

# Understanding Aggression in Dogs and its Relation to our Shelter Work



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# Aggression is a complex behavior



Definition: acts or threats designed to cause injury  
*Displays of aggression* in dogs include lunging, snapping, and biting.  
*Threat behaviors* include freezing, staring, snarling, and growling.

Why are dogs sometimes aggressive?



# Aggression is Adaptive

- The goal of adaptive behavior is to survive
- In order to survive, an animal must adapt and control events that impact their very desire to survive
- Animals are genetically prepared to use behavior that will ensure their survival and control their environment.
- Aggression is one behavioral response towards that goal.

- “Basic patterns of aggression seem to be unalterable aspects of the basic genetic code of canines” (Coren, 2004)
- Like all animals, dogs react to fear with the Flight or Fight response
- Aggression serves a communicative function for dogs when dealing with conflict – whether it be offensive or defensive in nature.

# Genetics and selective breeding

- Some breeds of dogs are bred specifically to be more aggressive.



- In addition to its genetic component, the degree of aggressiveness exhibited by an individual is also shaped by:
  - Early experience (socialization, or lack thereof)
  - Learning (dogs learn that aggression “works”).



# The major influences to any behavior

Genetics



Environment



Learning



# Two basic categories of aggression

- Respondent Aggressive behavior
- Operant Aggressive behavior



Respondent Aggression – reflex-like aggression evoked or elicited by aversive stimulation (pain-elicited aggression).



(respondent aggression is one reason that the use of aversive positive punishment (shock) can be problematic)

Operant Aggression - goal directed behavior which allows the aggressor to obtain something desirable or escape or avoid something undesirable.

Aggressive behavior, like other behavior, is driven by reinforcements.



With Operant Aggression there is always reinforcement.

- External reinforcement
  - other being retreats
  - retention of something they are coveting
- Internal reinforcement
  - satisfaction of a drive
  - surge of epinephrine (adrenaline)

# Operant Aggression can be *Offensive* or *Defensive* in nature

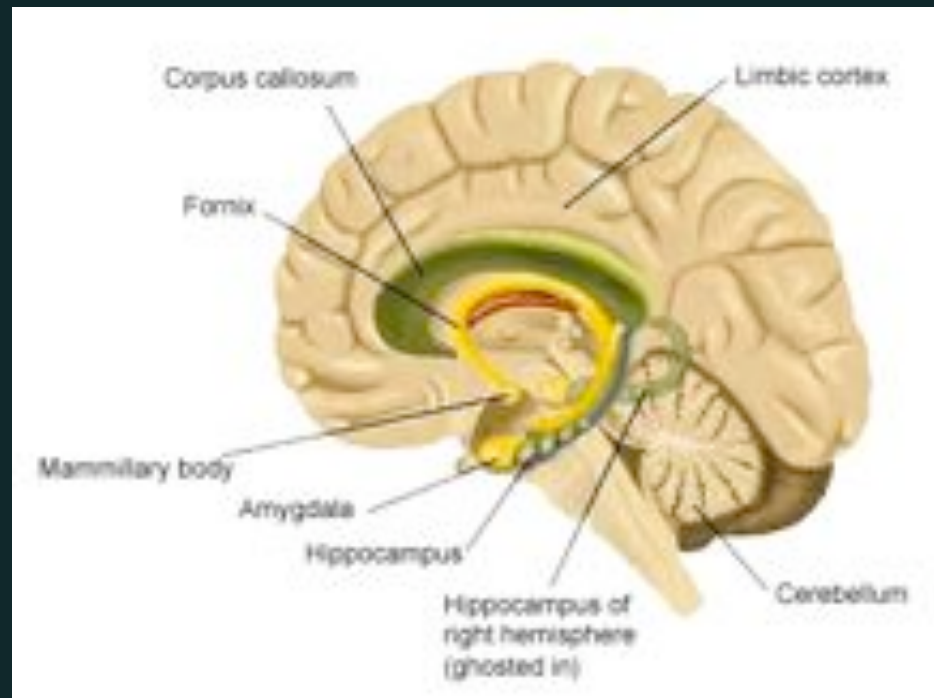
- *Offensive* – distance decreasing behavior
- *Defensive* – distance increasing behavior



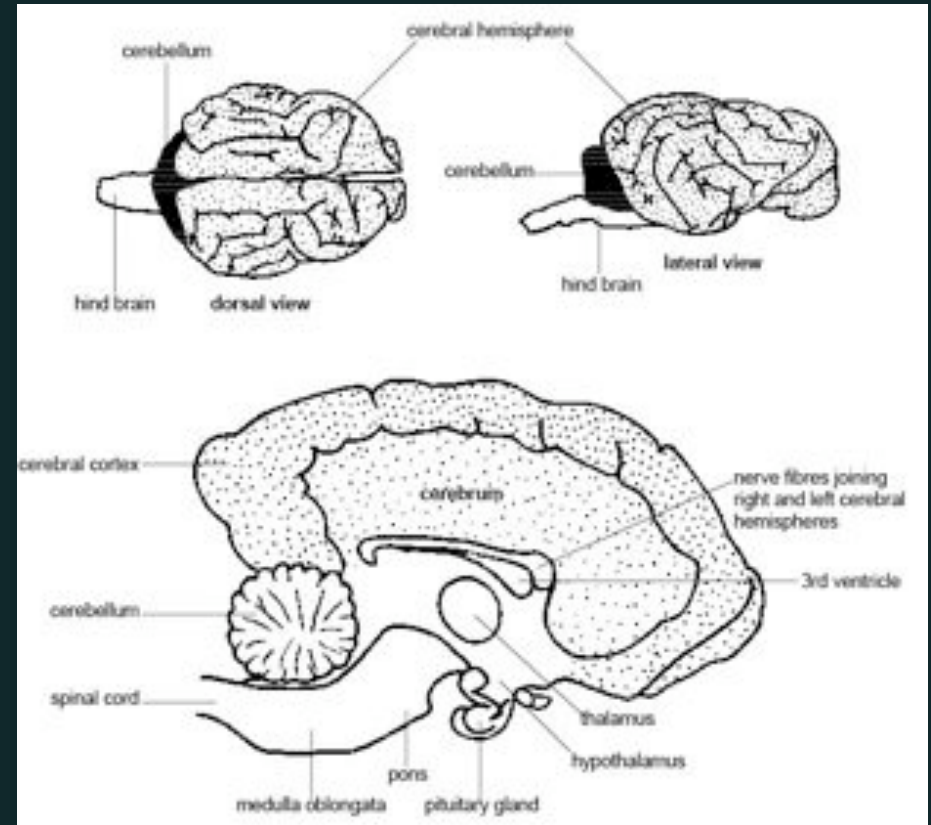
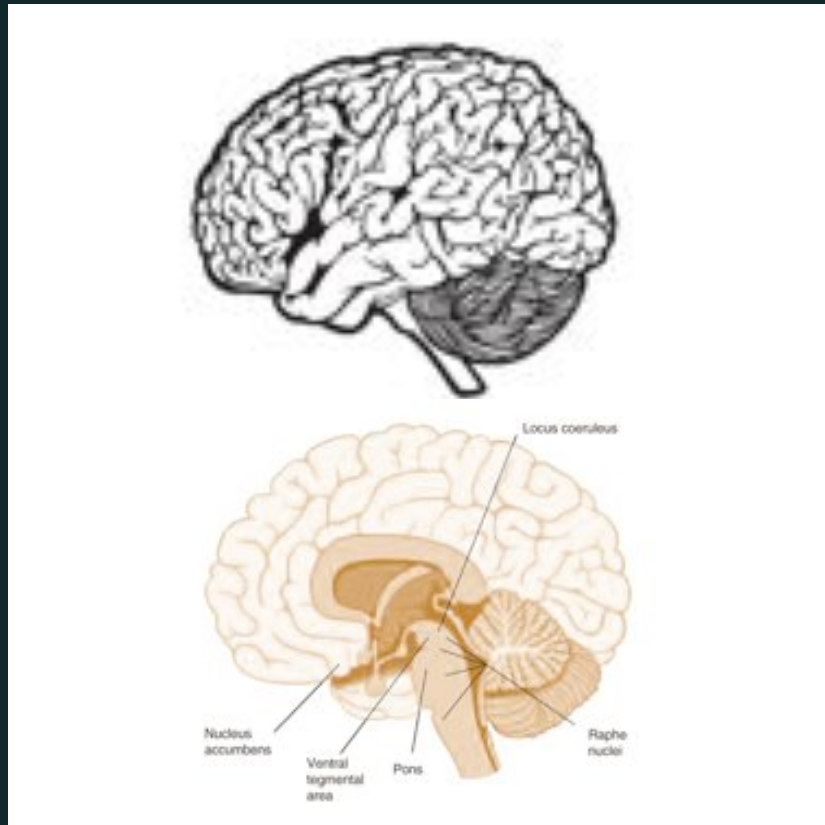
# Just like humans

- Offensive aggression stems from anger
  - angry dogs, like angry humans, may use violence to express their rage
- Defensive aggression stems from fear
  - scared dogs, like scared humans defend themselves if necessary (flight or fight)

- Fear and anger are basic emotions shared by humans and dogs.
- Fear and anger originate in the limbic system - the emotional center of the brain (specifically the amygdala).



# Dog vs. Human



Cerebral Cortex (the thinking part of the brain)

Every dog can bite



“They are alive and they have teeth” Jean Donaldson

# Ian Dunbar's Bite Scale

- Level 1- Dog growls, lunges, snarls-no teeth touch skin.
- Level 2- Teeth touch skin but no puncture. May have red mark/minor bruise or minor scratches
- Level 3- Punctures  $\frac{1}{2}$  the length of a canine tooth, one to four holes, single bite. Bruising. No tearing or slashes.
- Level 4- One to four holes from a single bite, one hole deeper than  $\frac{1}{2}$  the length of a canine tooth. Black bruising, tears and/or slashing wounds. Dog clamped down and shook or slashed victim.
- Level 5- Multiple bites at Level 4 or above.
- Level 6- Any bite resulting in death of a human.

