. Studies were eligible if they were randomised controlled trials that had compared animal-assisted therapy to a control group using any participants with a clinical diagnosis of schizophrenia, including schizophreniform disorder and schizo-affective disorder, regardless of age, gender, setting, or severity and duration of illness. Risk of bias was assessed using the Cochrane tool for assessing risk of bias in randomised clinical trials.

Main Findings: Seven studies were included in the review. Meta-analysis was not possible due to heterogeneity between studies, including marked differences in outcome measures and interventions. Four out of seven studies included symptoms as an outcome measure. One study, out of the four, reported improvements in negative symptoms. One study reported improvements in positive symptoms. The remaining two studies reported no significant differences in symptoms between treatment and control. Two of the three studies that did not assess symptoms reported improvements in social interactions/functioning.

Principal Conclusions and Implications for Field: Findings from the included studies suggest that the use of AAT for schizophrenia shows some potential. However, it is important to note that the heterogeneity between studies and the predominantly small sample sizes make it difficult to draw any firm conclusions. In addition to this, there was largely insufficient information across reports to make a judgement of high/low risk of bias. Higher quality RCTs, and more detailed reporting of trials, are much needed in order to assess the true impact of AAT on schizophrenia.

The relation between ward cats and patient satisfaction in psychiatric wards

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Background: There are many psychiatric clinics institutions with animals on their wards, but little is known about the effects of the presence of these animals. Therefore, we investigated the effects of ward cats on patient satisfaction in patients with psychosis, depression and addiction during their stationary psychiatric treatment at the University Psychiatric Clinic Basel, Switzerland.

Methods: We retrospectively analyzed satisfaction of 170 patients in 2016 and 2017. Half of them stayed in a ward with a cat while the other half were on a ward without cat. Patient satisfaction was measured via the MüPF27. Because the MüPF27 has no items regarding ward cats, we created a semi-structured interview and additionally interviewed 33 patients on their opinion on ward cats. Group differences between patients on a ward with or without cat were analyzed in SPSS Statistics using the Mann-Whitney U-Test while the Spearman's correlation was used to determine the relation between different questions.

Results: The retrospective data in 2016 show that patients staying in a ward with cat had a significantly higher overall satisfaction ($z=-2.25$, $p=0.024$, $d=0.34$) and recommend the psychiatric clinic significantly more often compared to patients without a cat on the ward ($z=-2.27$, $p=0.023$, $d=0.35$). The data from 2017 is currently analyzed and will be presented at the congress.

The semi-structured interview show that the patient's attitude towards ward cats correlated significantly with the intensity of their contact with the cat ($p=0.027$, $r=0.050^*$) and the frequency they see the cat ($p=0.002$, $r=0.666^{**}$). The emotional relation of the patients to the cat correlated significantly with their belief, that the station atmosphere would change if the cat wasn't there anymore ($p=0.015$, $r=-0.561^*$). This belief is also correlated with how often the patients see the cat ($p=0.002$, $r=-0.676^{**}$), how much they like the cat ($p=0.041$, $r=-0.486^*$) and with their attitude towards the cat ($p=0.011$, $r=-0.585^*$).

Conclusion: Our results indicate that the presence of a cat can have positive effects on the patient satisfaction. Nevertheless, it seems that the effects of ward cats depend on the quality of the relationship and the intensity of the interaction between patients and cats.

There's a dog in my session: practitioner perspectives on animal-assisted counseling

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Introduction: The field of animal-assisted counseling (AAC) is burgeoning. However, there is a paucity of research on the perspectives of mental health practitioners regarding its practice and the experience and training needed to effectively utilize AAC with clients. The purpose of this study was to explore how practitioners perceive AAC and its role in clinical settings. The findings from this study contribute to the emerging literature on animal-assisted counseling.

Methodology: Perceptions of 300 mental health practitioners were assessed using a researcher-developed survey instrument. The Practitioner Perspectives in AAC Survey included four sections: Demographic and Professional Experience, Experience with Animals, Using AAC with Clients, and AAC Training. The survey was conducted between March and June 2016. After the survey was closed, the data was uploaded to SPSS and analyzed using descriptive statistics.

Main Results: Findings indicated that a majority of practitioners (91.7%) view AAC as a legitimate counseling modality. Practitioners identified client age ranges and the top five clinical issues that would benefit from AAC. While only 12% of respondents have received training in AAC, 57% of respondents reported interest in receiving AAC training. Respondents identified types of AAC education, training and supervision that would be sufficient for clinicians to utilize AAC.

Principal Conclusions and Implications for Field: Given the strong interest in AAC and the low percentage of participants who have received training in AAC, the researchers recommend a training protocol for AAC. Training should include acquisition of knowledge, skill practice in a clinical setting, and supervision from an AAC supervisor. While the development of AAC standards and the expansion of the evidence base for AAC is ongoing, the potential for healing, enhancement of the therapeutic rapport, and clinical effectiveness with a variety of presenting issues make animal-assisted counseling an exciting new frontier in the world of counseling.

Bark once for yes and twice for no: applying the capabilities approach to research ethics in human-animal interaction studies

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Introduction: Challenges for the study of therapeutic interactions with non-human animals (e.g. animal-assisted interventions and dog-walking) include improving the welfare of non-human animals involved in such studies. Many study proposals require submission to both human and non-human animal ethical review boards in order to ensure optimal animal welfare. Our recent work on the health and wellbeing benefits of dog-walking prompted us to review current ethical frameworks for the study of therapeutic interactions with non-human animal studies.

Methodology: In this narrative review, we explored literature from: animal-assisted intervention, animal assisted therapy and dog-walking studies; philosophical and social theories; non-human animal cognition and behavioural studies; and animal welfare and animal rights publications.

Results: As we learned more about the thoughts, feelings and preferences of non-human animals, the bright line between human and non-human started to blur. Non-human animals not only feel pain, need food, water and shelter etc. but have preferences, experience emotions, have social interactions, learn in complex ways, and constantly surprise humans with new capacities. Existing ethics committees operate from a philosophical standpoint of moral relationism; that is the moral status of a non-human animal is dependent on its relationship to humans (whether a laboratory-model rat or a trained therapy dog). We argue that in light of new knowledge about non-human animal capacities, research ethics governance should be underpinned by moral individualism: recognising inherent and individual worth. The capabilities approach compels us to address the capabilities persons (whether human or non-human animal) require to achieve their desired functioning (wellbeing), prompting revised ethical theory responsive to varying capacities of persons with different desired functioning.

Conclusions: Findings from this narrative review challenge existing dichotomous ethical research governance for therapeutic interactions with non-human animals. In response to this challenge, we propose an ethical framework that goes beyond animal welfare legislation and recognises our obligations to non-human animals in a manner responsive to their capacities. As a concrete example, we pose ways in which ethical principles of autonomy, beneficence, non-maleficence and justice could be applied to non-human animals through a morally individual lens for future ethical research governance in all human-animal research contexts.

Complete bollocks: Do we have a moral obligation to neuter other animals?

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a) Clare Palmer, Sandra Corr and Peter Sandøe conclude, in their 2012 paper 'Inconvenient Desires: Should We Routinely Neuter Companion Animals?' that, no, we probably shouldn't (Palmer, Corr & Sandøe, 2012); I seek to argue against that position. Using analytic philosophy supplemented by vignettes from fieldwork conducted in Romania (a country with a strong cultural resistance to the concept of neutering) concerned with assessing the impacts of different approaches to stray dog management, I review and respond to the different arguments presented by Palmer, Corr and Sandøe.

b) Palmer, C., Corr, S. and Sandøe, P., 2012. Inconvenient Desires: Should we routinely neuter companion animals?. *Anthrozoös*, 25(sup1), pp.s153-s172.

c) The argument is divided into three parts. First, (A) there is a risk, however small, that secure, domestic animals who do not normally possess the freedom to copulate will nevertheless do so. Secondly, (B) there is an issue of international responsibility in achieving a reduction in global overpopulation; Thirdly, (C) there is a concern about the price, in reduced autonomy and flourishing, paid to gain this low risk of reproduction. Ultimately, though sterilisation does pose some health risks (particularly to male dogs), these risks must be weighed against the terrible suffering which results from unwanted animals and the costs of achieving low levels of reproduction in a fertile population.

d) The routine neutering of companion animals, and male animals in particular, is essential to ensuring the welfare of companion animal populations overall. In cultural contexts such as Romania where neutering is stigmatised and viewed negatively by many officials as well as members of the general population, neutering campaigns tend to be run on a piecemeal, localised basis by international NGOs. External efforts might best be directed at veterinary bodies and local as well as national governments to demonstrate the welfare as well as cost benefits of neutering in a bid to achieve and enforce nation-wide campaigns.

1. Palmer, C., Corr, S. and Sandøe, P., 2012. Inconvenient Desires: Should we routinely neuter companion animals?. *Anthrozoös*, 25(sup1), pp.s153-s172.

Psychobehavioural outcomes for dogs sold as puppies through pet shops and/or born in commercial breeding establishments

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Introduction: Large scale commercial breeding of dogs has long raised serious questions about the welfare of the breeding dogs, the puppies, and the safety and satisfaction of the purchasers of such puppies. Mass-bred puppies are commonly purchased from pet stores and increasingly directly over the Internet. Recent studies have shed a scientific light on the behavioral and psychological characteristics of puppies born in commercial breeding establishments (CBEs), often referred to as "puppy farms" or "puppy mills."

Methodology: All published reports that contained any data regarding dogs sold as puppies through pet stores or born in CBEs were reviewed to ascertain the known characteristics of such dogs as contrasted with the selected comparison group used in each study. Seven empirical studies and one anecdotally reported study spanning 2 decades and 3 continents were located and included in this review.

Main Findings: The reviewed studies revealed some important consistencies as well as interesting differences. All confirm that dogs sold through pet stores and/or born in CBEs have an increased frequency of a variety of undesirable adulthood behaviours and emotional functioning compared with dogs from other sources. The most common finding was an increase in aggression directed toward the dog's owners and family members, unfamiliar people, and other dogs. Second most common was fear, which was shown toward unfamiliar people, children, other dogs, and nonsocial stimuli. One study that separated dogs by breed suggested that, for dogs originating from substandard breeding operations, substantial breed variation in behaviours may exist.

Principal Conclusions and Implications for Field: The lifelong welfare implications for the puppies as well as the adult breeding dogs in large scale breeding operations are profound and require immediate reforms. In addition to the welfare concerns for the dogs, the behavioural problems found in the puppies upon reaching adulthood also make commercial dog breeding a consumer protection as well as a human health issue. While the specific causes of the abnormal behaviours in mass-bred puppies include a wide range of factors and were not determined in these studies, evidence-based knowledge of genetic and stress-induced psychological effects allow us to institute important corrective measures to alleviate the harm being inflicted on these puppies.

The effects of therapy dogs on stress and memory

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Introduction: Therapy dogs reduce stress and correlate with improved physical and mental health, but effects on cognitive processes, such as memory, are mixed (Trammell, 2017). This presentation describes three completed studies and one in-progress study (expected completion date: February 2018) examining the effect of therapy dogs on stress and memory.

Methodology: 324 men and women (Studies 1-3) and 50 additional participants (recruited for Study 4) interacted with therapy dogs or watched a movie about dogs before taking an exam (Studies 1 and 2), after learning (Study 3), or during studying and testing (Study 4). Exam-related stress was measured before and after both the interaction and the exam. SPSS was used to analyze the relationship between therapy dog interaction, stress, and academic performance.

Results: In study 1 (correlational), those who chose to interact with the therapy dogs scored 5.5 points higher on their final exam, $t_{(125)} = -2.18$, $p = 0.03$, $d = 0.39$, and showed a larger decrease in stress, $t_{(111)} = 2.19$, $p = 0.03$, $d = 0.41$, than those who did not.

In study 2, those who were randomly assigned to interact with dogs immediately before an exam showed reduced stress, $t_{(41)} = -2.54$, $p = 0.02$, $d = 0.77$, but no difference in exam scores compared to those who watched the movie.

In study 3, an interaction revealed that those who were randomly assigned to interact with therapy dogs immediately after learning showed impaired memory for that material, but enhanced memory for material learned at other times, compared to those who watched the movie, $F_{(1, 54)} = 4.74$, $p = 0.03$, $\eta^2 = 0.08$.

Data collection will be completed in February for Study 4, but results are hypothesized to show that those who interact with a therapy dog during both studying and testing will show reduced stress and enhanced memory compared to those who study and test without a dog present.

Conclusions and Implications: Overall, these results show that interaction with therapy dogs can reduce exam-related stress, but has mixed effects on memory. Study 4 is expected to clarify the effects on memory.

1. Trammell, J. P. (2017). The effect of therapy dogs on exam stress and memory. *Anthrozoös*, 30, 607-621. doi: 10.1080/08927936.2017.1370244

An animal-assisted narrative journey for youth with social withdrawal experiences in Hong Kong

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Introduction: This paper reviews a life-career programme for youth who have social withdrawal experiences, which is funded by The Hong Kong Jockey Club Charities Trust. The programme combines narrative practice with animal-assisted intervention. Young people visit shelter dogs which have been abused or abandoned and engage in human-canine activities designed to promote a positive relationship between humans and animals. Participants learnt to read canine comfort signals and how to care for the dogs. Narrative intervention is used to help participants explore the skills, values and commitment involved in caring for animals and finding meaning in life. This paper will discuss this programme, and the changes it brings to the lives of young people. It also examines the change process and reflects on human-canine interaction.

Methodology: Qualitative interviews were conducted to examine the process and the effects of the programme. Eight young people aged 16 to 20, five females and three males, participated as user respondents. They had been secluded at home for between 6 months and 3 years. Interviews were conducted with three social workers and one Animal Assisted Therapist. One focus group was conducted with five programme workers. A thematic analysis was conducted for the study.

Results: Young people reported that a reciprocal relationship was experienced in the process of caring for the dogs, which offered trust, acceptance, kindness, unconditional love and non-judgmental contact. According to them, this differed from their relationships with peers. The users offered love, care, respect, companionship and a secure interacting environment for the dogs, which encouraged them to believe in their ability to care for living beings. A positive self-identity with a greater sense of achievement and self-worth was built up. The interaction was also beneficial to the dogs as they became trusting, confident and accepting of human care. Many young people were inspired to explore animal care work and to promote animal welfare.

Implications: This study supports the integration of animal interaction in helping youth to mitigate the undesirable impact of social withdrawal and to rebuild confidence and positive self-identity. With thoroughly planned AAT and NT interventions, the experience was positive for both the youth and practitioners. The benefits of human-canine interaction were mutual. The programme also supported young people to become mentors, to share their transformations with new members of the programme, and with parents, teachers and the community.

Evaluation of infection control and prevention measures in a university-based animal assisted intervention (AAI) program

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Introduction: Previous studies have shown that apparently healthy animals participating in Animal-Assisted Interventions (AAI), including Animal-Assisted Therapy (AAT), can carry and have the potential to transmit potentially zoonotic pathogens to people, particularly in health care settings (Lefebvre et al., 2006; Lefebvre et al., 2008; Lefebvre et al., 2009). There is a lack of information regarding therapy animal handler adherence to infection control practices in the AAI literature. Virginia Tech Helping PAWS (Pet Assisted Wellness Service) is an AAI program based out of the Virginia-Maryland College of Veterinary Medicine (VMCVM). The purpose of this study was to evaluate and assess therapy animal handler infection control practices within this population.

Methodology: A survey was conducted of the 40 currently registered therapy animal handlers designed to assess knowledge, attitudes, and perceptions regarding risk-tasking and risk-reducing behaviors that affect infectious disease transmission in AAI settings. Perception of risk of infectious disease risk to the animal, the handler, and the people being visited in typical AAI settings were also assessed.

Main Results: A majority (70%) of respondents expressed they had no concerns regarding infectious disease transmission in AAI settings. Handlers expressed greater concern about themselves acquiring a disease while visiting, such as the flu, than they were concerned about their animal transmitting or acquiring a disease. Despite current policy and information provided in the mandatory therapy handler education in this organization, none of the respondents reported that the people being visited always used hand sanitizer before and after visits.

Principal Conclusions and Implications for the Field: Strict adherence to infection control practices and hand hygiene are paramount to mitigate risk of zoonotic disease transmission, particularly for AAI/AAT in healthcare settings. Based on the results from this study, infectious disease control practices in the therapy animal handler education process needs to be strengthened. Similar studies should be performed in other AAI organizations in order to determine the level of adherence to currently recommended practices and potential need for improvement in infectious disease control policies and/or education.

1. Lefebvre, S.L., Golab, G.C., Christensen, E.L., Castrodale, L., Aureden, K., Bialachowski, A., Gumley, N., Robinson, J., Peregrine, A., Benoit, M. and Card, M.L. (2008). Guidelines for animal-assisted interventions in health care facilities. *American journal of infection control*, 36(2), 78-85.
2. Lefebvre, S., Waltner-Toews, D., Peregrine, A., Reid-Smith, R., Hodge, L., Arroyo, L. G., & Weese, J. (2006). Prevalence of zoonotic agents in dogs visiting hospitalized people in Ontario: implications for infection control. *Journal of Hospital Infection*, 62(4), 458-466.
3. Lefebvre, S., & Weese, J. (2009). Contamination of pet therapy dogs with MRSA and *Clostridium difficile*. *Journal of Hospital Infection*, 72(3), 268-269.

Perspectives on donkey companions

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Introduction: Many studies have examined the human-horse relationship (Hausberger, Roche, Henry, & Visser, 2008). However, no studies to date have explored human relationships with donkeys. This descriptive study looks at the bond between people and their donkey companions.

Methodology: A sample of 217 people with donkeys were surveyed about their relationship with their long-eared companions. Most respondents (42.4%) were recruited through online donkey discussion groups. Questions included demographics, the reasons for having donkeys, whether the donkeys are pets, whether people feel emotionally attached to their donkeys, and experiences coping with the loss of a donkey.

Main Results: Over 70% of participants were from 43 U.S. states, about 20% were from Canada, and 4% were from New Zealand. Females comprised 88.4% of the sample and the mean age was 52.3. Over 77% were living with a spouse and children. Most respondents (86.2%) were living in rural or semi-rural areas.

Of the reasons for having donkeys, 89.1% had them for human companionship. Other reasons included companionship for other animals, for trail walks and rides, for breeding, and to be livestock guardians. Nearly three quarters (74.6%) of respondents considered their donkeys to be pets. Most (84.7%) felt they were emotionally attached to all of their donkeys. Many described strong attachment. "He makes me laugh and feel special". "Donkeys work their way into your heart and soul".

Those who had lost donkeys described their experiences. "The death of my donkey was very difficult". "I felt like someone ripped my heart right out of my chest and sucked the breath right out of me ...".

Principal Conclusions and Implications for the Field: The findings of this study show that donkeys are beloved companions with whom people form strong bonds. The data have important implications for veterinary professionals who need to understand the special relationship between people and their donkey companions.

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Goats differentiate human emotional facial expressions

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Introduction: A key function of human facial expression is to communicate emotional states. Recently it has been shown that dogs and horses (two species domesticated for working closely with people) are capable of perceiving human emotional states via their faces. However, it is not known whether other animals, particularly those domesticated primarily for production such as goats, are able to perceive human emotional cues. We investigated whether goats are capable of discriminating human faces showing different emotions.

Methodology: In the training phase, 20 goats were rewarded with food for approaching the experimental area, by a researcher with a neutral expression. In the tests, two images of an unfamiliar human face with either a happy or angry face were presented simultaneously for 30s, on the left and right sides of the experimental area. Each subject received four repetitions, counterbalanced for side of stimuli presentation (left vs right) and human gender (woman vs man).

Main Results: Goats were more likely to first approach happy faces ($X^2 = 6.66, p = 0.009$), but did not interact more often or for longer with those images ($X^2 = 1.46, p = 0.226, X^2 = 3.73, p = 0.053$, respectively). We also found that goats first approached, interacted more often, and for longer, with happy faces when they were positioned on the right side (first choice: $X^2 = 8.90; p = 0.002$; rate: $X^2 = 8.01; p = 0.004$; duration: $X^2 = 8.24; p = 0.004$). However, no such preference was found when happy faces were presented on the left. Face gender and goat sex had no effect on the preference.

Principal Conclusions and Implications for Field: Goats can discriminate human facial expressions with different emotional valences and prefer to interact with happy faces. In addition, perceptual lateralization plays a role in the processing of positive human emotional information. These findings suggest that the ability of animals to perceive human emotional facial cues is not limited to those with a long history of domestication as companions, and therefore may be far more widespread than previously believed.

Enhancing children's understanding of farm animal and wildlife welfare through interactive iPad games

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2. *Scottish SPCA, Dunfermline, Scotland, United Kingdom*

Introduction: Research on animal welfare education for children has tended to focus on pets. Yet, in the UK, many acts of cruelty by children focus on wild animals. Furthermore, it is important to provide children with knowledge of farm animal welfare to support the development of informed consumer choices. The current study evaluated two novel animal welfare educational iPad games for children: 'Farm Animal Welfare' and 'Wildlife Welfare'.

Methodology: The 'Farm Animal Welfare' and 'Wildlife Welfare' games teach children about animal sentience (beliefs in animal minds), animal welfare needs and the impact of human behaviours on animal welfare. The 'Farm Animal Welfare' evaluation included 91 Scottish children divided into intervention and control groups (girls = 50, boys = 41; ages 6–9 years, $n = 27$; ages 10–13 years, $n = 64$). The 'Wildlife Welfare' evaluation included 27 Scottish children divided into intervention and control groups (66.7% male, 11–12 years, $M = 11.22, SD = .424$). In both studies the evaluation method involved children being placed in either an intervention or control group (receiving the intervention after the study). A pre-test, intervention, post-test design was used to evaluate the effectiveness of the interventions, which were delivered class, during school hours. Self-report questionnaires including key animal welfare knowledge scales were used as evaluation tools. 'Farm Animal Welfare' data were analysed using parametric statistics and 'Wildlife Welfare' data were analysed using non-parametric tests of difference.

Main Findings: Farm Animal Welfare: Children in the intervention group increased significantly more than control group children in terms of: knowledge of sentience ($F(1,119) = 17.0, p = .0001, \eta^2 = .13$), knowledge of welfare needs of chickens ($F(1,118) = 6.15, p = .015, \eta^2 = .05$), and understanding of the impact of farming systems on animal welfare ($F(1,115) = 8.81, p = .004, \eta^2 = .071$). Wildlife Welfare: The intervention generated statistically significant median increases in knowledge of sentience (Child-BAM Swan, $z = 4.047, p = .0001$, Child-BAM Hedgehog, $z = 4.650, p = .0001$), and understanding of the impact of human behaviour towards wild animals ($z = 3.256, p = .001$). There was limited change in knowledge of wild animal welfare needs.

Conclusions and Implications for the Field: These linked studies demonstrate the effectiveness of iPad games for teaching children about animal welfare. The results reveal increases in children's knowledge of sentience and welfare needs, and a greater understanding of the impact of human behaviour on animal welfare. The games will be included in the Scottish SPCA 'Prevention through Education' programme reaching 300,000 children annually.

Biobehavioral examination of cat ownership and attachment in older adults

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Introduction: Two important limitations of current research are the presence of mixed findings in the existing literature on the biobehavioral benefits of cat ownership and the absence of studies examining the biobehavioral profiles of cat owners. The primary aim of this study was to determine if psychosocial factors (stress, depression, and loneliness), biological levels of stress and inflammation (salivary cortisol, Interleukin-1 β , and C-reactive protein), and cognitive function predicted companion cat ownership in community-dwelling older adults while controlling for potentially confounding sociodemographic factors. The secondary aim was to determine if attachment to cats was associated with these same biobehavioral factors.

Methodology: Data were collected cross-sectionally from 96 community-dwelling older adults (Mean age 76.6; 74% female, 88% white) who either owned a cat and no dog (cat owners; $N=41$) or did not own a cat or a dog (non-pet owners; $N=55$). Pet attachment, stress, depression, loneliness, and cognitive function were measured with standardized instruments, and saliva samples were collected for salivary cortisol, Interleukin-1 β , and C-reactive protein.

Main Results: The levels of psychosocial factors, biological measures of stress and inflammation, and cognitive function were not associated with cat ownership after adjusting for covariates. Age was the only significant predictor of cat ownership ($OR=0.92$, $p < .01$) with cat owners on average 6.5 years younger than non-pet owners. On average, cat owners were "somewhat attached" to their cats, but the level of attachment to cats was not associated with biobehavioral outcomes.

Conclusions and Implications for the Field: Cat owners were younger when compared with non-pet owners; however, this finding may not represent the general population of older individuals. The biobehavioral effects of cat ownership may be complex and likely involve different underlying mechanisms within each of these predictor variables that may contribute to understanding cat ownership. Even though the level of attachment to cats was not associated with the biobehavioral factors examined in our study, the results support the consideration of cats as a source of an attachment relationship for older community-dwelling adults.

The role of Canine Assisted Intervention on improving self-perception in children with Attention Deficit/Hyperactivity Disorder

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Introduction: Children with Attention Deficit/Hyperactivity Disorder (ADHD) have been found to demonstrate poor self-awareness (Hoza et al., 2002; Hoza et al., 2004), and this deficit is a significant mediator of poor response to feedback and risk for poor outcomes (Hoza et al., 2013). Evidence suggests deficits in executive function may contribute to poor self-awareness (McQuade et al., 2011). Human animal interaction may act as a catalyst for activating systems of executive function, particularly attention (Gee et al., 2012; Schuck et al., in press). Heightened attention during animal assisted interventions may increase response to session feedback, leading to greater improvement in functioning.

Methodology: Children's reports of perceived competence (Self-Perception Profile for Children; Harter, 1985) were collected in the course of a randomized controlled trial of psychosocial intervention with or without Canine Assisted Intervention (CAI) for children with ADHD ($n=80$, ages 7-9, 71% male). Non-parametric methods were used due to the ordinal nature of the items resulting in skewed distributions of the subscales. Moreover, baseline means and medians indicated participant ratings were initially high, producing a ceiling effect. Thus, to test the hypothesis that CAI impacts self-perceptions, stratified Wilcoxon Signed-Rank Tests (SAS NPAR1WAY procedure) were used to compare pre-treatment to post-treatment ratings.

