

The Influence of Field Trip & Sleepover Programs on Shelter Dog Welfare

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**My research explores the behavior & welfare
of companion animals, with a special focus
on our interactions with them**

I'm interested in
questions about the
life of animals in
shelters, behavioral
issues, & training

Interdisciplinary
approach:
incorporating
measures of behavior,
physiology, cognition,
health



A close-up photograph of a white dog with striking blue eyes. The dog is looking directly at the camera with a focused expression. A human hand is visible in the lower right foreground, holding a small, dark, rectangular treat just in front of the dog's mouth. The background is a plain, light-colored wall, which makes the dog's features stand out. The lighting is soft and even, highlighting the texture of the dog's fur and the details of its eyes and nose.

Much of my past & current research has focused on **how we can improve the welfare of dogs**, often those residing in animal shelters

What is Welfare?

Animal welfare has been described as states of being, both mental & physical, that an animal experiences¹

These experiences are a subjective state within the animal, reflecting integration of their experiences at any point in time²

Animal welfare focuses on biological functioning, affective state, & how closely its living situation matches its natural state



¹(Mellor & Reid,1994) ²(Mellor, Kane, & Stafford, 2009)

Welfare Measurement & Interventions

In the animal shelter, interventions & their impact on welfare can be measured in 2 ways:

Proximate welfare



What is the animal currently experiencing? Physiological, behavior, & cognitive measures are used

Distal welfare



The ultimate goal of animal sheltering: animals living in homes with people. Length of stay & outcomes are measured

Welfare In & Out of the Shelter



Life for Dogs Living in Shelters

Dogs experience a variety of **potential stressors** that could negatively impact their welfare^{5,6}

Excessive noise: noise levels can range from 65-125 dB & cause damage with prolonged exposure^{7,8,9,10}

Spatial restrictions: reduce dogs' ability to engage in species-typical behaviors^{11,12,13}



⁵(Taylor & Mills, 2007) ⁶(Hennessy, 2013) ⁷(Sales, Hubrecht, Peyvandi, Milligan, & Shield, 1997) ⁸(Coppola, Enns, & Grandin, 2006) ⁹(Scheifele, Martin, Clark, Kemper, & Wells, 2012) ¹⁰(Venn, 2013) ¹¹(Hubrecht, 1995) ¹²(Hubrecht, Wickens, & Kirkwood, 1995) ¹³(Beerda, Schilder, Van Hooff, De Vries, & Mol, 1999)

Life for Dogs Living in Shelters

Social isolation: limited contact with other dogs & people⁶

Loss of attachment figures: owner-surrendered dogs show increasing cortisol levels on entry¹⁴

Lack of control & predictability likely has significant psychological impacts¹⁵⁻¹⁸

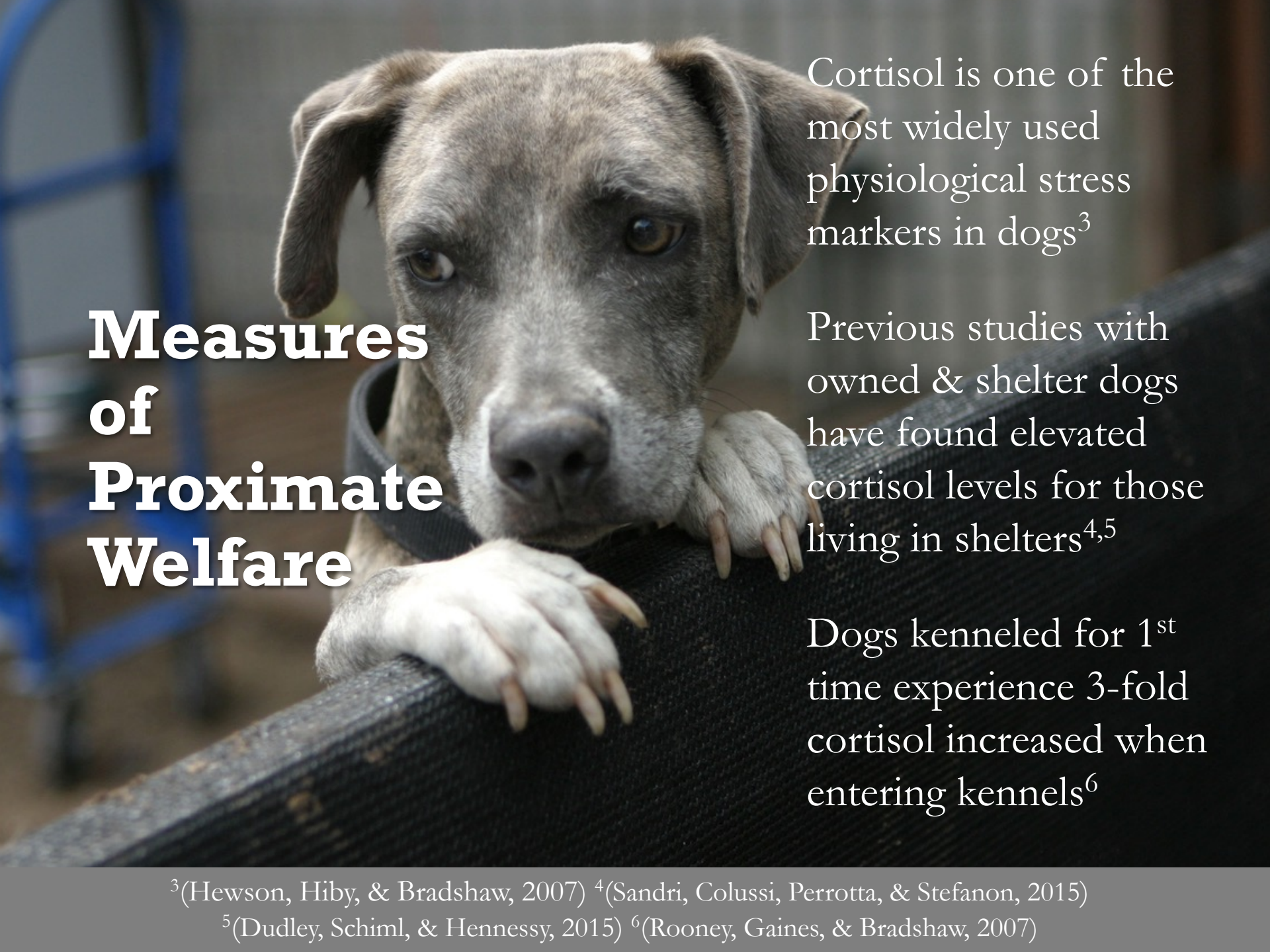
As shelters attempt to save more lives, they are becoming more like orphanages than temporary ports in the storm¹⁹