Every dog has a different  
'aggression threshold'

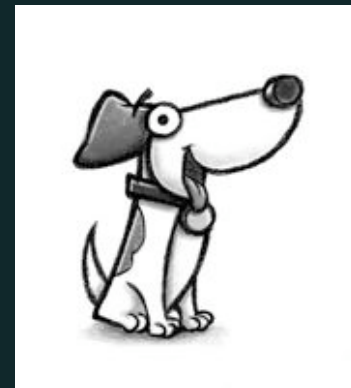
Threshold - the level that a stimulus must be  
exceeding to elicit a response

Aggression threshold - the point at which  
aggression is triggered

# Aggression Threshold

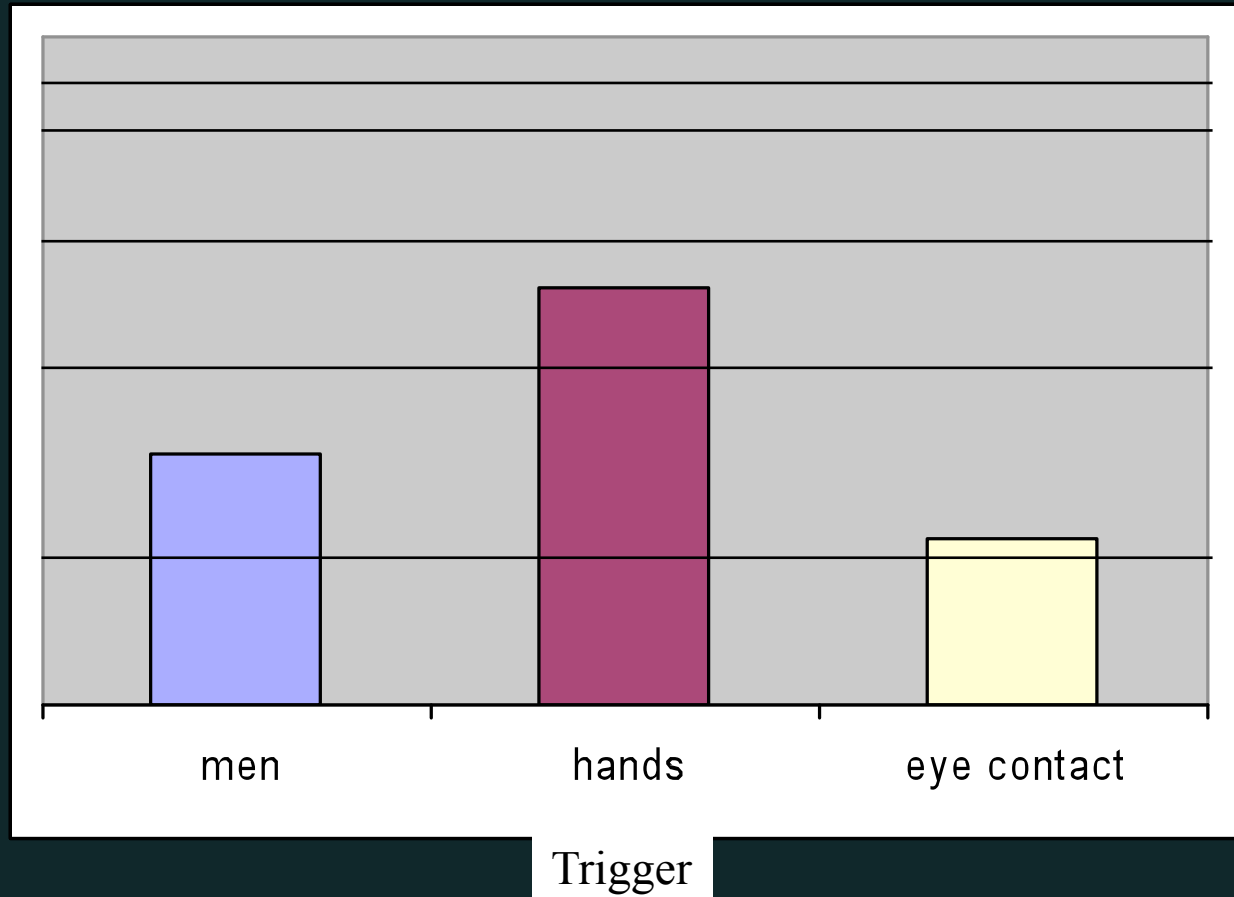
Low threshold

High threshold



# Dogs have different thresholds for different stimuli

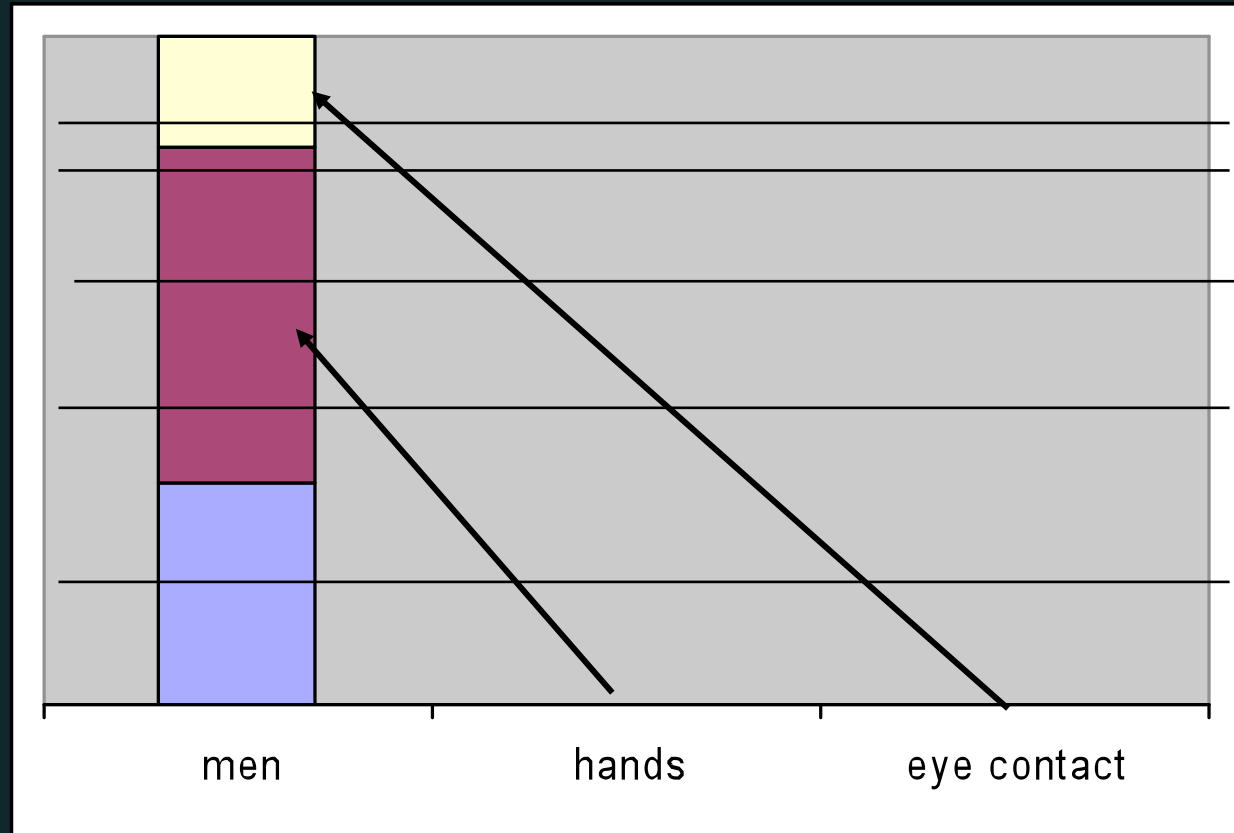
Bite threshold  
Snap threshold  
Growl threshold  
Freezes  
Uncomfortable