Main Results: Analyses comparing children's responses pre- and post-treatment indicated behavioral conduct, scholastic and social competence scores were significantly higher at post-treatment in the CAI group ($Z = -2.32$, $p = .021$, $Z = -2.631$, $p = .008$ and $Z = -2.541$, $p = .011$, respectively), whereas pre-post-treatment differences were not found for the children in the treatment group without CAI.

Principal Conclusions and Implications for the Field: Results have implications for understanding the role of CAI and children's response to feedback provided during interaction with therapy dogs. The high (favorable) self-ratings pre-treatment suggested a positive illusory bias among the children and has implications for interpreting improved scores. Immediate future directions include examining associations between parent reports of social skills and problem behaviors (SSIS-P; Social Skills Improvement System, Gresham & Elliott, 2008). Findings suggest that CAI may contribute to increased positive self-perceptions.

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Research methods used to consider the impact of HAI on older adults' health

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Background and Objectives: The public perception is that human-animal interaction (HAI) is well established as a promoter of health in older adults. The sparse research in older adults, and community living older adults in particular, leaves many questions about the benefits or disadvantages of HAI in this population partially answered or unanswered due to limitations in research topics and/or designs. We examined existing literature about human-animal interactions in older adults to gain better understanding about health outcomes are supported and not supported in this population and to gain understanding of methodological issues meriting additional attention.

Methods: We conducted a scoping review of HAI research related to health outcomes in older adults. This review identified three general categories of investigation. We reviewed research methods used to address each perspective, within the context of human aging, and identified challenges associated with these methods.

Results: Most research on HAI and human health focuses on one of three perspectives: (a) health effects of pet ownership; (b) health effects of contact with a companion animal; or (c) health effects of animal-assisted interventions including animal-assisted therapies, and animal-assisted activities. The complex challenges involved in designing studies to address all three perspectives and examples of research design elements that can be used to alleviate issues raised in each type of study are provided. Major considerations focused on such topics as construct definitions (e.g., pet ownership), descriptions of activities (e.g., AAI activities), participant characteristics, trajectory of change, and durations of effects and interventions.

Conclusion: We suggest emerging methodologies, including ecological momentary assessment, and the use of new technologies such as geographic information system and movement tracking devices, that may be helpful for answering important questions from all three perspectives about the relationship of HAI to health outcomes for older adults.

Horses prefer food over human contact for task reward: Considerations for human-horse bonding

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Humans use food rewards as positive reinforcement for training horses, but there is little evidence to show that human contact (scratching or patting) has reward value or if domestic horses perceive human touch as social bonding. Most equine training is based on negative reinforcement (Bierke, Meinen, Wilkens, Leponiemi, & Hiney, 2013; Cooper, 2007; Murphy & Arkins, 2007), but food is a known positive reinforcer (Craig, Varnon, Pollock, & Abramson, 2015; Ninomiya, Mitsumasu, Aoyama, & Kusunose, 2007). Many Equine Assisted Activities and Therapies (EAAT) involve human-equine interactions to help clients build interpersonal skills and empathy (Kieson & Abramson, 2016) which relies on behaviors akin to positive reinforcement. This study looked at how horses view human interaction as a form of positive reward by examining the reward value of scratching and patting compared to known rewards (treats) based on horses' ability to use symbols to show preferences (Mejdell, Buvik, Jørgensen, & Bøe, 2016). It also explores horse-human social bonding opportunities based on the unique backgrounds of each equine subject and variations in behaviors towards known and unknown humans. Eleven (N=11) horses (6 geldings, 5 mares with age range 4 -20) with known histories were tested on six different days with two different researchers (one familiar and one unfamiliar) and two symbol sequences to account for testing variables. Each horse was trained to touch a target (X) for a treat reward (given in a bucket). The symbols were then changed to reflect either scratching (O) or patting (square). Each horse was then subjected to a varied sequence of targets. Number of times the target was touched, behaviors, and inter-trial intervals were recorded as well as individual backgrounds on each horse regarding previous behaviors towards humans. All horses (N=11) expressed preference for treats over human contact with no variation between those who typically voluntarily seek out human interaction versus those who typically avoid human contact. This study suggests that, for performance-driven behavior, horses prefer food rewards over human interaction. Considering the variations in backgrounds, however, this brings up further opportunities to explore how horses view humans in the companionship or social setting.

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The human behind the training techniques: dog trainers and coping

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Introduction: As it is well known dog trainers apply behavioral theories to effect behavioral change and communicate their knowledge to owners/handlers. Among those theories is stress, stress-related behaviors, stress management and coping skills. Many studies are published about techniques but a very limited number of studies on the humans who employ those techniques is available and no study on their coping skills, which seems essential for training stress management strategies with dogs or training dogs in general. Therefore the goal of the presented study was to identify risk clusters according to coping strategies in dog trainers and explore this rarely researched population.

Methods and Analysis: Using a cross-sectional design, 256 dog trainers were surveyed using an online-questionnaire including a self-report test-battery to measure twenty different coping strategies (SVF-120 Stressverarbeitungsfragebogen (Erdmann & Janke, 2008)) and questions about daily work life including job stressors. Statistical analysis included cluster analysis, concurrent GLM procedures (including MANOVA), t-tests and Cohens *d* as effect size measure.

Results: Cluster analysis shows three different clusters of dog trainers which were named “Young Performers”, younger dog trainers with mostly average coping strategies and a subjective mental health score of 76 out of 100, “Healthy Optimizers” with a subjective mental health score of 92 and unhealthy coping strategies, and “Social Support Seekers”, the oldest group of dog trainers, showing good subjective mental and physical health scores with the highest use of social support as coping strategy.

The three groups show significant differences in most coping strategies with the most relevant differences in negative (maladaptive/unhealthy) strategies “Resignation” ($F(2,144)=60.924, p=.01, \eta^2=.458$), “Social Encapsulation” ($F(2,144)=42.341, p=.001, \eta^2=.370$) and “Self-Pity” ($F(2,144)=34.223, p=0.001, \eta^2=.322$). Negative coping strategies also represent highly relevant differences between dog trainers and the general population. For instance the significantly higher use of the negative strategy “Medication” to cope with stress shows a problematic behaviour which might lead to more clinically relevant problems ($t(255)=32.273, p<.001, d=1.643$).

Conclusion: Dog trainers have not been researched in the past although this group plays a highly important role in human-dog-interaction. The profession needs recognition and transparency. It seems that unhealthy coping strategies are quite common amongst dog trainers. Health promotion measures are urgently needed.

Exploring how individuals who work around dogs experience and practice safety

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Many people interact with dogs during their jobs. Dog bites have been studied primarily through epidemiological approaches which are not designed for understanding human behavioural approaches to bite risk. The objective of this study was therefore to explore perceptions and experiences of dog bites at work through qualitative methods.

We used participant-observations, ethnographic interviews (i.e. opportunistic interviews carried out during observations) and semi-structured in-depth interviews. The participants included: delivery company employees, veterinary professionals and employees of dog shelters. Fifteen in-depth interviews and 12 ethnographic interviews were carried out alongside 14 days of participant-observations. Transcribed interviews and notes from observations were coded inductively line-by-line to identify common themes. Key themes that emerged were: 1) *procedural safety*, 2) *experienced safety*, 3) *teaching safety* and 4) *making sense of being bitten*.

Procedural safety captured organisational guidelines that define rules for working around dogs. The purpose of procedural safety guidelines and their resultant practices was principally to make dogs visible, through systems that document their behaviour or presence, and to provide barriers that can be used to prevent human-dog contact. Safety is constructed as a measurable and demonstrable outcome, perceived to translate into a set of standardised behaviours employed to stay safe. In day-to-day work however, people who work with dogs described safety as a tacit and context-specific way of controlling one’s body, emotions and practices around dogs. This *experienced safety* also relied on developing relationships with colleagues, dogs and customers and individual safety was seen as dependent on behaviours of others. Bites were experienced as an impetus for improving prevention practices and a way of sharpening up awareness of risk. These perceptions helped to cope with a bite and to *make sense of being bitten*. As safety was experienced largely as a feeling, instinct and a sense of embodiment developed through practice, it was discussed as something that cannot be easily taught.

We suggest that in developing safety protocols and teaching dog-safety at work, organisations should not rely on simple protocols and incorporate sufficient time for development and practice of safe behaviour under guidance of experienced front-line personnel.

Children's attitudes towards animal cruelty

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Understanding why some children harm animals, and whether prevention is possible is imperative, yet surprisingly understudied. The lack of established and psychometrically sound measures that assess childhood animal cruelty is impeding the advancement of research on this topic. New child-friendly measures are needed to assess risk for cruelty and evaluate cruelty prevention programmes. This study describes the development of a new measure, Children's Attitudes towards Animal Cruelty (CAAC). This study investigates associations between CAAC, socio-demographics, and variables underlying child-animal relationships, as well as assessing the validity of CAAC within an empirical quantitative study.

A questionnaire-based survey, comprising of a variety of measures relating to child-animal relationships including the new CAAC measure, was administered to primary school children during class time by school teachers. A total of 1,217 (51% boys, 49% girls) children aged 6-13 years from 24 schools across Scotland participated.

Cronbach's alpha was 0.7. Factor analysis resulted in a three-factor solution. The three principle components were intentional animal cruelty (explaining 24.9% of the variance), unintentional animal cruelty (17.6% of the variance) and animal neglect (16.6% of the variance). The results indicate that children's attitudes towards animal cruelty are predicted by some demographic variables including urban living, being male, younger age and not having pets, but attitudes differ depending on the type of animal cruelty. Negative attitudes, $F(1,994)=9.6, p=.002, R^2=.01$, and lower belief in animal mind, $F(1,1080)=20.2, p=.000, R^2=.02$, significantly predicted higher acceptance of animal cruelty. Higher acceptance of animal cruelty significantly predicted lower scores for attachment to pets, $F(1,1113)=24.3, p=.000, R^2=.021$, compassion, $F(1,1077)=14, p=.000, R^2=.013$, and humane behaviour, $F(1,1093)=7.2, p=.006, R^2=.007$. Children were more accepting of unintentional animal cruelty.

The study concludes that CAAC is a coherent and psychometrically sound measure and confirms its utility in future studies to further scientific understanding of childhood animal cruelty. This measure allows for the assessment of children's acceptance of different types of cruelty, addressing the limitations of previous research focusing on intentional acts in adult populations. This study has implications for the development and evaluation of educational interventions designed to prevent animal cruelty and neglect in the general child population.

Attitudes to animal abuse in veterinary practice in Poland

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Introduction: Encountering animal abuse in veterinary practice is a topic of ongoing research (see references) and professional actions. Organizations such as AVMA or WSAVA strive to educate veterinarians about the legal and ethical obligations regarding animal abuse, as well as about its connection to domestic violence. While both phenomena are found across cultures, the body of research so far seems to be culturally limited. Our work aims to contribute by shedding light on the experiences of Polish veterinarians.

Methodology: The study was designed as an in-depth analysis of a small, purposive sample. Its aim was to uncover descriptive data on the personal experiences and insights of participants. Sixteen semi-structured interviews with 19 interviewees (11F, 8M) were conducted in 2017; 14 interviews were held as one-on-ones while 2 had additional respondents in presence. Most (13) took place in the veterinary clinic. The interviews ranged from 20 to 70 minutes in length.

Main Results: Interviewees occasionally encountered animal abuse throughout their careers. Most considered neglect a form of abuse and witnessed such often. Outright physical abuse was a rare occurrence. Respondents claimed to have taken some action upon witnessing abuse but were not systematic in their approach. Cooperation with authorities and NGOs emerged as problematic, while lenient sentencing in animal abuse cases was seen as dysfunctional and demotivating. At the same time interviewees did not seem to possess detailed knowledge of the existing regulations concerning the role of the veterinarian in reporting, and had only cursory knowledge of "The Link".

Principal Conclusions and Implications for Field: Animal abuse and neglect are universal, yet nuanced - local customs, regulations and judicial application of law should be kept within the conversation. Our study suggests that, in relation to animal abuse, Polish veterinarians are mostly left on their own, without guidance other than their own moral compass, and without proper education about abuse at the university level. They would be empowered by clear reporting procedures, an "action algorithm" as one person put it, and by raising awareness/interest among the authorities. The efficiency of dealing with animal abuse in Poland seems contingent on such changes.

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Slugs snails and YouTube

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Introduction: It is now possible to spend several days watching YouTube videos of slugs and snails. These videos run the gamut from documentaries (both professional and amateur), to races, feature films, intensive farming, shell painting, gastronomy as well as encounters with electricity, copper, parasites, salt and human feet. The film industry has safe-guards for the treatment of animals on motion picture sets. Does YouTube have rules about videos featuring live gastropods?

Methodology: About 150 YouTube videos of living slugs and snails were watched and collected. These videos were sorted and assessed as to the appearance of cruelty. If a video was deemed to depict a slug or snail being mistreated, a complaint was sent to YouTube and the response was recorded.

Main Findings: There are no cruelty to animal laws protecting gastropods, and there is scant literature as to whether or not gastropods can experience pain. Nonetheless, YouTube quickly removes videos depicting cruelty following a report of harm being seen to be done to these animals.

Principal Conclusions and Implications for the Field: Although several countries have laws protecting some molluscs, such as cephalopods, there are no laws protecting gastropods. This is in part due to some uncertainty within the scientific community as to whether gastropods are capable of experiencing pain. In the public realm opinions are also mixed, as evidenced by the posting of snail movies on YouTube that depict violent acts, and provoke both complaints and comments of support. Despite a lack of legislation protecting molluscs, YouTube viewers are able to stop the showing of videos of slugs and snails being mistreated by filing individual complaints. Should YouTube be encouraged to go a step further and develop algorithms to actively prevent these videos being posted at all?

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Computational anthrozoology - a manifesto: 'as the lens' and 'under the lens'

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Introduction: The author will discuss the role of computer-based research in Anthrozoology, proposing it as an emerging field of research: Computational Anthrozoology. This term includes both (i) using computers to study human interspecies relationships (the computer 'as the lens') and (ii) studying human interspecies relationships that are themselves mediated by computers (the computer 'under the lens').

Methodology: Critical reflection has been applied to the application of computers (or any other digital-era technology) to Anthrozoology. It will be argued that 'now' is an appropriate time to think carefully about how we currently use technology in our research. What do the technological tools that we choose, say about our inherent biases and the filters or distance that we may place between ourselves and the participants that we observe? In addition, this work asks: "what happens when human interactions with other animals are mediated by technology (for example: dogs watching TV with humans, cat enrichment with tablet-based computer games or horses living in an automated housing system)?"

Main Findings: Computational Anthrozoology is a field that is both data-driven ('as the lens') and reflexive ('under the lens'). As such, it is open to the use of mixed and hybrid methodological approaches, combining elements of the quantitative (for example: statistics, ethology-based observations) and the qualitative (for example: ethnography).

Principal Conclusions and Implications for Field: Anthrozoology researchers are already highly dependent on computer-based systems to mediate their understanding of interactions between humans and other animals. It is proposed that this dependence would benefit from greater levels of reflection. In addition, technology is increasingly present in all areas of our interaction with non-humans. For example, when we attach a GPS tracker to a studied individual, we are potentially modifying their range of behavioural responses. Therefore, we need to reflect on the role of technology in all aspects of our practice. This may also mean welcoming colleagues from computer science fields (such as Human-Computer Interaction and Animal-Computer Interaction), broadening still further Anthrozoology's multidisciplinary base. Computational Anthrozoology has potential crossovers with the following fields: computational anthropology, digital anthropology, techno-anthropology, digital ethnography, cyber anthropology, virtual anthropology and animal-computer interaction.

Evaluating anthropocentric versus caninocentric attitudes and approaches to stray dog management: the case of Topoloveni, Romania as a potential example of best practice

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Introduction: This paper arises from the 'Tails from the Street' project - a multi-sited study documenting the lives of stray and former stray dogs (where 'stray' is defined as a free-roaming dog, not under the control of a human). Conducted in April 2017, Phase 1 investigated the impacts of the 2013 Stray Dog Euthanasia Law (SDEL) in Romania. During the SDEL, tens of thousands of strays were either killed or placed in shelters. In response, numerous NGOs and individuals attempted to save as many dogs as possible. This paper focuses on (i) how dog rescuer/activists in Romania think about and practically implement the management of stray dogs; (ii) how their views and practices have been impacted by the SDEL and (iii) how different management practices impact on dog welfare from a canine perspective.

Methodology: The paper draws on data collected using a combination of methods including participant observation with dogs and humans. The primary focus is on data obtained from interviews conducted with twelve Romanian rescuer/activists (nine female, three male), two male officials in a town (Topoloveni) which actively protects a free-roaming dog population, and discussions with members of the research team (five female, five male). Data has been analysed as per the author's guidelines for multi-species ethnography (Hurn 2017).

Main results: Individuals who identify as rescuer/activists experience contradictory responses to stray dogs. While they feel compelled to 'save' dogs by removing them from the streets, some also recognise that (i) the conditions in shelters around the country are not fit for purpose and as a result may compromise canine welfare; (ii) many former stray dogs do not adapt well to captivity; and (iii) in some situations (e.g. Topoloveni) free-roaming strays experience good quality of life, preferable in many instances to captivity.

Conclusions/implications: The anthropocentric tendencies of some rescuers to regard the perceived safety of captivity as a primary welfare consideration is not always commensurate with ensuring good welfare for stray and former stray dogs. This has implications for management programmes which prioritise the use of shelters and adoption programmes. In theoretical terms, the importance of considering welfare practices and legislation from the perspectives of the nonhuman species and individuals concerned comes to the fore.

1. Hurn, S. 2017. 'Multispecies ethnography' Sage Research Methods Datasets. <http://methods.sagepub.com/datasets> [live December 2017]

How multidisciplinary is *Anthrozoös*?

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Introduction: Human-animal interactions (HAI) research spans many disciplines, including psychology, education, veterinary medicine, human medicine, nursing, and social work.^{1,2} The objective of this study is to quantify the degree to which *Anthrozoos* articles represent this diversity of knowledge domains. For the purpose of this study, multidisciplinary will be described through an analysis of the subjects represented by the journals most frequently referenced in *Anthrozoos* articles, the subjects represented by the journals in which articles cite *Anthrozoos* articles most frequently, and by the institutional affiliations of the authors of the 100 most highly cited *Anthrozoos* articles.

Methodology: This study is a retrospective bibliometric study. The data set included citations, abstracts, and other metadata for *Anthrozoos* research articles from 1992-2017 which were downloaded from bibliographic database Web of Science Core Collection (WOSCC). WOSCC was selected because it comprehensively indexes *Anthrozoos* from 1992 to the present; it includes some information that other databases omit, such as references lists and times cited; and its records can be uploaded to VantagePoint, a standalone text mining software that provides analyses of structured data without requiring extensive programming skills.

Main results: *Anthrozoos*'s multidisciplinary is recognized by the research domains WOSCC applies to it: Anthropology, Environmental Sciences & Ecology; Sociology; and Veterinary Sciences; most journals are assigned only one or two research domains. Further, *Anthrozoos* itself is the journal most frequently referenced by its own articles. Analysis of cited references indicates that the research domains of the other journals most frequently cited by *Anthrozoos* articles include psychology, veterinary sciences, and behavioral sciences. *Anthrozoos* was also the journal that most cited its own articles, followed by journals in veterinary sciences, psychology, and behavioral sciences, with criminology & penology trailing these leaders. Examining the author affiliations of the 100 most highly cited papers, the disciplines most often represented are psychology and veterinary medicine, but there is definite representation from other life sciences and social sciences disciplines, as well as government agencies, research institutes, corporate collaborators, and other non academic organizations. Collaboration patterns are both international and interdisciplinary.

Conclusions: There is evidence that researchers from many disciplines study HAI, and these disciplines are dominated by veterinary medicine, psychology, and behavioral sciences. As multi- and interdisciplinary become increasingly valued in scientific research³, HAI seems to be uniquely poised to demonstrate to other disciplines how it is done.

The impact of pet ownership on emotional health outcomes in children and adolescents: a UK Population study

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Introduction. Previous cross-sectional and qualitative studies suggest that pet ownership in childhood and adolescence may be associated with improved emotional health, but this relationship should be investigated in large, well-designed studies. We examine the association between pet ownership and self-esteem in middle childhood (age 8), and anxious and depressive symptoms at ages 7, 10 and 13 years.

Methodology. 13,954 children born to mothers in a UK birth cohort study (Avon Longitudinal Study of Parents and Children, ALSPAC) were surveyed. Emotional problems were assessed via parent-completed (7 years) and child-completed (10 and 13 years) validated questionnaires (The Development and Well-Being Assessment (DAWBA) and short Mood and Feelings Questionnaire (MFQ)); self-esteem was measured at research clinics using the shortened version of Harter's Self Perception Profile for Children (SPPC). Pet ownership data were collected by carer questionnaire at and below age 10, and retrospectively via self-report questionnaire at age 13 years. Associations were examined using logistic regression. Analyses were adjusted for sex, sociodemographic background, developmental delay, and stressful life events.

Results. There was little evidence of an association between pet ownership and emotional health outcomes before and after adjustment for confounding factors. Owning pets in general (odds ratio .85, 95% CI .73–.98; $p=0.03$) and owning cats (.83, 95% CI .73–.94; $p=0.01$) was associated with lower likelihood of having a normal/high self-esteem in scholastic competence. Owning pets (1.31, 95% CI 1.03–1.67; $p=0.03$) and 'other' pets (horses, and pets other than dogs, cats, rabbits, birds, fish and small rodents) (1.28, 95% CI 1.04–1.57; $p=0.02$) was associated with higher likelihood of social anxiety symptoms at age 7. Pet ownership was not associated with global self-worth, separation anxiety, generalized anxiety disorder or depressive symptomatology.

Conclusions. This study provided no evidence for any association between pet ownership and positive emotional health as measured by the above tools, and demonstrates the importance of using large, well-designed longitudinal studies controlling for key confounders. Further longitudinal investigation is required to determine the potential impact of pet attachment and the quality of the child–animal relationship on the development and/or reduction of emotional health problems in childhood and adolescence.

The role of callous/unemotional traits in mediating the association between animal abuse exposure and behavior problems among children exposed to intimate partner violence

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Introduction: Children exposed to intimate partner violence (IPV) are at increased risk for concomitant exposure to maltreatment of companion animals. There is emerging evidence that childhood exposure to maltreatment of companion animals is associated with psychopathology in childhood and adulthood. However, few studies have explored developmental factors that might help to explain pathways from animal maltreatment (AM) exposure to children's maladjustment. The present study addresses this gap in the literature by examining relations between children's exposure to animal maltreatment, callous/unemotional (CU) traits, and externalizing and internalizing behavior problems.

Method: A sample of 291 children (77.9% ethnic minority; 47% female) between the ages of 7 and 12 was recruited from community-based IPV services. Multivariate regression models were used to examine the effect of exposure to AM on child behavior problems, over and above child and maternal reports of IPV and demographic variables. Next, a mediation model was used to test the role of CU traits in mediating the path from AM exposure to internalizing and externalizing problems. The model estimated the magnitude of the mediation paths using a bootstrapping technique to construct a 95% confidence interval for estimates of indirect effects with 2,000 bootstrap draws.

Results: Approximately 26% of the children were exposed to AM. Controlling for the effects of other variables, exposure to AM was the strongest predictor of children's internalizing problems ($\beta = .35$). Exposure to AM was also associated with higher externalizing symptomatology ($\beta = .18$), albeit to a lesser extent than internalizing symptomatology ($\Delta X^2[1] = 7.91, p < .01$). The mediational path model indicated that child exposure to AM was associated with callousness ($\beta = .14$), which in turn was associated with greater internalizing ($\beta = .32$) and externalizing problems ($\beta = .47$). The effect of AM exposure on externalizing problems was completely mediated through callousness.

Conclusion: Results suggest that CU traits are a potential mechanism through which childhood exposure to AM influences subsequent behavior problems. Future research is needed to evaluate the extent to which exposure to AM affects children's adjustment over time in the context of other co-occurring adverse childhood experiences.

Characteristics of student canine interaction during meet and greet activity in a university based animal visitation program

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Introduction: The prevalence of university-based animal visitation programs has increased, yet little is known about effects on student and animal wellbeing and behavior. We have limited understanding about the extent to which behaviors occurring during the student-animal interaction may impact potential benefits of the interaction. This study describes student and dog behavior, and the interaction between the two in the initial 10-minutes of a university-based animal visitation program.

Methodology: Interactions preceding and during the initial greeting period were recorded during four, weekly, one-hour long program sessions between students ($n = 87$, $M_{\text{age}} = 18.97$ years, $n_{\text{freshman}} = 48$, $n_{\text{female}} = 75$) and dogs ($n = 21$, $n_{\text{male}} = 12$, $M_{\text{age}} = 4$ years, $\text{Age}_{\text{Max}} = 12$ years, $\text{Age}_{\text{Min}} = 6$ months) and coded (7092 total minutes, $n_{\text{videos}} = 97$, $M_{\text{duration}} = 70.2$ minutes) using a grounded theory approach (Straus & Corbin, 1978). Differences between the frequency and duration of relevant dog behavior (e.g., postural state, oral behavior) were compared before and during introductory interactions with students. Additionally, correlations between dog and student greeting behavior (e.g., posture, petting behavior and location) were calculated.

Results: Frequency of dog lip-licking ($M_{\text{before}} = 1.26$, $M_{\text{after}} = 1.82$, $Z = -3.418$, $p = 0.001$, $r = 0.27$) and yawning ($M_{\text{before}} = 0.09$, $M_{\text{after}} = 0.21$, $Z = -2.749$, $p = 0.006$, $r = 0.22$) increased during interactions with students. Lip-licking frequency was positively correlated with mutual greetings between students and dogs ($r(78) = 0.251$, $p = 0.025$). Students most frequently initiated greetings with dogs while sitting and petting the dog's head in a mutual interaction (19.9% of greetings). Lip-licking ($r(78) = 0.359$, $p = 0.001$) and body shake ($r(78) = 0.420$, $p < 0.001$) frequency were both positively correlated with student standing behavior.