¹⁴(Hiby, Rooney, & Bradshaw, 2006) ¹⁵(Hennessy, Davis, Williams, Mellott, & Douglas, 1997)

¹⁶(Wells & Hepper, 1998) ¹⁷(Wells, Graham, & Hepper, 2002)

¹⁸(Hennessy, Williams, Miller, Douglas, & Voith, 1998) ¹⁹(Barrett & Greene, 2015)



Measures of Proximate Welfare


Cortisol is one of the most widely used physiological stress markers in dogs³

Previous studies with owned & shelter dogs have found elevated cortisol levels for those living in shelters^{4,5}

Dogs kenneled for 1st time experience 3-fold cortisol increase when entering kennels⁶

³(Hewson, Hiby, & Bradshaw, 2007) ⁴(Sandri, Colussi, Perrotta, & Stefanon, 2015)

⁵(Dudley, Schiml, & Hennessy, 2015) ⁶(Rooney, Gaines, & Bradshaw, 2007)



**Activity measurement
adds another component
to welfare assessment**

Dogs' max & average activity levels are correlated with increased cortisol levels⁷

Shelter dogs slept for 45% of 24-hour cycle⁸; owned dogs 60%⁹

Dogs in the shelter have been shown to be more active during both their most & least active hours than dogs in homes¹⁰

⁷(Jones et al., 2014) ⁸(Owczarczak-Garstecka, & Burman, 2016) ⁹(Morrison et al., 2013)

¹⁰(Hoffman, Ladha, & Wilcox, 2019)

Improving Shelter Dog Welfare

A close-up photograph of a woman with long, straight blonde hair kissing a black and tan dog on the cheek. The woman has her eyes closed and a gentle expression. The dog is looking towards the camera with a calm expression. The background is a soft, out-of-focus outdoor setting with dry grass and trees.

Human interaction is one of most well-studied, consistently effective interventions in animal sheltering¹¹

One type of interaction, **foster caregiving**, allows dogs to leave shelter, escaping environmental stressors

¹¹(Gunter et al., 2021)

Temporary Fostering



Evaluating the effects of a temporary fostering program on shelter dog welfare

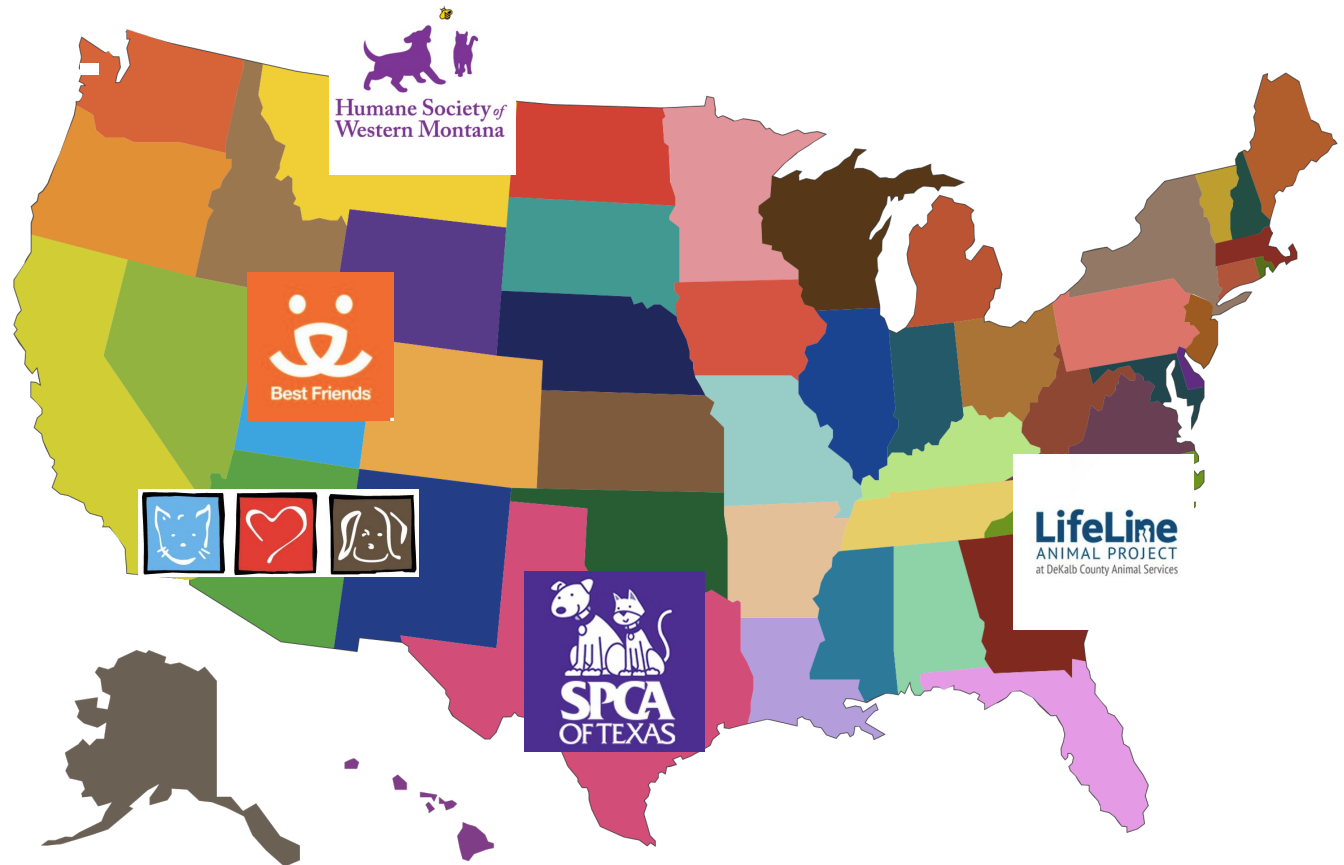
Lisa M. Gunter¹, Erica N. Feuerbacher², Rachel J. Gilchrist¹ and Clive D.L. Wynne¹

