



## Addressing emotions and behavioural responses (dog "aggression")

Gonalo da Graa Pereira  
DVM, MSc, PhD,  
Dip ECAWBM (BM), Dip ECAWBM (AWSEL)

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## The expression of the Emotions in Man and Animals

(Charles Darwin, 1872)

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## OBJECTIONS to the study of animal emotions

Anthropomorphism  
is a sin

We will never know  
what animals feel

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## Anthropodenial (Waals, 2021)

- A priori denial that other animals can have human-like mental experiences or that humans are like animals

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## 6 basic emotions (Paul Ekman)

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## Origin of laughter and smile (Jan van Hooff, 1971)

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## Unique Human?

Animal emotions only concern the present

Only humans have impulse control (free will)

Only humans know disgust

Animals don't feel!

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## 1) Live in present

### Past:

- Forgiveness, revenge, gratitude

### Future:

- Planning, hope, expectation

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## Conflict Resolution

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## Reconciliation

Friendly reunion between former opponents (not long) after a conflict-reconciliation sequence (primates, dolphins, goats, dogs...)

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## 2) Impulse control (free will)

Marshmallow test w/ apes, parrots

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PLANNING  
(Wolfgang  
Köhler, 1912-  
1920)

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### 3) Disgust

Michael Gazzaniga (neuroscientist), 2008: disgust is one of the 5 emotional modules that distinguish us from all other species

2008

2015

Paul Rozin (psychologist), 2015: "disgust seems to be uniquely human, and is entirely or primarily a product of culture"

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### 4) Animals don't feel

Fairness?

Empathy?

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### Empathy

The ability to understand and share the feeling of another

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Animal emotions:

- Can be studied without knowing feelings
- Are like organs: we don't have any that animals lack
- Are regulated and controlled

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What is veterinary behavioural medicine?

- Behavioural medicine is the discipline that deals with emotional health and the link with physical disease
- Emotional health is equally important to physical health
- An understanding of emotional health is a day one skill for the veterinary profession just as much as it is for medical professionals

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Motivational-emotional systems

*From an affective neuroscientific perspective, adapted and developed from work by Jaak Panksepp, the motivational-emotional systems can be classified into different systems:*

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### 1. The Seeking (Desire) System

*a general-purpose neuronal system that motivates animals to move to places where they have more potential of finding and consuming resources needed for survival e.g. food, water, shelter etc*

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### 2. The Frustration System

*The "frustration system" is triggered by a failure to meet expectations, obtain resources or retain control*

*This system intensifies and accelerates behavioural responses*

*It is associated with aggressive behaviours when animals do not have control over a situation, when they are irritated or restrained.*

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### 3. The Fear-Anxiety System

• *This system relates to the preservation of comfort provided by predictable access to essential resources and the management of threats to personal or resource security*

• *This "system" intrinsically helps animals to avoid dangers and it is more adaptive to feel anticipatory fear (anxiety) than to be attacked and harmed*

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#### 4. The Lust System

*The "lust system", organises the specific reproductive needs, ranging from the attraction or the selection of a partner through courtship to any potential bond to mating with a sexual partner*

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#### 5. The Care System

*The "care system", is dedicated to maintain the bonds to the individual offspring through a recognisable parental care or nurturance towards others*

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#### 6. The Panic (Grief) System

- *This system is related more to the protection of the species rather than the individual.*
- *It relates to the safeguarding of the survival of young and therefore the protection of the genetic survival of the species*

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## 7. The Social Play System

*This system gives information to individuals about their own social competence and potential in relation to others*

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## 8. The Pain System

*The "pain system" is related to the maintenance of body integrity and functioning and it is both a distinct sensation and a motivation*

*The activation of this system is a response to the environmental stimuli which are related to actual or potential tissue damage*

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From a clinical perspective the most important emotions in terms of developing potential problems are:

- Frustration
- Fear (Anxiety)
- Panic (Grief)
- Pain

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The following emotions are less likely to be problematic :

- Social Play
- Lust
- Seeking (Desire)

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Emotions  
can  
sometimes  
be difficult to  
tell apart

- Lust
- Fear (Anxiety)
- Frustration
- *All of these emotions may manifest as mounting behaviour*
- *Be careful not to neuter if lust is not the motivation*