Conclusions: Dogs experience heightened arousal upon initial greeting and interaction with students. However, the absence of severe stress behaviors and sustained social approach behaviors suggest that the dogs may have been displaying excitement rather than a more negative form of stress. Student greeting behavior appears to impact dog behavior but more research is required to assess how elements impact interaction quality.

Does attitude to dominance and dog behaviour influence use of aversive or non-aversive equipment?

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Introduction: There is a range of equipment used on dogs, including harnesses, halters and collars. While the impact on the dog of this equipment depends on how it is used, some types are intrinsically more aversive than others. This study aimed to examine the impact of demographic factors (e.g. age, gender) and owner perceptions on dominance and dog behaviour on the type of equipment they used.

Methodology: An online survey using SurveyMonkey® was used to survey Australian dog owners. Questions were based on owner demographics, dog demographics, equipment use, and dog behaviour/training. A group of questions were related to attitudes towards dominance and behaviour in dogs ($n=13$). Principle component analysis (PCA) was used to determine factors for these 13 questions, and multiple regression and generalised linear regression used to assess factors related to equipment used. Statistical significance was set at $p < 0.05$. Aversive equipment was classified as choke chains, prong collars, electric shock collars and non-aversive equipment as front and back attach harness, head halter/collar, flat collar and martingale slip collar.

Main Results: A total of 864 completed surveys were analysed with 796 females (92%) and 68 males (8%). A total of 87% (749/864) did not use aversive equipment and 13% (115/864) did use it. PCA resulted in three components: dog dominance ($n=5$; e.g. 'It does not matter what I do, my dog will always try to be dominant'), affectionate relationship ($n=3$; e.g. 'I love cuddles with my dog on my lap.') and enjoyment of games ($n=3$; I love playing tug-of-war with my dog.'). There was no association between owner demographic factors and type of equipment used. Affectionate relationship scores were significantly lower for people using aversive equipment versus those who did not. Higher agreement on needing to be dominant in dog training was negatively associated with enjoyment of games with the dog. Younger people were more likely to believe in the need to be dominant.

Principal Conclusions and Implications for Field: This study demonstrates links between owner attitudes and the type of equipment used on their dog. Further understanding of why people use aversive equipment may help in educating people on lower stress handling and training methods to improve the welfare of pet dogs.

Is clicker training (clicker+food) better than food-only training for novice companion dogs and their owners?

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Introduction: Clicker training is a training technique where a signal (e.g. the 'click' of a clicker) is emitted by the trainer immediately after an animal offers a desirable behaviour, before a reward is delivered. Beyond improvements in training time, dog owners report that clicker training can make training more fun and strengthen the relationship between dog and handler; however, it can also be challenging for beginners and can make some dogs overly excited or frighten others. The aim of this study was to evaluate costs and benefits of clicker training pet dogs.

Methodology: Local community members and their dogs volunteered for a 6-week trick training program (N = 45) in a randomized, waitlist-controlled, treatment design with pre- and post-intervention assessments conducted by blinded experimenters for three groups: Clicker+food training, Food-only training (without a deliberate signal), and Waitlist Control. Survey-based and behavioural data were collected, measuring the dog-owner relationship, dog impulsivity, and owner-reported training session experiences. Repeated measures mixed effects models were used to evaluate group differences.

Main Results: The Clicker+food and Food-only groups reported improved performance relative to the Control group on tasks included in the training course ($F(20, 68) = 2.960, p < 0.001, \eta_p^2 = 0.465$). No differences were identified between the two training groups in dog-owner relationship or dog impulsivity measures (all $p \geq 0.102, \eta_p^2 \leq 0.103$). The Clicker+food participants found teaching their dogs to nose-target an object significantly less challenging than the Food-only group ($t(28) = 2.511, p = 0.018, d = 0.917$) with no differences between groups ($p \geq 0.167, d = 0.499$) in any other sessions.

Principal Conclusions and Implications: This study provides the first evidence that clicker training may make certain tricks less challenging to train, but also that it may not have the costs or benefits previously reported, at least when taught to community-based dog owners in the context of a six-week, beginners, trick training course. Additional intervention-based follow-up studies are recommended to address some of the questions raised by the unexpected findings of the present study.

Measuring the psychosocial impacts of prison dog training programs and in-prison outcomes for inmates

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Introduction: The rapid growth of the US prison population and high re-incarceration rates over the last couple of decades have made the development of programs that improve inmate outcomes a societal health imperative. Prison dog training programs are an increasingly common approach to improving inmate outcomes, but very little research has been conducted on the psychosocial mechanisms that may drive outcomes.

Methodology: A pilot study was conducted in ten Washington State Department of Corrections facilities across all security levels. A total of 229 male and female inmates participated, with 136 in the dog program group and 93 in the comparison group. The Interpersonal Reactivity Index (IRI), the General Self-Efficacy Scale (GSE), and the State/Trait Anxiety Index (STAI) were used to measure empathy, self-efficacy and anxiety respectively. Scores between the study groups were compared. Average infraction rates in the two study groups pre- and post- intervention were compared using Mann-Whitney tests. Changes in infraction rates within each study group from pre- to post-intervention were compared using Wilcoxon Rank-Sum tests.

Main Findings: Prior to entry into the dog training program, inmates in the dog program had similar infraction rates to inmates in the comparison group ($p = 0.57$). They then had lower infraction rates than the comparison group while in the program ($p < 0.01$), while inmates not in the program experienced no change during the same period ($p = 0.14$). No difference was measured in self-efficacy between the two groups, but the dog program inmates had lower anxiety ($p = 0.02$) and were approaching statistical significance for higher empathy ($p = 0.08$).

Principal Conclusions and Implications for the Field: This pilot study demonstrated that psychosocial data can be collected in prison environments. While the single time point for measures of psychosocial health does not allow determination of whether inmates in dog training programs experience changes in psychosocial health or if individuals with these characteristics are attracted to such programs, the findings support the expansion of these types of studies to better understand the impacts of dog-based programs on inmate outcomes.

Animal-assisted interventions in child literacy programs

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Introduction: In 2015, almost two-thirds of fourth grade students in US public schools did not meet benchmarks for proficient reading (US Dept of Education, 2003). A recent systematic review highlights the potential for animal-assisted interventions (AAI) in literacy programs to favorably impact anxiety, engagement, and reading skills for children (Hall et al., 2016). Therefore, the aim of this study was to determine the impact of adding AAI to standard instruction of an intensive four-week remedial summer reading program.

Methodology: Children ($n = 30$) aged 7-11 were enrolled if reading at least six months below grade level. All participants received standard remedial reading instruction during the four-week half day summer reading program. During eight read-aloud sessions (twice weekly for four weeks), the control group ($n = 15$) read aloud by themselves (current standard) and the AAI group ($n = 15$) read aloud to a registered therapy dog. Self-report data as well as objective data was measured for three outcomes: anxiety (self-report survey and physiologic measurement), engagement (observation of on-task behavior and self-report motivation), and reading skills (standardized reading measures).

Main Results: Preliminary results using paired t-tests revealed that the AAI group had a significantly higher mean percentage of time engaged in on-task behaviors while reading aloud (95.7%) compared to the control group (54.1%), $t(28) = -6.21, p < .0001$. The mean differences between baseline and week four was not significantly different between the AAI group and the control group for self-reported motivation, $t(28) = .38, p = .71$, nor self-reported anxiety $t(28) = -.09, p = .93$.

Principal Conclusions and Implications for Field: This project demonstrated feasibility of a safe and effective AAI, as well as improved on-task engagement for reading aloud within a remedial literacy program. Future studies can improve optimization of the AAI program for specific populations and specific reading disabilities to determine which populations are best suited for AAI-based literacy programs.

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Turning the page to read to Spot: Exploring the potential of dogs to support reading motivation and positive reading behaviours among young children

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Introduction: Human-animal interaction research has witnessed a global proliferation of canine-assisted reading programs for young readers. These programs are thought to help children overcome the struggles often associated with reading and to increase children's reading motivation by providing a non-judgmental and positive reading context (Hall, Gee, & Mills, 2016). However, little is known about how the context of these reading programs can help increase children's motivation to read, particularly when faced with a challenging reading passage. This study adopted a within-subjects design to explore if the context of reading to a dog versus reading alone is associated with increases in children's reading motivation and persistence in the context of a challenging reading passage.

Method: We explored reading motivation and persistence among 17 (8 girls; 9 boys) children in grades one to three. Reading outcomes were assessed in two contexts: in the presence of a therapy dog and alone without a therapy dog present. Children completed a modified version of the Intrinsic Motivation Inventory – Reading (IMI-R; Frijters, 2004) to assess reading motivation and took part in structured interviews to assess reading enjoyment. Additionally, children were timed for each of the reading sessions to measure reading persistence.

Findings: The results of paired samples t-test revealed that children scored significantly higher when reading to a dog (RD) versus reading alone (RA) on each of the following outcomes: 1) reading interest ($t(16) = -2.27, p = .037, d = .551$; RD, $M = 28.7, SD = 4.48$; RA, $M = 25.5, SD = 7.23$), 2) reading competence ($t(16) = -2.54, p = .022, d = .615$; RD, $M = 29.0, SD = 5.93$; RA, $M = 26.8, SD = 6.27$), and 3) total reading time ($t(16) = -3.30, p = .005, d = .800$); RD, $M = 2.65, SD = .209$; RA, $M = 2.49, SD = 0.274$). These preliminary results (analyses are ongoing) suggest that the presence of a dog has a positive impact on children's reading motivation and persistence in the context of reading a challenging passage. Implications for canine-assisted literacy programs and struggling readers are discussed.

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Growing up with school dog "Dave" - An ethnographic study

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This paper theorizes children's interspecies relation with a classroom canine, utilizing post-humanism, post-structuralism, and new materialism as its methodology. Such an ontological approach has implications for methods with which to acquire new knowledge of this interspecies relationship. How do children communicate their feelings about such a relationship? Once feelings are cognitised or articulated, their true essence can be lost. Therefore, elucidating moment-to-moment child-dog interactions through the lens of affect theory attempts to materialise the invisible, embodied, 'unthought' and non-conscious experience, bringing the virtual and actual together to illuminate new, 'situated knowledge'. This is explicated and revealed using visual methods with 'data' produced by the children and their classroom dog such as photographs and video footage from a GoPro micro camera. In addition, individual drawings, artefacts and paintings completed by the children allow for the animating of Deleuze's concepts of the rhizome (through pendulum and bubble painting), a BWO (Body-without-Organs) and The Fold (through storyboards); alongside Barad's materialist onto-epistemology, I theorize the children as being vitalistic and *vectors of entanglements* (forces of inter-connected energies and intensities) through a child-dog encounter. Through their intra-action, both child and dog exercise agency, co-produce and transform one another and occupy a space of shared relations and multiple subjectivities. The affectual capacities of both child and dog also co-create an affective atmosphere and emotional spaces. Through participant observation and the 'researcher's body' as a tool, the sketching's used "études" (drawing exercises) draw forth this embodied experience to reveal multiple lines and entanglements, mapping connections and relations. These connective assemblages afford and enhance social bonding and communication between the children, thereby enhancing wellbeing and resilience. In seeking to valorise the presence and nomadic explorations of classroom canine 'Dave' the concept of childhood wellbeing is provocatively considered to detail all kinds of 'becoming' through a Deleuzian-Causey inspired ethnography. Through close attention to children moving through the classroom and spatiality, Ingold's anthropology of lines complements careful observations, which deconstruct and disrupt assumptions of universalising theory i.e. attaching relationships, to show the multiple ways "desires" can break open alternative pathways to child development within social fields and material culture.

Badger culling and bovine TB in England since 2013: evidence-based policy or policy-based evidence?

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Introduction: Bovine tuberculosis (bTB) is endemic in parts of England. Since 2013 the UK government has facilitated industry-led culling of badgers (*Meles meles*), initially to test the effectiveness, humaneness and safety of shooting to reduce populations by 70% over four years in pilot zones. There is a belief in the farming industry that badgers are an important bTB vector, but this is disputed in the scientific community and the cull is not designed to test effects on bTB. Despite controversy, the cull has expanded geographically and continued beyond four years in the original zones. This paper examines the role of evidence in the design, implementation and assessment of the policy.

Methodology: We review the literature on the cull since 2013. Key texts include reports by IEP¹ and APHA². We examine parliamentary briefings³ and government consultation responses⁴, epidemiological research⁵, media coverage, and polemic interventions by stakeholders.

Main findings: We find that in media and civil society discourse 'success' and 'effectiveness' tend to refer to effects on bTB incidence, while government and industry sources apply these terms more narrowly to badgers killed, but benefit from the ambiguity. The limited epidemiological literature offers no conclusive evidence that the cull has reduced bTB.

We note a shift in what government and industry stakeholders understand to be the purpose of the cull. Originally a time-limited pilot with pre-defined success criteria, these have been downplayed in later assessments. No certainty exists on how long the cull is to continue and its ongoing evidential basis is unclear.

Principal conclusions and implications for field: A reversal has occurred in the relationship between evidence and policy, with the cull presented as successful on the basis of continued expansion, and expansion driven by claims of success, without convincing reference to bTB. Political opposition was overcome through claims of a measured, scientific approach, making its subsequent transformation into an open-ended policy of permitting badgers to be killed easier to accomplish than straightforward removal of their protected status. The cull's progress offers insights into policy formulation, and a case study in the continuing vulnerability of legally protected animals if they are perceived as a threat by industries with influence over policy.

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5. e.g. Brunton, L. A., et al., 2017, "Assessing the effects of the first 2 years of industry-led badger culling in England on the incidence of bovine tuberculosis in cattle in 2013–2015", *Ecology and Evolution* 7(18): 7213–7230

The applicability of moral panic theory to the study of animal folk devils: the case of urban foxes (*Vulpes vulpes*) in England

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Introduction: This paper examines the compatibility of anthrozoological research with moral panic theory, using the example of a study of media-driven conflict between humans and urban foxes (*Vulpes vulpes*) in England between 2009 and 2014. It proposes a novel theoretical framework for the study of moral panic to address common criticisms of moral panic theory and, in particular, reflect on the implications for moral panic theory of taking animal agency seriously. It does so by incorporating insights from Hacking's (1992) work on interactive kinds into our understanding of deviance amplification and asking to what extent animals are impervious to our labelling.

Methodology: I combine Fairclough's (1992) three-dimensional model of discourse with Maneri's (2013) five-stage model of moral panic. Critical discourse and framing analysis of a large sample of tabloid and broadsheet newspaper articles, as well as a selection of television documentaries, pest control industry publications and lobby group materials spanning a five-year period is used to track the emergence and development of the moral panic and provide a detailed exposition of the ways in which aberrant characteristics, behaviours and intentions were attributed to the urban fox folk devil.

Main Results: Application of this method yields a typology of media frames which are connected via significant discursive themes (visibility, transgression, intentionality, belonging, authenticity and disgust) and reveals that the urban fox 'folk devil' was rendered killable by tapping into existing anxieties surrounding human/animal relations in urban space and human social conflict more widely.

Principal conclusions and implications for the field: This study operationalises recent developments in the fields of moral panic theory and discourse analysis and finds that moral panic theory is a critical tool with which to challenge social reactions to human/wildlife conflict. It is particularly appropriate where the media are influential agents.

Fairclough, N. (1992). *Discourse and Social Change*. Cambridge: Polity Press.

Hacking, I. (1992). "World-Making by Kind-Making: Child Abuse for Example" in M. Douglas and D. Hull (eds.) *How Classification Works*. Edinburgh: Edinburgh University Press.

Maneri, M. (2013). "From Media Hypes to Moral Panics: Theoretical and Methodological Tools" in C. Critcher, J. Hughes, J. Petley, and A. Rohloff (eds.), *Moral Panics in the Contemporary World*. London: Bloomsbury.

Gaming the (eco)system: understanding perceptions of species and the Phylo card game

Meggie Callahan¹, Terre Satterfield¹, David Ng¹, Alejandra Echeverri¹, Jiaying Zhao¹

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

Introduction: Within a rapidly changing environment, identifying humans' perceptions of interactions with wildlife and exploring ways to alter such perceptions can be useful in meeting ecological challenges. Survey work on species perception as well as newer interactional formats like educational games can be useful assessment tools (Sandbrook, Adams, & Monteferri, 2014).

This work evaluates human preferences for species with a large-scale survey. It subsequently utilizes that work to evaluate the effect of a card game (Phylo) on people's perceptions of individual species and their intentions to donate. The Phylo game used in this work is an interactive and competitive game focused on biodiversity and building ecosystems.

Methodology: 3600 people were surveyed on Amazon Mturk regarding their perceptions about 36 species. That data helped formulate some design tools for measuring attitudes in the Phylo game. 209 students participated in one of three conditions: playing Phylo, a control game, or viewing a slideshow. Pre and post perceptual surveys were administered. Donation intentions and actions were assessed with small monetary sums, which could be kept or donated. Statistic results were analyzed using R.

Main Results: Analyses indicate that participants who viewed the slideshow or played Phylo showed significant increases in their perceptions of the ecological benefits of species (paired t-tests, slideshow: $t=4.57$, $p<0.05$, Phylo: $t=3.90$, $p<0.05$). Participants playing Phylo were also more likely to donate to events than those in the control. Qualitative analysis suggests that those who played Phylo remembered a wider variety of species from the game than those who viewed the slideshow. This finding was replicated in delayed post measures. Those playing Phylo also had a significant increase in positive affect (paired t-test, $t=-3.72$, $p<0.05$), while those viewing the slideshow did not.

Principal Conclusions and Implications for the Field: This work increases understanding of human perceptions of wildlife and suggests that the Phylo game may be a useful tool for increasing positive ecological perceptions. It provides a viable alternative to more traditional forms of education such as a slideshow. In addition, it may increase positive affect and stimulate increased short and long-term memory of a diverse number of species.

1. Sandbrook, C., Adams, W. M., & Monteferri, B. (2014). Digital Games and Biodiversity Conservation. *Conservation Letters*, 8(2), 118–124. <http://doi.org/10.1111/conl.12113>

Animals like us: Self and identity within the furry and therian communities

Courtney Plante¹

1. *Iowa State University, IA, United States*

Despite coexisting with nonhuman animals for millennia, humans have long grappled with questions about our identity relative to, and attitudes and behaviour toward, nonhuman animals. On the one hand, non-human animals are used by humans as everything from a source of food to commercial use to keeping them as pets. On the other hand, humans share many similarities with non-human animals, raising questions about the morality of their exploitation. Prior research on anthropomorphizing nonhuman entities has found that it increases our concern for their well-being by bringing them into the realm of human moral consideration. Little research has tested the converse of this assertion, however: whether self-identifying as a nonhuman animal is similarly associated with concern for their well-being. We tested hypotheses related to this premise across three cross-sectional studies employing mediational regression analyses. In Study 1 ($N = 224$), we tested the hypothesis that therians – a group of people who self-identify as nonhuman animals – show similar concern for nonhuman animal rights as furies – people with a fan-like interest in media featuring anthropomorphized animal characters. In Study 2 ($N = 206$) we further tested this hypothesis in a sample of furies and therians using implicit and explicit measures of identification as non-human animals to predict behavioral intentions to support nonhuman animal rights. Finally, in Study 3 ($N = 182$) we tested the generalizability of our findings in a sample of non-furry, non-therian undergraduate students. Taken together, the studies show that explicit, but not implicit identification as a nonhuman animal predicts greater support for the rights of nonhuman animals and engaging in behaviour aimed at helping them. The implications of these findings for research on anthropomorphism, morality, dehumanization, and animal rights activism are discussed, as well as the limitations of these findings and possible avenues for future research.

Veterinarians, veterinary nurses and anthrozoology



Patrick Flynn², Anne Fawcett¹, Imke Tammen¹, Paul McGreevy¹

1. University of Sydney, Sydney, New South Wales, Australia

2. Canisius College, Buffalo, New York, United States

Chair: Anthony Podberscek

The study of human–animal interactions, anthrozoology, is highly relevant to veterinarians and veterinary nurses, as they deal with people and their animals on a daily basis. This symposium presents information on how an understanding of human–animal interactions is helpful to veterinarians and veterinary nurses in the work they do. The areas to be covered are: how to make a veterinary practice more bond centred; dogmanship, dealing with ethical issues; and the concept of One Welfare.

Shaken not stirred: Making your practice more bond centred

Patrick Flynn, Canisius College, United States

This will be a brief review of some of the available data on pet owner bonds, and not only the ones to their pets. We will discuss current and creative ways to incorporate the Bond more into the culture of your clinic and also spend some time with some of the brand new tools available to increase the veterinary staff's engagement with the clients as well as staff education on the subject.

Using the 'Ethical Matrix': A tool for shared moral reflection in veterinary practice

Imke Tammen, Sydney School of Veterinary Science, Australia

Veterinarians have many very diverse roles in society with the aim to improve animal and human health and welfare. This results in often conflicting responsibilities to animals, clients, the wider profession and the community. Legal requirements, codes of conduct and veterinary ethics literature provide guidance on how to act, but the complexity of real life ethical dilemmas often requires case-specific considerations. This talk will briefly highlight why the discussion of ethical dilemmas relating to animals is often very heated and will introduce the use of an ethical matrix (Mepham 1996) as a tool for ethical decision making. A key strength of this approach is the acknowledgment of existing uncertainties, recognition of the need to interpret ethical principles in case-specific context, acceptance of validity of pluralistic views and the emphasis on identification of ethical dilemmas for various stakeholders in the system. The outcome is often not a simple answer but a process of "shared moral reflection" that creates awareness of all stakeholders about the underlying ethical issues and increased participation of stakeholders in the decision-making process and therefore a higher chance to reach agreement on how to proceed.

Dogmanship and its application in veterinary contexts

Paul McGreevy, Sydney School of Veterinary Science, Australia

Dogmanship is all about an individual's ability to interact with and train dogs. Good dogmanship involves best practice in dog–human interactions and has a fundamental role in the success of dogs as companions and co-workers. The dog-human partnership is highly relevant to all of us who adore our dogs and depend on them for companionship and work. Despite the ancient nature of this enduring partnership, dysfunctional relationships and their negative consequences (such as unwelcome behaviours and eventual relinquishment) persist. Human behaviour affects dogs' behaviour and emotional state and can be pivotal to the success or failure of any dog–human team. Our dogmanship research aims to characterise the human attributes that influence dog behaviour and identify optimal ways of interacting with dogs. Additionally, dogmanship examines the psychological underpinnings that can contribute to how humans interact with dogs (McGreevy et al 2017). Dogmanship even helps to explain why many women show better dog handling and training skills than their male counterparts. In this brief talk, Paul will explore how dogmanship reveals itself in veterinary practice (Payne et al., 2015) and how the new doglogbook app may help owners to improve their dogmanship by becoming more aware of shifts in the behaviour of their canine companions.

One welfare: What does it mean, and what does it look like?

Anne Fawcett, Sydney School of Veterinary Science, Australia

"One Welfare" is a concept acknowledging the inextricable links between animal welfare, human well-being and environmental sustainability. The related to One Health, which considers the health of humans, animals and their environments as interlinked. It is built into the World Animal Health Organisation (OIE) Global Animal Welfare Strategy, which was written with a vision of "a world where the welfare of animals is respected, promoted and advanced, in ways that complement the pursuit of animal health, human well-being, socioeconomic development and environmental sustainability." (OIE, 2017). Nonetheless, it can be challenging to implement. Some cases may lend themselves more readily to a One Welfare approach than others. One Welfare requires that we have a broad knowledge, or at least basic understanding, of factors often considered beyond the veterinary domain, including human well-being and socioeconomic development, and ecological systems. In this brief talk I will discuss the origins of One Welfare, areas in which it might be helpful, and what the One Welfare veterinary practice might look like.

1. Mepham, T.B. 1996. Ethical analysis of food biotechnologies: an evaluative framework. In Mepham, T.B. (ed.) Food Ethics. London: Routledge), 101- 119.

2. OIE, W. O. F. A. H. 2017. OIE Global Animal Welfare Strategy [Online]. www.oie.int. Available: http://www.oie.int/fileadmin/home/eng/Media_Center/docs/pdf/85SG/AW/EN_OIE_AW_Strategy.pdf

Perspectives on bridging the gap between researchers and practitioners in HAI: Current challenges and future pathways in animal-assisted interventions

Marie-Jose Enders-Slegers¹, Brinda Jegatheesan²

1. *Open University, Netherlands*

2. *University of Washington, Seattle, Washington, United States*

Chairs: Marie-Jose Enders-Slegers and Brinda Jegatheesan

The International Association of Human-Animal Interaction Organizations (IAHAIO) is the global association of organizations working in the field of HAI, delivering research, education and practice. One of its recent initiatives is to promote stronger links between researchers and practitioners and in 2017 IAHAIO launched an online forum for IAHAIO and ISAZ members to discuss these issues. This symposium aims to stimulate collaboration between researchers and practitioners in the field of Animal-Assisted Interventions (AAI). Examples from the field of autism will be used to illustrate how closer collaboration between researchers and practitioners can be achieved to prevent pitfalls and enhance the quality of research outcomes and program delivery.

The symposium will be of interest and relevant to all scholars in the field, new and established researchers and practitioners and students.

This 1 hour 45 minute symposium will include three presentations and a video of an interview with Temple Grandin will offer insights of researchers and practitioners and will highlight the possibilities and challenges of working in the field of AAI from different perspectives. After the presentations the chairs will facilitate a discussion between presenters and audience members. Details of the individual presentations are provided below.

Research and Practice in AAI programs in the Netherlands

Dr Marie-Jose Enders-Slegers

Outcomes from a research project on autism and older people in the Netherlands will be reviewed, explaining how 'artefacts' can influence outcomes. and how practitioners and researchers working closer together can improve the quality of research and programs.