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² Department of Animal and Poultry Sciences, Virginia Polytechnic Institute and State University (Virginia Tech), Blacksburg, VA, United States of America

What about a Night or Two Away?

At 5 shelters
across US:



We investigated whether **1-2 nights in a foster home (sleepover)** affected shelter dog welfare as measured by **urinary cortisol & longest bout of rest**

Urine provides useful reflection period for cortisol (2-4 hrs³⁸) & is less stressful than blood or saliva

Study Time points

- 1) Before
- 2) During
- 3) After Sleepover

Best Friends

3 Days

All other shelters

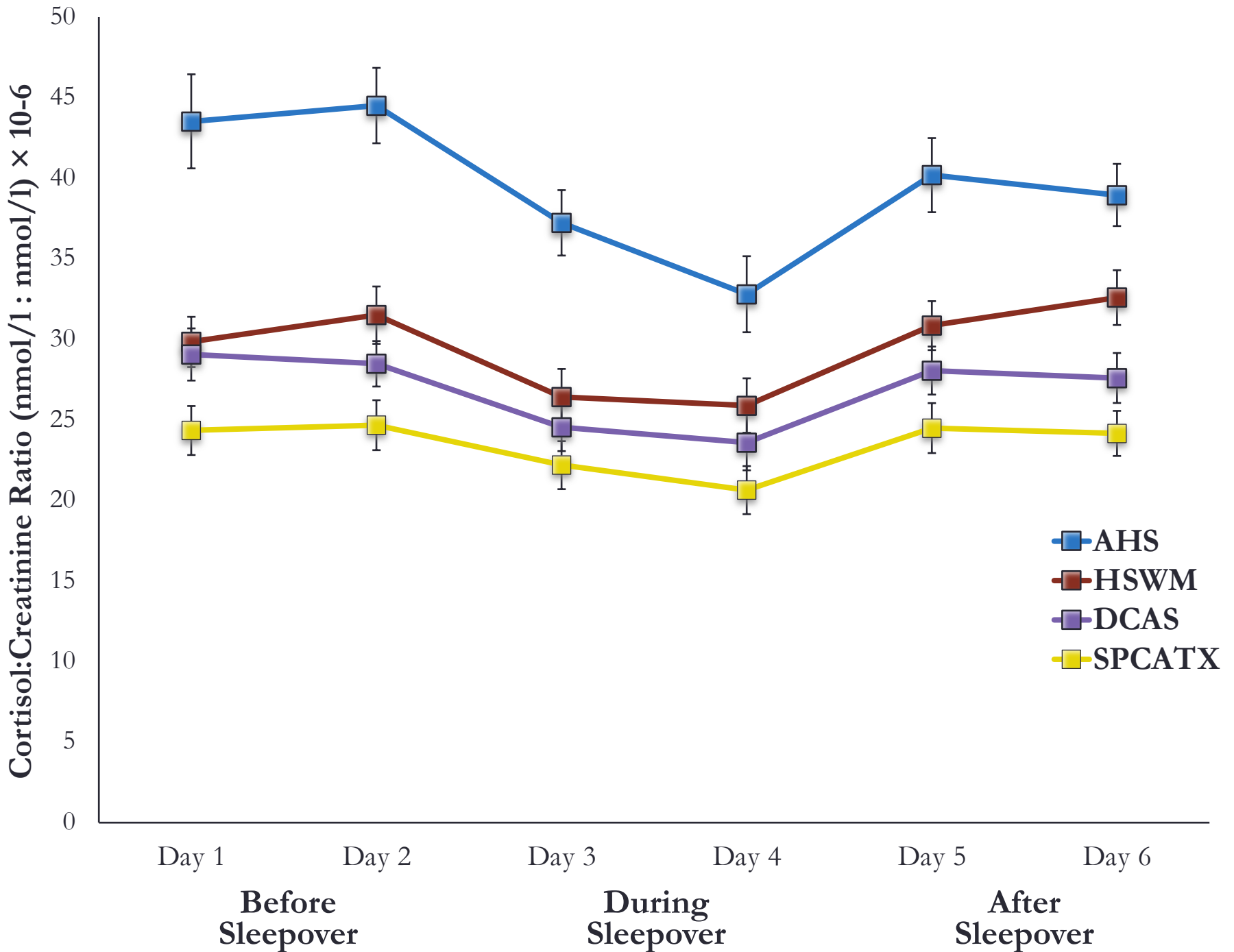
6 Days

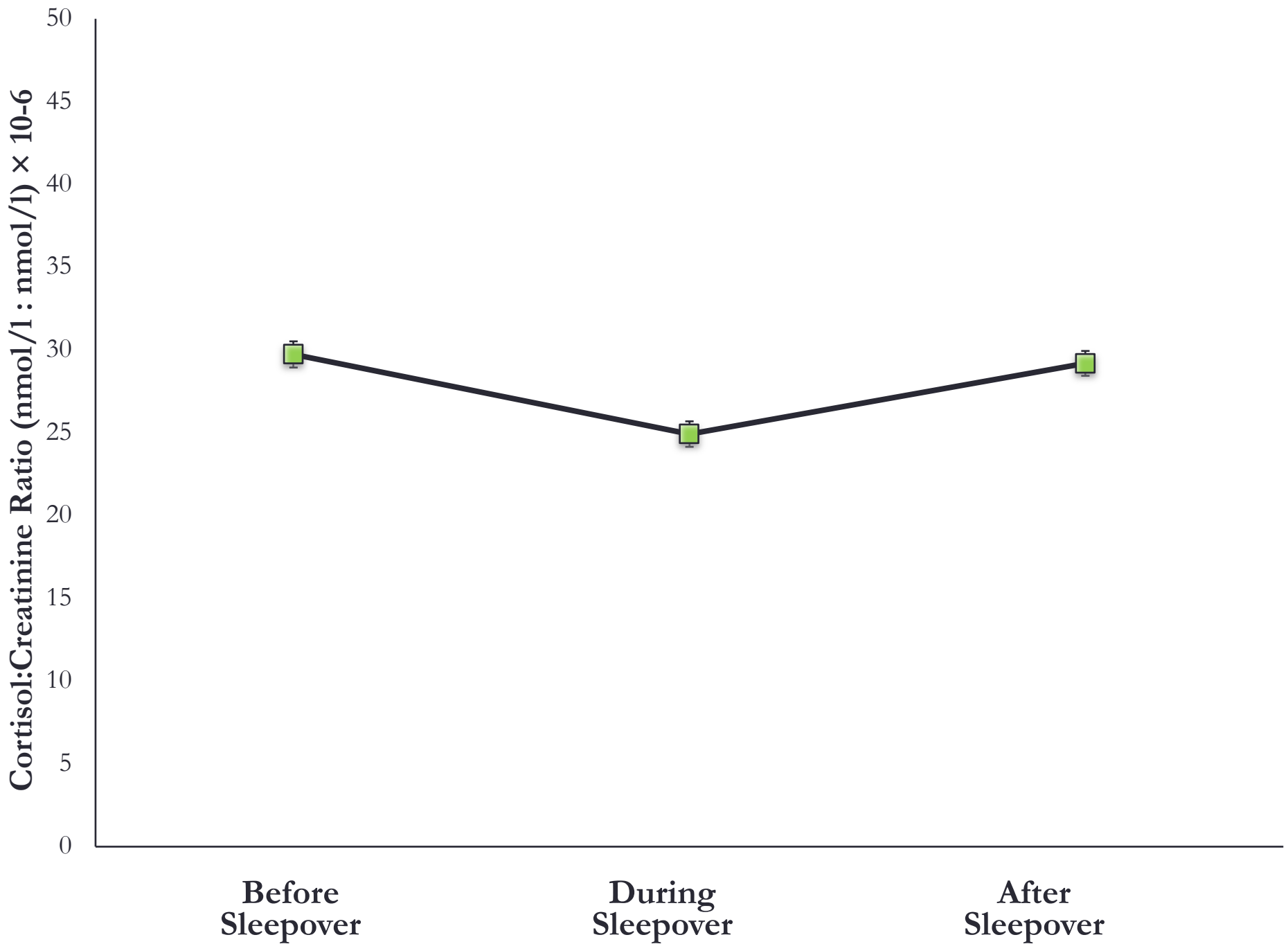




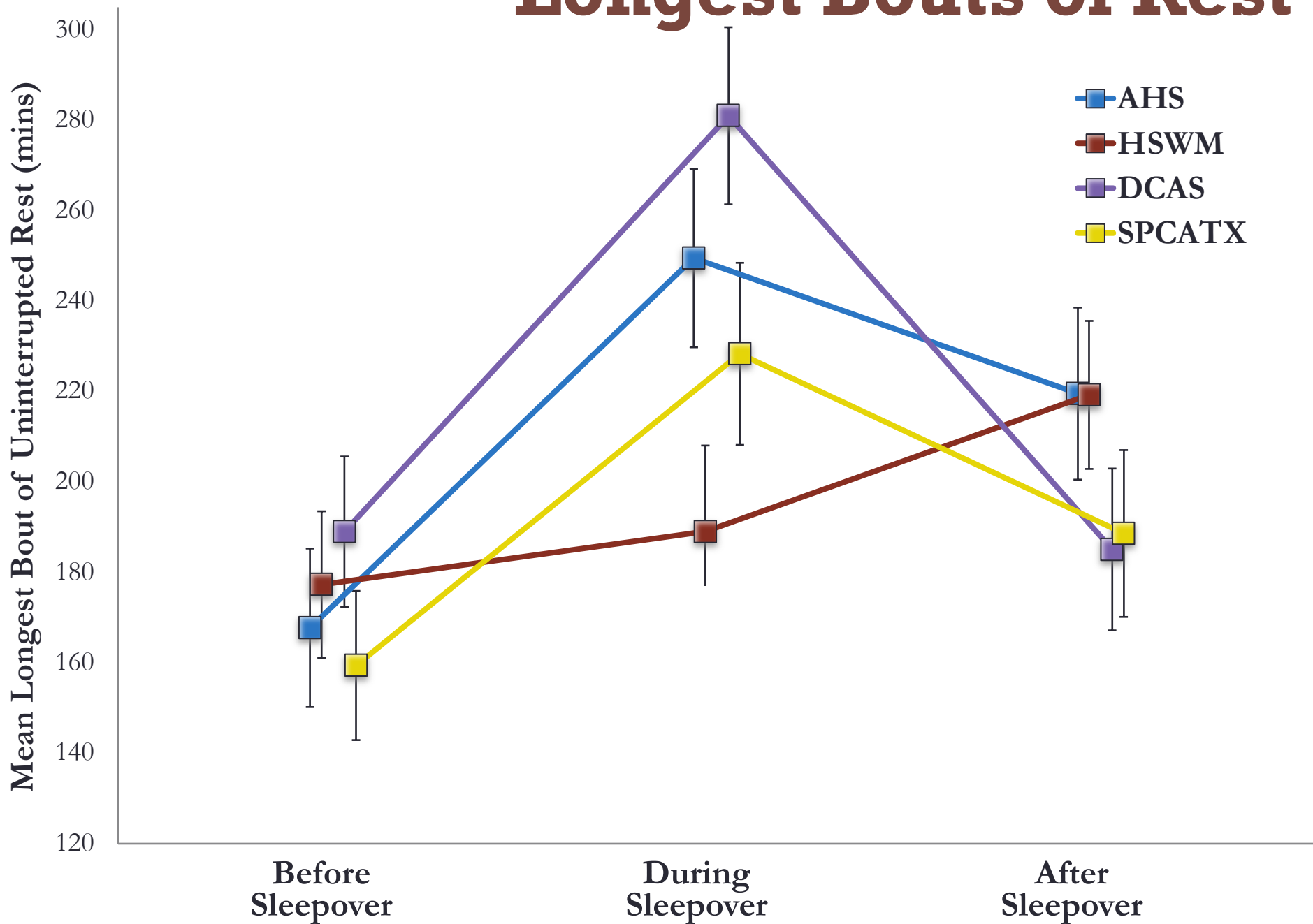
At 4 shelters, dogs wore PetPace health-monitoring collars

We collected dogs' resting activity & calculated each dog's longest bout of rest before, during, & after sleepover






Longest Bouts of Rest



Answering Our Initial Question

A photograph of a brindle dog sitting on a grassy field, looking over a landscape under a cloudy sky. The dog is the central focus, shown from the side and back, looking towards the left. The background is a soft-focus landscape with trees and a horizon line.