from Jean Donaldson – Culture Clash

# When things come together ~ you can reach the bite threshold

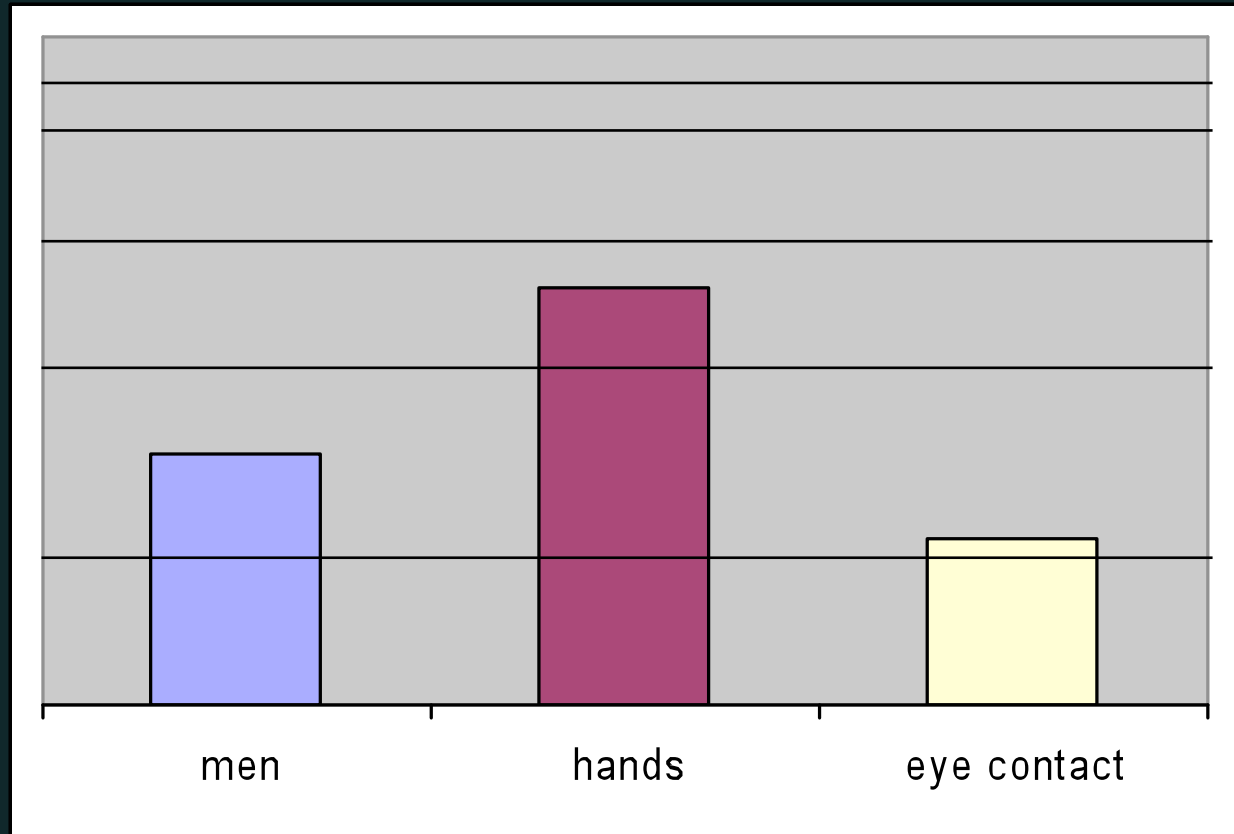
Bite threshold  
Snap threshold  
Growl threshold  
Freezes  
Uncomfortable



# Discomfort Threshold

Bite threshold  
Snap threshold  
Growl threshold  
Freezes

→ Uncomfortable



# Discomfort Threshold

- Behaviors seen when a dog is uncomfortable - not considered aggression
- Precursors of aggression
- Alarm bells are going off
- Starting to “toggle into their limbic system” (Sdao)
- Freezing - happens in the moment before they toggle over

# Aggression Precursors (Discomfort Threshold)

- Dogs speak with their bodies
- They are always telling us how they feel about a situation
- These signals are missed by the average pet owner who can't read dog body language

## Passive Appeasement



Appeasement signals represent a lack of confidence and serve to avoid hostility

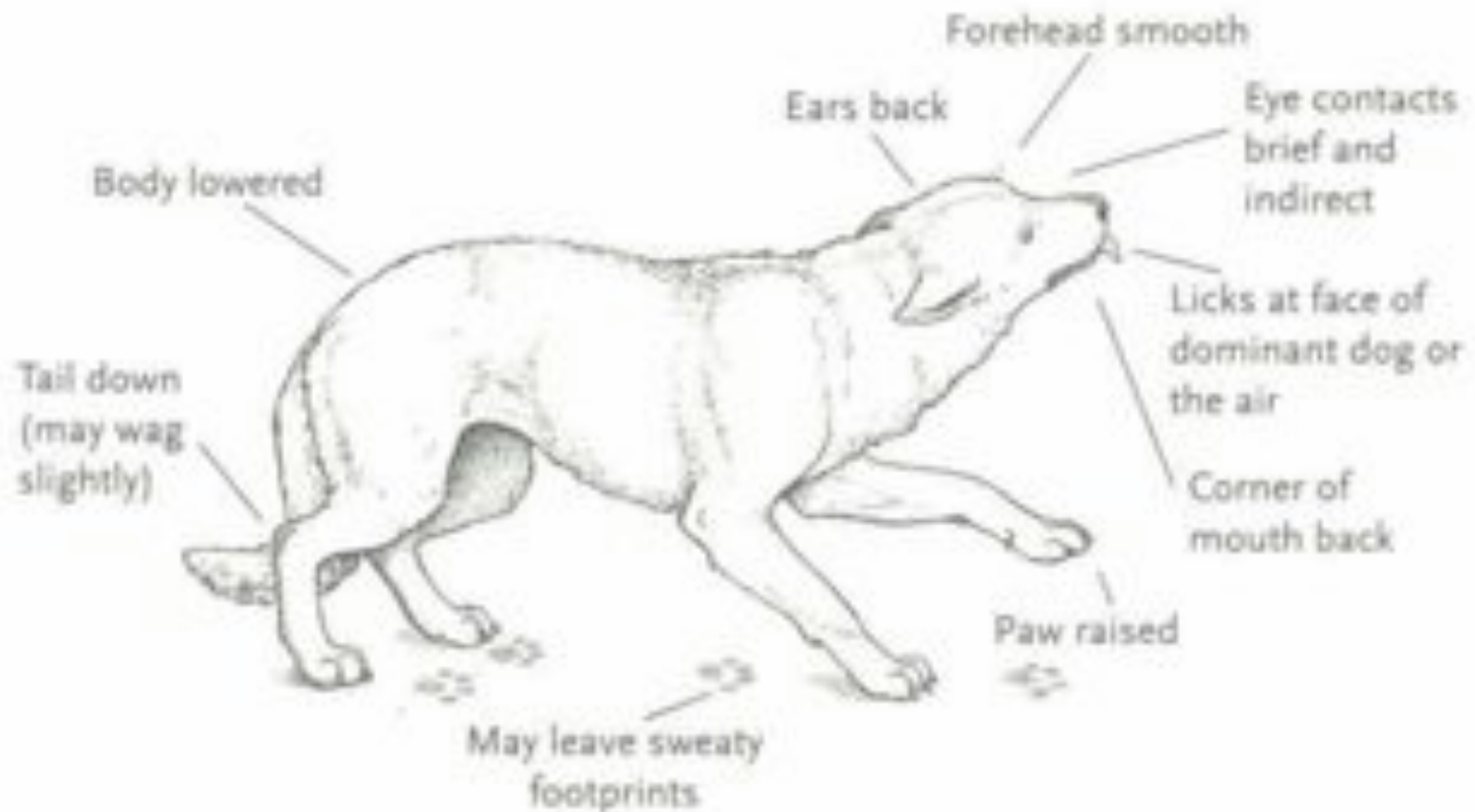
All figures from *How to Speak Dog* by Stanley Coren