Video of Interview by Brinda Jegatheesan with Temple Grandin

Research and Practice in Programs with Diverse Needs

Dr Brinda Jegatheesan

Based on extensive experience over many years working with children on the autistic spectrum from different cultures, it will be explained how research and practice can use each other's experience to improve research results as well as to improve the quality of the interventions of the practitioners.

Current research and practice in AAI in Australia: a conversational – style interview with a leading Australian researcher/practitioner

This involves audience discussion and active participation.

Human-wildlife conflict: Rebuilding conscious co-existence

Bradley Smith¹, Neil Jordan², Cathy Herbert³, Alex Mayers⁴, Casey O'Brien⁵

1. *Central Queensland University, Adelaide, SA, Australia*

2. *University of New South Wales, Sydney, Australia*

3. *University of Sydney, Sydney, Australia*

4. *The Donkey Sanctuary, Sidmouth, United Kingdom*

5. *The University of Adelaide, Australia*

Chairs: Bradley Smith and Neil Jordan

General Summary

This symposium seeks to explore the possibility of "rebuilding conscious coexistence" in society, essentially exploring options to reconnect ourselves to nature's world wide web (but focusing on the conflict context). We are increasingly living in a sanitized world where we move from one sterile air-conditioned box to another, eating foods that we have had a minimal input in hunting/gathering and preparing, and we have completely lost our sense of fitting into a food web. We are incredibly intolerant of animals sharing our space (except a few that we keep for fun, strictly on our terms). Can we remember or learn how to coexist? Tool making, tool-use and intelligence were important in our evolutionary development and transition to super predators, but it could be argued that humans have completely unharnessed their tool-developing potential that allow them to compete and coexist with wildlife again rather than exclude and eradicate them from large parts of the globe. How are humans, the "tool users", so useless at developing conflict tools? Why is the great innovating species so unwilling to innovate in this context?

Intolerance, innovation and inequity: unpacking key barriers to human-wildlife coexistence.

Neil Jordan

A utopian state of harmonious human-wildlife coexistence is often romanticised and, while undoubtedly embellished, it is also likely that we have never been so detached and separate from nature as we are today. What's preventing us from returning to a place where we can coexist with nature rather more harmoniously than at present? Of the many potential barriers, I'll briefly explore three key and alliterative obstacles: intolerance, innovation and inequity. In doing so, I hope to provide and provoke thoughts and suggestions of potential ways to improve human-wildlife coexistence.

Kangaroos: a controversial Aussie icon

Cathy Herbert

How can a species simultaneously be considered an icon, a pest, a valued tourism resource, a threatened species, a sustainable resource and a threat to people? This is the conundrum that wildlife managers and scientists working with kangaroos face in their day-to-day working lives. People's attitudes towards kangaroos vary according to their personal experiences, and public perceptions of kangaroos are frequently divided along a rural-urban gradient. In rural areas, kangaroos are often perceived as pests, with lethal control being the management option of choice to reduce human-wildlife conflict. In peri-urban areas, kangaroos are usually perceived as a valuable part of the local aesthetic, with a desire to manage human-wildlife conflict using non-lethal control techniques. Both of these attitudes and approaches can have negative consequences for kangaroos. So, what is the way forward? How do we progress beyond the current state of controversy surrounding the status of kangaroos and the appropriate way(s) to manage them? I will present case studies to highlight the need for an informed debate about kangaroo management. Firstly, there is a need to understand the ways in which kangaroos and people interact and impact on one another – including whether the impacts are real or perceived. Secondly, we need to have sufficient baseline population data to be able to predict the likely outcomes of kangaroo management on human-kangaroo interactions and on animal welfare. This is just the start and needs to be done while taking into account, and understanding, local attitudes to kangaroos, so that we can work with communities to promote a policy of "living with kangaroos" into the future.

Re-visioning the donkey.

Alex Mayers

Whether working to underpin urban livelihoods in Mexico, being used to create mighty mules for the armed forces in India, taking pregnant women to clinics in Afghanistan or ploughing the fields of Zambia, donkeys can be simultaneously high in value and largely invisible. Donkeys can come into conflict with people when they have been abandoned, released from work for the dry season or even just left to free-graze at the end of a working day. Despite their importance to communities, growing evidence of the positive contributions of introduced megafauna, links to cultural heritage and a general lack of data on which to base management decisions, donkeys are often labelled as a 'pest' species. Investigations into populations, habitats, welfare, perceived issues and various management concepts are urgently needed, and stakeholders need to come together to understand whether and how to ethically manage free-ranging members of a species to which humanity owes a significant debt.

Wombat wars: the complexities of human-wombat conflict management

Casey O'Brien

Wombats are a much loved iconic Australian species, but they are also considered an agricultural pest throughout much of their range. The damages caused by their burrowing and grazing behaviour often results in substantial financial damage, decreased production, and a loss of time in reparations. Conflicts are primarily managed using lethal controls, under a permit system. Many landholders are frustrated with the permit system due to its failure to provide long-term conflict resolution, often leading to indiscriminate culling. The use of lethal controls also raises ethical and conservation concerns for wombats, and there is increasing pressure from animal rights, conservation groups, and the general public to implement non-lethal controls. Consequently, the management of wombats has become a highly contentious issue. There is an increasing need to develop integrative management strategies that incorporate the ecological and human aspects of conflicts, to balance the needs of wombats and agriculturalists. Like many species, the scientific data required to make informed and effective conflict management decisions is lacking. This study aimed to address these knowledge gaps by assessing landholder perceptions of southern hairy-nosed wombats (*Lasiorchinus latifrons*) and their management. Surveys revealed support for the conservation of *L. latifrons*, and the development of non-lethal damage mitigation strategies. Based on these findings, the effectiveness of translocation and deterrent use were trialled as non-lethal conflict mitigation measures but were unfortunately ineffective in providing long-term relief from conflicts. These results highlight the need for the development of improved management strategies that reduce damages and enhance co-existence between *L. latifrons* and landholders.

Incorporating human dimensions in wildlife conservation: the importance of measuring attitudes

Bradley Smith

For wildlife conservation policies to be successful, they need to incorporate the opinions of all relevant stakeholders. This is particularly the case for the public, whose attitudes are often diverse and conflicting. Opinions are most often gathered using surveys that attempt to measure attitudes towards various aspects of wildlife. Measuring attitudes is important because they are intrinsically linked to behaviours, and likely to lead to behaviour change. Several studies measuring wildlife attitudes have been conducted, and a variety of demographic factors have been determined as having significant influence over attitudes. However, these studies, and subsequent attitude scales, suffer from methodological issues, and tend to be culturally and/or species specific. To ensure that conservation programs are successful, an understanding of regional attitudes collected via appropriately developed tools is required. Incorporating such attitudes will likely increase adherence of policies, and help place the environment, ecosystems and conservation at the forefront of policy and land management.

Developing a theory on animal-assisted psychotherapy: discussions across disciplines, species, and outcomes

Angela Fournier¹, Elizabeth Letson², Jennifer Laitala²

1. Bemidji State University, Department of Psychology, College of Health Sciences & Human Ecology, Bemidji, MN, United States

2. Eagle Vista Ranch & Wellness Center, Bemidji, MN, United States

Chair: Angela Fournier

This symposium is designed to fuel a discussion on the theoretical underpinnings of animal-assisted psychotherapy. Two individual presentations will provide information on animal-assisted psychotherapy from different perspectives (i.e., mental health professional, animal specialist), and across specific species. Presenters will discuss education and training, animal characteristics, and measures of treatment progress. We will then propose a theory on animal-assisted psychotherapy, incorporating the multiple perspectives. Data supporting the theory will be presented. We will end with questions and discussion from the audience.

This 1 hour 20 minute symposium will include several speakers, and time for general discussions. Details of the individual presentations are provided below.

Mental Health Perspective

Elizabeth Letson and Jennifer Laitala

This presentation will discuss animal-assisted psychotherapy from the mental health perspective, sharing information on training, animal characteristics and roles, and outcome measures.

Animal Specialist Perspective

Jennifer Laitala

This presentation will discuss equine-assisted psychotherapy from the perspective of the equine specialist, sharing information on training and horse characteristics and roles.

Research and Theory on Animal-Assisted Psychotherapy

Dr Angela Fournier

In this presentation, a theory will be proposed, explaining the animal-assisted psychotherapy process. The theory describes animals' roles in interventions from these perspectives. Data from empirical investigations of the theory will be discussed.

One Health: Strategies for strengthening global connection

Brinda Jegatheesan¹, Marie-Jose Enders-Slegers²

1. University Of Washington, Seattle, Washington, United States

2. Open University, Netherlands

Chairs: Brinda Jegatheesan and Marie-Jose Enders-Slegers

The interconnectedness of human and animal health and well-being is currently receiving a lot of attention within academic and public health circles, under the umbrella of 'One Health'. The implications for the field of human-animal interactions and animal-assisted interventions are important for both researchers and practitioners – at local level, but also globally. This symposium will explore ways that organisations can connect more effectively with each other in this area and identify priority topics for research and practice that could be enhanced with such an approach. The International Association of Human-Animal Interaction Organizations (IAHAIO), the global network of human-animal interaction organizations, will outline its key initiatives in the field and existing global collaborations on issues such as protocols, quality standards for animal-assisted interventions and its international task forces. In this symposium, members of organizations in the field are invited to be part of IAHAIO's global conversation and contribute to a strengthening of these networks.

This 1 hour 20 minute symposium will include three speakers, and a workshop. Details of the individual presentations are provided below.

One Health – what it is, why it is important, examples of global initiatives

IAHAIO initiatives - global collaborations

Invited speaker from an Australian-based organisation to reflect on One Health initiatives

Workshop:

Audience participation invited on the key question "How do we strengthen our global connections to promote One Health in terms of:

- Quality standards of practices

- Improving organizational effectiveness and professionalism
- Strengthening collaborations between researchers and practitioners to improve outcomes for research and programs

Adopting an inclusive perspective to understand our relations with animals and their important (but sometimes conflicting) place in human lives: A role for social psychology

Catherine Amiot¹, Brock Bastian², Cluny South³, Matthew Ruby⁴

1. *Psychology, UQAM, Montreal, Quebec, Canada*

2. *Psychology, The University of Melbourne, Melbourne, Vic, Australia*

3. *Psychology, The University of British Columbia, Vancouver, BC, Canada*

4. *Psychology, La Trobe University, Wodonga, Vic, Australia*

Chair: Catherine Amiot

In this symposium, we draw on social psychological theories to better understand the nature of our ubiquitous yet paradoxical relations with different species and (sub)groups of animals. Indeed, social psychological principles are relevant to understanding human-animal relations (Plous, 2003; Amiot & Bastian, 2015) and to predict for whom and under what conditions animals will be loved, hated, or eaten (Herzog, 2010). This 1 hour 20 minute symposium will include several speakers, and time for general discussions. Details of the individual presentations are provided below.

Cluny South

Cluny South will present three studies that investigate people's support for an animal charity and how we include a broader vs. narrower range of animal species as our ingroup. Results demonstrate a trend towards more inclusivity of different animal species and higher donations for an animal charity among participants who are high in independent self-construal, especially when they do not feel strongly connected to humans.

Catherine Amiot

Catherine Amiot will present three studies investigating the different ways through which we can feel connected to, and identify with, animals. Results reveal that while solidarity with animals predicts more pro-social actions toward animals, and that human-animal similarity predicts higher moral concerns toward animals (including pets and meat-animals), animal pride is associated with less 'humane' attitudes and behaviours.

Brock Bastian

Brock Bastian will present two experiments that reveal how making harm to animals salient leads to reduced meat consumption and meat-eating intentions over a two-week period, but that particularly high levels of harm can lead to backfiring effects, especially when this harm is over-challenging and not within one's personal control.

Matthew Ruby

Matthew Ruby explores, in two studies, the subjective experiences of 'conflicted omnivores', that is, people who eat meat yet feel negative emotions toward this behaviour. The studies examine how this notion predicts increased environmental sustainability concerns, and how these associations differ across cultures.

Together, the talks will illustrate the role played by both social and personality-level factors in human-animal relations.

1. Amiot, C. E., & Bastian, B. (2015). Toward a psychology of human-animal relations. *Psychological Bulletin*, 141(1), 6-47.
2. Herzog, H. A. (2010). *Some we love, some we hate, some we eat: Why it's so hard to think straight about animals*. New York, NY: Harper.
3. Plous, S. (2003). Is there such a thing as prejudice toward animals? In S. Plous (Ed.), *Understanding prejudice and discrimination* (pp. 509-528). New York: McGraw-Hill.

Best practices and standards for animal-assisted interventions

Deborah E Linder¹, Melissa Winkle², Nancy R Gee³

1. Tufts Institute for Human-Animal Interaction, North Grafton, MA, United States
2. Animal Assisted Intervention International, Albuquerque, NM, United States
3. Department of Psychology, SUNY, Fredonia, NY, United States

Chairs: Deborah E Linder and Nancy R Gee

As the exciting field of animal-assisted interventions (AAI) grows with enthusiasm, the need for guidelines and best practices also grows in order to protect the health and welfare of both humans and animals engaged in AAI. AAI programs can lead to positive physical and mental health outcomes for human participants, but without appropriate policies in place, these programs can also jeopardize human and animal safety. In addition to concerns about human allergies to animals, animal behavior, stress on the animal and appropriate immunizations, AAI programs have a potential risk of transmission of zoonotic disease—diseases spread between animals and people. This risk is especially high when health and grooming protocols are not carefully used. To better characterize this risk, a recent study was conducted with a national survey of health and safety policies for therapy animal organizations and healthcare facilities in which AAI took place. The results were rather startling and showed that many respondents' policies and practices did not address these and other risks. Over 20% of eldercare facilities had no policies whatsoever for AAI programs.

Given this documented variance in health and safety policies, this proposed concept for ISAZ 2018 is to engage in a dialogue about best practices and standards for AAI, particularly for those stakeholders not normally considered such as facilities and professionals. The objectives of this session are to encourage leaders in this field to be aware of this discrepancy that is occurring in AAI internationally and come together from many disciplines with ideas on how to address this growing concern to ensure AAI is safe and beneficial for all.

These objectives will be achieved by introducing the results of survey, followed by presentations by Ms. Winkle on the paraprofessional and human perspective and Dr. Linder on the veterinary and facility perspective. The session will conclude with a discussion forum and call to action for hospitals, facilities, and therapy animal organizations to strengthen the safety measures of their AAI programs and for those hosting programs to ask the right questions when arranging AAI at these sites.

1. Linder DE, Siebens HC, Mueller MK, Gibbs DM, Freeman LM. Animal-assisted interventions: A national survey of health and safety policies in hospitals, eldercare facilities, and therapy animal organizations. *Am J Infect Control*. 2017;45(8):883-887.

Therapy canines: screening and assessment safeguarding well-being and innovative programming

John-Tyler Binfet¹, Elizabeth Kjellstrand Hartwig¹, Haley Silas¹, Carson McKay¹, Brittany Calibaba¹

1. University of British Columbia, Kelowna, British Columbia, Canada

Chair: John-Tyler Binfet

This session provides an overview of three dimensions of working with therapy canines and includes sessions on therapy handler and canine screening and assessment criteria, the importance of safeguarding canine well-being during sessions, and an illustration of innovative canine therapy programming. Chaired by Dr. Binfet, this symposium will begin with an introduction to the field of canine assisted therapy and the variety of programs in which therapy canines are found. This will be followed by three presentations (+ a 5-minute question and answer period) moderated by Dr. Binfet. The session will end with concluding remarks synthesizing the three presentations.

This 1 hour symposium will include several speakers, and time for general discussions. Details of the individual presentations are provided below.

List of speakers include:

Elizabeth Kjellstrand Hartwig, Haley Silas, Carson McKay & Brittany Calibaba

What's important in screening therapy canines?: A review of 320 North American Canine Assisted Therapy programs

In response to the surge in popularity of Canine-Assisted Therapy (CAT) programs, there is a need to better understand how both handlers and canines are deemed suitable for CAT work. This session will share the key findings of criteria identified across 320 North American programs.

Safeguarding therapy canine well-being: Educating the public to recognize stress indicators in working canines

With over 50 working therapy canines and over 4,000 visitors to UBC's B.A.R.K. programs each year, it is important that the well-being of our dogs is safeguarded. This session showcases an educational campaign we undertook to educate volunteer canine handlers and the public participating in our

programs around indicators of canine stress. This session will showcase educational materials (e.g., animated video, posters) we used to ensure the well-being of our working therapy canines.

Building confidence through K9's: A pilot program to build children's leadership through interactions with therapy canines

Extending the programming we provide to reduce stress in university students, the Building Academic Retention through K9s program at the University of British Columbia launched a pilot program for children in the community titled "Building Confidence through K9s." This session will provide an overview of the curriculum developed, provide information on structuring a canine therapy program for children, and share illustrations of the work done by children during group sessions designed to build leadership and confidence.

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Defining and describing companion, assistance, service, and emotional support animals

Pauleen Bennett¹, Tiffani Howell¹

1. La Trobe University, Bendigo, VIC, Australia



Chairs: Pauleen Bennett and Tiffani Howell

The National Disability Insurance Agency (NDIA) is responsible for facilitating disability management support programs for thousands of Australians with disability. Some individuals may have their functional needs addressed through funding for an animal, such as a guide dog or animal-assisted therapy as an early intervention for children with autism spectrum disorder. However, several terms (e.g. emotional support animal, companion animal, assistance animal, service animal) within animal-assisted interventions are vague, often used by different organisations to mean different things. This makes it difficult for practitioners and researchers worldwide to understand the precise roles of the animals working under these terms. It also makes it challenging for the NDIA to understand whether a particular type of intervention should be supported. All of these terms would therefore benefit from clear, operationalised definitions with objective features of each category. A description of the animal species and/or breeds which would be most (or least) suitable for each role would also be useful. This symposium, which will take the form of a workshop, aims to begin discussions with experts worldwide to define these terms. It will ultimately result in a white paper disseminated to the NDIA, as well as to academics and AAI practitioners around the world. It will provide conceptually distinct, clear definitions of each of these terms, including defining features and the species/breeds that would be most appropriate for each role.

Symposium structure: This 1 hour 45 minute symposium will be in a workshop-style format, with a brief (5-10 minute) presentation by Dr Howell at the beginning, describing the aim of the symposium and detailing any print materials which will be provided to delegates. These materials are yet to be developed, but we anticipate that they will include a summary of existing research attempting to define these terms, an overview of the different ways in which these terms are used, both in academic writing and among practitioners, and draft definitions to begin the discussion. We will break out into small groups of 6-10 people to discuss for approximately 45 minutes. Around 60 minutes into the symposium, we will bring our ideas to the entire group for further discussion. Finally, we will synthesise the main themes discussed during the symposium, which will be used to develop a white paper for later publication.

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Anthrozoology as symbiotic ethics and the ethics of anthrozoological research

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Chairs: Samantha Hurn and Alexander Badman-King

The proposed symposium starts from the position that Anthrozoology is (or should be) an ethical pursuit. We place emphasis on (i) an empathetic 'living with' (symbiosis) or alongside other animals (either physically, for example with companion animals, or indirectly, for example through ethical consumerism); (ii) a respect for them as autonomous subjects; (iii) an attempt to grasp, wherever possible, their perspectives as well as those of our human subjects, and (iv) a holistic understanding of the context within which interactions occur. Moreover, we suggest that (v) academic research concerned with understanding these multi-species interactions should have some meaningful, practical application and ultimately improve the lives of ALL our research subjects, not just the human ones.

We therefore suggest that Anthrozoology might benefit from an 'ethical intervention' which a) brings the science of human-animal relations into more sustained and productive dialogue with debates around ethics/moral responsibilities which have been explored at length in other disciplines (e.g. anthropology, philosophy), and b) develops an ethical framework or series of guidelines for the conduct of anthrozoological research (for an example see ASA 2011).

We aim to explore the implications of such a proposal via a series of short (10 min each) position pieces from members of the University of Exeter's 'Anthrozoology as Symbiotic Ethics (EASE) working group' outlining a range of approaches to 'anthrozoological ethics in practice', followed by a roundtable discussion to establish the parameters for a set of 'Ethical Guidelines for Anthrozoological Research'. It is envisioned that this discussion will continue via social media after the conference for a set period of consultation, culminating in the collation of a draft set of guidelines for consideration by the ISAZ board.

Format: 1.5 hour session divided as follows:

1. S. Hurn: Research ethics and the need for ethical guidelines
2. A. Badman-King: Symbiotic ethics
3. J. Groling: Advocacy and activism
4. F. Eason: Ethics of care
5. I. Tacey: Polyvocal research
6. All: Roundtable discussion – compiling ethical guidelines for anthrozoological research.

1. ASA (2011). Ethical Guidelines for good research practice. <https://www.theasa.org/ethics.shtml> [last accessed 13th January 2018]

Multi-cultural perspectives of the human–animal bond

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3. *I.E.A.P., Horgen, Switzerland*

Celebrating Animals | Confronting Cruelty



Chair: Andrew Rowan

The Humane Society Institute for Science and Policy is pleased to sponsor a symposium that explores multicultural aspects of the Human-Animal Bond. There are four presentations (and three presenters). Andrew Rowan (Humane Society of the US) will present on Dennis Turner's (IEAP, Switzerland) research on differing attitudes to animals among the major religions and across different cultures and will also present a paper on different attitudes to domestic cats and their management in Europe, North America and Australasia. Dr Peter Li (University of Texas, Houston) will present a paper on Chinese attitudes to animals and the cultural influences on those attitudes and Dr Bernard Unti will look at the use of cultural justifications for human-animal interactions that cause significant suffering and examine how digital communications are challenging some of those cultural assumptions.

This 1 hour 45 minute symposium will include several speakers, and time for general discussions. Details of the individual presentations are provided below.

How strongly do different religious traditions affect attitudes toward animals, their welfare and use?

Dennis Turner

Attitudes toward nature and animals in particular, animal welfare, animal use as food or as companions or social support, are probably affected by religious tradition, gender, geographic location, and past experience - among other things. This study examined if and how these variables affected attitudes of adults in urban and suburban areas of 12 countries. (In the meantime, urban areas of two additional countries, Romania and Mexico, have been added.)

Methods: A 27-item survey instrument (ATA © Turner) was developed, tested and translated (twice back-translated) into nine relevant languages, and included five control questions to determine comprehension and concentration on the task at hand. These surveys included 27 statements to which the adult volunteer completing them agreed or disagreed along a 5-point Likert scale. The surveys were distributed and re-collected by volunteers in urban and suburban areas of twelve countries and sent to Switzerland for coding and statistical analysis. They were divided into two sample types, a "convenience sample" (at market places, on city streets, at college campuses) and an assumed "animal friendly" sample (in the waiting rooms of veterinary practices, dog grooming salons etc.), which were also compared. Over 6000 fully completed questionnaires went into the analyses.

Additionally, direct ethological observations of random encounters between people and animals in three of the countries (mostly Muslim, Hindu or Christian) on the streets of Amman, Chennai and London were made and analyzed.

The answers to control statements were compared by correlation analysis and found to be significantly negative, indicating that the participants indeed understood the statements and method, and focused on the survey to the end. The levels of agreement/disagreement with the 22 remaining statements were analyzed by ANOVAs with the factors: religion, gender, sample type and current or former pet ownership. The corrected models were all highly significant. Only significant main effects (all four) and their interactions (four of which were significant) have been published

Main implications/results: Religion was a significant main factor on 15 of the statements; gender on 10; sample type on 10; and pet ownership on 9. A number of clichés about the effects of religion were corrected.

1. Fehlbaum, B., Waiblinger, E., Turner, D.C. 2010. *Swiss Archive Vet. Med.* 152, 285-293. DOI 10.1024/0036-7281/a000066
2. Rusu, A.S., Pop, D., Turner, D.C. 2018. *People and Animals: The International Journal of Research and Practice, PAIJ*, 1(1), 1-14.
3. Turner, D.C., Al Hussein, A. 2013. In T.G. Schneiders (Hrsg.) *Die Araber im 21. Jahrhundert*. Springer Verlag. DOI 10.1007/978-3-531-19093-8
4. Turner, D.C., Waiblinger, E., Meslin, F.-X. 2013. In C.N.L. Macpherson et al. (Eds.), *Dogs, Zoonoses and Public Health*, 2nd Ed. CAB International

Differences in cat keeping and attitudes to cats between Europe, the USA and Australasia.

Andrew Rowan

The number of pet cats varies from one country to another. These differences presumably reflect societal attitudes towards cats. This presentation will highlight a sampling of these differences and comment on recent arguments about how to manage cats, especially those that have access to the outdoors or that are permanently outside. For example, the country with the highest rate of recorded cat ownership in the world (New Zealand) is also going through a major internal debate on how to manage their cat populations. Conservation biologists in the USA have, over the last decade, painted outdoor cats as THE major scourge of wildlife, especially birds while the Royal Society for the Protection of Birds in the UK argues that outdoor cats (most pet cats in the UK have outdoor access unlike their counterparts in the US) have relatively little impact on endangered birds.

The Socialist New Culture and Human-Animal Relations in Contemporary China

Peter J Li

China is in a “civil war” over dogs and nonhuman animals in general. On December 31, 2017, a dog was bludgeoned to death by a police officer on a busy street and in broad daylight in Changsha, China. The incident has intensified the confrontation between the two camps of the “civil war.” To many outside China, the police brutality and countless other animal abuse cases have roots in the country’s dynastic “culture of cruelty.” In fact, most animal lovers in China blame their own traditional culture for animal cruelty in the contemporary era. Was China’s dynastic past with a so-called “culture of cruelty” responsible for animal cruelty in the contemporary era? Or is the political culture created and fostered by the country’s Leninist Party-state in its totalitarian stage (1949-1978) more responsible for the cruelty? Cultural traditions left from the past do play a role in shaping a society’s collective attitude and behaviors. However, cultural traditions can lose their relevancy as an agent of political socialization. In this paper, I shall ask three questions. First, what were China’s ancient cultural traditions in human-animal relations? Second, did these traditions serve the political objectives of the country’s Leninist Party-state in the pre-reform era? Third, if the state had rejected the ancient traditions, was the so-called “socialist new culture” its replacement? If yes, in what way has this new culture helped shape human-animal relations in contemporary China?

