



Welfare of working dogs and its impact on performance: research so far

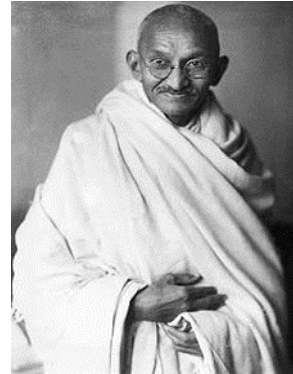
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Anthrozoology Institute**

Why consider welfare?



🔥 Moral obligation

*"The greatness of a nation
and its moral progress can
be judged by the way its
animals are treated"*



🔥 Legal obligation

Animal Welfare Act 2006

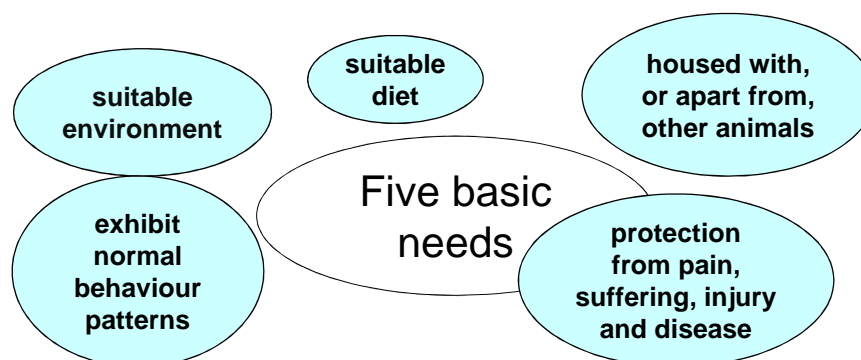


Mahatma Gandhi

Animal Welfare Act 2006



Duty of person responsible for animal to ensure
welfare



✦ Improving welfare often improves productivity

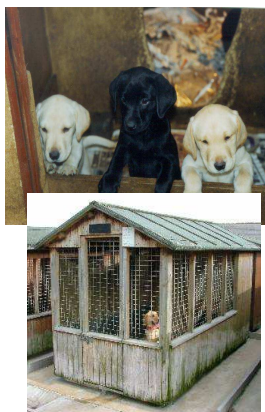


✦ What about working dog performance?



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✦ Which factors most affect the working ability of dogs?

