

The effect of dogs communicative capacity based on morphology and its impact on the welfare of the individual

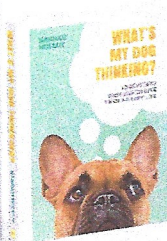
Hannah Molloy BSc Hons

The International Dog Breeding Symposium
Norway 2023



About Hannah

- Dog Training Expert on Channel 4's 'Puppy School'
- Author of "Whats My Dog Thinking"
- Biological Sciences Degree in Animal Behaviour
- Award Winning Speaker: International Animal Training Conference
- Specialist in Dog Body Language
- Animal Behaviour & Training Consultant - Vets, Pet Shops, Rescues
- Former Dogs Trust Training & Behaviour Advisor
- Former Zoo Keeper
- Trained 10,000 Dogs in 10 years
- Scientifically Sound Fear & Force Free Training Methods
- Host of Future of Dogs Podcast
- #DogBiteReform Campaign Lead with APDAWG in UK Parliament





Do Dogs Judge A Book By It's Cover?



We know..
Selective breeding for exaggerated morphology is causing extensive physical health issues in dogs.



But..
Are we breeding dogs with the physical vocabulary to succeed in social arenas?



And does a lack of physical vocabulary in dogs have an impact on the welfare of the dog and human care giver?

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**'I don't have a problem.
He's got a problem. What's
with his face?'**

Lets..

- **Talk about welfare**
- **Educate owners**
- **Carefully consider outcrossing**
- **Call for more funding into this area of reduced welfare**



But Hannah...

Similar Morphotypes Can get on really well!!

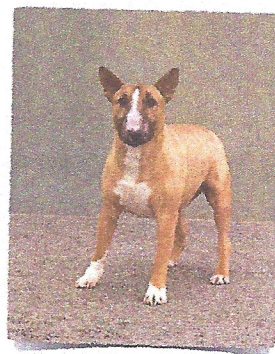
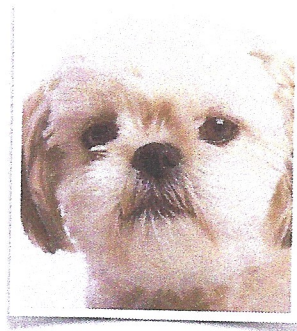


They can also be highly unsuccessful in the social arena



But Hannah..

Could it not be the genetic predisposition of the dog?



**The Common Socialisation Journey
of a Staffordshire Bull Terrier Puppy**



Hello Friend!



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**The
Caveats**

**Is it the look? What about olfactory
communication?**

Couldn't it be the human handler?

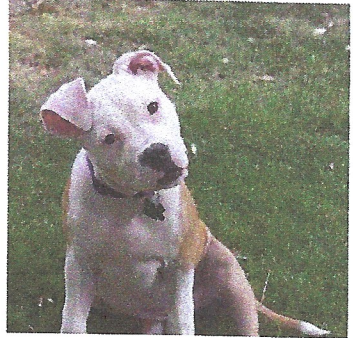
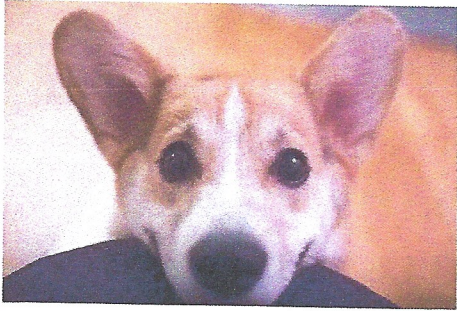
But Hannah...