Animal Protection, Zoopolis, and the Claims of Culture in Post-Modernity

Bernard O Unti

Postmodernity, as a juncture in human history in which time and distance are compressed, erased, or obliterated, and constant change is inevitable, is profoundly shaping and reshaping human-animal relations, and bringing claims of culture to the fore in campaigns addressing animal cruelty issues across the globe. Both the rising concern for animals and the success of organized animal protection have produced notable movement from anthropocentric utilitarian perspectives on nonhuman animals to a stronger and more pronounced biocentric empathy. The Zoopolis paradigm frames a new path for social, cultural, and political integration of animals and their interests. The presentation will examine how culture-based defenses of animal use are faring under the pressure of an increasingly integrated global community, in a world of instantaneous communication, and under an atmosphere of enhanced and determined skepticism? How are cultural arguments engaging with the traditional use or mistreatment of animals and how do these arguments mark the flashpoints and hotspots of a new order in which virtually all practices involving animals are scrutinized, interrogated, or challenged? What do these developments mean for the future of the human-animal bond, and the treatment of animals?

POSTER ABSTRACTS

Abstracts appear as submitted. The content has not been altered.

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The influence of an animal assisted therapy-mindfulness based intervention on anxiety in college students

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Introduction: Moderate to severe anxiety disorders affect approximately 29% of Americans, and is the primary emotional health concern for college students affecting approximately 42% of students. This paper describes the findings of a single-session animal-assisted therapy (AAT)/mindfulness based intervention on self-report (i.e., state anxiety) and physiological measures (i.e., resting heart rate variability) of anxiety within a college counseling center setting.

Methodology: The 8 participants in this study were predominantly female (n=7), Caucasian (n=6), single/never married (n=8), with a mean age of 19.5 years old (range 18-21 years old). There was a single 10-year-old border collie mix breed canine participating as the therapy animal in the intervention. This study used an exploratory design to explore the influence of an AAT/mindfulness based intervention on self-report and physiological measures of anxiety. Participants engaged in a 20-minute AAT/mindfulness based intervention with a structured interaction with the canine therapy animal. Participants completed pre- and post-test measure of state anxiety using the State-Trait Anxiety Inventory, and pre- and post-test measure of resting heart rate variability (resting HRV). Two measures of resting HRV examined in this study were high frequency HRV (HR-HRV) and root mean square of successive difference (RMSSD). Data analysis was conducted using paired-sample t-tests to examine the differences between pre-test and post-test measures of state anxiety, HRV, and RMSSD.

Main Results: Analysis of the data suggests a significant reduction in self-reported state anxiety, as well as a significant increase in resting heart rate variability, both HR-HRV and RMSSD. A paired-samples t-test indicated there was a statistically significant reduction in state anxiety from pre-test to post-test, $t(7) = 6.722$, $p < 0.05$, $d = 2.38$. A paired-samples t-test indicated there was a statistically significant reduction in HR-HRV from pre-test to post-test, $t(7) = 2.719$, $p < 0.05$, $d = 0.96$. A paired-samples t-test indicated there was a statistically significant reduction in RMSSD from pre-test to post-test, $t(7) = 2.854$, $p < 0.05$, $d = 1.01$.

Principle Conclusions and Implications for Field: Despite a low sample size, the high to very high effect sizes for changes in state anxiety and resting HRV demonstrate the benefit of a single session AAT/mindfulness based intervention on anxiety symptomology. This can be compared to similar mindfulness-only interventions yielding, on average, moderate effect sizes. Future research should replicate this intervention with larger sample and control group.

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Attitudes of residents to feral wild boar (*Sus scrofa*) in the Forest of Dean, England

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Introduction: Despite widespread control measures, wild boar abundance is increasing across Europe, where they are not always popular with residents. Wild boar were reintroduced to the Forest of Dean, Gloucestershire, UK ~30 years ago, following countrywide extinction in the 16th Century. Reintroduction was unofficial through release of farmed stock. Without natural predation, the population grew by 300% from 2013-2016, and is currently ~1200 animals. This has resulted in conflict between the feral boar and human residents of the Forest, with calls to cull and even extinguish the population, due to damage to land and private property, road-traffic accidents, and negative interactions between humans and their pets. This study aimed to quantify the impact of boar on residents of the Forest, and determine how personal experiences and understanding of boar affect people's opinions regarding the future of the population.

Methodology: A mixed-methods, self-administered questionnaire was circulated, targeting residents of the Forest. Open and closed-answer questions were included to determine attitudes and experiences regarding interactions with the boar (n=1021).

Main Findings: Boar were widely reported (97.9%, n=1000 had seen boar). Residents >65 years were found to have more negative perceptions of boar, and were more likely to want the population managed or extirpated. Duration of residence in the Forest was significant, with positive attitudes more likely in those resident for a shorter time. Damage caused to property was the highest consistent negative factor on all opinions of wild boar. Negative interactions were rare, with only 3.5% of sightings ending in confrontation between boar and human/dog. Dogs walked on-lead were significantly ($\chi^2(3) = 42.26$, $P < 0.001$) less likely to have a reported interaction with boar. Most respondents (58.4%, n=596) did not consider the boar to be native to the Forest. General knowledge of boar behaviour and ecology was low amongst respondents, and was significantly associated with lowest acceptance of the animals.

Principal Conclusions and Implications for Field: These findings increase understanding of factors leading to human-boar conflict that could be applied to similarly reintroduced species. This may guide land managers in designing effective, socially-accepted strategies to manage the population in the Forest and elsewhere.

Considering Canines - The role of regulation in producing companions not commodities

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Introduction: Dogs are part of the urban landscape and come in many shapes and sizes. In Australia, some attract a price tag of up to \$8000, whilst others sit in shelters unable to attract an owner. Irrespective of price paid, most owners view their dog as a companion or family member (Bogdanoski 2010).

Less than 20% of dogs are bred by hobbyists that are subject to State and national industry codes. (ANKC 2017) The rest are bred by; occasional, backyard and large commercial breeders. Many of these do not make adequate provision for the welfare and health of their breeding dogs and puppies produced despite the existence of National consumer law, State based welfare legislation and, in two States, codes that attempt to regulate breeding. (Cooke, 2011)

Aim: Given the status that most owners place on their dogs and the reality that the law views dogs as property, this research sought to understand the role and effectiveness of the current dog breeding regulatory framework in protecting dogs and dog buyers.

Methods: Interviews were conducted with representatives of stakeholder groups and surveys of dog owners and dog breeders undertaken. The data was coded and analysed using key words to develop themes and identify the views of stakeholders on the roles and effectiveness of regulation.

Main Results: This research found that stakeholders believe the main roles of regulation are to make breeders accountable and to reduce dog overpopulation. This research found that; neither of these roles is being achieved and identified the lack of effective enforcement and monitoring by State governments, RSPCA and pure breed industry governing body as a major cause of this failure.

This research identified the need for the various regulatory bodies to take a networked approach and for the pure dog breed industry regulatory body to take an expanded role in improving the accountability of breeders.

Principal Conclusions and Implications: There is a need to reconsider regulation and to take effective steps to improve breeder accountability through the implementation of regulatory and non-regulatory mechanisms. Two such mechanisms are the introduction of consistent breeder licensing and approved breeders schemes.

1. Bogdanoski, Tony, 'Towards an Animal-friendly Family Law: Recognising the Welfare of Family Law's Forgotten Family Members' (2010) 19(2) Griffith Law Review 197
2. Cooke, Katherine, 'Defining the Puppy Farm Problem: An Examination of the Regulation of Dog Breeding, Rearing and Sale in Australia' (2011) 5 Australian Animal Protection Law Journal 3
3. Code of Practice for the Operation of Breeding and Rearing Businesses 2014 (Vic)
4. Australian National Kennel Council Limited, 'A Forensic View of Puppy Breeding in Australia 2017' (2017)

The development of a unique multidisciplinary service combining occupational therapy with existing equine therapeutic practices, showing improved outcomes in children between 2 and 18 years of age with a diagnosis of Autism spectrum disorder

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Introduction: There are a number of studies that highlight the benefit of using horses to meet therapeutic goals in the population of children with Autism Spectrum Disorder (ASD). Occupational Therapists are involved in the diagnosis and support of children with ASD to reach their functional potential. At Childvision, we are developing a unique multidisciplinary service that combines Occupational Therapy with Equine Therapy to improve outcomes in clients with ASD. It is called Equine Assisted Occupational Therapy. (EAOT)

Methodology: Published findings from 2009 to 2013 (1, 2, 3.) found that a horse riding program may be effective in reducing symptoms in ASD children. These, along with the published study (Heffernan 2017) carried out in ChildVision, were used in supporting the development of the Equine Assisted Occupational Therapy Service. This paper discusses the development and effectiveness of this service over its first year.

Main Findings: The Horse Sense Project trialled and run within ChildVision(4) looked at the value of using an equine setting to meet therapeutic goals. Run by Occupational Therapists using an Equine setting, it showed that there were positive changes for all participants in the following targeted areas: group dynamics, sensory integration, model of human occupation and International Classification of Functioning. This led to an Equine Therapy Unit being developed in ChildVision. The uniqueness of this EAOT Service is that the interventions for the clients are therapeutically led, whilst utilising the recognised benefits of using the equine as a treatment platform.

An overview of the types of service provision, and a number of case studies will be presented, together with plans for ongoing tailoring of the program and research into the effectiveness of our program.

Principal Conclusions and Implications for the Field

Observation and parental records suggest that EAOT is having a positive impact on the functioning of children with ASD in the areas of sensory processing, new learning and social integration. As this service develops, we hope to show through further research that Equine Assisted Occupational Therapy is an effective way of addressing the therapeutic needs of clients with ASD, using the horse as the therapeutic medium.

1. Bass, M.M., Duchowny, C.A., & Llabre, M.M. (2009). The effect of therapeutic horseback riding on social functioning in children with autism. *Journal of Autism and Developmental Disorders*, 39, 1261-1267.
2. Gabriels, R.L., Agnew, J.A., Holt, K.D., Shoffner, A., Zhaoxing, P., Ruzzano, S., Clayton, G.H. and Mesibov, G. (2012), "Pilot study measuring the effects of therapeutic horseback riding on school-age children and adolescents with autism spectrum disorder", *Research in Autism Spectrum Disorders*, Vol. 6 No. 2, pp. 578-588.

Dog rescue journeys in Romania as flows within a system: a schematic approach

Chris Calvert¹

1. *University of Exeter, Exeter, Devon, United Kingdom*

Introduction: Romania is frequently cited as having a stray dog problem. Fieldwork was conducted by a team of ten researchers in April 2017, visiting dog shelters and interviewing rescuers, activists and stakeholders. This paper maps the movement of dogs between different places and modes of interaction with humans as journeys through a system.

Methodology: Data includes interviews conducted by the team with ten primary informants; audio, video and photographic records; and the team's field notes. Stocks, sources, sinks and flows of dogs were characterised and situated within the system. Human actors and institutions encountered during fieldwork were further situated, and their work characterised as influences acting on the system's flows.

Main results: The primary stock is the large population of dogs in the stray state. The boundaries of this stock are fuzzy and it can be usefully segmented. Other stocks are the populations in human homes in Romania and abroad, and crucially for this fieldwork, in shelters. Shelters divide initially into public and private and can be further differentiated depending on the ways dogs leave them: for some they are a stop on a journey and for others the final destination.

Dogs enter the stray state through feral birth or abandonment/release by humans. Sinks include various causes of death in the wild, including traffic accidents, individual abuse, and culls. Dogs leave shelters through adoption in or out of the country, or often through deliberate killing (especially public shelters), or eventual death from natural causes (many private shelters).

Principal conclusions and implications for field: Schematising the dog rescue 'system' in Romania contextualises ethnographic understandings of individuals, institutions and places. Phenomena identified include:

- rescue organisations seeking to enlarge the flow from private shelters to foreign adoption
- officials seeking to enlarge the cheapest available flows out of the stray stock
- private shelters 'running to stand still', taking in many dogs but struggling to re-home them
- a major flow from stray to public to private shelters, with the latter taking surplus to avoid dogs being killed

The system provides a framework for further research to quantify the stocks and flows, useful in particular for assessing the impact of possible interventions.

Pet demographic data analysis in a social survey in Korea

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Introduction: Dog and cat demographic data can help us to identify influencing factors of successful or failed human-animal relationships (Clancy and Rowan, 2003). From the first demographic data of companion animals in Korea collected during the 2016 Social Survey we could estimate the pet population and analyze the socio-economic characteristics of pet owners.

Methodology: The microdata of the Gyeonggi Social Survey (29th August – 12th September, 2016, n=30,880, 95% confidence interval, SD=±0.7%) from the Microdata Integrated Service were used for the study. Total dog and cat population in Gyeonggi-do (10,175km², 4,647,205 households) was estimated. The owners' characteristics such as age, gender, marriage, residency type, and income and the implication in human animal relationship were analyzed. Correlation of pet ownership and health index (stress, self-assessed health status and hospital visit) was statistically tested.

Main Results: Total 13.2% of the households in Gyeonggi-do owned companion animals (dogs 10.91%, cats 2.0%). The estimated number of dog owning household in this province is 506,545 and number of cat owning household 92,944. The highest rate of pet owners belongs to the age group of the 40s and 50s, live in flat houses and earn \$2000 to 3000 monthly. Those who own pets evaluate themselves as healthier than those who do not (p<0.001). Stress level in family is higher (p<0.001), but work related stress level is lower in the householders who have pets (p=0.058).

Principal Conclusions and Implications for Field: These findings give the insight in pet related social and animal welfare issues such as house noise, insufficient veterinary care, and need of public space for pets.

1. Clancy, E.A., & Rowan, A.N. (2003). Companion animal demographics in the United States: A historical perspective. In D.J. Salem & A.N. Rowan (Eds.), *The state of the animals II*. Washington, DC: Humane Society Press.

Sit stay support dogs in court

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2. Texas State University, United States

Introduction: Individuals called to testify as witnesses need additional support during court proceedings to reduce undue emotional distress and potential revictimization. While researchers have shown the positive use of therapy dogs in a variety of contexts, the court system does not widely accept this modality as a form of support. The study focused on attorney perspectives on the use of facility dogs as a support system in the courtroom.

Methodology: A sample of six trial lawyers, comprised of three prosecution and three defense attorneys, participated in this qualitative case study. Interviews with seven survey questions were conducted and recorded with each participant. The recordings were transcribed by a third party, then coded and themed. The categories created for each survey question were then applied in thematic units for each question with a responding bar graph and percentage of the coded data. These percentages provided information about how each of the participants responded and how their responses overlapped one another, resulting in themes within each research question.

Main Results: Primary themes that emerged from this study include the following:

- there is a relationship between facility dogs as a support to calm witnesses with better recall;
- the benefits of support outweighed any potential perceptions the jurors may have initially; and
- the preliminary examination of a witness or juror is an appropriate place to dispel any preconceived ideas about the use of support systems.

Principal Conclusions and Implications for Field: Outcomes from this study revealed that participants find the use of facility dogs as a valuable support entity in the court room. Findings also indicated some concerns with potential witness biases and the need for appropriate explanation to jurors prior to a case being heard. Overall, facility dogs in the courtroom were broadly accepted and considered to be a wave of the future in witness support.

1. Bowers, S. V. (2013). The use of "therapy dogs" in Indiana courtrooms: Why a dog might not be a defendant's best friend. *Indiana Law Review*, 46(4), 1289-1315.
2. Crenshaw, D. A. (2011). The play therapist as advocate for children in the court system. *Play Therapy*, 6(4), 6-9.
3. Grimm, A. L. (2013). An examination of why permitting therapy dogs to assist child-victims when testifying during criminal trials should not be permitted. *Journal of Gender, Race, & Justice*, 16(1), 263-292.
4. Holder, C. (2013). All dogs go to court: The impact of court facility dogs as comfort for child witnesses on a defendant's right to a fair trial. *Houston Law Review*, 50(4), 1155-1187.

Animal stories - learning with animals

Maija Esko¹

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Introduction: *Animal stories – learning with animals*, continuing education was made for the early childhood professional. It was organized at the University of Turku, Finland in the faculty of Education 2016-2017.

The idea of the education was to find new ways of working and make the pedagogical thinking more open, develop occupational know-how and give support to teamwork skills and welfare at work. Because of the variation of the subjects and the animals, the education was organized in a multi-professional group.

This paper opens up the process of *Animal stories* and reflects learning with animals.

Methodology: 18 adult students, 8 teachers and 14 animals; dogs, cats, rams and horses took part of the course. The data consist visual and textual portfolios, documented sessions and interviews as well as observation by the researcher. Interpretation lays on cultural visual analysis and bodily social interaction.

The theoretical approach is in new materialism especially in concept of otherness, eco centric world, green care and nature based interventions in education and design.

Results: The physical and social environments and human-animal encounters leaves traces in learning process. Designing this education and carrying it out produced a story in itself. Further studies and research are needed in this multi-scientific field.

Principal Conclusions and Implications for Field: This research opens critical questions about hierarchy and roles in between student and teacher as well as in between human and animal in animal assisted pedagogy. Learning to meet yourself, others and otherness should be in the centre of teacher training. - Every story is made together.

The painted dog (*African wild dog*); Painted into a corner

Naraoa Etxebarria¹

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Introduction: The African Wild Dog or Painted Dog (*Lycaon Pictus*) is one of the most endangered carnivore in Africa. The dogs are considered a fierce predator as their highly effective team work results in an excellent hunting success rate (~90%), a function of intricate and collaborative social interactions. Despite these advantages, they are struggling to survive in Africa with a current population of ~4000 dogs in the wild. This critical review examines antagonistic human-animal interaction contributing to the endangered status of the species with the purpose to explore human-facilitated strategies for the survival of the species.

Methodology: This review includes relevant peer-reviewed articles published in scientific journals from 1967 to date. Key words used were African Wild Dog and *Lycaon Pictus*.

Findings: Loss of suitable habitats providing available prey but limited interspecific competition and antagonistic human-animal interaction (human persecution and disease from domestic animals) is a major threat for the African Wild Dog¹. Furthermore, as a subordinate species, the African Wild Dog seems prone to competitive exclusion and segregation in avoidance of risk from dominant large carnivores². However, its high adaptability to hunting in different habitats indicates they can overcome most non-human related challenges, given enough space³. Efforts to increase managed/protected habitats away from agricultural spaces and linking habitats (movement corridors) for the wide-ranging carnivore could alleviate the detrimental consequences of human-animal interaction. Keeping the dogs within large protected areas that support genetically viable populations is pivotal. An innovative intervention to reduce human-animal conflict involves identification of biological scent signals⁴. Using biological 'signposts' might prove to be a useful means to limit dogs trespassing into agricultural land and facilitate human-wildlife coexistence as human-livestock dominated areas continue to increase.

Principal Conclusions and Implications for the Field: A holistic and integrative approach that calls upon targeted and applied research, strategic policy development, educational awareness to farming and rural communities should provide the tools to diminish conflict and facilitate coexistence between dogs and humans. The ecological value from movement corridors (increasing room to roam) and biological 'signposts' would not only help save the Painted Dog but could avoid other carnivores from becoming endangered.

- References 1. Winterbach H, et al. Mamm Rev. 2013;43(2):89-110. doi:10.1111/j.1365-2907.2011.00209.x. 2. Dröge E, et al. Ecol Evol. 2017;7(1):189-199. doi:10.1002/ece3.2616. 3. Hubel TY, et al. Nat Commun. 2016;7. doi:10.1038/ncomms11033. 4. Apps P, et al. J Chem Ecol. 2012;38(11):1450-1461. doi:10.1007/s10886-012-0206-7.

Isolating the role of the animal: Experimental investigation of species in animal-assisted intervention

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Introduction: Despite its importance, animal-assisted intervention (AAI) research is often hindered by applied, nonexperimental design. Studies comparing effects of AAI with traditional therapies are confounded by potential therapeutic variables other than the animal (i.e., setting, experiential approach). The present research aimed to fill these gaps through laboratory research isolating the animal while holding extraneous variables constant.

Methodology: A sample of 26 college students participated in an experiment by attending a group experiential learning session and completing self-report measures. The group learning sessions were randomly assigned to include a horse, a dog, or a stuffed animal. Sessions followed the ground-based eagal model. After the session, participants completed self-report instruments measuring human-animal interaction, motivation, positive and negative emotion, and metaphor use.

Results: Analyses of variance indicated significant differences between sessions including an animal compared to no-animal sessions. Positive emotions were greatest following dog sessions ($M = 30.88, SD = 7.51$), then the horse sessions ($M = 21.20, SD = 8.98$), then the no-animal sessions ($M = 14.63, SD = 9.40$), $F(2, 23) = 7.09, p = .004$. Intrinsic motivation was higher for dog sessions ($M = 25.38, SD = 3.54$) than horse sessions ($M = 18.80, SD = 5.83$) and no-animal sessions ($M = 18.75, SD = 6.25$), $F(2, 23) = 120.53, p = .029$. There were no differences in reported learning or metaphor use between any of the conditions.

Principle Conclusions & Implications for Field: The study provides an experimental model for more clearly isolating the role of the animal in AAI. The data suggest individuals may be more motivated during and feel more positive after interventions with animals than without animals. The differences between horse and dog sessions suggest species-specific factors influence outcome when other variables are held constant.

Examining the role of metaphor in animal-assisted learning: Human-horse interaction in eagala-model EAP

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Introduction: Researchers propose a psychological model to explain underlying processes in eagala-model equine-assisted psychotherapy (EAP), supported by data from client sessions. The model describes human-horse interaction as having *direct* effects on transient psychological states, such as mood and anxiety, while having *indirect* effects on the long-term outcome of emotional growth and learning.

Methodology: A total of 112 men and women participated in a correlational study, permitting the use of self-report data from EAP sessions within the eagala model. Human-horse interaction and metaphor were studied as process variables, while subjective distress and psychosocial learning were investigated as outcome variables.

Results: Participants reported a range of interactions between humans and horses, and the quantity of human-horse interaction was a significant predictor of reduced subjective distress. Metaphor data indicated horses most often represented family, friends, or feelings. Analyses suggest the relationship between human-animal interaction and psychosocial learning is mediated by the extent to which horses serve as metaphors for people and issues in the client's life.

Principle Conclusions & Implications for the Field: The results provide empirical support for eagala's notion that metaphor is critical to EAP outcomes. Findings are discussed as they relate to developing theory on the role of human-animal interactions in EAP and other animal-assisted therapies.

Dying before your pet: A legal literature review

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Introduction: Pet animals are a common feature of many households across the world, e.g., in Australia around 5.7 million of 9.2 million households are home to such animals. For many humans within these households, pets are often incorporated into their existing kinship networks. However legally pets are the personal property of their owners and there is usually a 'primary adult' holding (whether outright or implicitly) such responsibility. Complications can arise when the pet owner dies, be it testate or intestate, and the outcome for the pet as their property may not be what the owner wanted, or the owner may not have considered that this could be an issue.

Methodology: The method employed is a legal literature review of (a) the background of the status of animals as pets, (b) relevant issues arising and law relating to these, as well as (c) options for pet owners to consider should they pre-decease their pet(s). Materials in English that included both primary sources of law and secondary discussion of the law were selected.

Main Findings: Arrangements for after-care of pets can be formal, involving organizational arrangements informed by the law, or informal, i.e., social arrangements. The latter can include nominating a person who is anticipated to outlive the pet(s). The outcome of such informal social arrangements can be quite problematic e.g., the pet may become seriously ill and the new owner may not have the capacity to pay for costly veterinarian treatment. A more formal approach may be considered preferable for the pet's welfare. Such arrangements within a will can include (a) gifting a pet and legacy to a friend or family member, (b) a legacy to an animal charity or (c) a testamentary trust. Alternatively, although not ideal for the pet's welfare, euthanasia is also considered to be an option by some.

Principal Conclusions and Implications for Field: After-care arrangements, whether formal or informal, may not lead to the outcome envisaged by the pet owner. Owners need to be aware of the options and resources available to optimise such decisions.

Animal assisted education - or just "hygge"-dogs – in Danish primary schools

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Animal Assisted Intervention was traditionally seen as either Therapy or Activities but international umbrella organisations (IAHAIO, AAIL) now define Animal Assisted Education/Pedagogy (AAE) as a third distinct type. AAE has cognitive or developmental goals, is guided by professional pedagogical knowledge plus special knowledge of the animal's needs, is conducted with high attention to the safety and welfare of all involved, and the activities are documented and evaluated.

Among dog-based AAE-programmes for primary school, strong evidence remains to be seen but reviews support beneficial effects of Reading Dog-programmes and maybe other programmes, e.g., P.A.C.K for children with ADHD, *Sozialtraining in der Schule* for inclusive classrooms, and some *Humane Education* programmes.

In Denmark - as possibly elsewhere - the idea of "school dogs" is increasingly promoted by popular media but no one knew how wide-spread such practices had become, and there was no discussion about correspondence between current use and what international research and best practice standards would suggest.

To start addressing this gap, we contacted 392 Danish schools representing three different regions: NJ where a "school dog" has achieved much media coverage; Copenhagen (the capitol), and an intermediate region. Across regions, 259 schools (66%) answered a short telephone query and 10% confirmed to use dogs. NJ had the highest response rate (74% vs 59-65%), the highest frequency of using dogs (16% vs 5-9%), and the highest frequency of considered it when not doing it already (7% vs 2-3%).

Both standard and special needs classes used dogs. For both, these were predominantly "hygge"-dogs, that is, with the expectation of an improved atmosphere but no particular plan or evaluation of impact. Schools rarely used Reading Dogs, and no schools used other intervention programmes. At least half of the dogs/equipages had no specialized training.