We found that fostering of 1 & 2 nights resulted in reductions in cortisol & longer bouts of rest without significant increases in cortisol upon return

Short Term Outings





animals

Investigating the Impact of Brief Outings on the Welfare of Dogs Living in US Shelters

by  Lisa M. Gunter ^{1,*}  ,  Rachel J. Gilchrist ¹ ,  Emily M. Blade ¹  ,  Rebecca T. Barber ²  ,
 Erica N. Feuerbacher ³  ,  JoAnna M. Platzer ³  and  Clive D. L. Wynne ¹  

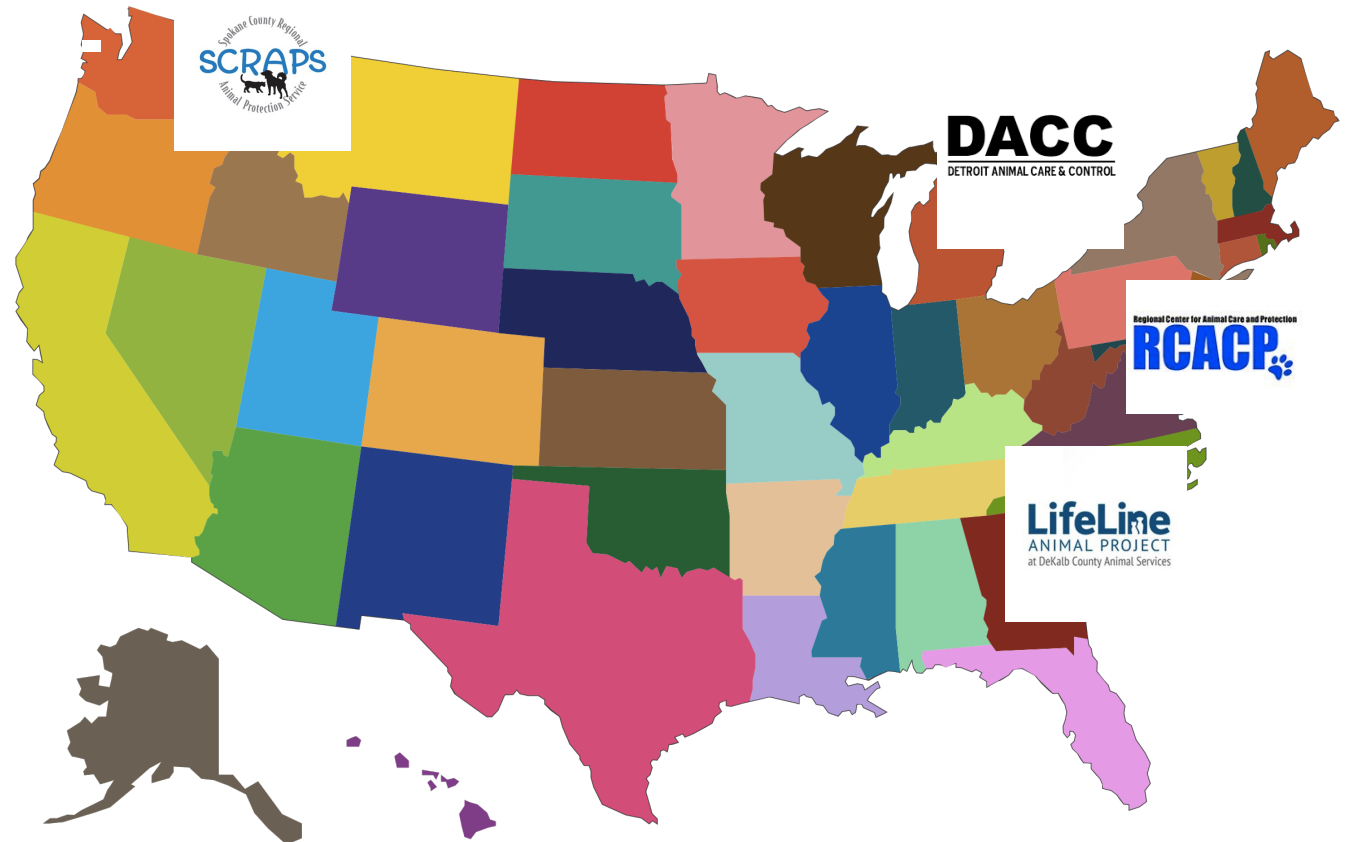
¹ Department of Psychology, Arizona State University, Tempe, AZ 85281, USA