Nervous about something you are doing

..or wants a belly rub

## Active Appeasement

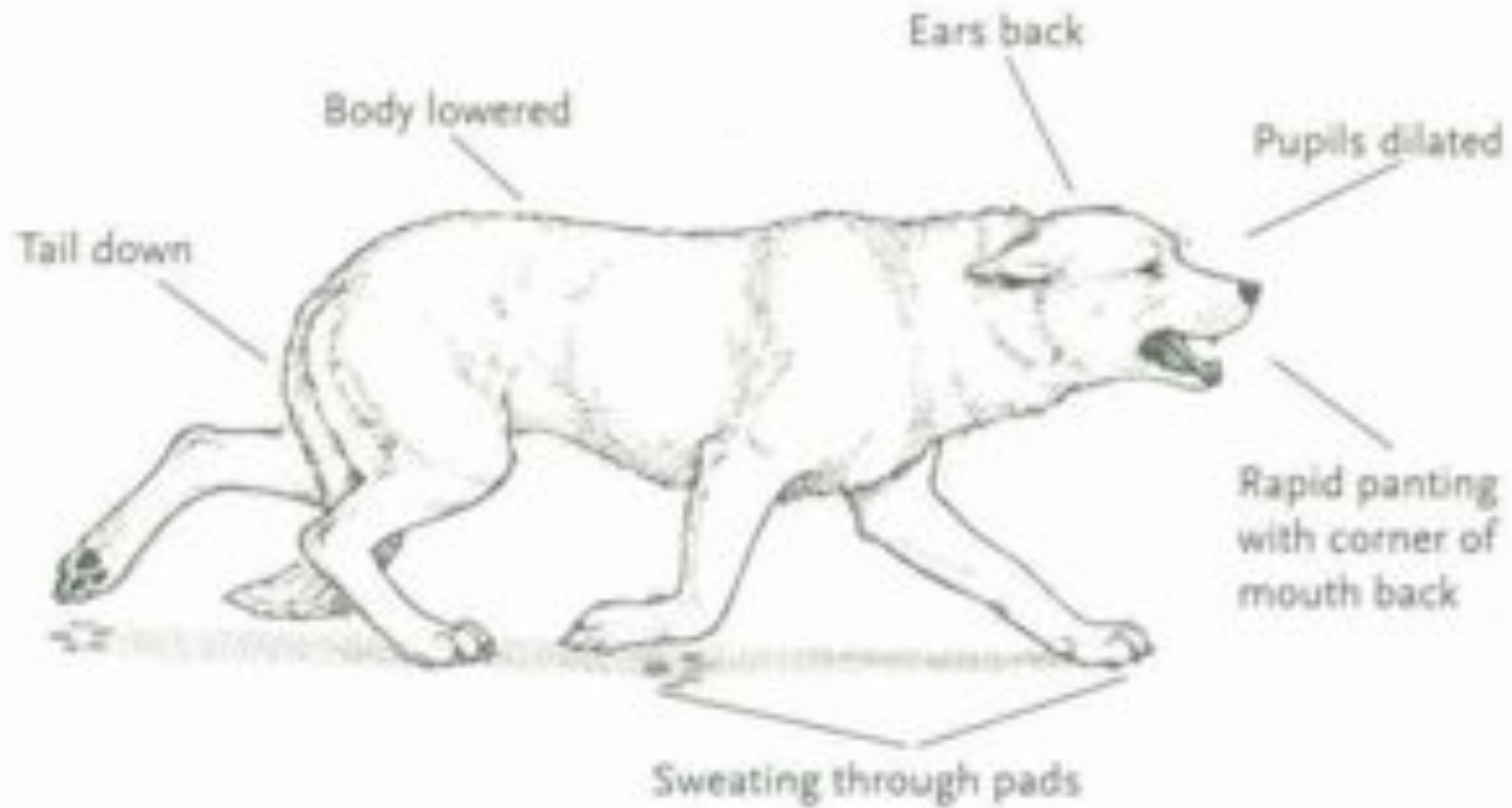


Appeasement signals represent a lack of confidence and serve to avoid hostility



Active Appeasement

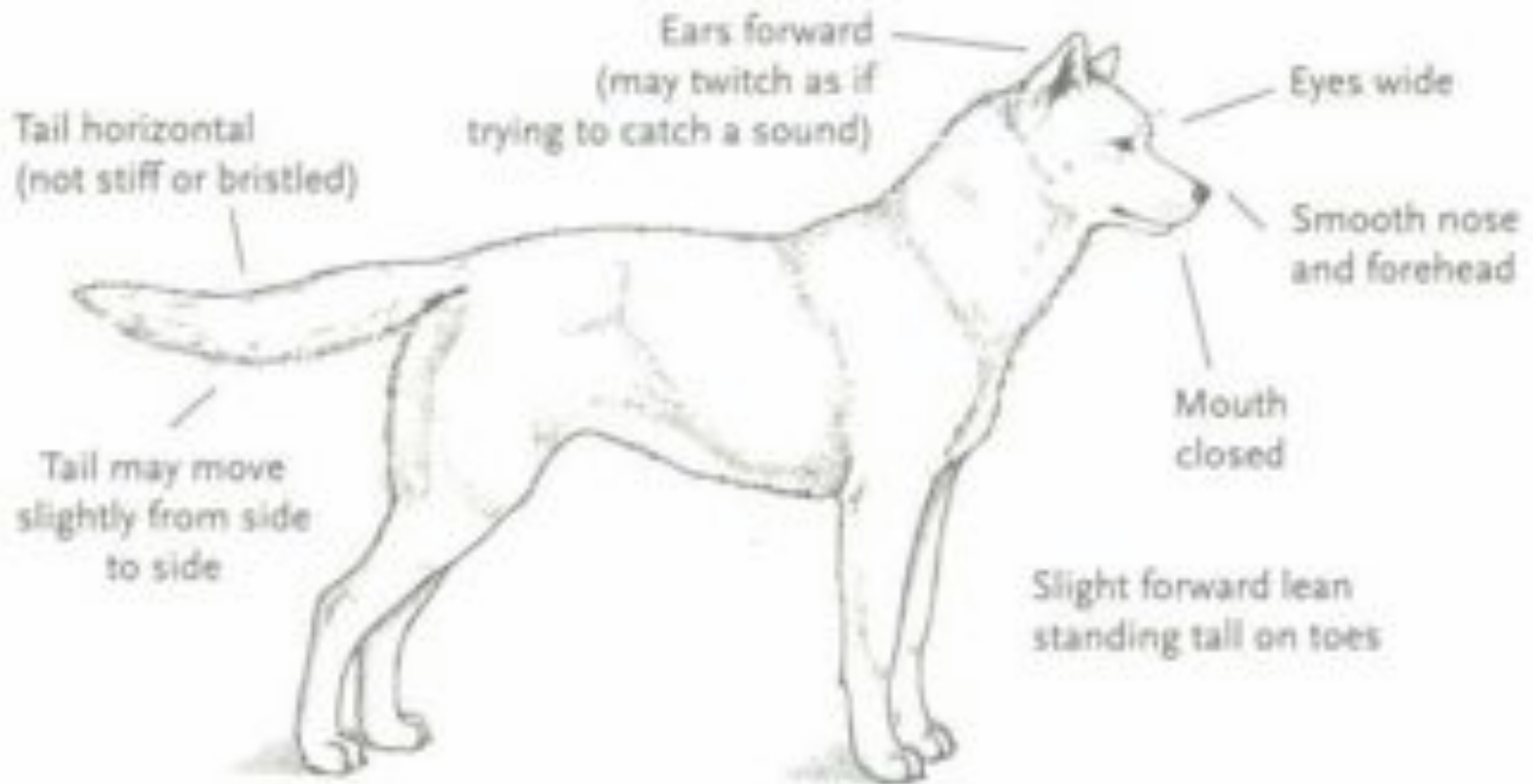
## Stress and Anxiety





Stressed and anxious

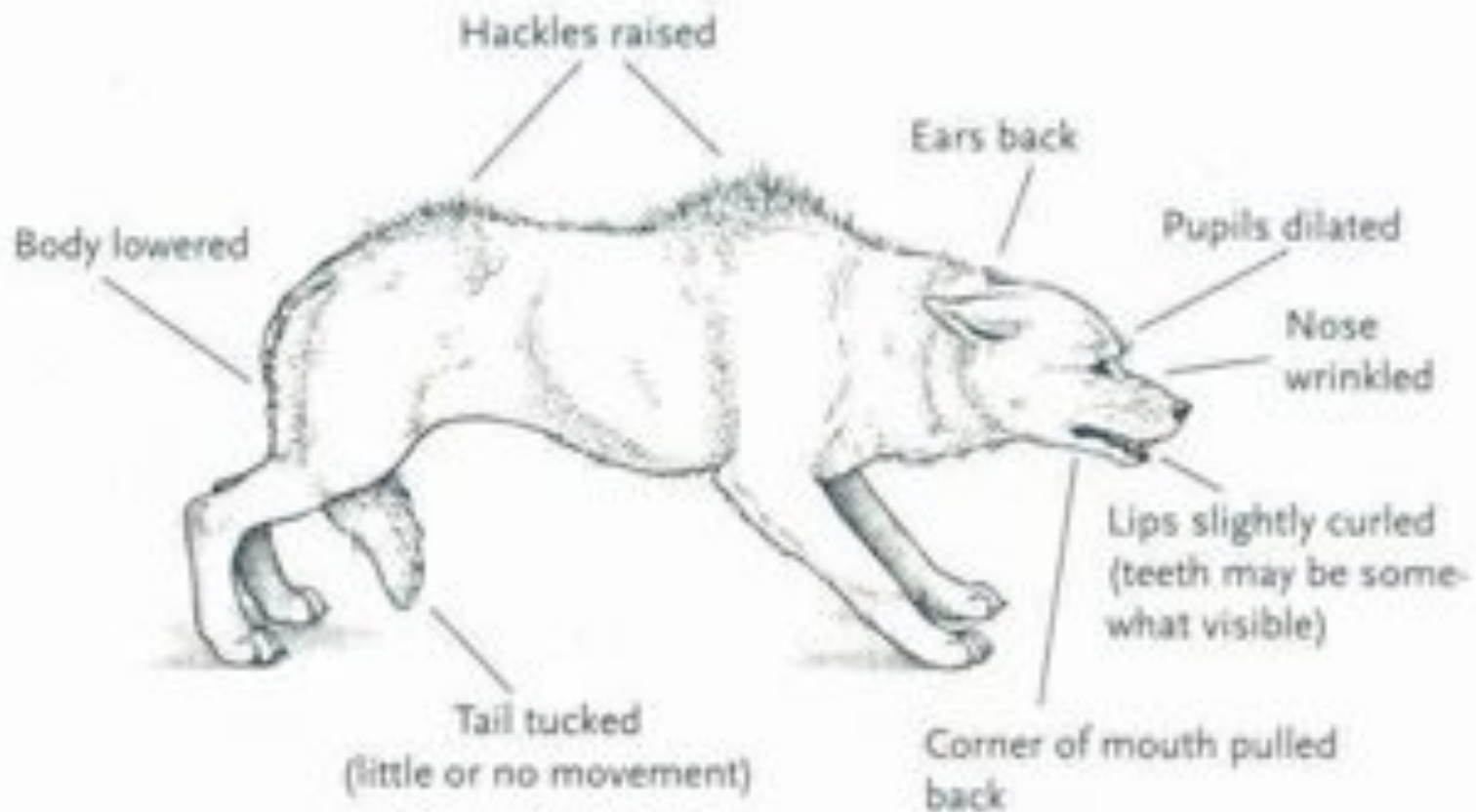
## Alert and Attentive





Alert

## Fear/Defensive Aggression

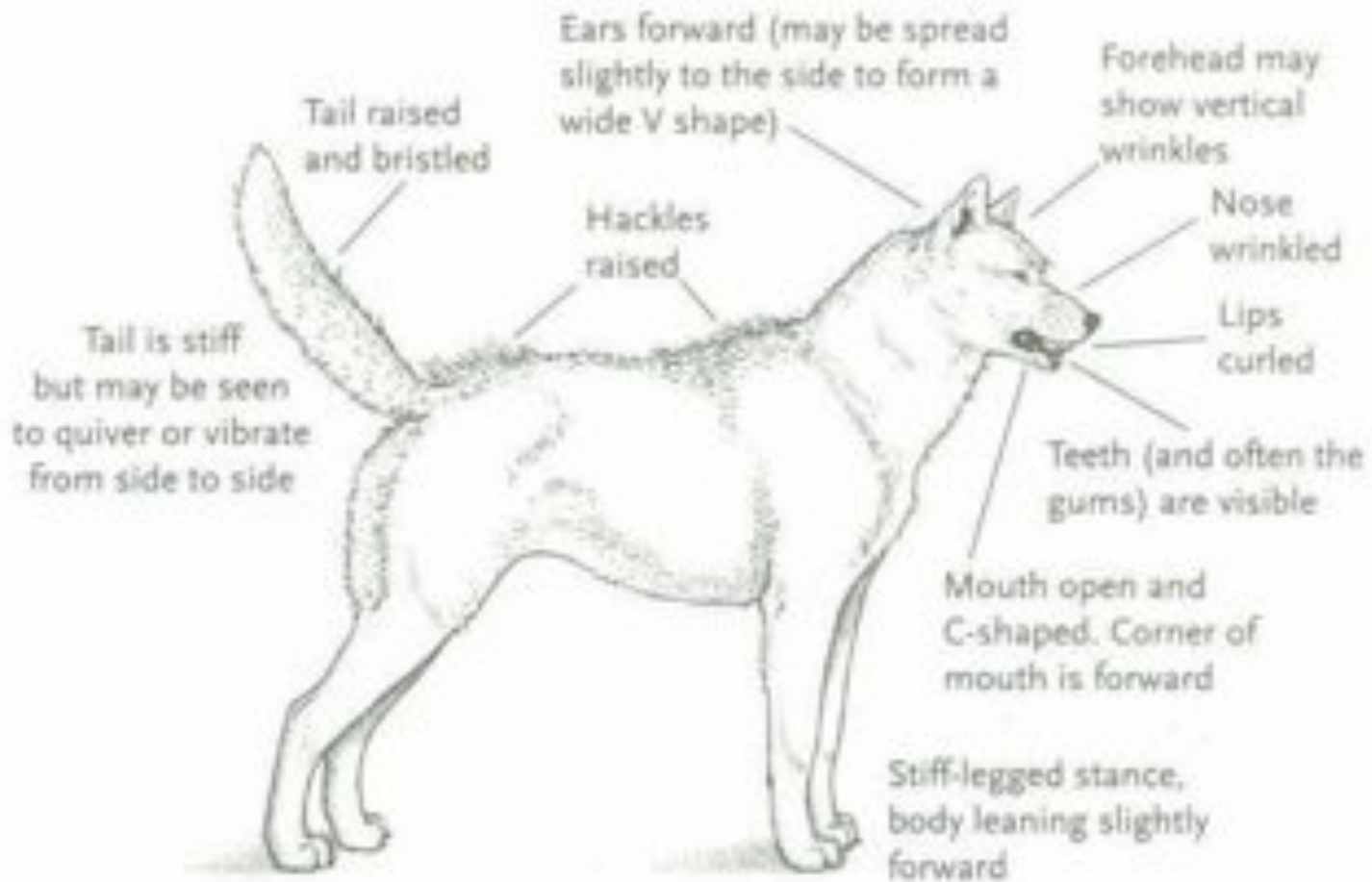