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### Emotional capacity

- Emotional stability depends on the individual having adequate emotional capacity
- This can be thought of in terms of an emotional sink

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## Sink model

*From Sarah Heath*

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### The significance of displacement behaviours

- Normal behaviours in an abnormal context

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### The significance of displacement behaviours

- The behavioural equivalent to the flow of water through the overflow hole in the top of the sink

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## The risk of overflow

- Emotional overflow is most likely if:
  - The sink is small (low emotional capacity)
  - The tap is hot when this is not justified
  - The tap is turned on full
  - There was a high level of residual water in the sink at the time (poor emotional resilience)
  - The people around do not recognise or act on species specific signs of impending overflow

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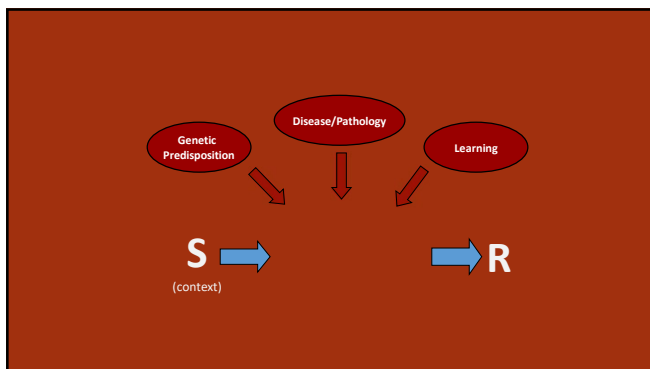
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## Potential behavioural responses to negative emotion

- Inhibition: passive gathering of information (freeze)
- Appeasement: active exchange of information (fiddle)

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#### Potential behavioural responses to negative emotion

- Avoidance (flight)
- Repulsion (fight)

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#### Let's now focus on "aggressive" behavioural manifestation

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#### Common causes for dog bite

- Lack of socialization (early in life, but also during the life)
- Behaviour presented by the victim and the interpretation made by the dog
- Lack of understanding or misunderstanding of dog's behaviour by the victim.

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## Do we need to categorize aggression?

Different authors present different **categories**:

- Maternal
- Fear
- Pain
- Territorial
- Redirected
- Predatory
- Idiopathic
- Play
- ....

**MOTIVATION – EMOTION BEHIND IS THE  
MOST IMPORTANT DETAIL FOR THE  
DIAGNOSE AND TREATMENT!**

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## AND THERE ARE SEVERAL FACTORS TO ANALYZE:

- 1.CONTEXT
- 2.DOG (*bh before and after the bite, body language*)
- 3.VICTIM (*what was doing before and what did after*)
- 4.BITE (*one? Multiple? Released the victim or not? Deep or soft lesion? What part of the victim body?....*)

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## 4 pieces of the puzzle




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What are the evidences shown by studies?

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### Animal

Average age – 4 years old

Average weight – 19,51kg

Sex – 44,8% Females (Guy *et al*, 2001) vs Male as a risk factor (Wright *et al*, 1986, Greshman *et al*, 1994, Shuler *et al*, 2008, Wake *et al*, 2009)

Breeds - GS, Rottweiler, Pit Bull, Chow-Chow, Jack Russel Terrier..... LABRADOR (USA study), among many others in different countries and even regions.....

But also mongrels bite a lot  
(Wake *et al*, 2000, Schalamon *et al*, 2006, Rosado *et al*, 2008, Shuler *et al*, 2008, Cornelissen *et al*, 2009)

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WHICH ARE THE POTENTIAL DANGEROUS BREEDS??

WHICH IS THE  
POTENTIAL  
ANIMAL??

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### Some problems related with Dog Breeds Act

- Some are potencial dangerous while all the others are safe;
- The penalties are generally to the animal and not to its responsible
- Do not implement education of dogs, caregivers and lay people from the public (as children, but not only)
- Promote ilegal breeding and bad conditions for these specific breeds

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### Victim

Age – Children

Body affected áreas – Members (upper – in adults).