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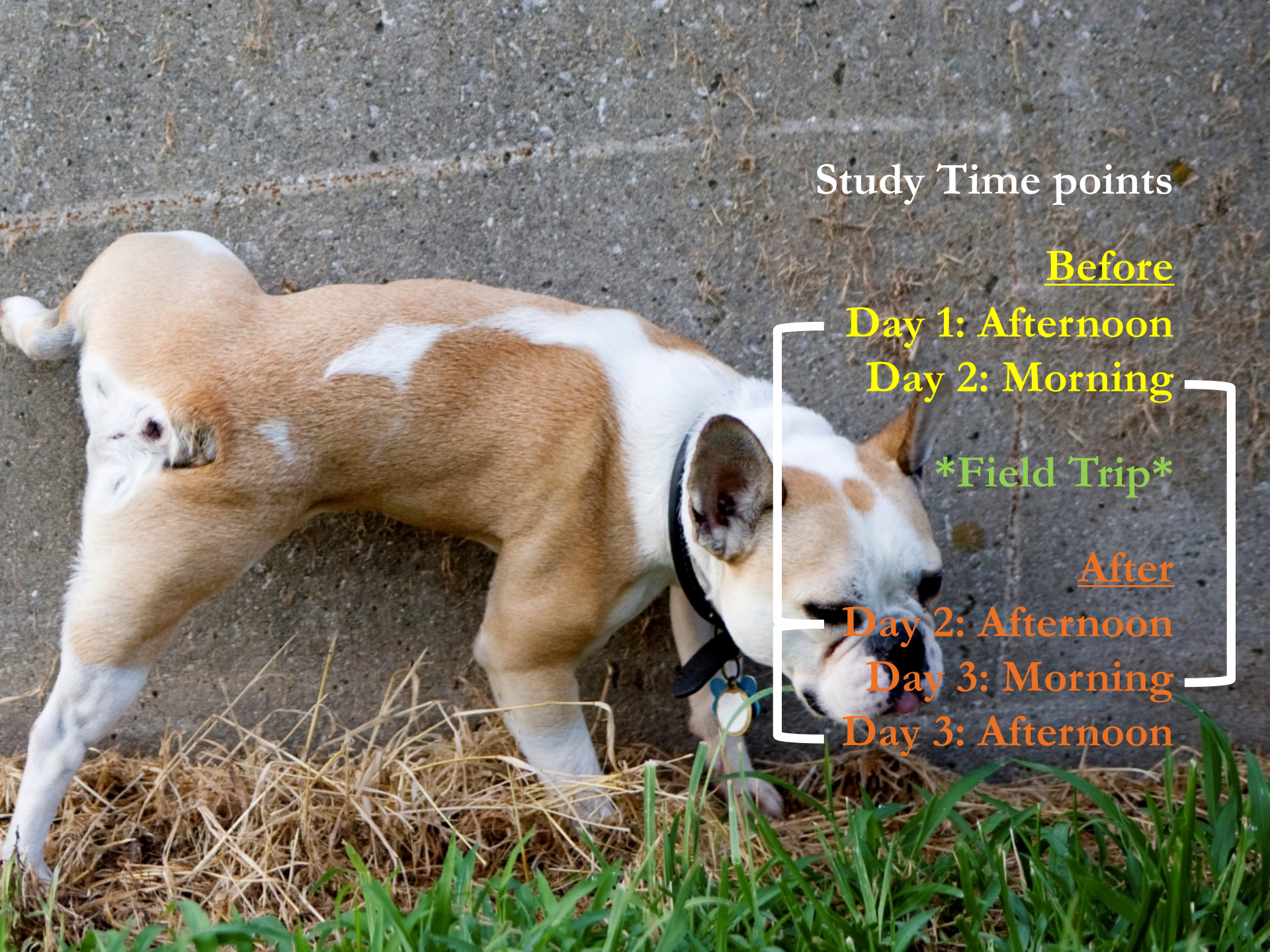
³ Department of Animal and Poultry Sciences, Virginia Polytechnic Institute and State University (Virginia Tech), Blacksburg, VA 24061, USA

Can 2 Hours Out of the Shelter Also Improve a Dog's Welfare?