This dog is conflicted between using appeasement signals and aggressive signals to increase social distance. This is the position of a classic “fear biter”.



Afraid and aggressive  
~ telling you to stay away

## Offensive Aggression







1



2



3

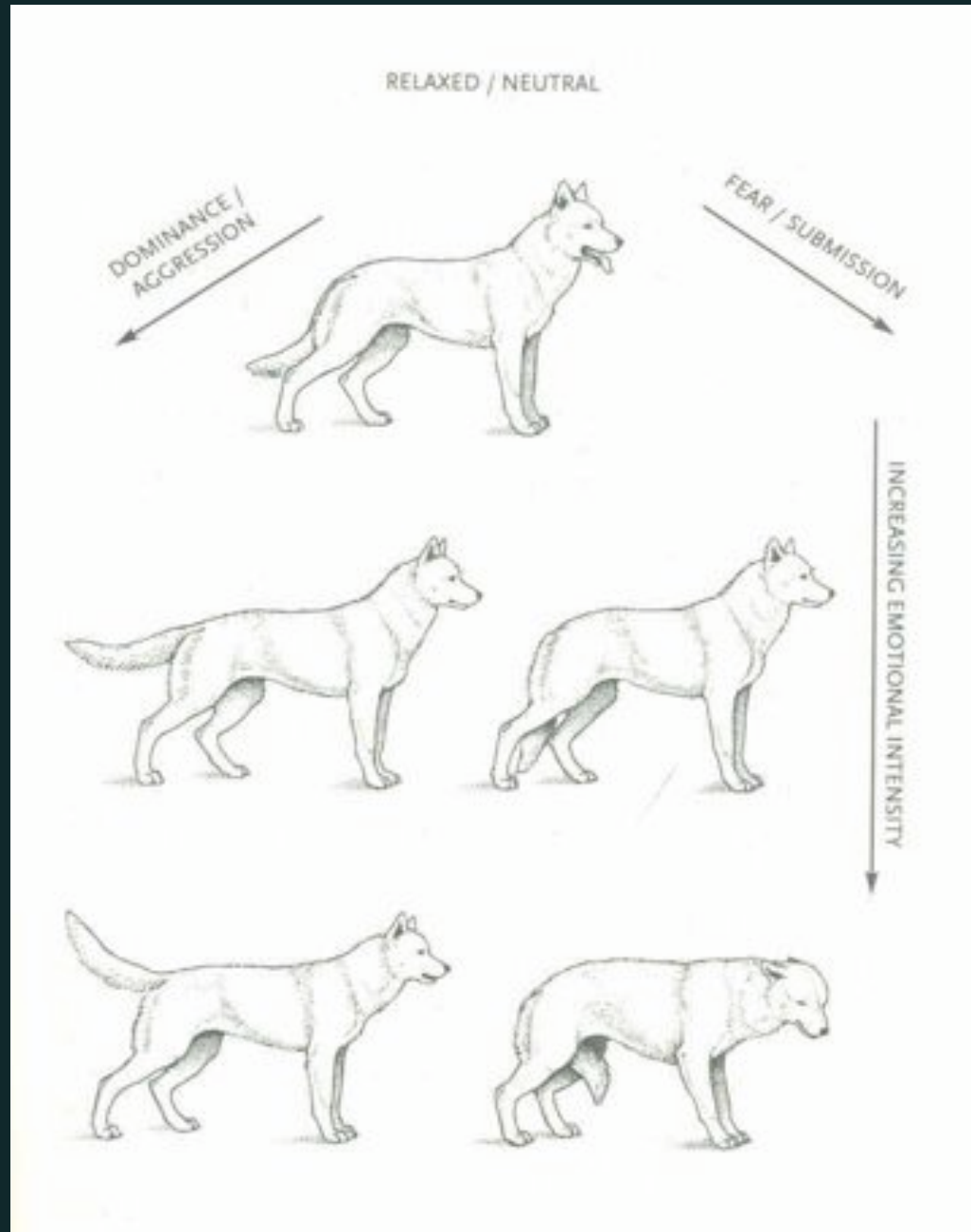


Fearful

Angry

EARS

# Tail



# Faces



Relaxed

Everything loose & soft



Offensive aggression

Commissures forward  
-only see front teeth  
Wrinkles on top of nose  
Ears forward  
Hard eye



Defensive aggression

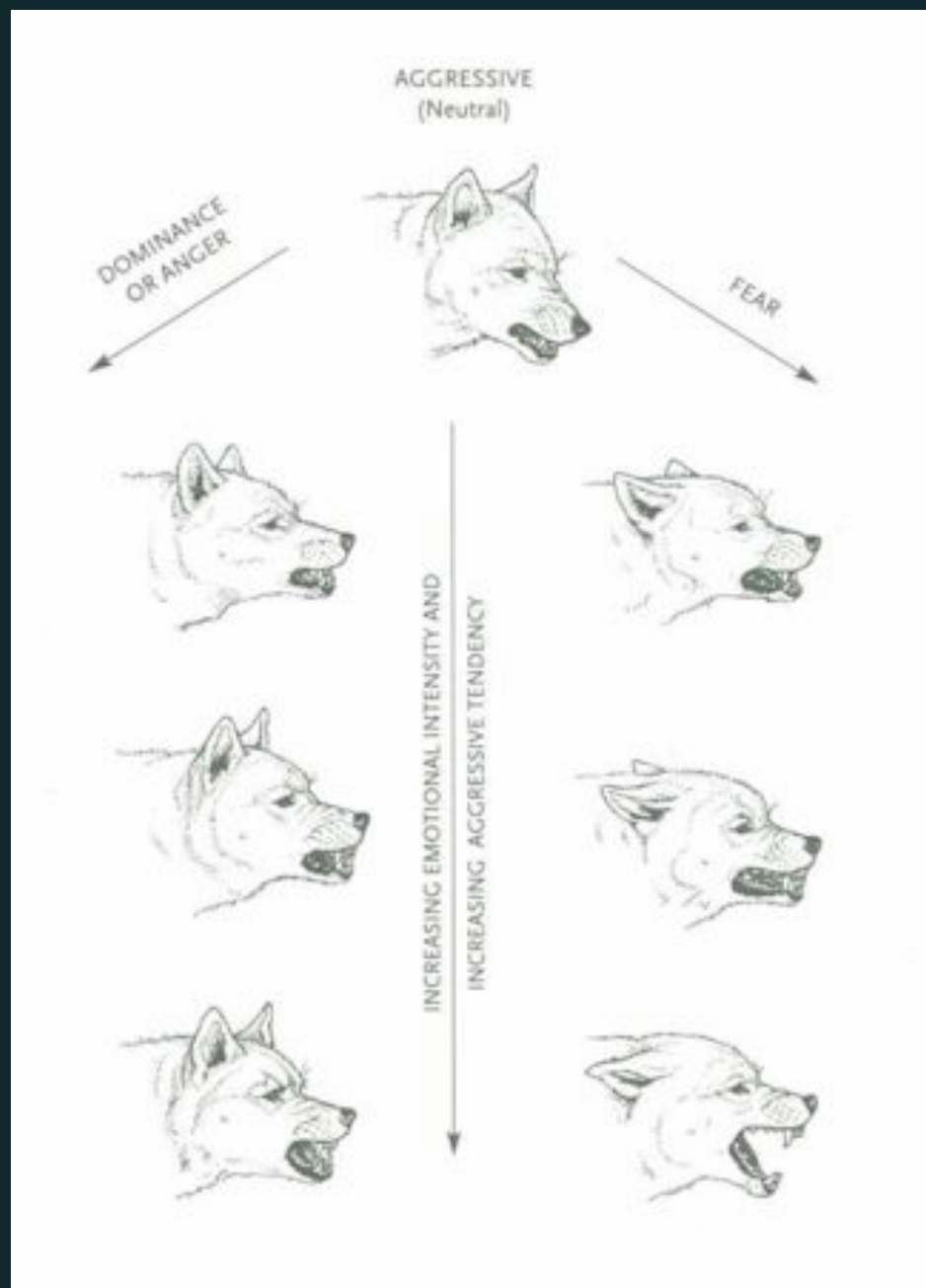
Commissures back  
-see lots of teeth  
Ears back