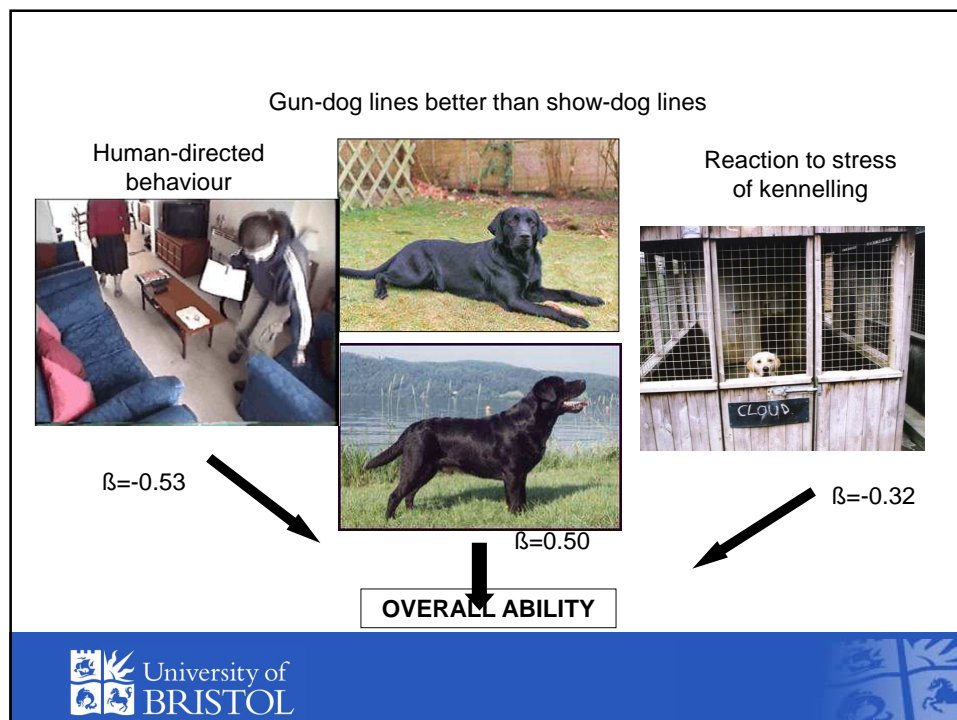
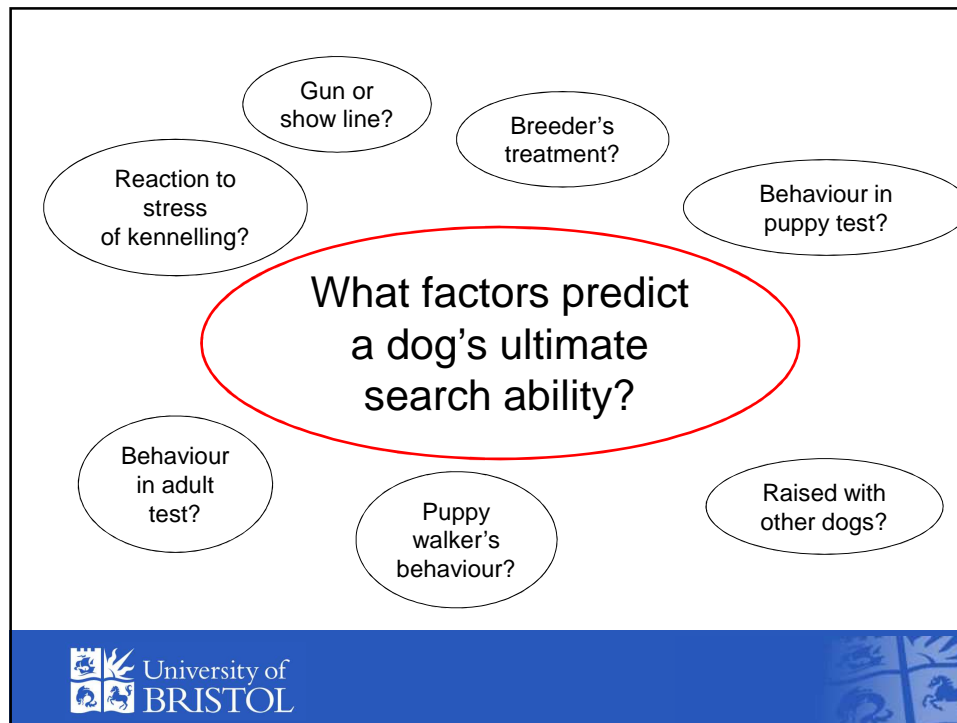


What produces the best search dog?

Rooney, Bradshaw & Almey, 2004. *Journal of Forensic Science*
Rooney & Bradshaw 2004 *Applied Animal Behaviour Science*



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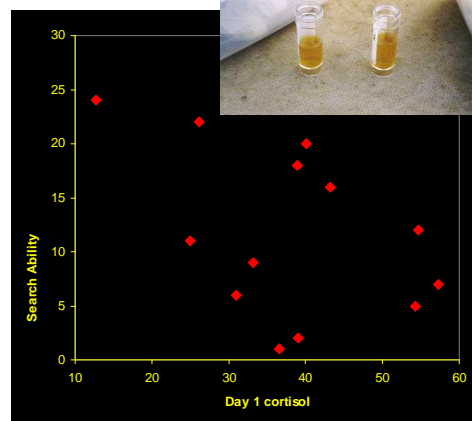
Change of environment



Stress and search ability



**Stress linked to
working ability**



🔥 Links between stress and productivity

Chronic stress can result in

- Decreased immune function
- Increased disease
- Welfare is linked to work rate in humans
- Guide dogs which are stressed regularly fail



Welfare is important



🔥 Can we improve the welfare of kennelled dogs?

Alter the dog

choose dogs better able to cope with the environment

Alter the environment

to ameliorate stress for kennelled dogs



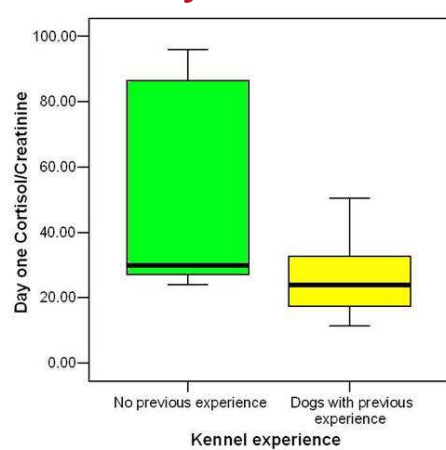
✶ Alter the dogs to match the environment



Choose dogs better able to cope with the environment

Can we predict which animals will be most stressed?