Appeasement Morphology

The Face:
Eye Brows
Eyes
Nose



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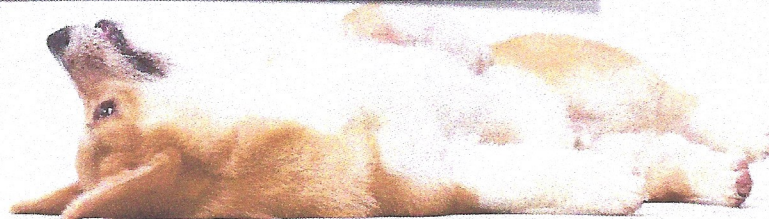
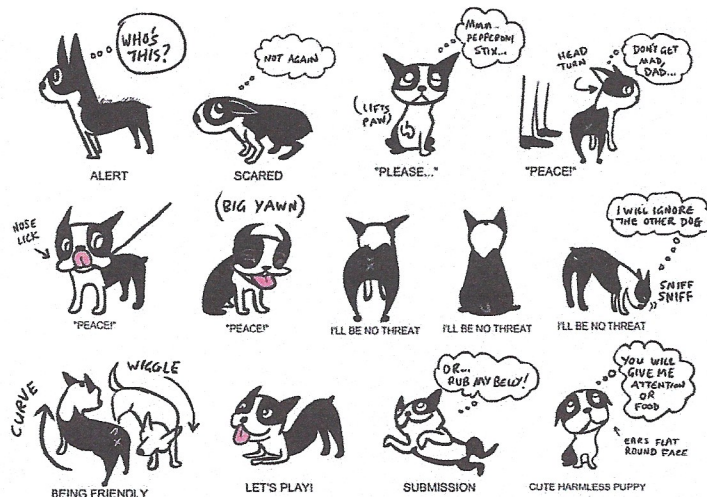
Body Silhouette:
Ears

Battle Crop Short Crop Show Crop Long Crop

What do we mean by physical vocabulary that aids appeasement signalling?



Calming Signals



Physical handicaps lead to social frustration and increased risk of reactivity

Reactivity negatively effects the dog and owners welfare by reducing their freedom to live peacefully in densely populated human areas

ADVANCED DOGWATCHING

Ladder of aggression

For dogs, repeated aggression can be hard. So rather than fighting over the slightest threat, they may avoid a situation of future fights to help them avoid using their teeth unless it's absolutely necessary.

The "ladder" of escalating behaviors are often initiated by humans and animals. It is the dog's job to help it understand the language of the world around it. However, at a dog's level of understanding, it is often difficult to interpret the signals of the world, and it may react in a way that is not the best for the dog or the people around it. The dog's behavior is often a result of its own perception of the world, and it may not be the best for the dog or the people around it.

old after, and then to see the dog's reaction to the aggression. When the dog does not react to the aggression, the dog's behavior is often a result of its own perception of the world, and it may not be the best for the dog or the people around it.

Manage the signs
 When a dog shows signs of aggression, it is important to manage the signs. This can be done by using the ladder of aggression to help the dog understand the world around it. The dog's behavior is often a result of its own perception of the world, and it may not be the best for the dog or the people around it.

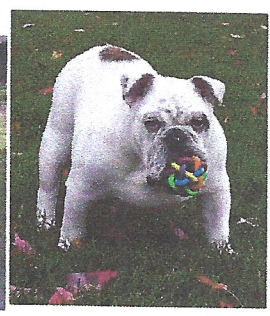
Climbing the ladder
 The dog's behavior is often a result of its own perception of the world, and it may not be the best for the dog or the people around it.

Socially Handicapped

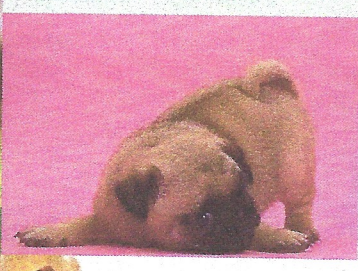




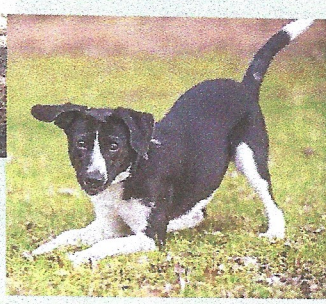
**Body
Silhouette:
Tail & Sature**



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**Black Dogs
Posture
& Play**



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Facial Featuring Research: Communication with Humans



3. Domestic dogs have a more well-developed "inner eye brow raising muscle," which is able to produce an expression that in humans is associated with sadness Kaminski (2019)