Compared to international definitions, research and best practice standards for AAE, Reading Dogs seem under-used in Danish schools, non-specific "hygge"-dogs seem overused, and too little attention is given to goals, evaluation and welfare. Results also suggest that popular media may be important players, and we may need a deliberate media strategy to push practice from underground to Animal Assisted Education.

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Dealing with a canine companion's most disgusting behavior: dogs eating stools of other dogs or their own

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Dog owners amazingly put up with a variety of problem behaviors in their canine companions. But one problem that can be extremely upsetting and make an otherwise affectionate dog repulsive, to even the most tolerant of dog owners, is a dog frequently eating fresh stools of other dogs or their own, known as canine-conspecific coprophagy. This behavior, with the foul mouth and all, can be a barrier to the human-animal bond and impact the use of dogs as assistance animals. A visit to dog-related websites shows great interest and 11 commercial products marketed for the problem. Veterinarians are frequently asked about this problem. Explanations from authorities vary and there is no established medical explanation of the behavior. To obtain statistically valid information directly from dog owners regarding the behavior, two web-based surveys were launched, each yielding about 1,500 usable returns. A major finding was that 16 percent of dogs are frequent stool eaters. There was no link to diet or compulsive behavior. A surprising finding was that stool-eating dogs overwhelmingly went for fresh stools – hence the smelly breath. None of the 11 commercial products marketed for the behavior was effective, nor were various behavior modification techniques. Detailed data will be presented regarding these dogs' coprophagy as described by their owners. An evolutionary hypothesis linking this behavior to intestinal parasite prevention in ancestral wolves will be presented. Since no treatments currently are effective, new treatment options are being explored to eliminate this stool eating in dogs.

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Dogs placed by ADI or IGDF accredited facilities in North America and non-accredited U.S. facilities emphasizing history and roles

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With little surveillance, assistance dogs' roles have rapidly diversified to support people with various disabilities, especially in the U.S. We present here data from North America, gathered by email during a worldwide survey of facilities (Walther et al. 2017), from member and candidate organizations of Assistance Dogs International (ADI) and the International Guide Dog Federation (IGDF) on the numbers and types of dogs they placed in 2013 and 2014 with persons who have disabilities. Attempts were also made to contact non-accredited service dog training groups in the United States. Results from 55 North American responding accredited facilities show placements of 2,374 dogs, as well as results from 22 non-accredited U.S. facilities that placed 797 dogs. Established in 1929, recent guide dog (n = 918) U.S. placements are roughly tied with mobility dogs (n = 943), placed since 1973. Unlike mobility dogs, guide dogs are the primary role of dog placed by their accredited organizations. ADI's service category encompasses both mobility dogs and newer roles: autism, psychiatric, diabetes, and seizures. Mobility dogs were placed by more North American organizations than were guide dogs, not always as the primary role placed. Autism dogs were third most numerous for 2013-2014 (n = 205), and also third for U.S. non-accredited facilities (n = 72); the number placed by accredited facilities increased by 16% from 2013-2014. Psychiatric dogs placed fourth in North American accredited placements (n = 119), even surpassing hearing dogs, and in non-accredited U.S. facilities, accounting for the most (n = 526). Other North American accredited placements of service dogs were: fifth, hearing (n=109); sixth, diabetic alert (n=69), and seventh, seizure alert (n=11). Responding non-accredited facilities placed 17 hearing dogs, 30 diabetic alert dogs, and 18 seizure alert/response dogs. The newer psychiatric service dogs are in large demand for veterans and non-veterans alike, but relatively few were placed by accredited organizations. Non-accredited organizations filled the gap. Also newer, autism service dogs are more commonly accepted and are frequently placed even by the accredited organizations.

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Humane cities: social change through progressive animal welfare policies

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Introduction: The University of Denver's Institute for Human-Animal Connection (IHAC) has developed a Humane City framework to evaluate animal welfare policies and measure their impacts on a community. A Humane City is "characterized by the presence of leadership, institutions, and policies working collaboratively across systems to create and implement sustainable human, animal, and environmental welfare." IHAC's Humane City Economic Impact Assessment portfolio is intended to support the exploration of potential mechanisms, including but not limited to legislative efforts, through which social change can be generated on issues of compassionate engagement and ethical regard for all living things.

Methodology: The authors will describe the Humane City framework using three completed economic impact studies on the Breed Specific Legislation of Denver, CO, the "No Kill" Resolution of Austin, TX, and the "Compassion Center" animal sheltering concept of Oklahoma City, OK. These impact assessments were conducted using standard International Association of Impact Assessment (IAIA) methodologies paired with conservative economic analyses, including analysis of how these policies impacted animal welfare operations, public health in the surrounding community, and economic factors such as municipal brand equity.

Main Findings: Progressive animal welfare policies that support responsible pet-keeping in communities result in positive impacts on a community's public health (e.g. social cohesion, physical activity, mental health) while also accruing important economic benefits (e.g. increased utilization of veterinary and pet retail services, decreased public health expenditures, enhanced brand equity for potential businesses). Restrictive animal welfare policies may have a negative impact on these areas and should be carefully evaluated for their contributions to policy-making priorities (e.g. public safety).

Principal Conclusions and Implications for the Field: Animal welfare professionals are greatly invested in promoting increased respect for animals, however gaining support for these efforts in legislative contexts requires animal welfare professionals to increase their ability to speak to the potential additional impacts of their policies, beyond on just the welfare of companion animals. By improving data collection on the impacts of animal welfare on community outcomes, data-driven decision-making can be optimized.

Factors that inform the outcomes for senior cats and dogs in animal shelters in the United States

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Introduction: Senior companion animals are largely considered one of the most at-risk populations for euthanasia in U.S. animal shelters (Gates et al., 2017). Concerns such as the rate of owner surrender and the cost of addressing chronic health issues inform the low rate of live outcomes for this population of cats and dogs (LaVallee et al., 2017). With the increasing prevalence of spay/neuter shelters and rescues are beginning to see a decreasing population of juvenile companion animals entering into their care, indicating that these organizations should consider advancing their practices to better serve this ageing population (Normando et al., 2006; Scarlett et al., 2002; Olson et al., 1993).

Methodology: A retrospective cohort analysis was conducted on all cats and dogs over the age of 84 months (7 years) that entered the care of a shelter located in Austin, TX, USA over a one year period. This shelter was selected due to its proven effectiveness at supporting live outcomes for at-risk populations. Multinomial logistic regression was used to evaluate what factors (e.g. breed, size, condition at intake, treatment plan in shelter) informed the outcomes for these senior cats and dogs.

Main Results: Condition at intake significantly impacted the outcomes for both cats and dogs in the sample. Reason for surrender only informed outcomes for cats.

Principal Conclusions and Implications for the Field: These findings indicate that preventative programming should be considered to offer the community additional support in managing the health of ageing companion animals and to decrease the rates of owner surrender for this population (Weiss et al., 2013). Once in the care of shelters, increased resource allocation towards specialized medical and behavioral programs that address ageing-specific needs can increase live outcomes for older cats and dogs.

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Psychological and behavioural disorders in ex-pet Capuchin monkeys: should primates be kept as pets?

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Human-animal research into the benefits of pet keeping is growing, yet very little research has considered welfare implications of keeping particularly pet types. Animal welfare issues raised regarding keeping non-human primates as pets has recently led to a parliamentary debate in the UK about the legality of owning such animals. Concerns for such animals are due to the wide range of problems associated with keeping wild animals as human companions. This study aimed to investigate psychological and behavioural effects of being kept as pets on capuchins (*Cebus* spp.), a popular primate pet.

We did this in two ways: firstly, by investigating evidence for psychological disorders in a population of 19 ex-pet capuchins, and secondly by comparing the frequencies of stress-related behaviours and stereotypies between these ex-pets and zoo-living animals of the same genus. All of the ex-pet capuchins had a history of stressful life events, and all were non-maternally reared. To explore psychological disorders, we developed for use by keepers of capuchins a questionnaire based on the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) criteria for three human psychological disorders: post-traumatic stress disorder, generalised anxiety disorder and major depression.

Behavioural data revealed that ex-pet capuchins displayed higher rates of self-directed ($p > .005$) and stereotypic behaviours ($p > .005$) than zoo-living capuchins, and also spent less time grooming ($p < .005$), a key primate social behaviour. Five of the ex-pets met the full criteria of a psychopathological condition in the past, and two continued to do so at the time of the study.

Our findings provide evidence that for capuchins, being kept as pets leads to the development of serious enduring psychopathology and associated behavioural problems. The negative impacts on the psychological wellbeing of capuchin monkeys demonstrated here, observed years after their time as pets, highlight the questionable ethics of pet ownership of non-human primates, even though this practice is not currently illegal in the UK.

Interactions between Singapore's wild smooth-coated otters and people

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Singapore is one of the most densely populated countries in the world, but it is surprisingly "green". Wild smooth coated otters (*Lutrogale perspicillata*) have returned to Singapore in recent years, and now several families of otters live in both the inland and coastal areas of Singapore, including in the heart of the downtown region. We used a combination of citizen science and focal animal sampling video recordings to document otter behaviours, and in so doing also documented many interactions between otters and people in Singapore. Here we describe a series of events involving lost pups, injured otters, natural conflict between otter families and the public's reaction, and detrimental interactions between otters and people as well. We describe how citizen science can allow the public and academic institutions to collaborate and contribute to municipalities in helping to coordinate and interact with a wild urban predator. We find that a minimum number of stakeholders are generally needed to be effective.

Factors predicting whether Australian cat owners keep their cat indoors: A Theory of planned behaviour study

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Introduction: In Australia, responsible pet cat management practices include effective containment so that the cat cannot roam freely. This improves cat health, and reduces predation on wildlife; 60 million birds alone are killed annually by roaming pet cats. Previous research indicates that owners are often reluctant to keep their cat indoors or contained in a cat run. This study used the Theory of Planned Behaviour to investigate which demographic factors and attitudes influenced cat containment.

Methods and results: An online survey was completed by 2,942 Australian cat owners. Almost 90% agreed that cats should be kept indoors at night, but only 56% reported keeping them indoors at night. A stepwise logistic regression found that several variables predicted keeping the cat indoors at all times, accounting for 27.5% of the variance ($F = 153.39, p < 0.001$) and with a large effect size (Cohen's $f^2 = 0.38$). These items were: owner age; perceived ability to successfully keep the cat indoors (i.e. perceived behavioural control); and, the beliefs that cat should be kept indoors at all times, that it keeps them safe, and that it keeps them healthy. Perceived beliefs of owners' friends and family did not predict containment. Owners who kept their cat exclusively indoors had more enrichment available for their cat, such as toys, scratching posts, and play gyms.

Implications for the field: To increase compliance, future educational campaigns should focus on cat health and safety. Giving owners tools, such as enrichment strategies, to keep their cat happy indoors may increase perceived behavioural control, and encourage more owners to keep their cat contained.

Animals on prescription the effect of animal handling sessions on student wellbeing

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Introduction: Animal Assisted Interventions (AAI) look to create opportunities for human and non-human animal species to interact, largely for human benefit (Bert et al, 2016). Many interventions focus on the use of domestic species within prearranged specific environments with individuals experiencing mental health disorders. However, few consider human benefits obtained as a result of multispecies interactions or within non-formalised settings.

Methodology: 'Animals on Prescription' (AoP) was targeted at students with poor wellbeing at an educational establishment. The scheme provided opportunities for participants to interact with a variety of animal species during voluntary bi-weekly sessions. Self-referred students attended sessions where they interacted with an animal species of their choice. Each participant completed a pre-handling questionnaire rating their wellbeing, then a second survey post-intervention, focused on the impact of that session on their wellbeing. Over the course of 36 sessions, 39 different individuals attended, completing 162 questionnaires in total. Frequency analysis identified trends within the data, whilst grounded theory derived emergent themes from open questions.

Main Results: The majority of attendees (73% n=118) rated their wellbeing as negative prior to AoP sessions. Improved emotional states were evident in 85.35% (n=134) of questionnaires after the AoP session. Thematic analysis of students who felt AoP sessions improved their wellbeing, identified five key reasons for this; 1) more relaxed, 2) less stressed, 3) happier, 4) calmer and 5) felt better [in-self]. These feelings were related to the presence of animals: "nice to be alone with animals and not feel judged". In contrast, those who did not rate any improvement in wellbeing identified the ability to talk ("to moan") as the key benefit of the sessions. Interspecific interactions included both physical and non-physical contact (watching) and occurred during 95.06% (n= 154) of AoP sessions (with 142 multispecies interactions). Students migrated towards small mammal species (during 39% of interactions n=64), despite the availability of larger animal species.

Principle Conclusions and Implications for the Field: With predicted increases in the number of students requiring wellbeing support in future years and waiting lists for formalised support, interventions such as AoP could be beneficial for student wellbeing.

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Human-monkey conflicts in the Shoushan National Nature Park, Taiwan

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The Shoushan National Nature Park is a unique uplifted coral reef mountainous terrain and a popular place for ecotourism, especially for the endemic and protected non-human primate species, the Formosan macaque (*Macaca cyclops*). Human-monkey conflicts have been increasing over the last two decades due to growing habitat fragmentation, destruction of natural habitat, and population increase and range expansion of monkeys. We have monitored the changes of macaque population size and human-monkey conflicts. Scan, focal and behavior samplings were used as observational methods to record data on population dynamic, demography and social behaviors of macaques from 2012 to 2017. Besides, we analyzed patterns of macaque-tourist interactions recorded through ad libitum samplings. We followed 9 troops (464 individuals) with an average troop size of 51.5 (\pm 21.2) in 2012. Four group fissions occurred between 2013 and 2015 and the average size of 13 troops was 31.6 (\pm 17.3) in 2015. In 2017, only 10 troops with 330 individuals remained. At least 156 macaques disappeared, dead or injured and 28 of them had subcutaneous bleeding with confirmed rat poisoning. Mostly, macaque-tourist interactions did not occur. When they occurred, tourists initiated significantly more interactions than did macaques (89.4% versus 10.6%). The tourists initiated and acted mainly by gazing at them while passing by; they rarely revealed fear and showed hostilities with the exception of monkey grabbing food. By discouraging tourists from engaging in showing food or carrying transparent plastic bags, macaque threats could be reduced, thereby improving macaque-tourist interactions. The results shown in this study can enormously benefit the management of Shoushan National Nature Park by minimizing stress-induced human-monkey interactions.

The behavioural and working impacts of changing a dog's handler

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Introduction: Working dogs and their handlers share a unique relationship that directly impacts their working performance. Changing a dog's handler may generate conflict and reduce their performance, however, few studies currently support this. Here I will explore the behavioural and performance impact of having detection dogs handled by multiple handlers.

Methodology: Nine detection dogs (3M: 6F) were accuracy tested with two handlers. Both handlers were female with similar dog handling experience. Handler 1 was also the dogs' trainer. The detection dogs were tested along brick lines containing target and non-target samples. Testing occurred over four sessions. At testing conclusion, each dog had been tested along 144 samples. After a rest day, the dogs were tested with the other handler. The dogs' sensitivity, specificity, Positive Predictive Power (PPP) and Negative Predictive Power (NPP) were calculated. Testing sessions were filmed and the dogs' behaviours were coded using BORIS.

Main results: The dogs had significantly higher sensitivity ($p = 0.045$) and NPP ($p = 0.041$) scores when handled by Handler 1. The dogs also had higher PPP scores (Handler 1 mean = 80.9; Handler 2 mean = 53.5), however this was not statistically significant. The dogs performed more stress related behaviours with Handler 2, such as tail lowering ($p = 0.035$), and were distracted for a higher proportion of time ($p = 0.012$). The dogs' performances did not improve over the four testing sessions with Handler 2 ($p = 0.553$), but did improve with Handler 1 ($p = 0.017$).

Principal conclusions and implications: These findings suggest that a detection dog's performance is reduced when handled by another handler, and stress related behaviours increase. This may challenge working dogs being transferred to, and used by, multiple handlers. Further research is required to determine the time it takes for a dog to adapt to working with multiple handlers, though this is likely dependent on the individual dog and handler.

The effects of animal-assisted activities on college students before and after a final exam

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Introduction: Final exams at colleges are stressful for students. An exploration of the effects of Animal Assisted Activities on exam anxiety through the comparison of blood pressure readings before and after interacting with therapy dogs is the basis of this paper. A quantitative comparison of the experimental and control group showed statistical significance for blood pressure reduction in the experimental group. Past/present pet ownership and participants' age showed no significance but significance for gender was ascertained.

Methodology: A four-day event for animal-assisted activities during exam week, Spring, 2016 was scheduled on campus and solicitation occurred through a college-wide email. Eight-six students (58 Female, 24 Male, 4 Other) participated. Six therapy dogs participated. The control group after completing the consent form and the animal-assisted activity survey sat behind a screen for the 15-minute interval and blood pressure was examined before and after this interval. Students interacted with the therapy dogs by talking, petting and playing. The study participants followed the same protocol but interacted with the therapy dogs between blood pressure readings. Participants received a debriefing. The ages ranged from 18 to 39.

Main Findings: A paired t-test found a significant difference among the experimental group with lowered systolic and diastolic blood pressure: systolic blood pressure ($M=3.04, SD=10.56$); $t=2.44, p<.017$ (two-tailed) and diastolic pressure in the experimental group the results were: ($M=3.89, SD=10.77$), $t=3.04, p<.003$ (two-tailed). Significance was not found in the control group. No significance in blood pressure in different age categories or present/past pet ownership found but was found between genders.

Conclusions and Implications for Field: The significance of these findings is beneficial to universities as they assess the need for lowering anxiety among students peri-exam periods. Method is cost effective and contributes to better mental health and academic outcomes. Future studies could provide generalizability/replicability to strengthen findings.

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Animal affiliations, martin houses, and the making of backyard conservationists

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Introduction: As a result of anthropogenic degradation of habitat, introduction of invasive species, and climate change, Eastern Purple Martins in North America have become completely dependent on human-provided housing for nesting habitat. The more elaborate, well-tended housing is often provided by "landlords," many of whom are older white men who are extremely passionate about and dedicated to martins. Others, however, put up martin houses without this kind of dedication. Some have claimed that this "low-standard" (LS) housing—i.e., broken down, tree-encroached, single martin houses—may be sustaining the martin population. We investigated the motivations and practices underlying the provision of LS housing compared to those of dedicated martin landlords who participated in an earlier study.

Methodology: 134 LS martin houses in a metropolitan area in the southcentral US were located via a field survey. Twenty-seven participants (19 men and 8 women) participated in semi-structured interviews. Photos were taken of their martin housing.

Results: Striking differences were found between dedicated landlords and LS housing providers. Landlords were extremely knowledgeable and passionate about martins. They viewed themselves as citizen scientists committed to sustaining the martin population into the future, and distanced themselves from animal rights identities. In contrast, LS housing providers were not particularly knowledgeable about or even interested in martins, but they were strongly oriented toward wildlife and animal rights, often stating that they preferred animals to people. While killing animals that competed with martins was imperative for landlords, no LS housing providers considered doing so, and most of their housing contained only invasive species. While both groups practiced private property conservation, LS housing providers did so passively, allowing any wild bird to inhabit their shelters, whereas landlords actively recruited a single species and eliminated all competitors.

Conclusions: While putting up a backyard birdhouse might seem like simple behavior, the motivations underlying this practice differed considerably, with landlords carrying out a species-specific conservation strategy and LS housing providers sharing their property with the wildlife they loved. That these wildlife were typically competitor species suggests that LS housing may not be as helpful in sustaining the Purple Martin population as previously suggested.

Can attitudes towards Atlantic marine mammal species conservation be manipulated?

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Introduction: Threats to marine ecosystems and marine mammals are largely anthropogenic. Nova Scotia, Canada, is a major contributor to such pollutants with its vast and long-standing ocean industry. Due to the inherent value of marine mammals and to the number of Nova Scotian residents who rely directly or indirectly on the ocean for their livelihood, it is important to identify effective strategies for generating support and interest in protecting marine mammals. This paper explores whether it is possible to manipulate Nova Scotian residents' attitudes toward the protection of marine mammals.

Methodology: Nova Scotian residents were recruited to participate in an online survey. Participants were randomly assigned to one of two experimental groups or a control group. Prior to completing a survey, the experimental groups watched an educational voice-over video on marine mammals. Individuals in the first experimental group (n=125) listened to an anthropomorphic message, and those in the second group (n=127) listened to an anthropocentric message. The control group participants (n=136) did not view a voice-over video prior to taking the survey. All participants completed the Marine Mammal Attitude Scale, which was modified from the Environmental Attitudes Inventory (Milfont and Duckitt 2010).

Results: Compared to the control group and the anthropocentric group, the anthropomorphic group was less likely to report that their conservation interests were rooted in anthropocentric concerns, $F(2, 385) = 6.734, p = .001$. In addition, they were less likely to view humans as dominant over nature, $F(2,385) = 6.007, p = .003$. The anthropomorphic group also scored significantly higher with regard to environmental activism compared to the control group, $F(2, 318) = 3.061, p = .048$.

Conclusion and Implications for the Field: The results suggest that people's attitudes regarding marine mammal conservation can be manipulated by the ways that conservation messages are presented. Follow-up research is needed to determine whether these effects are lasting and result in prosocial behavioural changes.

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Canine-assisted therapy in adolescent mental health treatment – Current perspectives and future directions

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Introduction: The use of animal-assisted therapy as a treatment modality for young people in a variety of settings is growing. Interventions have ranged from brief encounters to structured programs and group counselling, with varying results. Recently published systematic reviews on the efficacy of animal-assisted therapies include a vast range of human-animal interactions, for example living with service dogs, to brief encounters with therapy dogs, to structured equine-assisted therapy groups. Few systematic reviews of the literature have explored the efficacy of mental health interventions with adolescents, and none have focused exclusively on canine-assisted therapies (CAT). In a first of its kind, in this systematic review, we examine the use of goal-focused CAT, delivered by mental health professionals, in the treatment of mental health problems in adolescents.

Methodology: Papers published in the peer-reviewed literature were examined for goal-focused interventions, conducted by, or under the direct guidance of, mental health professionals, aimed at improving mental health outcomes for adolescents. Six studies incorporating canines (and no other species) and reporting qualitative and quantitative results were included in the analysis.

Main Findings: When combined with mental health treatments, CAT has been associated with decreases in targeted symptomatology; for example, the reduction of anger in an anger management group, the decline in PTSD symptoms in a trauma-therapy group, and the improved global functioning of adolescents receiving inpatient psychiatric care. Negative results have also been reported; for example, increased depression following

participation in an anger management group, and self-concept failing to improve following individual solution-focused therapy. The psychological principles underpinning the interventions were varied, including cognitive behavioural therapy, attachment theory, and solution focused therapy.

Conclusions and Implications: Efficacy of CAT is difficult to establish given the diversity of interventions, definitions and applications currently being used in the field. Systematic reviews consistently compare disparate interventions, further compromising validity and generalisability of conclusions. We call for consistency and comprehensive study of the elements and components within CAT that may be effective and provide recommendations for future professionalisation of the field.

Social Skills of Children with Autism Spectrum Disorder: Effects of Animal Assisted Therapy

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Introduction: There is evidence of the benefits of animal-assisted interventions (AAT) for people in general and specific children, but there is a dearth of specific research on how animals, especially dogs, can be used to increase social and communication skills and decrease repetitive and stereotyped patterns of behavior, interests and activities in children with autism or PDD-NOS (Alison, 2010). This paper describes how AAT facilitates the development and maintenance of social skills in a sample of Puerto Rican children diagnosed with autism.

Methodology: A sample of five children (4 boys and 1 girl) between the ages of 8 and 10 years old, diagnosed with autism, received ten sessions of AAT once a week for one hour. The mothers completed a pre and post test to determine the progress of their children. This study used a multiple case design incorporating quantitative and qualitative approaches. Some of the measures used were: socialization domain of the Vineland II, semi-structured interviews and clinical video recording. To analyze the quantitative data frequency distributions, central tendency analysis, bivariate analyzes, and independent t tests were used to evaluate if there were significant differences between social executions and the different measures taken. The Wolcott model was used to analyze the qualitative data.

Main Results: The average performance for the sub-domain of interpersonal relationships in the pre-test was estimated at 38.2 points, compared to an average of 51.4 in the post-test which indicates greater mastery of interpersonal skills. Through the evaluation of social skills in three times, there was an increase in the social interactions of the children with the researcher (e.g. asking for help). One mother acknowledged that the child was more expressive and communicative after the AAT.

Principal conclusions and implications: These findings suggest that children with high functioning autism had significant gains in social skills after participating in AAT. A dog allows the child with autism to handle in a concrete and tangible way the information that surrounds him, thus reducing meltdowns and facilitating social interactions. The dog fulfills the function of motivating children with autism to participate in the therapy process.

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Ambivalent Responses of Pet Owners to the Animal Rescue Volunteers in Fukushima, Japan

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Introduction: Studies on disasters and animals have received increasing attention in recent years. However, only a few studies have focused on guardians who were evacuated after the March 2011 nuclear disaster in Fukushima, Japan. This paper discusses some aspects of how pet owners responded to animal rescue volunteers.

Methodology: This report is based on data collected between 2012 and 2016. Interviews were conducted with 34 guardians aged 30–85 (16 males and 18 females) and three animal rescue activists. That data was further supplemented by a questionnaire survey completed by 74 guardians evacuated from the Fukushima area.

Findings:

- 1) The most part surrounding Fukushima No. 1 nuclear power plant is rural area where aging and depopulation were already occurring. The owners in Fukushima have their own philosophy that differs from the mindset of global animal welfare.
- 2) Many animal rescue volunteers from urban areas bravely took action in the radioactive contaminated areas. However, most of them did not understand the cultural differences that marked guardians in Fukushima. Therefore, some volunteers conducted contraceptive operation for animals without the permission of their owners, took animals away, or entered the property of guardians to leave large quantity of pet food.
- 3) Most guardians were extremely grateful for the volunteers' hard and dangerous work on their behalf. Still, some owners expressed dissatisfaction for things that went against their own way of doing things. For example, one owner complained that his dog had diarrhea because the volunteers brought some kind of contamination from outside the area.