✶ Newly arrived dogs



Dogs from homes experienced more physiological stress

Hiby EF, Rooney NJ, & Bradshaw JWS, 2006, Physiology & Behavior 89

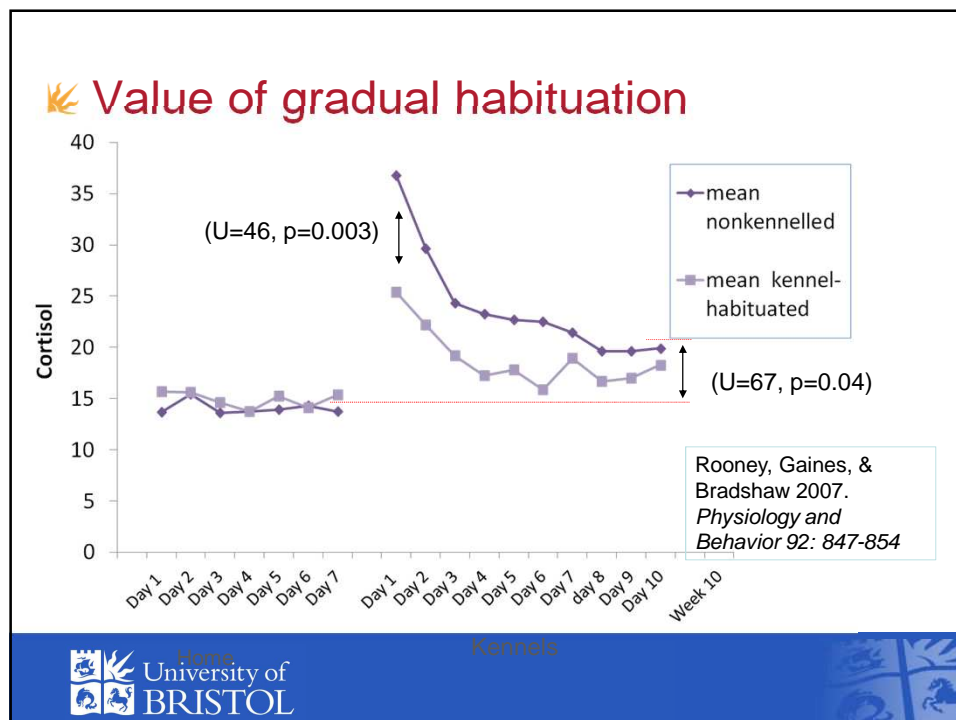
32 puppies

16 kennel habituated

16 non-kennelled

All reared in homes for 9 months

The diagram illustrates the experimental setup for 32 puppies. They were divided into two groups: 16 kennel habituated and 16 non-kennelled. All puppies were reared in homes for 9 months. Images show a dog in a cage, a dog in a house, and a dog in a crate.



✦ Alter the environment to ease the transition for the dog





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✦ Physical environment



- Kennel size
- Increase 3D space
- Give vantage points
- Heating
 - When temperatures drop dogs experience physiological stress
 - ($B = -0.399$, $p < 0.001$)

🔥 Social environment



🔥 We have selected dogs to crave human attention



Artificial selection



Selection tests

🔥 Increased human contact

can reduce stress



- in dogs in kennels (Sciverdecker et al 2013),
- during blood sampling (Hennessy et al 1998),
- in subsequent novel situations and meeting new people (Hennessy et al 2002; Bergamasco et al 2010)
- Improves obedience in working dogs (Lefebvre et al 2007, Haverbeke et al 2010)