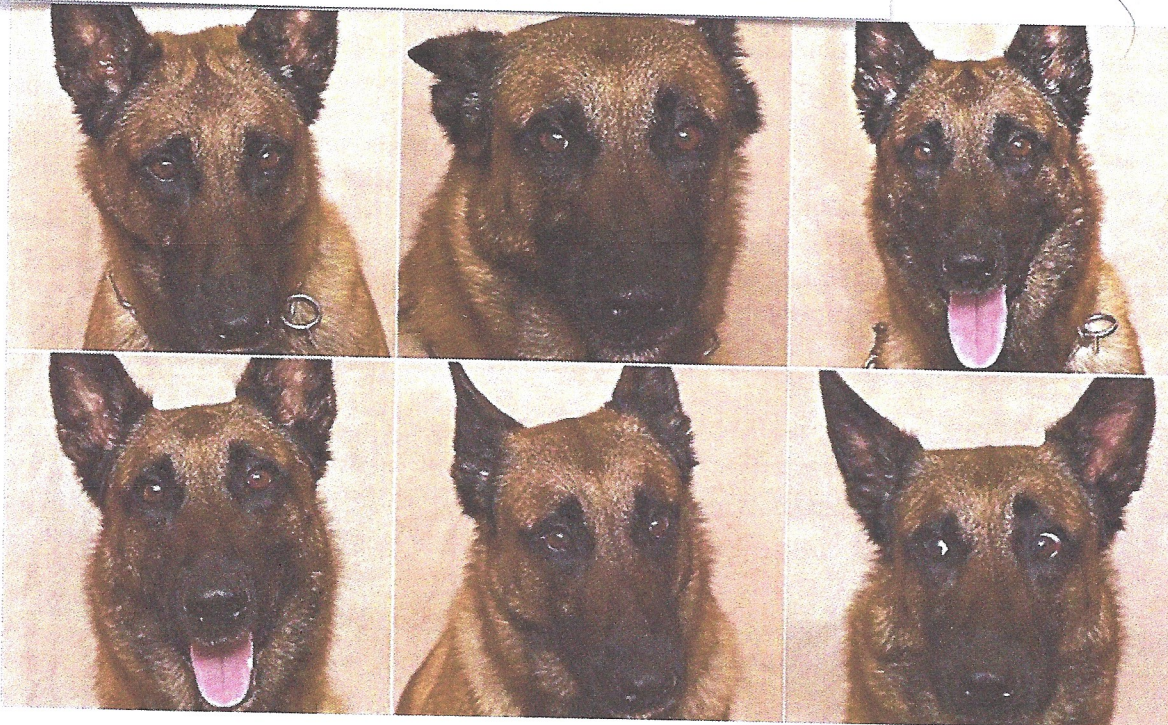
4. Brachy cats scored higher on the pain scale of facial expression than non brachy cats that were actually in pain

Finka et al 2020: Using the domestic cat as our model, we provide evidence suggestive that variations in the baseline morphology caused by anthropocentric selection might disrupt the communicative content of the face.



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5. We're good at reading dog faces: Bloom & Friedman 2011



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Nice Anecdotes
But what does
the research
say?



10 things we know
from the research...

We know that morphology can impact aggression:


1a & 1b:

The likelihood of a dog showing aggression has been linked to coat colour in both the Cocker Spaniel (Podberscek and Serpell, 1996) 1a and the Labrador Retriever (Haupt and Willis, 2001). 1b

2. Dogs are less likely to approach dogs with shorter tails as they aren't sure of their 'intentions' (life size replica)

Larger dogs were more likely to approach than smaller dogs
Leaver and Reimchen (2008)

-Snout length and ear length were not studied


1c: Belyayev saw distinct morphological differences when breeding purely for the most aggressive and the most human centric foxes



But what about dog - dog communication between breeds?



8. 2010 -Kerswell et al

The relationships between morphological features and social signalling behaviours in juvenile dogs: The effect of early experience with dogs of different morphotypes

115 dogs (in 587 interactions) 30 dog breeds and mixtures of breeds, 24 "Puppy Socialisation Classes" at 15 Veterinary Clinics in and around Melbourne, Australia. 8–20 weeks old, average age 8–9 weeks. + Videoed!

There was evidence that some social signals may be used differentially depending on individual morphological characteristics, **especially snout length**. Individual morphological characteristics influenced the frequencies with which some social signals were sent and elicited.