In children: head and neck

Sex - Male

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### Context

The victim knows the dog – in the great majority

Interaction with the dog before the accident – in the great majority

Owner – in the great majority (Borud *et al*, 1986, Spakowski *et al*, 1989) vs Stray Dogs (Marijana *et al*, 2008)

Place – in the dog's household or security place

Number of bites – One

Season – Between Spring and Summer (March and August).

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What can we conclude with this data?  
What can be leading to these accidents?

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DOG COMMUNICATION

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Guilty...

...he knows he did something wrong!

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**Tail  
shaking  
always  
means  
that...**

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**Why the kind gestures can be not  
well received by the dog??**

**Dog's perspective:**  
First see legs and than our face staring  
them... Follows a threatening approach!

Avoid petting when the body posture  
indicate that is not comfortable.  
Attention: fear response is frequently  
subtile.

**Problem gets worse in future  
interactions!**

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**Let's discuss a case??**

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## Ed

- Dog, entire, Patterdale Terrier Cross, 1,5 y.o.
- Reason to consultation: generalized aggression toward men in the street and now with the owner's boyfriend
- Blood analysis and physical exam: ok

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### Relevant information

#### Attacks target:

Dogs/people  
Known/unknown

#### Contexts where it happens:

Interaction interpreted as threaten  
Approach (physical or visual)

#### Dog body posture:

Defensive/Ambivalent

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### Relevant information

#### Characteristics:

Threat/Attempt/one single bite or several light bites followed by behaviours to increase distance.

#### After behaviour:

Step away, increase distance, submission.

#### Victims:

Dogs/Unknown people or those that have certain characteristics or associated with a specific(s) episode(s).

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### DIAGNOSE AGGRESSION???

- Is it a diagnose or a symptom?
- Are we going to cure?
- What are we treating?

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### WHAT ARE THE POSSIBLE MOTIVATIONAL-EMOTIONAL SYSTEMS IDENTIFIED IN THIS CASE?

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- Both in clinical context as in others, the most severe contexts are those related with **frustration, fear and anxiety (and pain)**.
- **Fear is the number one reason to search for a behaviour specialist** (Denenberg et al., 2005).

Denenberg et al. (2005). A comparison of cases referred to behaviorists in three different countries. In *Current issues and research in veterinary behavioral medicine: Papers presented at 5th IVBM*, ed. D. Mills et al. 56-62. West Lafayette, Ind.: Purdue Univ. Press.

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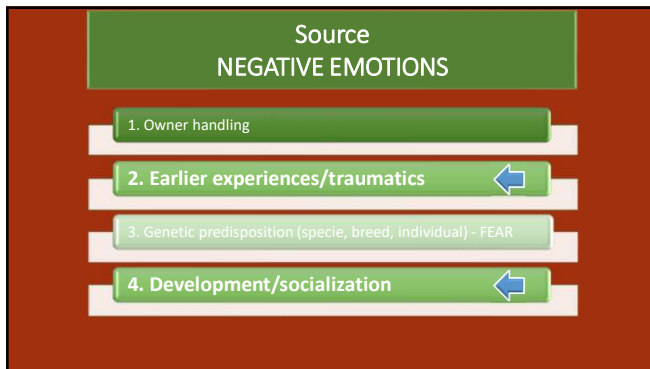
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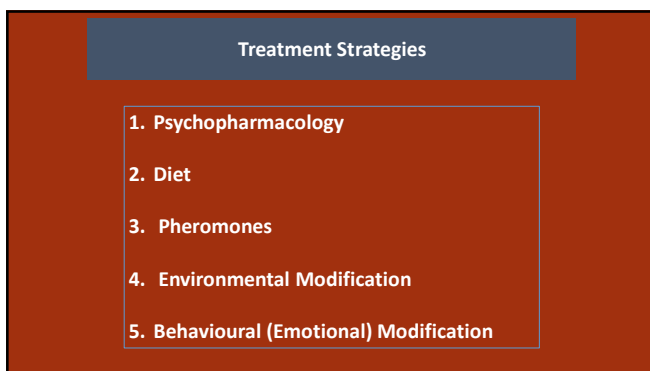
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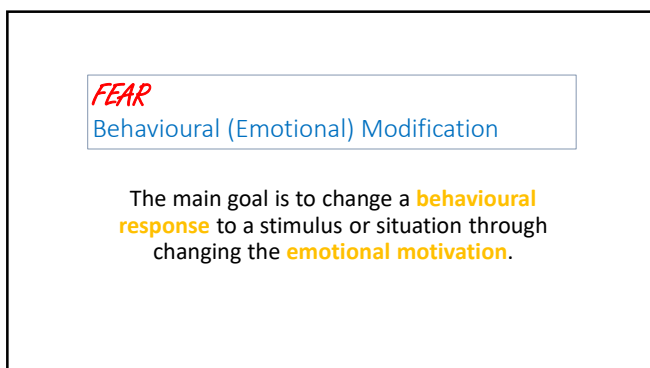
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## Behavioural (emotional) Modification