Conclusions: These findings revealed the complicated responses of guardians in Fukushima to efforts of outsiders to "rescuing" their animals. It is hoped that ethnographic accounts such as this will lead to a better understanding of their emotions and thereby contribute to improving strategies for animal rescues in the future.

Equine-human interactions in therapy: A lack of research in horse-human bonding

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There is research to support the benefits of Equine Assisted Activities and Therapies (EAAT) to the human participant, but little into the behavioral psychology of the horse with regards to bonding with people. Since many EAAT methods use horses to help clients practice empathy, compassion, and build interpersonal skills, there needs to be more understanding of how horses interact with humans in this context. Historically, horses have been bred and trained for the benefit of humans and not for companionship, resulting in training methods based primarily on negative reinforcement (Bierke, Meinen, Wilkens, Leponiemi, & Hiney, 2013; Cooper, 2007; McLean & Christensen, 2017; Murphy & Arkins, 2007) although there is research to support the use of food as positive reinforcement in training (Craig, Varnon, Pollock, & Abramson, 2015; Ninomiya, Mitsumasu, Aoyama, & Kusunose, 2007) but few models of EAAT use methods of positive reinforcement (Kieson & Abramson, 2016). Humans and primates use food as a social bonding tool (de Waal, 1989; Jaeggi, De Groot, Stevens, & Van Schaik, 2013; Koster & Leckie, 2014; Stirrat, Gumert, & Perrett, 2011) even correlating with oxytocin levels (Carter & Wilkinson, 2015). Even in human-dog relationships, canines have been shown to respond to treat rewards as social bonding in addition to vocal and pet rewards (Cook, Prichard, Spivak, & Berns, 2016; Kerepesi, Doka, & Miklosi, 2015; McGreevy, Starling, Branson, Cobb, & Calnon, 2012; Payne, DeAraugo, Bennett, & McGreevy, 2015; Pongracz, Hegedus, Sanjurjo, Kovari, & Miklosi, 2013) which also correlates with oxytocin in both human and dog (Nagasawa et al., 2015). There is no indication that horses perceive food sharing as socially rewarding, however, and few EAAT methods use these known positive rewards in their models (Kieson & Abramson, 2016). Therefore, EAAT relies heavily upon historic methods of horse training and not on any research of interspecies communication. Since there is no knowledge of how to interact with horses in ways that facilitate equine social bonding or positive reinforcement in a companionship or therapeutic role, further research is needed in this area to properly utilize horses as partners in this context.

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Does the flight response to human resemble between cow and calf?

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Introduction: To clarify the maternal effect of flight response to human in beef calves, we investigated the similarity of flight response between cow and calf by measuring their flight distance (FD).

Methodology: Twenty Japanese Black (*Bos Taurus*) cow-calf pairs were used as subject in 2016 and 2017 respectively. These pairs included same 10 cows in both years. FD of each pair was measured 3 times per cow and calf as follows: we approached from the left or right side of the cow and calf 10 m apart and measured the distance between the feet of the observer and the nearest cow's hoof at the moment of the cow's withdrawal. Their median was calculated respectively and the correlation between annual or cow-calf pair were analyzed using R (ver.3.2.2, R Development Core Team).

Main Results: The FD of each cow and calf was approximately median ± 1 or 2 m and comparatively steady. There was a significant correlation between the FD of cow-calf pairs in both years (2016: $r = 0.769$, $n = 20$, $P < 0.05$, 2017: $r = 0.789$, $n = 20$, $P < 0.00005$). Cows' FD were also correlated between 2016 and 2017 ($r = 0.725$, $n = 10$, $P < 0.05$) and their calves' FD which were different in both years were also correlated between the two years ($r = 0.731$, $n = 10$, $P < 0.05$).

Principal Conclusions and Implications for Field: These findings suggest that the flight response was similar in cow-calf pairs and these attitudes might descend from cow to calf.

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Social work with vulnerable groups and their companion animals

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Introduction: The Human-Animal Bond describes the reciprocal relationship between humans and animals that brings love, companionship, comfort, and emotional support. As 62% of Australian households are home to one or more registered animal companions, the likelihood that social workers will need an awareness of this bond is high (Animal Medicines Australia, 2016). The Human-Animal Bond is especially strong in vulnerable people, such as women experiencing, or at risk of homelessness with a companion animal (Irvine, 2013; Labrecque & Walsh, 2011). There has been a companion animal 'turn', or awareness in the mainstream media and community about the need for consideration of all members of interspecies families impacted by family violence and homelessness. What is less known is how this turn is playing out in the field of social work. Despite recommendations that the awareness of the Human-Animal Bond be incorporated into companion animal-inclusive practice being made in social work literature, there is, to date, no documented evidence that this is happening in Australian social work. Anecdotally, there is a culture of covert, or subversive practices that has emerged to address this problem, in particular with the provision of social work to women experiencing, or at risk of homelessness.

Methodology: Adopting a Feminist Ethic of Care theoretical lens to frame companion animal-inclusive Subversive Social Work practices, I utilise a Transformative Mixed Method design (Creswell, 2015), consisting of a survey of Victorian social workers employed within homelessness and family violence frontline services, and semi-structured in-depth qualitative interviews with 20 survey participants.

Main results: Preliminary findings and implications for the discipline of social work, and the family violence and homelessness fields will be presented, in the form of quantitative and qualitative survey data, and qualitative data arising from interviews.

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Parent and child perspectives on child-dog physical activity programs and the child-dog relationship

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Introduction: Children demonstrate high levels of attachment to pet dogs (Linder, Sacheck, Noubary, Nelson & Freeman, 2017) and previous physical activity intervention studies show that dogs provide social support for adults (Morrison et al., 2013). However, the relationship between children and dogs (i.e., child-dog relationship) and how that relationship may impact utilization of physical activity programs is not as well understood. The goal of this study was to improve knowledge of the child-dog relationship to inform future child physical activity programs with dogs.

Methodology: Semi-structured interviews were utilized to better understand the child-dog relationship and engage stakeholders of potential future interventions. Semi-structured interviews with child-parent dyads (n=30 children aged 8-13, 53% male) investigated the child-dog relationship and perceptions about potential child-dog activity programs. Structural codes were determined *a priori* coupled with emerging thematic coding. Transcripts were then systematically coded by two trained researchers employing consensus and constant comparison.

Main Results: Semi-structured interviews revealed that child-parent dyads were positive and enthusiastic about child-dog physical activity programs (30/30, 100%). Perceived barriers for programs included safety concerns in child-dog and dog-dog interactions. Perceived facilitators for programs included components that strengthen the child-dog bond, such as the addition of education, behavior training, or agility components.

Principal Conclusions and Implications for Field: Children and parents support child-dog activity programs that are safe and enrich the child-dog relationship. Findings suggest key program components that can be tested for effectiveness in future studies of childhood obesity interventions incorporating dogs. These interventions have the potential to improve enthusiasm, motivation, and health impact on participants if designed with consideration for the complex, but also intensely positive relationship between children and their dogs.

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Contextualizing children's maltreatment of companion animals in violent households: learning from children's explanations of their behavior

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Introduction: Children exposed to intimate partner violence (IPV) are more likely to be exposed to and perpetrate animal cruelty. Despite increased recognition that childhood animal cruelty (CAC) is a risk factor for subsequent interpersonal violence, there is a dearth of child-centered research examining motivations for CAC behaviors in the context of violent households. The current qualitative study reports on data from school-age children recruited from community-based IPV services who had a history of CAC.

Method: This study was part of a larger longitudinal study of women and their 7 to 12 year-old children's experiences of IPV and concomitant animal abuse (N=291). Participants were recruited from one of 22 domestic violence service agencies in a western U.S. state. Qualitative data for the current analysis reflect 46 children (54% racial/ethnic minority). Children were asked to describe their CAC behaviors; maternal caregivers were interviewed separately about their child's CAC, and these data were used to triangulate patterns in the data. Specifically, qualitative data were obtained as part of the semi-structured Children's Observations and Experiences with their Pets survey (Ascione & Weber, 1995), which was facilitated as an interview by a trained domestic violence advocate. Using Atlas.ti software, qualitative data were analyzed thematically using the method of template analysis (Crabtree & Miller, 1999; King, 1998, 2012), an approach commonly employed in analyzing large qualitative data sets in social science research (Brooks & King, 2013).

Results: Thematic findings include: history of witnessing animal cruelty and pet neglect/abandonment; CAC with family members; minimization of animal harm; differences in CAC severity by victim type; animal sentience and anthropomorphic assumptions; punishing pets out of anger; and curiosity.

Discussion: Our study provides additional support for the link between IPV exposure, animal cruelty exposure, and CAC; therefore, assessing children to determine if they have witnessed animal maltreatment is an important part of the evaluation process for professionals who encounter children exposed to, or at risk for, experiencing family violence. In addition, determining a child's attitudes and beliefs about animals early in the assessment process could assist professionals in identifying children at risk for, or currently engaging in, CAC.

The effects of animal-assisted interventions using dogs on first-year university students in Japan

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New students enjoy college life but are anxious about living alone and examinations. To alleviate stress levels, many universities in USA offer animal-assisted interventions (AAIs) to students. The aim of this study was to clarify the effects of AAIs using dogs on first-year students in Japanese universities.

53 participants (41 females) were recruited through the Azabu University e-mail system. The participants were divided into four groups; I: participants interacted with a dog (n=19), II: participants and a friend interacted with a dog (n=10), III: participants stayed with a dog without interacting (n=10), and IV: participants and a friend stayed with a dog without interacting (n=14). A 10 min AAI occurred only once during the one to four weeks before the first University examination period. To evaluate the effects of AAIs, POMS2 and salivary cortisol concentrations using EIA, were measured pre-and post-AAI. As an index of sympathetic and parasympathetic activities, the heart rates were measured using a heart rate monitor during the AAI. POMS2 data and saliva were collected just 1h before starting examinations. Paired t- and Wilcoxon signed-ranks tests were used to analyze pre-and post-AAI data, while Turkey-Kramer and Steel-Dwass tests were used for the between-groups analysis.

The Total Mood Disturbance (TMD) score of POMS2 (an index of negative feelings) significantly decreased in all groups after the AAI ($p < 0.001$). Group III showed a significant increase in parasympathetic ($p < 0.05$) and a decrease in the sympathetic ($p < 0.05$) activity. There were no significant differences in heart rates or cortisol concentrations among the groups. The TMD scores just 1h before starting examinations were significantly higher than those after the AAIs ($p < 0.001$).

This study showed that only one short AAI, with or without interactions with a dog, might have relaxing effects on that decrease negative feelings of first-year university students. Although this effect was not persistent, it indicated that the first examination period is very stressful for first-year university students. Further data will be collected at the second examination period in January. AAIs might be helpful in addressing student concerns and in increasing their feeling of well-being.

Association between population of free-roaming cats and implementation status of subsidy project for neutering by local government in an urban city area in Tokyo

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Introduction: Some local governments have implemented subsidy projects for neutering domestic cats to promote trap-neuter-return (TNR) of free-roaming cats in Japan. Our purpose was to examine effectiveness of such subsidy projects on the population control of free-roaming cats in an urban city area in Tokyo by comparing information on feral cat management collected through questionnaire for subsidy users and population data of cats living in the corresponding area found by field survey.

Materials and Methods: Questionnaires were distributed either to those applied for the subsidy at Adachi ward office (n=75) or to members of a local animal protection organization who engaged in TNR projects (n=16). The questionnaire asked locations, time periods, and numbers of free-roaming cats neutered where the respondents were involved in management. Proportions of neutered cats and densities of cats per hectare were calculated for each district of the ward, and four representative areas were chosen; Neuter-High (NH), Neuter-Low (NL), Density-High(DH), Density-Low(DL). Route census of cats was conducted twice in four areas and the results were compared among areas by one-way ANOVA and Scheffe's multiple comparison.

Results: By questionnaire 653 cats (508 neutered and 145 unneutered) were grasped in the 31.2% of whole area of Adachi ward. The order of cat densities was $DH > NH > NL > DL$, while neutering rates was highest in NH and DL, DH follows, and the lowest in NL. The route census found 51 cats in 4 areas (DH:7, DL: 8, NH:18, NL:18), of which only 2 kittens were found in NL and 15 cats having ear tipped (NH:12, others:1). There was no significant difference in numbers of cats among areas ($P = 0.131$). The order of average densities of cats were; $NL > NH > DL > DH$, but no significant difference was found ($P = 0.249$). The neutering rate was highest in NH (12/18) and there were significant differences with other areas ($P = 0.002$, ANOVA; $P < 0.01$ by Scheffe's multiple comparisons).

Discussions and Conclusions: The neutering ratio suggested by questionnaire survey was actually reflected in the proportion of ear-tipped cats found in the route census, whereas the numbers and densities of cats found by field survey were not well correlated with situation suggested by questionnaire survey.

Efficacy of trap-neuter-return (TNR) on population control, complaints and welfare of free-roaming cats

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Introduction: Overpopulation of free-roaming cats is a controversial issue in local communities worldwide. While free-roaming cats are often fed by some people, free-roaming cats are viewed as a public nuisance by others. Trap-neuter-return (TNR) has been promoted as a humane alternative to euthanasia for free-roaming cats, but its effectiveness is hard to evaluate. The aim of this study was to evaluate the impact and effectiveness of a cat TNR subsidy project by Osaka City, Japan focusing on reductions in cat impoundment, cat-related complaints and improvement of cat welfare.

Methodology: Data for the 24 wards of Osaka City in 2015 were collected from Osaka City officers and websites. In multi-regression analyses, the data of cats impounded to the city, cat-related complaints, and injured cats were entered as response variables with the total number of TNR cats and one of the three socio-economic factors (income, education, or elderly population rates) as explanatory variables in total of nine models. Additionally, a route census of free-roaming cats was carried out in two wards: one as a high TNR ward and the other as a low TNR ward, to compare effect of TNR on cat welfare. All cats encountered in two selected one-kilometer routes in each ward were identified, and their body conditions were recorded.

Main results: There was no significant effect of TNR on impoundment ($p = 0.65 \sim 0.73$), complaints ($p = 0.49 \sim 0.97$), or welfare ($p = 0.85 \sim 0.86$). Instead, the effects of the socio-economic variables were statistically significant for increased impoundment ($p = 0.00$) and complaints ($p = 0.00 \sim 0.01$) suggesting poverty, educational level, and age of the human population had more effect on free-roaming cats than the TNR project. Moreover, the 'level' of TNR of the route did not affect the body condition of cats on the route census.

Principal conclusions and implications for field: More research would determine the effect of non-government TNR programmes, as these may have had an unknown impact on our data. However, our findings suggest that TNR alone may not solve the free-roaming cat problems. Furthermore, in line with the concept of One Welfare, improving human welfare may lead to improvements of free-roaming cat welfare.

Native or nuisance? Landholder perceptions of southern hairy-nosed wombats (*Lasiorchinus latifrons*)

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Human-wildlife conflicts are typically thought of as a damage management problem, with research focusing on controlling problem wildlife. Even where interventions successfully reduced wildlife damage, conflict resolution is rare, as the underlying causes are often human driven. Research needs to look beyond damage interventions and consider the human dimensions of conflicts to resolve them. This study examines landholder perceptions of southern hairy-nosed wombats (*Lasiorchinus latifrons*), a species that has been in conflict with agricultural interests for decades. Qualitative surveys, containing questions about people's perceptions of wombats, the damage they cause, and their management were distributed at workshops throughout the Far West (Gawler Ranges, Eyre Peninsula, and the Nullarbor), and mailed to residents in the Murraylands of South Australia. An estimated 41% ($n = 33$) response rate was obtained for the Far West, while only a 3.2% ($n = 120$) response rate was achieved in the Murraylands. Differences in responses to binary yes/no questions were compared across (i): the presence of *L. latifrons* on properties, (ii) experience of *L. latifrons* damage, and (iii) financial dependence on properties using Chi-squared statistics. Content analyses were conducted on open-ended questions. Of the respondents with *L. latifrons* on their properties, 81% reported damage, largely due to *L. latifrons* burrowing behaviour. Despite this, the majority (86%) of respondents supported *L. latifrons* conservation, though, support declined among respondents with *L. latifrons* present and/or those who were financially dependent on their properties. Respondents who experienced damage and/or were financially dependent on their properties were more likely to use culling to reduce damages. To improve *L. latifrons* management, the largest portion (39%) of respondents suggested the development of alternative non-lethal management options. These results highlight the need for improved management strategies that reduce damages and enhance co-existence between *L. latifrons* and landholders.

Investigating performance on the Kong test with domestic dogs

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Introduction: Laterality is measured using a variety of tests to determine an individuals' preference for using one side of the brain over the other during a particular task. In the domestic dog, lateralisation has been found to be associated with success in service roles, such as Guide Dogs (Batt et al., 2008), whereas strength of paw preference has been shown to be related to noise phobia (Branson & Rogers, 2006). The Kong® test is a widely used method for testing lateralisation in domestic dogs. Historically very few researchers have reported non-response to the test.

Methodology: Assessment of paw preference was conducted on 96 dogs, with additional demographic and temperament data collected from the owners (MCPQ-R; (Ley et al., 2009); CBARQ; (Serpell & Hsu, 2001)). The criteria for completion of the test was standardised for this study to 50 left or right paw touches of the Kong within a one hour time limit; each dog was presented with a Kong filled with the same frozen food.

Main results: The results showed almost 25% did not engage with the test, 15% failed to reach the required 50 touches and 60% of dogs completed the test. Those dogs less likely to complete the task had higher owner rated levels of “neuroticism” (MCPQ-R; $t(94) = 2.17, p = 0.033, CI95\% [0.67, 15.42], d = 0.44$). The location where the assessment took place showed a non-significant trend towards dogs tested in a novel environment less likely to respond. Factors unrelated to performance on the test included other temperament measures; being from a single or multiple dog household; and the, sex and age of the individual dog. Taller dogs and those who slept apart from their owners were the most likely to complete the test.

Principal conclusions and implications for the field: The results suggest the Kong® test is most appropriate for larger breeds, those often used in service positions, and may be a preferred method for assessing this group. Future research may further investigate these factors and how they might influence performance on the Kong® test of motor.

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Training volunteer dog-owner teams to detect conservation targets

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Introduction: Conservation Detection Dogs (CDDs) are trained to locate biological targets, such as endangered animals and invasive weeds, relevant to conservation efforts. In some settings, CDDs are more effective than other survey methods. Despite this, the financial costs associated with training and maintaining CDDs, alongside concerns around meeting dogs’ welfare needs, prohibit their use by smaller, volunteer-based, conservation groups. In this study, we evaluated a program in which members of the general community volunteered to train their own companion dog to detect a target scent.

Methodology: Following an initial assessment, 20 volunteers and their pet dogs were selected to participate. Dog-handler pairs, only some of whom had prior dog training experience, worked with two professional CDD trainers in a 12-week program, during which they were trained to detect myrrh in controlled laboratory conditions. Search effectiveness was evaluated in weeks 6 and 12. The dog owners were also interviewed on their motivations before and their experiences following their involvement in the program.

Main Results: Seventeen of the 20 dog-handler pairs completed the program. Handlers found spending time with their dog very rewarding, and their bond with their dog grew stronger during the program. Nearly all participants reported that they were highly motivated to participate, with their dog, in local conservation projects. During the final assessment, teams accurately located a target scent presented amongst nine unscented pots on a scent board in 96% of trials, and 88% of trials when the board contained novel distractor scents. Teams located the target in 100% of trials conducted in an empty room and 97% of trials in a room containing obstacles.

Principal conclusions and implications: Volunteer dog owners can successfully train pet dogs to locate a target scent in controlled laboratory conditions, in under 12 weeks, even when their prior dog training experience is limited. Volunteers enjoyed the program and expressed interest in continued involvement in conservation projects. This volunteer model offers a sustainable way to help address financial and welfare considerations associated with professional CDDs. It also engages new and existing volunteers in local conservation work and strengthens the human-animal bond.

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Giving and receiving on the street an ethnography of greyhound street collections in south wales UK

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Introduction: Every year in the towns and cities across Wales, humans and rescue ex racing greyhounds come together onto the streets. These fundraising and awareness-raising events offer unique opportunities to unravel the reciprocal strands of greyhound and human experience. An immersive ethnographical and autoethnographical account of four of these events was conducted in 2016, drawing on anthropological literature to determine how these encounters might be constituted for multispecies participants.

Methodology: A multi-method ethnography, this research included participant observation of attendant humans and greyhounds, and in depth semi structured interviews with four female human individuals.

This research utilises my status as both ‘critical insider’ (Hodkinson 2002, p6) and conductor of ‘anthropology at home’ (Cassidy 2002, p20). My own autoethnographic intersubjective experiences of relating with ex racing greyhounds are key points of reflection and reflexivity. Drawing on Milton’s (2005) perception-focused intersubjective relating (p265) and Bekoff’s (2004) determination of ‘dogomorphism’ (p495), I sought to recognise the minded experiences of greyhound participants, in order to give these non-human perspectives attention and voice.

Main Results: Social exchanges were categorised as either moral, economic or emotional and gifts were embodied physical exchanges between participants (Chadwick-Jones 1976, p20). Gifts ‘on the street’ may also go beyond the immediate moment of the exchange (Daniels 2009, p386) leaving both giver and receiver with what I have described as an affective experience or *auric imprint*. This pervasive sense of the encounter prompts a call to action, which may result in further economic, moral or emotional exchanges.

Principal conclusions and implications for the field: Through this research, I have shown that street collections are spaces imbued with meaning for both human and greyhound participants.

Wider recognition of greyhound personhood at street collection events is possible and caregivers can be coached to develop language and skills which recognise greyhound emotions, intentions and individuality. Inspired by the ubiquitous Maslow's Hierarchy of Needs and the 'Hierarchy of Dog Needs' (Michaels 2015) I have suggested a template for this; 'Being More Greyhound'.

Future research might examine how the use of consent testing and positive dog training methodologies might facilitate better cross species communication.

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Current standards and practices within the therapy dog industry: Results of a randomized survey of US therapy dog organizations

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Introduction: Animal-assisted therapy organizations have proliferated in recent decades in the United States. Each of these organizations has its own criteria for screening, evaluating and instructing dogs and their owners/handlers, but little is currently known about the range of different practices that exist nationwide. The aim of the present project was to conduct a survey of a randomly-selected, national sample of US therapy dog organizations to investigate commonalities and differences in the types of practices in current use.

Methodology: A process comparable to probability-proportional-to-size sampling was used to identify a representative sample of therapy dog organizations from the four different US census regions: West, Midwest, South & Northeast. From each region, 3 organizations were selected at random from the most populous state (CA, IL, TX & NY, respectively), and a further 3 were selected from a second randomly-chosen state in the region, giving a total of 24 local/regional organizations that were invited to complete the survey. In addition, six large national or multi-regional organizations were surveyed. The survey comprises 118 questions addressing, among other things, health screening/vaccination requirements for participating dogs; guidelines and methods used for evaluating dogs, handlers or dog/handler teams; limitations on visiting times and the use of aversive training methods; required vs. optional training for dogs and handlers; provision of liability insurance; reporting of adverse events, and so on.

Results: At the time of writing, invitations to participate in the survey have been distributed to all 30 US therapy dog organizations. The results are expected to be available before the end of April, 2018.

Conclusions and Implications for the Field: The findings will help to inform future discussions regarding acceptable minimum standards, best practices, and professionalization within the therapy dog industry.

Public attitudes to animal sentience and welfare

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Introduction: Animal sentience may be defined as the ability of non-human species to perceive, feel or experience subjective states. This concept is a central component of animal welfare research on the basis that the capacity for suffering necessitates consideration of well-being. Similarly, an individual's belief in animal sentience is thought to influence public views on the ethical use of animals. However, there is little evidence among the literature of how the public constructs the concept of sentience itself (Spence et al., 2017). Improving scientific understanding of attitude formation regarding belief in animal sentience is therefore crucial, particularly in light of recent changes in public consumption of animal products.

Methodology: We investigated attitudes towards animal sentience as a method of understanding moral decision-making in relation to meat consumption and animal welfare. A modified Repertory Grid was used to investigate public perception as part of an online survey in which participant's generated constructs relating to animal sentience. Participants (n = 5433) submitted a total of 26,542 constructs over a 3-month period.

Main Results: Analysis showed variation between demographic groups in their perceptions of characteristics considered critical for sentience, as well as characteristics subsequent allocation to differing species. The prominence of some characteristics (e.g. fear and pain) indicates a widespread belief in the capacity for suffering across species boundaries, contrasting with industry/scientific standards, which are largely mammal-centric. Across demographics, intelligence was commonly designated as unimportant for animal welfare despite being one of the most frequently submitted constructs.

Principal Conclusions and Implications for Field: These findings suggest that while clearly associated with increasing levels of sentience, intelligence may not be a critical factor in animal welfare decision-making processes among the public in comparison with the widely accepted constructs of fear

or pain. This study represents an important advance in our understanding of public attitudes to animal sentience and welfare, which is essential for future progress in ensuring the ethical use of non-human species within society.

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Distract more – Ruminates less! Coping strategies in female vets

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Introduction: Gender distribution has fundamentally changed in the field of veterinary medicine. Nowadays more than 80% of the students are female; graduates (eg 82% female graduates, Vienna 2016) and therefore the gender distribution among practitioners is changing as well. Female vets experience additional stressors (eg salary gap) in relation to their male colleagues. Furthermore female coping strategies include more dysfunctional strategies and women are more prone to somatic stress reactions (eg Matud, 2004). The goal of the presented study was to identify specific job stressors as well as a profile of typical coping strategies in female veterinarians.