However, perhaps the most important finding of the current study is the **strong evidence that morphology is related to the types and frequencies of signals that a dog elicits from other dogs.**

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9. Goodwin & Bradshaw 1997

Dogs with juvenile featuring (cavalier king charles spaniels) more likely to use juvenile canine behaviour (displacing others from an article using their body) than facial expression to negotiate



10. Our perceived social norms for dogs and dogs social norms are at cross purposes:

Daniel Shaw Animal Behaviour Kent Feb 22 'Your Dog May Need Friends, But Not Random Interactions'

summates the various findings of studies of free ranging dogs that live in social groups which

- share resources and sometimes forage socially
- sleep in close proximity

But - Dogs outside of social groups tend to avoid each other, and when they do interact, these interactions are commonly agonistic.

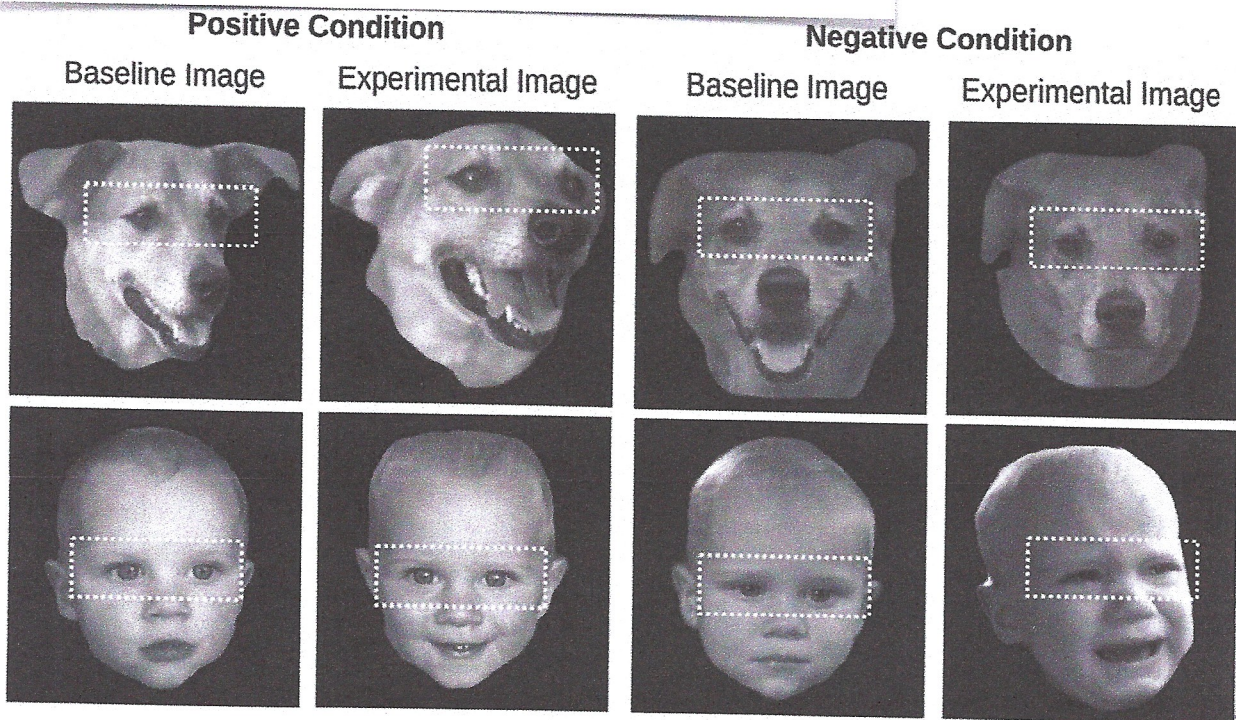
"This means while dogs enjoy social interaction, this is primarily amongst their own social group. It can involve play, but also calmer activities such as foraging and sleeping. There is little evidence for any benefit of social interaction with unknown dogs, and it may be stressful for them because they have evolved to expect interactions with unknown dogs to be agonistic."

It might be good for our dogs to have 2-3 really good friends and this narrative needs communicating to the wider public which can take time. In the meantime with populations rising and human assumptions on a mega social structure or 'pack' social modality we need to do all we can to give dogs the physical tools they need to offer pro social behaviour and appeasement signals where possible to reduce aggression and social isolation for both the dog and owner.



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6. We read dogs like we read children: Schirmer et al 2013



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But what about dog - dog communication?