🔥 Increased lead walking

2 x 10 min



to 60 min



Decreased C/C
More resting



6 x 10 min

vs



No discernible difference

1 x 60 min

Gaines 2006

☀ Predictability and control



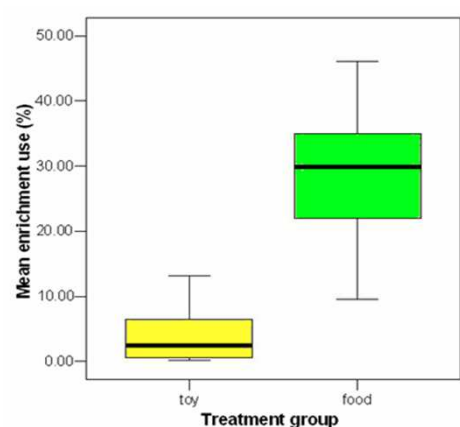
- Changing schedule causes stress



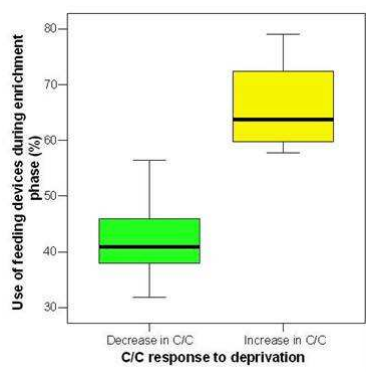
No negative link to
aggression, health, working
ability

($F_{(11, 10)}=0.22$, $p=0.99$)

Kongs and bones were used
significantly more than other
toys



🔥 Food enrichment - food filled Kongs TM



Continued to use them even after 4 months

Dogs become distressed if not provided at usual time

Gaines SA, Rooney NJ & Bradshaw JWS, (2008) Journal Forensic Science 53(6)

🔥 Police dogs in boarding kennels

- Increased vocalisation in boarding kennels
 - ($W=33.0$, $N=8$, $p=0.036$)
- 19% dogs reported to show a dip in working ability post boarding ($N=73$)
- Dogs showing this dip generally spent longer in home kennels ($MWU=571$; $P=0.025$)

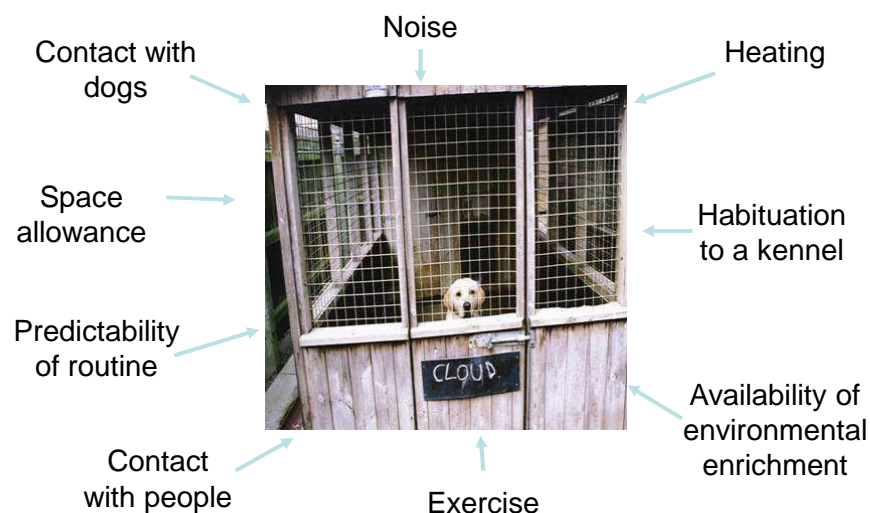


Practical advice and suggestions for improving welfare

Rooney, Gaines, Hiby, (2009). *Journal of Veterinary Behavior*

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Which factors affect welfare the most?



✦ Comparing welfare indicators to aspects of housing and husbandry



✦ Dog 1



Proactive vs reactive responding
styles (Blackwell et al 2010)