- Identify signs of fear
- Identify the stimuli that trigger the response
- Establish an intensity gradient of stimuli
- Control the exposure (if possible, only during the sessions)
- Identify the limit of fear response
- Control the dog's response (security, training, and avoiding strategies)
- Define reinforcers very important
- Adopt the adequate posture

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## What should we do... ...to NOT worse the situation?

Putting a spider in your face  
solve the situation?

Probably the only way to get habituated to the spider is if the approach is done gradually and at your time.

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## Classic Counterconditioning

New associations are made, because a new emotional and physiological response is trained in the situation. Usually associated with Desensitisation.

Ex: dog that has fear of another dog/noise is trained to associate a treat or play with this stimulus– **incompatible emotional response**. At the beginning something good, independently of the behaviour, is given simultaneous with the stimulus.

**Changing emotional state... The behaviour will also change!**

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### Treatment Strategies

Consistency in management  
 Dog control  
 Accident prevention  
 Increase exercise (cognitive)  
 Change behaviour and dog's perception (SECURITY!!!)  
 (systematic desensitization and counterconditioning)  
 Abolish aversive techniques and positive punishment

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### POSITIVE PUNISHMENT AND CONFRONTATION

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### POSITIVE PUNISHMENT AND CONFRONTATION

- Decrease social contact
- Increase anxiety and fear
- Increase the aggression intensity and frequency
- Inhibit warning signals (impulsivity)
- Don't guide the animal to the wished bh

Hiby et al., Animal Welfare, 2004  
 Heron et al., Applied Animal Behaviour Science, 2009  
 Blackwell et al., Journal Veterinary Behaviour, 2008  
 Ahrant et al., Applied Animal Behaviour Science, 2010  
 Hsu et al., Applied Animal Behaviour Science, 2010  
 Roomy et al., Applied Animal Behaviour Science, 2011

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Want to dominate the dog?...

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## PREVENTION

- Breeders' training (as well as animal officials and NGOs)
- Caregivers' training
  - National entities (schools, hospitals, among others) – including parents and children (with and without dogs)
  - Veterinarians, Vet nurses and technicians
- Socialization of puppies and dogs
- Proper training with scientifically evidence techniques
- Training and socialization of shelter dogs



Prevention is responsibility of everyone: animal health professionals, pediatricians, behaviour experts, psychologists and families

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## Conclusion

- Behaviour is motivated by emotion
- There is a variation in normal emotional systems
- These are associated with behavioural responses

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## Conclusions

- Assessing emotional health is a vital part of the diagnostic process in behavioural cases
- It is also essential in order to safeguard the welfare of all domestic pets.

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Working in Behaviour is like being an FBI Profiler....

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The image shows a screenshot of a social media profile for Gonçalo da Graça Pereira. On the left, there is a photo of him sitting on a couch with a golden retriever. The profile header includes the name 'Aitäh!' and the username 'goncalo\_da\_graca\_pereira'. Below this, there is a bio in Portuguese: 'Gonçalo Da Graça Pereira', 'Figura pública', 'EBVS European Veterinary Specialist in Behavioural Medicine', 'Diplomate in Animal Welfare Science, Ethics and Law', and 'Partnerships at @v-p\_partner'. There are also logos for the European College of Veterinary Behaviorists (ECVB) and the Portuguese Veterinary Association (Ordem dos Veterinários de Portugal). At the bottom, it says 'Gonçalo da Graça Pereira - Comportamento animal' and 'Sou veterinário diplomado europeu em medicina comportamental, bem-estar, ética e lei'.

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