7. Kerswell et al 2009: The relationship of adult morphology and early social signalling of the domestic dog

“Rapid changes in morphology in the dog from the lupine form have limited the signals that some dog breeds are capable of sending, by modifying or removing the structures necessary for signalling, which has likely led to difficulties in intra-specific communication in the dog (McGreevy and Nicholas, 1999; Price, 1984).”

Studied 40 litters of 32 breeds 5-7 weeks old

“No statistically significant relationships were found between morphological deviation and early social signalling in the dog.”

Criticisms: One observer, No video,
Breed to breed chats only within a litter, Super young dogs



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References



1a Applied Animal Behaviour Science Volume 47, Issues 1–2, April 1996, Pages 49-60 Evidence for an association between pet behavior and owner attachment levels, James A. Serpell

1b Katherine A. Houpt¹ and M.B. Willis² ¹Animal Behavior Clinic, College of Veterinary Medicine: Genetics of Behaviour

1c Dmitri Belyaev, 1959

2. Behavioural Responses of Canis familiaris to Different Tail Lengths of a Remotely-Controlled Life-Size Dog Replica S. D. A. Leaver and T. E. Reimchen *Behaviour* Vol. 145, No. 3 (Mar., 2008), pp. 377-390 (14 pages)

3. Kaminski J, Waller BM, Diogo R, Hartstone-Rose A, Burrows AM. Evolution of facial muscle anatomy in dogs. *Proc Natl Acad Sci USA*. (2019) 12:201820653. doi: 10.1073/pnas.1820653116

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The Application of Geometric Morphometrics to Explore Potential Impacts of Anthropocentric Selection on Animals' Ability to Communicate via the Face: The Domestic Cat as a Case Study Lauren R. Finka^{1,2*}, Stelio P. L. Luna³, Daniel S. Mills² and Mark J. Farnworth

5. Bloom & Friedman 2011 *Behavioural Processes* Vol.96 June 2013 P1-10 Classifying dog facial expressions from photographs

6. Humans process dog and human facial affect in similar ways Annette Schirmer, Seow CS & Penny TB 2013 *Plos one* 8(9): e74591. doi:10.1371/journal.pone.0074591

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10. <https://animalbehaviourkent.co.uk/our-blog/f/your-dog-may-need-friends-but-not-random-interactions>

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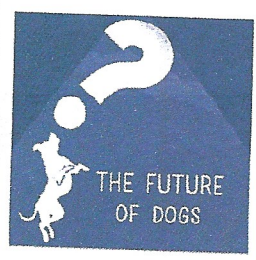
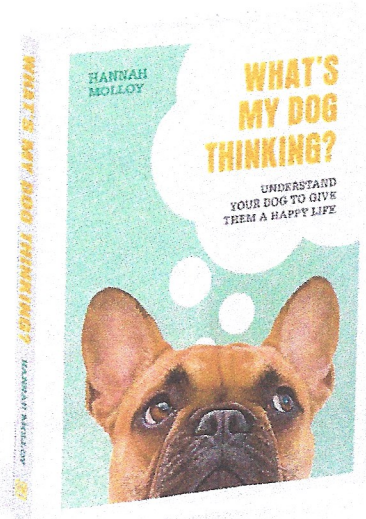
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The screenshot shows the 'Courses' section of the website. It features a search bar and a grid of course cards. The visible courses are:

- Training Foundations**: 19 Lessons, £55.00
- Above & Beyond Grooming**: £299.00
- Dog Geek Bundle**: 107 Lessons, £45.00 / Month (14/17 Day Free Trial)
- Puppy Pro Bundle**: £5 Courses
- Dog Body Language Bundle**: £8 Courses
- Loose Lead Walking For Life!**: £8 Courses



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Summations & Suggestions

Our preference for certain morphological traits has a significant detrimental impact on the individual dogs ability to communicate with each other and with us

Reduced appeasement signalling results in an increase in reactive behaviour and social isolation for dogs and humans

What do we need to do...

A global morphology index for physical communicative ability - linked to health & welfare of the dog and human care giver

Education drives - help Brachy owners understand their dogs micro signalling, the ladder of aggression that can be quickly climbed for these breeds, and a push to reduce the popularity of breeds with physical communicative difficulties

Discussions - on behavioural welfare in the international veterinary and breeding community

Funding - for more research into this area

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Thank you for listening!

Question Time