At 4 shelters across US:



We investigated whether 2.5-hour outings (field trip) affected dog welfare as measured by urinary cortisol & activity



Study Time points

Before

Day 1: Afternoon

Day 2: Morning

Field Trip

After

Day 2: Afternoon

Day 3: Morning

Day 3: Afternoon



In addition to urine collection, dogs wore Whistle Fit activity monitors

We collected dogs' activity, from 5 levels from low to high intensity, across 3 days of study

Proportion of Activity

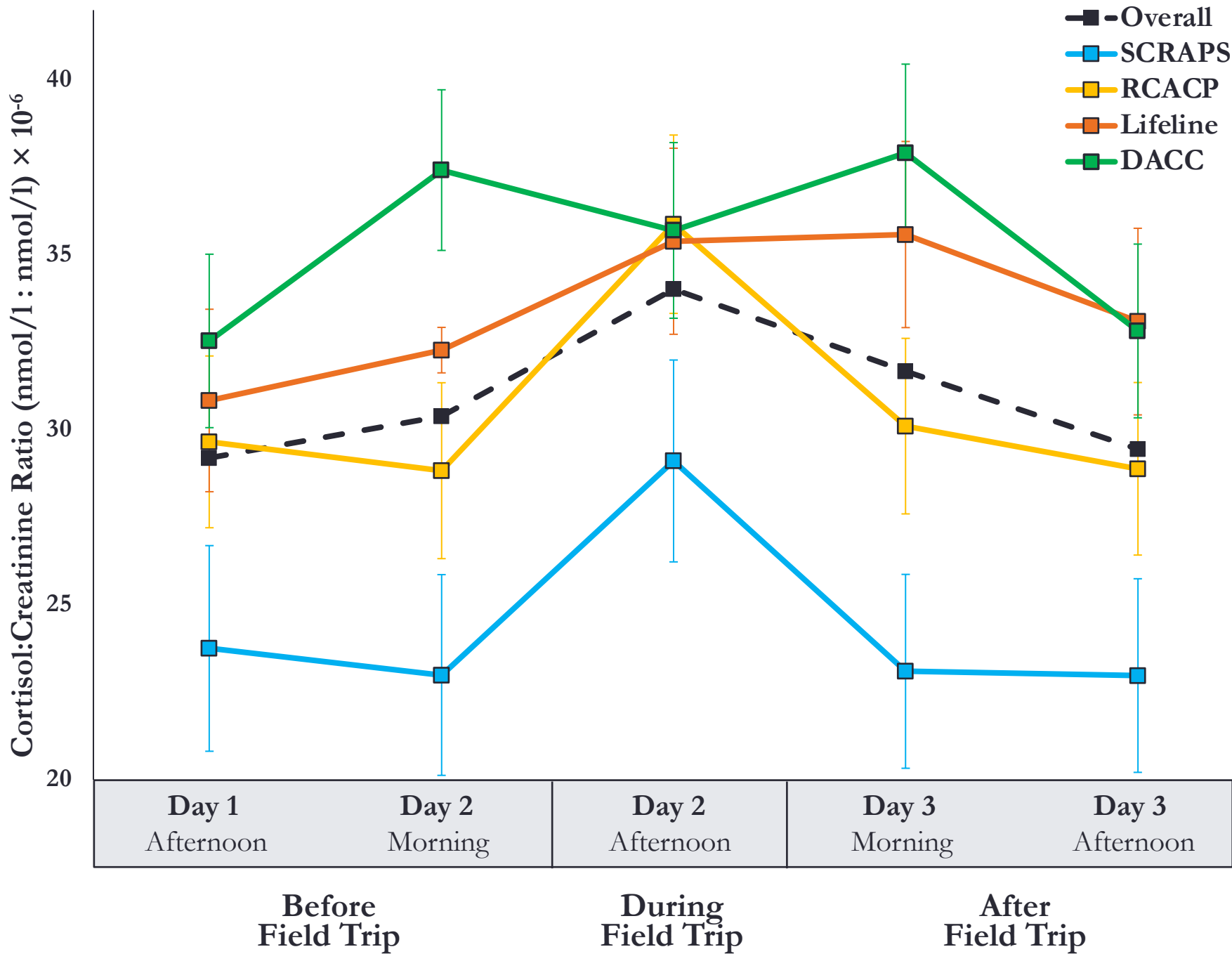
- Q5
- Q4
- Q3
- Q2
- Q1

Day 1 Afternoon	Day 2 Morning	Day 2 Afternoon	Day 3 Morning	Day 3 Afternoon
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**Before
Field Trip**

**During
Field Trip**

**After
Field Trip**



Unlike Our Findings About Sleepovers



Even when we account for dogs' increased activity, our data suggests that field trips **likely contribute to increased cortisol** as compared to in-shelter levels pre- & post-field trip

Evaluating Distal Effects of Field Trips & Sleepovers



From February 2019-2020, we assisted 51 US animal shelters in launching 60 programs: **39 field trip & 21 sleepover**

Shelters received apprenticeship training by Maddie's Fund

We provided 1.5 months of program support, on-site implementation, & collected data with the shelters for 1-3 months with 40 dogs

1,955 dogs received either a field trip or sleepover

25,946 dogs living in these shelters at the same time that did not experience a field trip or sleepover served as our controls

2,339 caregivers participated in the study providing a total of **2,437 field trip & 497 sleepover** experiences





Caregivers

Caregivers were, on average, **39 yo**

Community members were most involved in FT programs (47.5%), indicating attractiveness of program to those outside of shelter that want to help dogs