✦ Dog 2



Individually learnt coping strategies
- may be reinforced by people

Repetitive behaviour profile

Spin

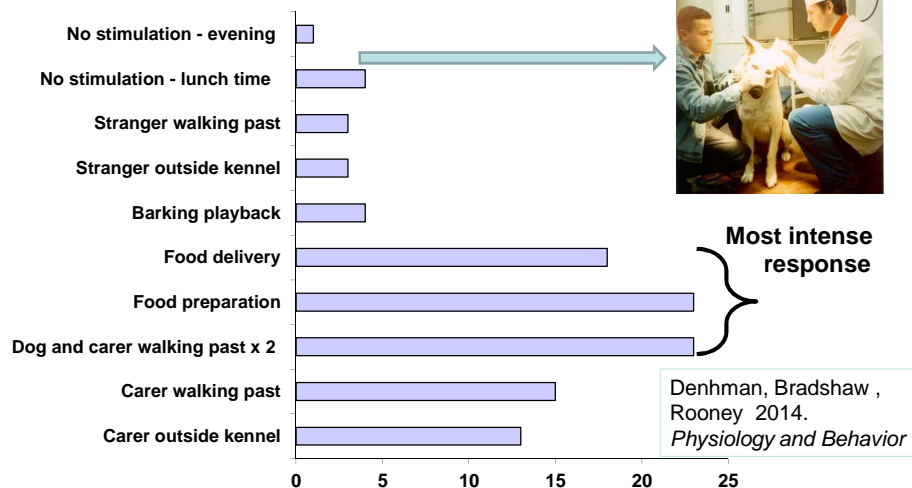
Pace

Bounce

Circle



Frequency of repetitive behaviour



Factors which may affect welfare

- predictability of routine
- location during cleaning
- total kennel area available
- heating
- temperature
- level of dog contact
- level of environmental stimulation
- noise disturbance
- level of interaction with care staff
- level of exercise

Statistics

Measures of welfare

- Repetitive behaviours
- Barking
- Activity
- Resting
- Physiology e.g. urinary cortisol
- Health e.g. diarrhoea



Common findings

More exercise



($Rho = -0.29, 0.74$
 $p < 0.06$)

Less barking



Noisy kennels



($Rho = 0.71, 0.76$,
 $p = 0.03$)

More resting at quiet times



In smaller kennels:

- **Increased size linked to increased resting**

(Rho=0.74, p=0.02)

**In bigger kennels:**

- **Resting was increased by**

- reduced noise levels

(Rho=0.63, p=0.10)

- more interaction with care staff

(Rho= 0.38, p=0.009)

**Critical factors vary
dependent upon what is most
limiting**

Housing is just half of the story



Husbandry also affects welfare

🔥 Interactions with handler affect welfare



Dog and handler work closely together



🔥 Training methods



- Survey of pet dog owners
(Hiby, Rooney & Bradshaw 2004, *Animal Welfare*)
- Observations pet dogs
(Rooney & Cowan 2011, *Applied Animal Behaviour Science*)



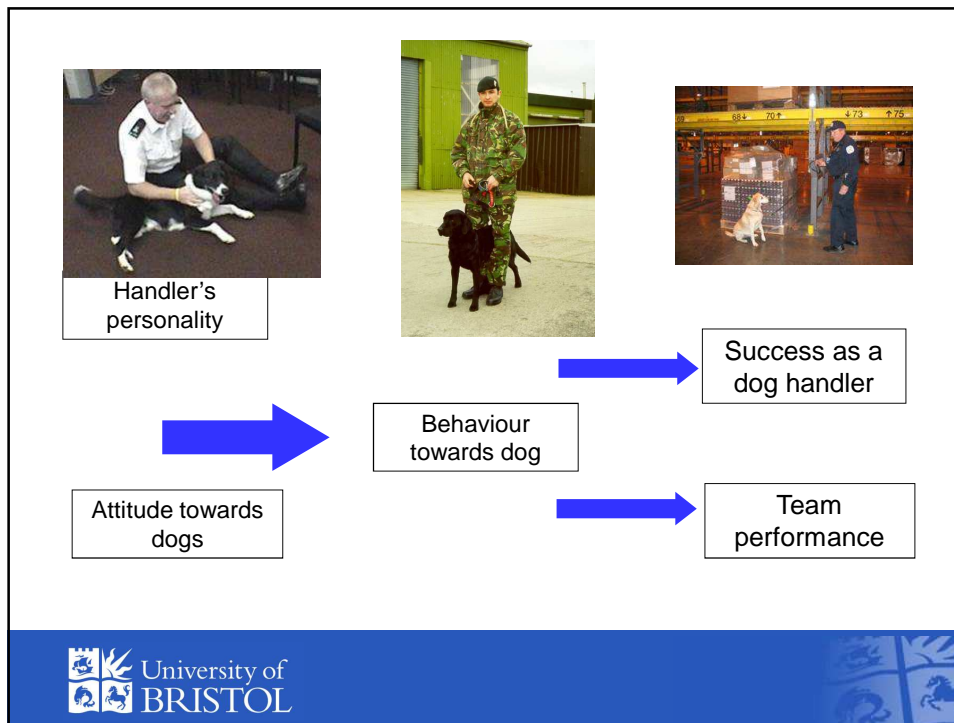
Dogs trained using more rewards

- reported to be **more obedient**
- **learnt a new task better**

Dogs trained using more punishment

- reported to show **more behaviour problems**
- performed **worse at a novel task**
- were **less playful**