Submissive

Commissures back but  
mouth closed  
Ears back  
Soft , squinty eye

Offensive Pucker

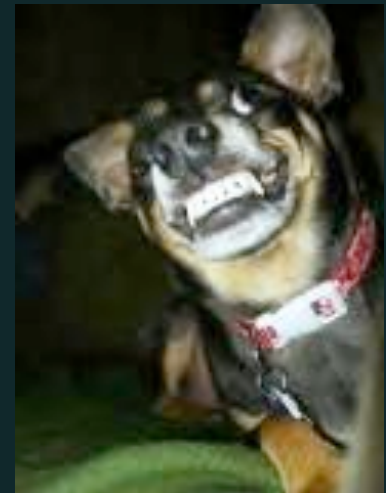


Fear Grimace

# Subtle Warning Signs of Discomfort

## EYES

- 🐕 Direct eye contact
- 🐕 Hard stare
- 🐕 Dilated pupils
- 🐕 Whale eye





Dilated pupils



Whale eye (half moon eye)





Wide Eye



# Mouth ~ look for:

- Closed tense mouth
- Going from open relaxed mouth to closed tense mouth
  - Worried dog ~ closed mouth but eyebrows are raised upward
  - Angry dog ~ closed mouth but eyebrows are pulled down and together (tension around the eyes)



## Body ~ look for:



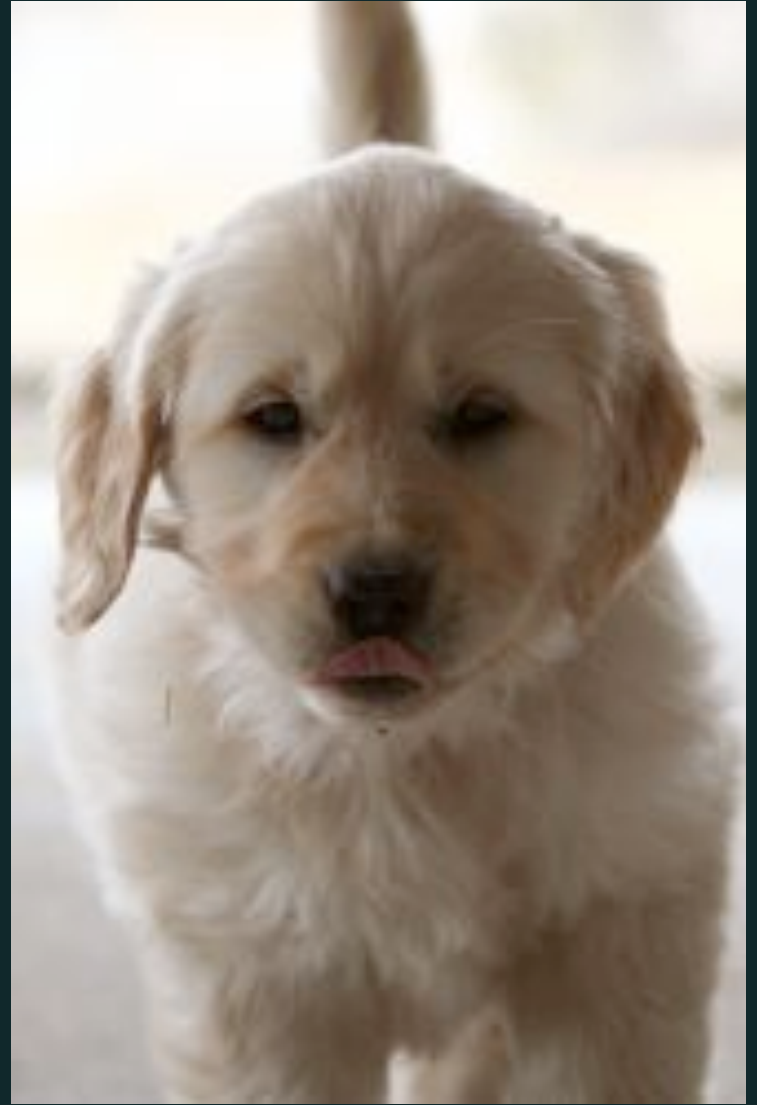
- Weight shifted forward = taking charge  
- offensive
- Weight shifted back = diffusing - defensive
- Generally stiff body
- Moving from a relaxed body to a stiff body
- Freezing - microsecond freezes are clear warnings they don't like what you are doing

# Other ways dogs communicate that they are uncomfortable

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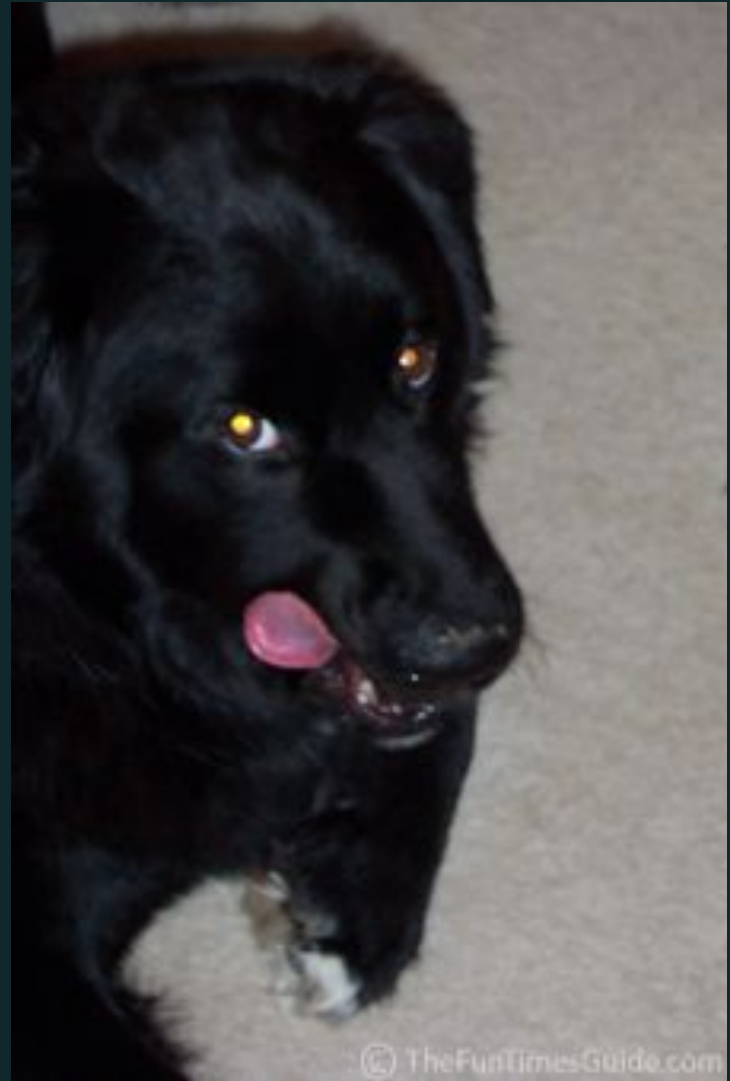
Displacement Behaviors