Methodology & Statistical Analysis: Using a cross-sectional design, 84 female veterinarians were surveyed using an online-questionnaire including a self-report test-battery to measure twenty different coping strategies (SVF-120 Stressverarbeitungsfragebogen (Erdmann & Janke, 2008)), questions about daily work life including job stressors and suicidal thoughts (BSSI Beck Scale for Suicidal Ideation (Beck & Steer, 2016)). Statistical analysis included t-tests and Cohens d as concurrent effect size measure.

Results: Several groups of job stressors were identified. The most relevant ones were communication with animal owners/handlers, emergency services with 24/7 availability, bookkeeping/office-work and the well-known stressor euthanasia.

Analysis and interpretation of the test-battery shows that compared to the general population female veterinarians report significantly less positive (healthy) coping strategies (eg "Positive Self-Instruction" ($t(83)=-4.972, p<.001, d=.61$) and significantly more negative (maladaptive and unhealthy) coping strategies (eg "Rumination" ($t(82)=5.699, p<.001, d=.58$)).

In several scales clinically relevant results (T-values below 40) need to be reported. As an example a high number (44%) of the surveyed female veterinarians have to be classified as below average in the use of the very relevant coping strategy "Positive Self-Instruction" meaning that this large group is not able to distance themselves from negative cognitions and influence their appraisal.

Conclusions: Female veterinarians report a large variety of job stressors and they seem not well-equipped to solve stressful situations, which supports the finding that veterinarians are a vulnerable populations with regards to their risk for stress related illnesses and even suicidal thoughts.

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Vegan pets exploring the discourses and motivations behind plant based companion animal diets

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Introduction: The 'vegetarian's dilemma' or the paradox of feeding companion animals a meat-based diet as a vegetarian and vegan human is beginning to attract theoretical enquiry (e.g. Milburn, 2015; Rothgerber, 2013) and popular attention (e.g. Carroll, 2017; Wedderburn, 2016). This poster presentation highlights the debates and discourses within the controversial subject of companion animal feeding practices from the perspective of the vegan community and outlines the main themes to emerge from these discussions.

Methodology: In-depth semi-structured interviews were conducted in-situ and using video-conferencing software with human members of the online vegan community in 2016. Participants were members of social networking groups dedicated to the topic of vegan cats and/or dogs. In total, the sample size was eighteen participants from eight different countries with ages ranging from in the 20s to 60s, all with a shared 'western' notion of veganism. The data collected was thematically analysed and coded for emergent themes.

Main results: The motivations for feeding companion animals were found to be interconnected with perspectives affecting human food practices including ethical, health, and environmental considerations. The pathways to feeding plant-based diets to companion animals were similar to the pathways for humans becoming vegan, including an emphasis on learning and support which is facilitated by the use of online groups. There was a general mistrust of the veterinary community and perception of critical attitudes towards plant-based diets throughout the interviews. This is leading to a lack of communication between veterinarian and guardian, with guardians often defining their own feeding practices for their companion animals with minimal veterinary support. Furthermore, the ethical considerations and suitability of plant-based diets varied depending on species concerned.

Principal conclusions and implications for field: These findings challenge the human-animal boundary by highlighting the interactions and interconnections within food practices for humans, the animals that are eaten, and the animals that we live with. It also draws attention to the importance of further research exploring the long-term health implications of plant-based diets for companion animals, especially cats, before it is advocated more widely. More-than-human feeding practices are complex, ambiguous, and integral to our co-existence with other species.

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Children's mental state talk about companion animals: associations with gender and empathy

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Introduction: Research shows that the ability to understand thoughts and emotions in ourselves and others (Theory of Mind) helps us to develop relationships. However, few studies explore children's use of mental state talk, empathy, and their relationships with companion animals (CAs). This is unfortunate because research underscores the often complex social and emotional processes involved in children's interactions with CAs (Mueller, 2014). Further, research suggests that children's developing awareness of animals' mental lives – *belief in animal minds* (Hawkins & Williams, 2016) is linked to positive child-animal relationships. In a recent study, child-BAM was positively associated with attachment to animal companions and more positive attitudes, compassion and humane behaviour toward animals, and negatively associated with the acceptance of intentional and unintentional animal cruelty and neglect (Hawkins & Williams, 2016).

Method: For this study, we explored 77 (50 girls; 27 boys) 6 to 12 year-old children's empathy, perceived friendship with CAs, and mental state talk in conversations about animals during a week of *Summer Camp* that promoted positive interactions with companion animals (the data were drawn from a larger study; see Tardif-Williams & Bosacki, 2015). Children completed a modified version of the Interpersonal Reactivity Index (IRI), a self-report questionnaire about CAs friendship (Pet Friendship Scale, PFS), and took part in semi-structured interviews in which they responded to three moral stories about animals.

Findings: Results showed that children's mental state talk (MST) was significantly and differentially related with their perceptions of friendship with their CAs and empathy. No gender differences were found for total empathy scores or MST, although girls compared to boys reported stronger friendships with their CAs. Specifically, girls who reported stronger friendships with their CAs showed higher levels of MST and empathy scores $F(2, 64) = 5.54, p < .01$. For girls, a more advanced empathetic concern contributed to stronger CA friendships, whereas this relation was not found for boys. Overall, these findings suggest that gendered relations exist among MST in moral stories about animals, pet friendship, and empathy. Implications include the development of humane education programs that promote the use of MST regarding animals within the classroom.

Critical review of the potential influence of animal-assisted interventions on development of executive functioning

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Introduction: Executive functions are cognitive processes which allow individuals to self-regulate, plan and problem solve. Deficits in executive functions exist in a wide range of at-risk populations, including individuals with autism spectrum disorder, with even neurotypical individuals showing variability in presentation. This is problematic, as well developed executive functions are associated with improved academic and workplace outcomes. Fortunately, research suggests that executive functions can be improved both directly and indirectly. This paper provides an overview of the underlying mechanisms proposed to make indirect interventions (e.g. martial arts) effective, and discusses the potential use of animal-assisted interventions (AAIs) as an indirect intervention.

Methodology: Google Scholar was used to collect papers on executive function interventions. This was followed by a review of AAIs, with the outcomes of AAIs (e.g. stress reduction) compared to executive function interventions. Finally, Google Scholar and HABRI Central databases were used to collect papers and unpublished theses which combined these areas.

Main Findings: The research suggests that executive functions can be indirectly improved by reducing stress, increasing social support and improving physical fitness, which are elements associated with optimal cognitive functioning. Similarly, a review suggests that AAIs may be used to achieve similar benefits. Therefore, it is hypothesised that AAIs may be used to improve executive functions.

While few studies have explored this area, there is preliminary evidence to suggest that individuals with poor pre-existing ability may benefit from AAIs. As with other areas of AAI study, this area of research has been limited by the use of small sample sizes and a lack of control conditions, with further research necessary.

Principal Conclusions and Implications for Field: There is evidence that programs which reduce stress, increase social belonging and improve physical activity can be used to improve executive functions. As research suggests that interacting with animals may have these benefits, exploring whether AAIs can be used to improve executive functions is necessary. This appears to be a relatively new area of research, suggesting the need for studies exploring the impact of AAIs on a wide range of ages and clinical populations. As with other applications of AAIs, research would benefit by the use of stronger methodological designs.

Do you see what I see? Subjective assessment of nursing home visits with and without dogs by visitors and observers

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Visiting dogs are popular in nursing homes. Many methodologies are applied to assess the impact on the residents, comprising both qualitative and quantitative measures. One aim of this inter-disciplinary study was to compare the subjective assessment of two persons attending the same visits and the effect of visit type on their perceptions.

We randomly assigned 150 nursing home residents to three treatment groups that either received a) 12 visits accompanied by a dog (Dog); b) 12 visits accompanied by a dog, including a new activity with the dog during each visit (Dog+Activity) or c) 12 visits without a dog, but with a new activity during each visit (Activity). Apart from the visitor, an observer was present during all visits and both assessed the residents' perception and satisfaction with the visit. They used a scale running from '-5' (worst possible) to '+5' (best possible visit). A score of '0' described a neutral response, or a visit that was impossible to assess. We analyzed the results in SAS, with T-test (Proc Npar1way) and Spearman correlations (Proc Corr).

Overall, the scores of the visitors (4.1 ± 1.3) and observers (4.0 ± 1.2) did not differ ($t = -1.56$; $P > 0.05$). However, when comparing the scores given separately for each visit type, the visitor rated the satisfaction with "Dog" visits significantly higher than the observer ($t = -0.32$; $P < 0.05$; Dog: 4.3 ± 1.5 vs. 4.1 ± 1.4), but we found no difference in other visit types (Dog+Activity: 4.0 ± 1.3 vs. 4.0 ± 1.2 ; Activity: 4.1 ± 1.5 vs. 4.1 ± 1.0). The correlations between the visitors' and observers' assessment were, however, strong for all visit types (Dog: $r_s = 0.89$; Dog+Activity: $r_s = 0.83$; Activity: $r_s = 0.81$), suggesting a very high agreement, regardless of visit type.

The subjective and immediate assessment of the residents' response to all visit types was very positive. Visitors evaluated the response during visits with a dog and no activity as more positive than the observers. It could be speculated that during visits without a planned activity, the outcome of the visits is more dependent on the visitors' engagement and effort, and therefore rated higher by the visitor. Furthermore these visits are less structured and perhaps more difficult to assess.

How does a handler affect a participant in an activity with an animal

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Introduction: In animal assisted intervention (AAI), participants meet animals and have some benefits resulted from touching them, and a handler would assist them to promote proper intervention. In AAI, some social benefits for participants would result from proper assist by the handler, although participants take psychological and physiological effects.

Methodology: Research was performed about affections by a handler to a participant on psychological, physiological and ethological states during brushing a horse. Twenty-two adults brushed a horse, after obtaining the agreement from them. Horse-brushing was performed under supervision of one handler, skilled in handling horses in AAI. And it was performed under two conditions with no-intervention to the participant by the handler except the participant asked the handler about something. One condition was performed under giving the participant by one handler about the meaning of horse-brushing (condition-I) and another was done under without the meaning (condition-II). As physiological indexes cortisol and alpha-amylase in saliva and pulse, mood scale as psychological index and frequency of catching horse-face in a sight during horse-brushing as ethological index were tested on participants.

Main Results: After horse-brushing, saliva-alpha-amylase activity didn't significantly change, although value of saliva-cortisol decreased significantly, and pleasure-mood-score increased significantly, in comparing with those before brushing (Friedman test, $p < .05$). Pulse in horse-brushing showed higher than that in taking saliva (Friedman test, $p < .05$). These're no differences between two conditions on psychological and physiological states. However, frequency of catching horse-face in a sight in the condition-I showed significantly more than that in condition-II (Mann-Whitney U-test, $p < .05$).

Conclusions: These results show that information from handlers to participants might change an ethological index on them unless it doesn't make psychological and physiological indexes change.

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Canine-Assisted work in child welfare in Finland

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Introduction: There is a growing interest in animal-assisted social work in Finland. However, academic field research is scant. The focus of this study is canine-assisted work in a residential setting with children in the Finnish child welfare system. In this context, canine-assisted work is planned and delivered by a social worker who is also the dog handler. The dog is trained, tested and certified. This study aims to observe and analyse canine-assisted work and the experience of children and staff.

Methodology: The study is influenced by the ethnographic research tradition. Participant observation and interviews were conducted during a two month period in the spring of 2016. Participants were observed for approximately 60 hours. Five children and twelve staff members, including the immediate supervisor and the canine-assisted provider, were individually interviewed. Other staff members were interviewed in a group. The interplay between different types of data features was essential in the analysis.

Main Results: In this study, canine-assisted work included structured activities and unstructured interactions with the dog simply being present in the child's everyday environment. The results reveal individual differences in general attitudes towards animals and relationships with them. All of the children in this study had been exposed to traumatic experiences in the past, some of which included animals. Canine-assisted work had an overall positive impact on the environment in the residential setting. The staff experienced that the presence of the dog created a space where communication between the staff and the children was improved. The children could also project their needs and feelings onto the dog and discuss issues that have important parallels in their lives.

Principal Conclusion and Implications for Field: Animals can play a significant role in child welfare, and the presence of a dog can have a positive impact on the environment in a residential setting. In the planning and implementation of any form of canine-assisted work within the social work practice, the work needs to be carefully evaluated using a strong ethical lens and the wellbeing of both human and animal participants needs to be considered.

Imported rescue dogs: Reasons, methods and welfare

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Introduction. In recent years the phenomenon of rescuing dogs from overseas into the UK appears to be increasing in popularity. Little is known about this practice, but there are potential welfare issues such as behaviour problems from dramatic lifestyle changes, and importation of infectious diseases.

Methodology. This study investigated the reasons people choose to rescue from abroad, the process they used to get the dog and potential welfare problems associated with this practice. An online questionnaire was advertised on social media and received 3080 responses from people, living in the UK, who had adopted a rescue dog from abroad in the last 5 years.

Main Results. Participants' primarily chose to adopt from abroad based on want for a particular dog they had seen advertised and concern for its situation, however some had been refused dogs from UK rescues. Dogs came from 44 countries, primarily Romania (34%, n=1035) and most were found on the street (61%, n=1865). Predominantly adoption occurred through an organisation (92%, n=2773) and participants found the process extremely easy and felt they had sufficient support and advice. The EU Pet Travel Scheme was used to import 89% and only 1.2% of dogs were imported under the correct legislation of the Balai Directive (n=37). Many arrived with health conditions (20%, n=603). Furthermore, zoonotic parasites *Leishmania infantum*, *Dirofilaria immitis* and *Linguata serrata* had an apparent prevalence of 14.8% (79/533), 3% (12/396) and 2% (5/252) respectively. Most respondents who had further rehomed their dog or considered it since adoption, did so because of behavioural problems (70%, n=218). Behaviour problems of the imported rescue dogs are in some cases severe but overall appears comparable to that of other rescue dogs and predominantly, participants were happy with their decision to adopt from abroad.

Principal Conclusions and Implications for Field. It is important that Veterinary Surgeons consider testing for exotic diseases when seeing imported patients and also enquire about behavioural support needs. Our findings emphasise the importance of clear guidelines on travel laws and stricter checks on animals imported under the EU Pet Travel Scheme to ensure compliancy with legislation.

A behavioural methodology evaluation of Human-Animal-Relationship assessments in zoos

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Introduction: Human-animal relationships (HAR) develop from multiple human-animal interactions (HAI) and occur in a range of settings. In zoos, the recent scientific study of HAIs represents one of the most significant contributions to zoo animal welfare science (Meehan et al 2016). Within agricultural settings, methods to assess HAI/HARs have been extensively studied and tested for validity and reliability (see Waiblinger et al 2006). However, such methodological assessment has not yet been applied to HAR studies in zoos.

Key literature references to theory, concepts, evidence, or methodology that have been reviewed or re-evaluated: This review evaluated the current methods used to assess HARs in zoos, and aimed to determine their suitability for use in zoos. Literature searches were conducted using three databases. Methods were assessed according to a panel of indicators including reliability, robustness, practical application and feasibility for use in a zoo environment.

Main findings: A total of five methods were identified and evaluated; latency and distance parameters during HAIs, qualitative behaviour assessments (QBA), avoidance tests, voluntary approach test and the reaction to handling test. It is essential that a prospective HAR method for use in a zoo environment be non-invasive, safe for both humans and animal, whilst also being practically achievable. Avoidance and reaction to handling tests were deemed inappropriate for use in a zoo setting. The type and extent of contact that occurs between zoo animals and humans varies dramatically by species, making these tests challenging to standardise or use for cross-species comparisons, whilst also introducing important safety and ethical concerns in many cases. Results indicated that methods such as 'latency', 'qualitative behaviour assessment' and 'voluntary approach test' methods were potentially viable to assess HARs in a zoo environment. These methods now require empirical testing and comparison within a zoo environment.

Principal conclusions and implications for the field: Although data exist to demonstrate the potential for HAI/HARs to significantly influence zoo animal welfare status, findings are derived primarily from preliminary zoo studies or extrapolation from more comprehensively conducted animal welfare studies in agriculture. This current methodology review has highlighted three potential methods (qualitative behaviour assessment, latency and voluntary approach tests) that could be used to assess HARs within a zoo environment in order to empirically determine the impact that these HAI/HARs may have on animal welfare.

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Perceptions of dog breeding practices, breeding dog welfare and companion dog acquisition in a self-selected sample of Australian adults

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Introduction: The welfare of dogs used for breeding companion animals is a contentious issue in some sectors of the community, with welfare groups in developed countries focusing campaigns on shutting down 'puppy farms' and regulating puppy sales. However, public perceptions surrounding dog-breeding practices are poorly understood. The aims of this study were to a) describe perceptions of dog breeding and associated welfare concerns held by members of the general public, and b) identify whether demographic or dog experience-related factors predict these outcomes.

Methodology: Australian residents (N = 986) completed an online questionnaire investigating their perceptions of, and attitudes towards, companion dog breeding in Australia. Demographic information and companion dog ownership history data were collected. Descriptive statistics investigated overall perceptions. Cluster analysis subsequently identified specific community subgroups. Chi-square tests for independence and one-way between-groups ANOVAs determined predictors of cluster group membership.

Results: Participants predominantly indicated that the welfare of breeding dogs was important, that dog breeding should be regulated, and that tougher laws were necessary to improve breeding dog welfare. Three distinct groups of respondents were identified: those who supported breeder-sourced companion dogs but felt that current regulations were inadequate to ensure satisfactory welfare (N = 426); those who disapproved of all dog breeding and felt adoption was the only appropriate acquisition method (N = 336); and, those who felt breeding was acceptable and that current industry practices provide adequate welfare (N = 214). A number of factors predicted cluster membership, including participant age, factors participants consider important when acquiring companion dogs (e.g. physical appearance, genetic testing), the source of their most recent dog, their self-reported dog breeding knowledge, and whether they had a history of dog breeding (all $p \leq .001$).

Principle Conclusions and Implications: This study provides a direct examination of public perceptions of dog breeding, breeding practices and associated welfare concerns. It provides insight into factors contributing to perceptions held by members of the general community. This information can be used to inform evidence-based policy development concerning companion dog breeding and acquisition.

Influence of dog ownership on physical activity and social interaction of children attending special schools

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Introduction: It has been shown that guide dogs increase the physical activity and social interaction of their partners with visual impairments (Yamamoto et al., 2015; Whitmarsh, 2005). However, most guide dog training schools do not provide guide dogs to children. Thus, this study examined whether pet dogs can offer children with visual impairments benefits similar to those from guide dogs.

Methodology: Questionnaires were sent to children attending special schools and answered with the help of their parents. Children staying at student residences were excluded. To gather data on physical activity, the Japanese version of the International Physical Activity Questionnaire was used. The number of close friends, the weekly frequency of leaving home (besides going to school), interactions with adults and children besides family members outside of school, dog ownership, and dog walking were also included in the questionnaire.

Main results: Of 139 respondents (response rate: 30.4%; males: 100; mean age: 11.4 years), 45.3% had multiple disabilities, and among them 25.4% had orthopedic impairments besides visual impairments. Twenty-three (16.5%) lived with a dog, and 11 (47.8%) answered that they go for walks with their dogs. Dog ownership and going for walks with dogs made no difference to physical activity (mean METs.mins/week \pm S.E., living with dog: 1113.0 \pm 272.0; no dog: 945.9 \pm 116.3; going for walks with dogs: 816.9 \pm 450.4; not going for walks with dogs: 974.7 \pm 109.5). There were also no statistical differences in social interaction among the above groups.

Principal Conclusions and Implications for Field: The results showed that neither living with a dog nor going for walks with dogs influenced children's physical activity or social interaction. These findings indicate that pet dogs do not provide effects similar to those reported from guide dogs. Guide dogs' special features, such as their assistance and public access, may be important for gaining the effects rather than just living with dogs. A future study will target children attending special classrooms in regular schools, who may have less-severe disabilities. This work was supported by JSPS KAKENHI Grant Number 17K13889.

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2. Whitmarsh L. (2005). The benefits of guide dog ownership. *Visual Impairment Research*, 7, 27-42.

Human–dolphin interactions: Relationships, connections and the reinforcement of an ongoing nature relationship

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Introduction: Connection with nature and the beneficial role of wildlife in contributing to human wellbeing has been discussed and researched. The purpose of this study is to explore the phenomenon of interaction between people and wild dolphins, to examine how such interactions contribute to human wellbeing.

Methodology: Narratives from eight people (5 female, 3 male; 17 to 73 years old) who have experienced intense close encounters with dolphins were collected through semi-structured interviews (June 2015 to April 2016). The audio recordings ran from 22 to 69 minutes. An interview guide framed the participants' interviews, as they described and reflected upon their encounters with wild dolphins. Interpretative Phenomenological Analysis provided idiographic, inductive and interrogative interpretation of these experiences. The interviews were transcribed into NVivo 11, coded (cumulative coding and integrative coding) to develop concept clusters, subthemes, and themes, and were cross checked by two other researchers.

Main Results: The theme of 'Relationships and Connectedness' emerged as the dominant concept theme. The narratives describe strong emotional connections, articulated through contact with dolphins, which translate into positive senses of emotion and wellbeing. The human-dolphin experience fulfills aspects of the human need for connection and relationships; such experiences promote human wellbeing and conservation behaviour. The emotional and experiential conditions are contextualised through (i) ongoing relationships with nature, and (ii) a valuing of the importance of lifelong connection with wildlife, to ensure that people see themselves as part of the natural world.

Principal Conclusions and implications This research demonstrates that: (i) people can develop strong and ongoing connections with nature and wildlife; and (ii) that such contact can fulfill aspects of the human need for connection and relationship, in turn promoting wellbeing. The dolphin encounters are signifiers of wider social relationships, both with nature and with people. Such connection may encourage people to incorporate nature and wildlife into their lives by positive and sustained nature contact. Such action may, in turn, encourage human responsibility for care of nature and wildlife.

Animal abuse and cruelty in daily life

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Introduction: The approach to the topic of Animal Abuse and Cruelty (AAC) in everyday life has not really been taken into account in previous research. This article describes the collection of Animal Abuse and Cruelty and the evolution of the AAC-Scale. Existing instruments record (only) extreme forms of AAC (see Boat-Inventory, 1995; Dadds, 2004; Alleyne, 2015).

Methodology: Angew's definition for animal cruelty was used in this work. In a first study, 453 Pb of the general population were asked which ways of dealing with animals are classified as bad or not bad. In three further studies (N=126; 736; 770) people of the general population aged between 18-82 years were surveyed online about their actual ways of dealing with animals. There was a total of 57 questions on every day, abusive and cruel ways of dealing with animals. Participants also answered a questionnaire on empathy (IRI, Davis, 1980) and attitudes towards animals (AAS, Herzog, 2015). It was found that empathy and/or a positive attitude towards animals did not have a real inhibitory effect on AAC.

Main Results: Based on the results of Study 1, the items could be divided into "not serious", "medium" and "serious". The results from Study 2 and Study 3 show that especially those behaviors that were classified as "not serious" in Study 1 are reported particularly frequently, and that women and men do not differ in frequency.

Principal conclusions and Implications for Field: These results show that violence against animals is an everyday phenomenon, which has been underestimated so far. Empathy and/or positive attitude to animals does not inhibit abuse and cruelty. This results supports the daily behavior of humans to animals: Animals are protected only when this does not leads to conflicts with humans need/whishes.

Embrace Your Dark Side: The value of both quantitative and qualitative research methods in Anthrozoology

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Anthrozoology is arguably one of the most multidisciplinary research fields available. People come to it from many different disciplines and a mutual fascination with animal interaction. The wide variety of research methodologies used can make it difficult to understand the meaning and value of other people's research. However, I believe that in order to study human-animal interaction and fully understand both WHAT happens and HOW and WHY it is happening, it is incredibly beneficial for researchers to engage and collaborate with researchers from fields with fundamentally different approaches to your own, if not become a multi-method researcher yourself.

An example area where both qualitative and quantitative methodologies are required is human behaviour. Understanding what humans do and why they do it is obviously fundamental to the study of the way people interact with animals such as pets, and how perhaps animal welfare needs can be addressed through owner behaviour change. I present two examples here of my research into dog ownership and walking, and dog bite prevention, where I have combined both quantitative epidemiological and qualitative sociological research methods in order to answer my ongoing research questions.

I came from a quantitative background of biology, animal behaviour, and veterinary epidemiology, where good science was clearly observable, recordable, objective, and statistically provable. The majority of my research involved dog owner surveys, and statistically comparing 'risk factors' for particular outcomes, for example my research into physical activity outcomes of dog owners versus non-dog owners [1], or who gets bitten by dogs [2]. Research into factors associated with dog walking gave us the big WHAT – it showed that there was something about the strength of the relationship with the dog, providing 'support and motivation for walking', that is the most important predictor of dog walking behaviour [3]. However, surveys had hit a methodological wall in understanding WHY this was the case and HOW dogs were providing support and motivation for walking; WHY were some dogs, such as larger ones, better at it? [4, 5] WHY do some owners not find their dog motivating? So I trained in sociological qualitative research methods, epistemologically a world apart from science as I knew it. There truth is multiple, reality is constructed, and science is subjective – against everything I was brought up to believe. I was in shock and felt completely in the dark. But only coming to terms with this radically different view of validity in research allowed progression. These in-depth methods examining people's experiences, perceptions and beliefs, and learning to critically deconstruct my own views, allowed me to build a picture of the complex processes through which emotional relationships between dogs and their owners shape motivators and barriers to dog walking [6], and in turn influence public health. It is also helping me to understand why some people ignore signs that a dog is unhappy and may bite them [7].

Qualitative and quantitative research can be a circular process. Survey questions can only be asked if you think of them, and our biases and preconceptions are inherent in the way we as scientists design our survey questions. Qualitative research can uncover potential survey questions that never would have been asked otherwise, or provide better wording so that it truly fits with the experience of the participant and doesn't miss out a potential answer option. As described above, qualitative research can then also help us to understand our results in quantitative studies.

So I urge you to widen your methodological scope around your research area of interest. Attend and learn from a wide range of anthrozoological talks this conference. Pick something a bit different. Embrace your dark side.

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