🔥 Attitudes and behaviour affected success

- Handlers who believed in much punishment
 - less confident dogs
 - Patience
 - while training is linked to team success
 - Importance of training approach for working dogs
- Haverbeke 2007



Commonalities between agencies



Welfare of racing greyhounds



Statically modelling
the population



Prevalence of
periodontal disease



Effects of transport



Focus of public scrutiny - proactive collaborative approach is important
Welfare and performance are intimately linked

✦ What are the effects of transport on working dogs ?



✦ Transport

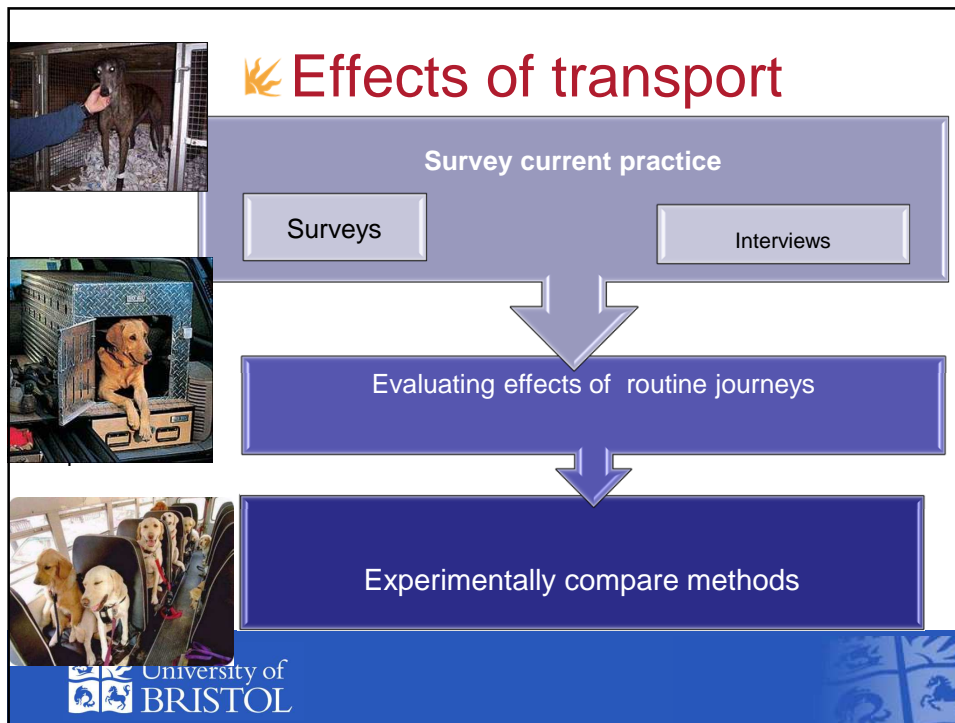
- Dogs are transported in many different ways
- Much research on many species of livestock determining
 - Effects on welfare and productivity
 - E.g. Brazilian cattle transport
 - » meat quality decreased with journey length
- Working ability
 - Sometimes obvious affected of transport
 - Possibly subtle effects on performance





Aims

- Explore various ways dogs are currently transported
- Explore effects of different factors
 - e.g. orientation, journey length, cage size
 - on welfare
 - on performance
- Help decision-making using an evidence base!
- Provide evidence from which you can derive meaningful policy and guidelines



Please

- Could we survey your handlers?
 - about their usual transport routines
 - and dogs' behaviour
- Survey will be online soon



🔥 Acknowledgements

Collaborators:

- Sam Gaines,
- Elly Hiby,
- John Bradshaw,
- Rachel Casey,
- Beth Loftus



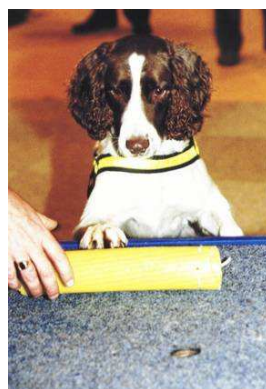
For funding



All agencies who have taken part in these studies :
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🔥 Thank you for your attention!



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