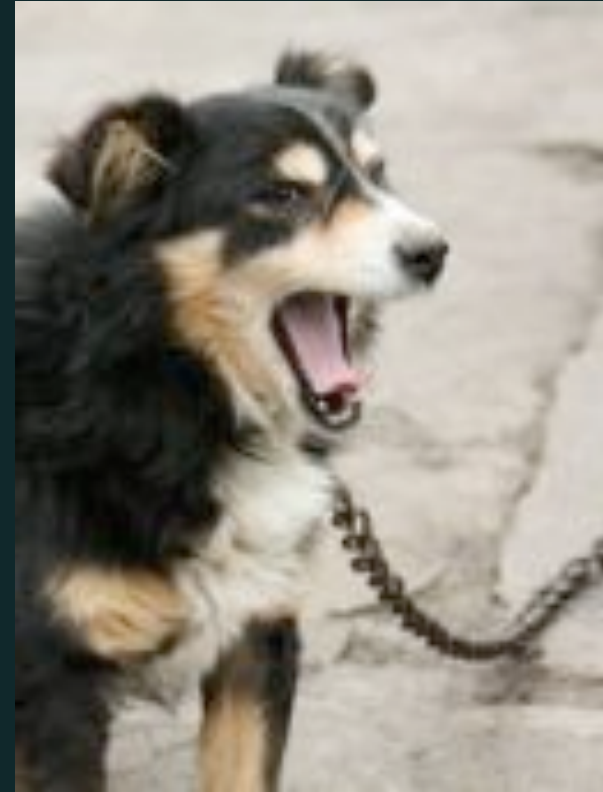


Flicking Tongue



Licking Lips

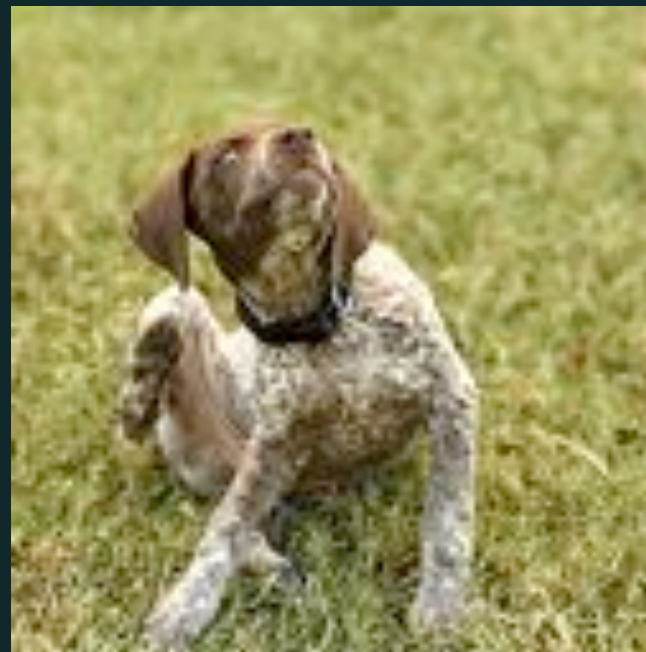




Yawning when not  
tired



*Shaking off when they are not wet*



Scratching when they don't have  
skin irritation

- Avoidance Behaviors
  - turning head away
  - turning whole body away



# Aggression to Humans

- *to the owner*
- *to visitors to the home*
- *to strangers outside*
- *to children*



# Aggression to Owners

- Dominance has historically been blamed for any aggression directed towards an owner.
- “Dominance aggression” is an over-used term that carries the negative implication that the dog is “trying to be the boss” which often leads to corrective methods that are abusive.

# The Dominance Myth

- 20-30 years ago, social dominance theory and ideas about wolf behavior in the wild were the primary models that guided how dogs were trained.
- This theory was based on studies of captive packs of unrelated wolves and thus bears no relationship to the social structure of natural packs much less dogs.

Certainly there are “assertive” dogs



Some dogs may be more prone to learn an active defensive coping strategy during social conflict in order to control aversive outcomes (Lindsay, 2000).

The dog learns that dominant behavior helps him to acquire certain resources or to avoid or escape some specific stimuli (O'Heare, 2007)

The underlying behavioral motivations are not to enhance dominance status but simply to terminate a perceived threat or challenge (Lindsay, 2000).

- It is no longer acceptable to advise owners to “show the dog that you are the boss” using aggressive acts such as alpha rolls.
- Not only do these techniques often make the problem worse, they can be very dangerous for the owner to attempt.
- Unfortunately these techniques are still recommended and many dogs have experienced them.

Other reasons dogs show aggression to their owners:



# Resource guarding

Some dogs aggressively guard resources (food, toys, bones, resting places)



Dogs are the descendents of the wolf, and wolves being social predators, are natural resource guarders and this ancestral trait is sometimes triggered.

Maybe the most common reason  
for aggression directed to an  
owner:

FEAR



# Humans are also an aggressive species

- We resort to punishment to deal with many issues. Physical punishment can lead to defensive aggression as the dog learns he must protect himself.
- Inappropriate punishment (after the fact) confuses the dog and can also lead to defensive aggression as the dog learns that their owner is unpredictably aggressive.

# Aggression to Visitors

- Dogs are naturally territorial and can be aggressive to people who enter their homes or yards.
- This behavior can also stem from fear, lack of socialization or a bad experience.



# Aggression to Strangers

- A dog that is aggressive to approaching people while on a walk, may be reacting this way due to:
  - Fear
  - Lack of socialization
  - A bad experience with a stranger
  - Reinforcement from owner
  - Resource guarding (good owners are precious resources)



# Aggression to Children

- Many dogs are not properly socialized to children during their socialization period
- Children do scary things to dogs
  - rush up to them
  - give them direct eye contact
  - pull, pinch, poke
  - HUG





# Aggression to other dogs



- Fear
- Lack of socialization
- Bad experience
- Bred or trained to do so



Although most dog fighting is ritualized behavior – a dog aggressive dog can inflict serious injury or even death



# Dog aggressive dog are dangerous to other dogs AND humans



Many people are bitten trying to break up dog fights  
Especially if its your own dog being attacked!

## Even though aggression is normal dog behavior:

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- Aggressive behavior can be very dangerous.
- An inappropriate response by the human object of an aggressive display may incite an escalation of the aggression.
- Dogs exhibiting aggression towards humans is unacceptable in our society.

More than 5 million people are bitten by dogs in US every year.

800,000 of those bitten each year need medical attention.

1,000 people treated in ER each day for dog bites.

26 people killed by dogs each year

Children between the ages of 5-9 are the most common victims of dog bites.

90% of young children are bitten by their own dog – in fact, 87% of biting dogs are owned dogs – not a stray issue.

# Most children are bitten in the face





## “5-yr-old suffers facial injury in attack from dog” - Palm Bay Florida, 1/12/11

- Harrington was headed to work and had dropped Jahvon off at the house of a longtime friend who has several dogs.
- Moments later, the boy was outside playing and, according to Palm Bay police, either grabbed the dog by the collar or attempted to ride the 85-pound canine like a horse.
- The dog grabbed at the child's head with his jaws and shook him, crushing facial bones around one eye and ripping a portion of an ear, police said.

# “Dog Bites 1-yr-old” Tennessee - 10/22/09

- A one year old is rushed to the hospital after being badly bitten in the face by their newly adopted great dane.
- Amber Plott says their new dog attacked their 19 month old little girl. Plott says she wandered too close to his food at the wrong time.
- “I set the food bowl down, wasn't thinking, went to answer the door because we had a delivery, it happened in a second.”

“A two-year-old boy will be scarred for life after he was attacked by his grandmother's collie dog.” 9/10/10

- “Joshua was stroking the dog, Rossie, when she jumped up and latched onto his face.”
- “Rossie pulled him to the ground and wouldn't release him.”



Toni Clannachan, 10, was bitten in the face  
by the family's dog while playing in a school  
friend's yard on Tuesday.  
9/2/10 Scotland



# Dogs and kids

- Many people think their dog is fine with their children because they don't bite them.
- The dog may be just tolerating the child and the things he does to and around him.
- When a dog is "tolerating" something – he is just on the edge.
- Not enough of a buffer

When a dog has the propensity for aggression - management is often the best we can hope for

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Although we use behavior modification techniques to raise the threshold for aggression, an aggressive dog will always need to be managed because aggression is difficult to modify.

- often has a genetic basis
- is a self-reinforcing behavior
- becomes an automatic or habitual response  
(when an animal is emotional it resorts to habitual behavior)

# Aggression is NOT curable!

- You can modify aggressive behavior but you can not take it out of the dog.
- The dog has learned that aggression works for him and that behavioral pathway in the brain will always be there.
- The dog can tap into it at any time regardless of any behavior modification

# Behavior Modification

- The goal is to raise the threshold for aggression in the situations where the dog displays aggression.
- We must also prevent displays of aggression during a behavior mod program so the dog does not continue to practice the behavior.

# Shelter Dogs

- Many dogs are surrendered to shelters because of behavior problems (including aggression).
- The majority of surrendered dogs are adolescents who:
  - are well past their socialization period
  - have learned which behaviors “work” for them
  - have had little to no formal training

# Shelters should conduct behavior evaluations before putting dogs up for adoption



Because they are placing these dogs into the homes of unskilled and unknowledgeable people (average pet owners), they are obligated to make the best matches possible and keep the family and the community safe from potentially aggressive dogs.

# The average pet owner:

- Knows little to nothing about dog behavior
- *Might* take the dog to *one* training class
- Has trouble even getting the dog to sit and lie down on cue – much less come when called (even after taking a class).
- Wants a good pet – a calm, well behaved member of their family.



- The majority of my (and every behaviorist) behavior consultations involve aggression – either to humans or other dogs
- Most owners are clueless about how to handle their aggressive dog
- Some owners actually make the problem worse with inappropriate responses
- Many clients are unable to carry through on a behavior modification program

- I am committed to encouraging the shelter/rescue community to conduct behavioral evaluations BECAUSE of the clients I have worked with.
- I have seen their fear and heartache as they try to deal with, and make decisions about, their aggressive dog.
- I feel that it is the responsibility of the organizations placing dogs into new homes to do their very best to make good matches and make sure the dogs they are placing are safe.

# Shelter Dog Behavior Evaluations

- All designed to try to get to know the dog BEFORE he is placed into a new home.
- All of the procedures out there have similar components
  - Sue Sternberg's Assess-a-pet
  - Emily Weiss's SAFER test
  - Amy Marder's MATCH-UP
  - 'SSwKBT'

A good behavior evaluation, that is conducted and interpreted well, can really help you get to know the shelter dogs being considered for placement.

- identify truly aggressive dogs
- set up in-house behavior modification and training programs
- recommend best matches with adopters
- counsel adopters

# What do behavioral evaluations do for shelters?

- Enables shelters to make better placements with adoptive families.
- Prevents dangerous dogs from being returned to the community!
  - Safety
  - Reputation
  - Liability



# Shelter responsibility

“A shelter that places dogs into the homes of families should know that the public expects that only suitable dogs will be placed. Essentially an implied warranty of suitability arises from the very relationship between the public and the shelter.”

[www.dogbitelaw.com](http://www.dogbitelaw.com)

# Shelter Liability

“Civil liability will result from adopting out a dog that is known to be dangerous, is known to have dangerous propensities, or is misrepresented as being safe”

[www.dogbitelaw.com](http://www.dogbitelaw.com)

Even organizations with “no kill” policies acknowledge that some animals must be euthanized.