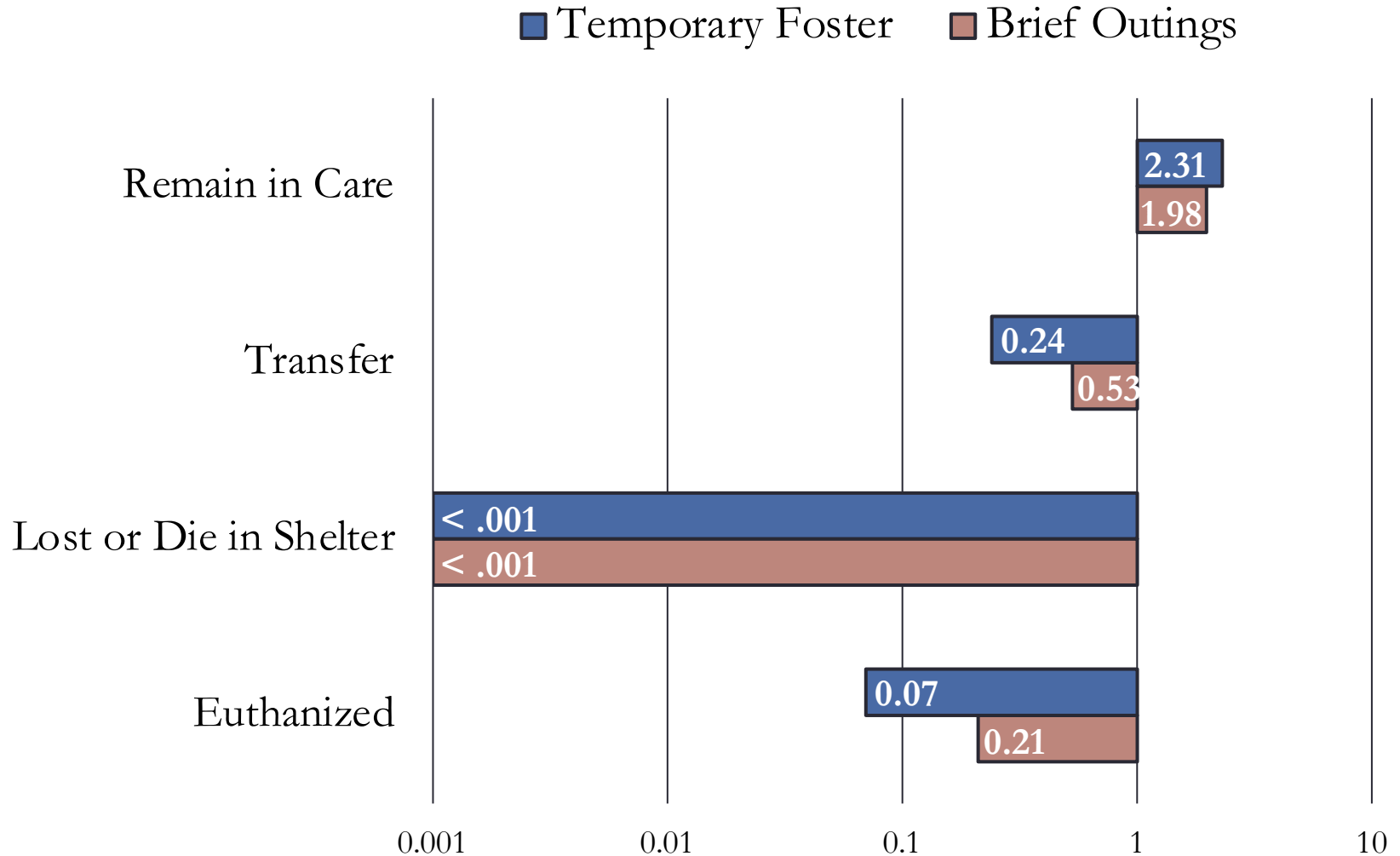
Volunteers more often provided sleepovers (45.4%)

Resident dogs in the home: nearly 1/2 of volunteers didn't own a dog, 72% of community members were non-dog owning

Caregiver adoption occurred in 4% of outings, 12% of sleepovers

Field trip dogs were **nearly 5x more likely to be adopted** than controls

Sleepover dogs were **over 14x more likely to be adopted**





Shelter Stay

Lengths of **stay were longer**
for FT & SO dogs

But those differences were
there **prior** to study, suggesting
FTs & SOs were being utilized
for longer stay dogs

Control dogs total LOS:
Only 9.5 d

Study dogs' LOS
Pre-intervention: 33 d
After FT or SO: 10 d

Heavier & older dogs
had longer LOS

Dogs of greater weight had shorter field trips than dogs that weighed less

This may be related to force large dogs exert on leash, which has been shown to negatively impact volunteer satisfaction – indicating possible role for harnesses & other no-pull devices in FT programs

Volunteers took dogs on longer outings than community members

For sleepover dogs: a bite to a person reduced the dog's stay in the home

But only 6 bites (5 human, 1 dog) were reported in 2,934 experiences that were part of this study



**Factors
Influencing
Outing
Duration**

Program Success



Programs were ranked on:

- 1) # of caregivers involved
- 2) experiences provided
- 3) days needed to collect data as measure of program success

Shelters that had **more community members** involved were more successful, highlighting importance of engagement outside of shelter

Shelters that were **better-resourced shelter** were higher performing, underscoring need for shelters to provide human & financial resources to be most impactful

Comparing the Proximal & Distal Welfare Effects of Brief Outings & Temporary Fostering

		Brief Outings	Temporary Fostering
Proximate Welfare	Physiology		
	Activity		
Distal Welfare	Time in Shelter		
	Outcomes		

Brief outings are beneficial as an adoption intervention to aid dogs' distal welfare

Temporary fostering is effective as both a proximate & distal welfare intervention



Thank You

Shelter Partners

Collaborators

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Rebecca Barber

Funder



Maddie's Fund



Questions?

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