“Animals that exhibit signs of a behavioral or temperamental defect that could pose a health or safety risk or otherwise be unsuitable for placement as a pet will be euthanized.”

California Civil Code section 1834.4

# What Kinds of Dogs Should Shelters Be Placing?

- Behaviorally Healthy Dogs:
  - Sociable
  - Tolerant of handling
  - Do not aggressively guard resources
  - Tolerant of other dogs



Why is this so important??



# My Research

Data on 2017 Evaluated Shelter Dogs

*Behavioral evaluation and demographic information in the assessment of aggressiveness in shelter dogs*

*Kelley S. Bollen & Joseph Horowitz  
Applied Animal Behaviour Science  
Vol. 112 (2008)*

# Aggressive History

- 217 tested dogs had a known history of aggression in their previous home based on information from their surrender profile
- 90% of these dogs exhibited aggression during one or more components of the evaluation.

# Statistical Analysis

Dogs with a history of aggression in their previous home were 12 times more likely to fail the evaluation than those without a history of aggression.

The fact that nearly all of the dogs with a history of aggression exhibited aggression during the behavior evaluation...

tells us that this behavior evaluation is a reliable tool to identify dogs with the propensity for aggression.

# Unsocial Dogs

- Dogs who did not exhibit any signs of sociability during the sociability test were labeled “unsocial” (N=315).
- 74% of these unsocial dogs exhibited aggression during the behavior evaluation.
- The remainder of the unsocial dogs were adopted out.

# Borderline Dogs

- Some dogs were deemed adoptable despite failing one or two component tests (sociability test not included).
- The “failed” responses displayed by the borderline dogs were milder forms of aggression compared to the responses of the dogs deemed un-adoptable.

# Statistical Analysis

- Borderline dogs were twice as likely to exhibit aggressive behavior post adoption than no issue dogs.
- Unsocial dogs were 5 times more likely to exhibit aggression post adoption than no issue dogs.

# What is our responsibility?

- Evaluate the dogs before putting them up for adoption
- Evaluate them WELL (trained evaluators)
- Make good decisions
- Keep the dogs behaviorally healthy
- Make good matches
- Educate your adopters

# What about behavior modification?

- Is it feasible to modify aggressive behavior in the shelter?
- Depends on many factors
  - the behavior
    - how severe
    - how well practiced
  - the shelter's resources
    - experienced staff
    - time

# The limitations

- Time – most shelters are understaffed and overworked.
- Experience – very few shelters can afford to have a behaviorist or trainer on staff
- Even if there is someone on staff whose job it is to work with the dogs – how much time will be dedicated to each dog?

# Impossible to control of the environment

In order to modify aggressive behavior:

- There needs to be consistency in the program.
- You need to prevent the display of the aggressive behavior so that it doesn't continue to be reinforced.

## Lets take dog aggression as an example

- One person is in charge of doing the behavior modification protocol
- Two sessions/day – 15 minutes each
- In between, the dog is housed in a line of kennels where other dogs walk by all day
- Different people walk the dog during the week – none do the protocol
- He has to walk past other dogs on his way in and out of his kennel

# The other major problem:

- Learned behavior doesn't generalize well (unless it involves a strong emotion like fear)
- If you successfully modify a behavior in the shelter environment, it doesn't mean that it's changed in other environments (like an adoptive home).
- You will have learned whether the dog is receptive to behavior modification.

# Important things if you do behavior modification in your shelter

- Make sure you re-test the dog
  - In a different place from where you did the modification
  - By a person other than the one who did the work
- Make sure you counsel the adopter
- Make sure you do follow-up!!!!

# Another factor to consider...

- Who are *your* adopters?
  - the average pet owner?
  - families with children?
  - experienced dog trainers?
  - animal behaviorists?



# Rescues

Is it okay to send the aggressive dogs to rescue?

At least its not you making the euthanasia decision.

- Blue was sent to a pitbull rescue after he bit three volunteers at the shelter “during play”
- He was adopted out by them to a person who happened to live in the same city as the shelter who sent him to rescue
- Blue was surrendered to the shelter 3 months later for biting someone severely.

# What is our responsibility to the adopters?

- Provide them a safe pet.
- Educate them at the time of the adoption so they can help their new dog adjust to their home.
- Be available when they have issues.

# Case Reports

- Just a few stories about adopted dogs and the struggles people have with them.

## Ellie – FS – terr mix

- I first saw Ellie in 2005 when she was 3 yrs old
- History:
  - adopted from a shelter at 3 months old
  - exhibited RG first week
  - got worse with age – at 2 yrs old – severely aggressive with new stuffed mouse – would growl, snarl, snap and lunge at them if they even tried to enter the room – went on for hours
  - bit daughter in foot when too close to food bowl
  - bit daughter again when too close to new toy
  - bit baby sitter when trying to get something from her

## Issues at consult:

- Severe possession aggression – multiple items
- Severe food bowl aggression – had to stop feeding her in the crate because she started guarding the crate
- Crate aggression after above started (even without food). Lunges, growls, snarls, snaps and throws herself against the front of the crate if they come close (husband is only one who can let her out of crate)
- “We don’t even try to get her off the furniture”

- I set them up with a intensive management, training and behavior modification program
- At my 2 month post consult check-in they told me that “they aren’t doing too much work anymore – just trying to manage her better”.

She was doing okay until they went of vacation – bit the dog sitter 3 times – she called them and said she couldn’t continue to watch her so they had to come home from vacation early

- Few weeks ago they called for another consult
- Ellie –now 9 years old
- Said my methods helped them be able to manage her better but they didn't follow through with behavior modification.
- Still terribly aggressive – lives with a harness and tether leash on so she can't get a hold of something and guard it. Has bitten all family members several times over the years.
- They have never been able to make a euthanasia decision even though she is dangerous.
- They love her but they are afraid of her.

# Samantha – 8 mth –spaniel mix

- History:
  - Got from shelter in Kentucky via Pet Finder when 5 months old
  - 1<sup>st</sup> week – growled and lunged at 4 year old
- Issues at consult:
  - Aggressive to all visitors
  - Aggressive to people while on a walk – if they get too close
  - Aggressive to vet – who referred them to me
  - Attacked a dog at the park recently (out of character for her – usually loves dogs)

- Owners feel restricted – “We can’t go out, can’t have company, can’t have play dates for the kids at our home, can’t have a baby sitter in...”
  - Samantha is crated a lot.
  - She is not getting much exercise because they fear she will bite someone on a walk.
- 

- Samantha is fear aggressive
- Most likely stems from a lack of socialization during her critical period
- Bad past experiences may also contribute

- During the history gathering I found out some very disturbing information (and then noticed the woman had her hand in her pocket the whole time we were talking).
- For the past 2 months they have been using a remote shock collar on Samantha at the recommendation of their trainer.
- Samantha gets shocked anytime she exhibits aggression to a visitor or stranger.
- I spent 3 hours explaining why that method was making things worse and teaching them how to use positive counterconditioning methods.
- They were in contact with me for about a month and then contact stopped.
- I fear for Samantha

## Niles – 12 wk old “dixie dog”

- Pup exhibited significant food aggression soon after bringing him home.
- They had been working with him for three weeks and he was responding well.
- Called me because he bit the wife over a treat – broke skin – needed stitches.
- Have a 2 year old in the home (which is why they wanted a puppy).
- Their last dog (older with arthritis) bit their son once when he fell on her.

- After hearing the history I advised them to return the dog – mainly because of the child.
- I explained that the work they could do to modify the resource guarding would not generalize to their son.
- They were heartbroken because they were so bonded to him already.
- They really felt they could keep their son safe and were unwilling to give him back.
- Three months later – the dog bit the child in the face and they returned him – devastated and heartbroken by the whole ordeal.

## Katie – bc/flatcoat mix – rescue

- Read Email
- I visited the home and Katie (who was on leash at my request) barked, growled, snarled and lunged at me the entire hour I was there.
- I told her that I did not think she was going to be safe around the grandkids and that she was going to require a LOT of work.
- The client was torn because she felt so bad for the dog and wanted to help her but she didn't want an aggressive dog.

- She called me the next day to tell me that they were bringing her back because when her husband got home from work that day, Katie lunged at and bit him.
- This four day ordeal tore my client apart.
- Not to mention what it did to Katie

# The small dog question

- Is aggression in small dogs acceptable?
- Should shelters consider aggression in small breed dogs okay because “everyone knows small dogs bite” or “they can’t do as much damage”
- Do people who love small breed dogs want an aggressive pet?

# Other comments from clients

- “we feel trapped”
- “we are prisoners to our dog”
- “our kids can’t have a normal social life”
- “I’m anxious all the time that something is going to happen”

- Our responsibility to our adopters is to give them the nice pet they came in for.
- Not a dog who is “iffy”
- Not a dog who requires a ton of management to be safe
- Not a dog that requires months of behavior modification

A PET!

# What is our responsibility to the dogs?

- Dogs with issues stay at the shelter longer (especially if you are waiting for an adopter that can handle him).
- Is long-term sheltering humane?
- What would these dogs say?

Housed for 1 year



Housed for 5 years



Housed for 8 years



- Are these dogs better off in a sanctuary?
- The definition of a sanctuary is:  
‘a place of refuge and protection’
- A nice place where they can live out their lives because even though its not a home, its still better than death – right?

Almost 200 dogs housed in this “sanctuary”  
- for life



- If you were to die – would you want your pet to be here for the remainder of his life?
- Don't do this to our “best friends”
- They deserve better from us.

# What is the role of a shelter?

To find good homes for good dogs!



And to be HUMANE



Make smart decisions about the dogs  
you send to families. Its *your* job!



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