



MOVING BEYOND DIAGNOSIS

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WHAT IS A DIAGNOSIS?

- A diagnosis is the identification of which disease or condition explains an animal's clinical signs.
- This has many uses in the medical and behavioural fields:
 - Provides a common language
 - Makes it easier to research particular conditions
 - Means there can be clear guidelines in place for how to treat the condition
- In human psychiatry, and psychology, the DSM-5 and ICD-11 provide an overview of the different disorders mental health disorders an individual can experience. There is however, no clear diagnostic framework in place for animals with behavioural disorders.

WHAT BEHAVIOURAL DIAGNOSES DO WE COMMONLY SEE?

- Fear based aggression
- Separation anxiety
- Generalised anxiety disorder
- Compulsive disorders
- Panic disorder
- Post-traumatic stress disorder

DIAGNOSES DIFFER FROM CLINICAL SIGNS

- Human directed aggression
- Separation related distress
- Abnormal repetitive behaviours
- Flank biting
- Self mutilation
- Dog directed aggression

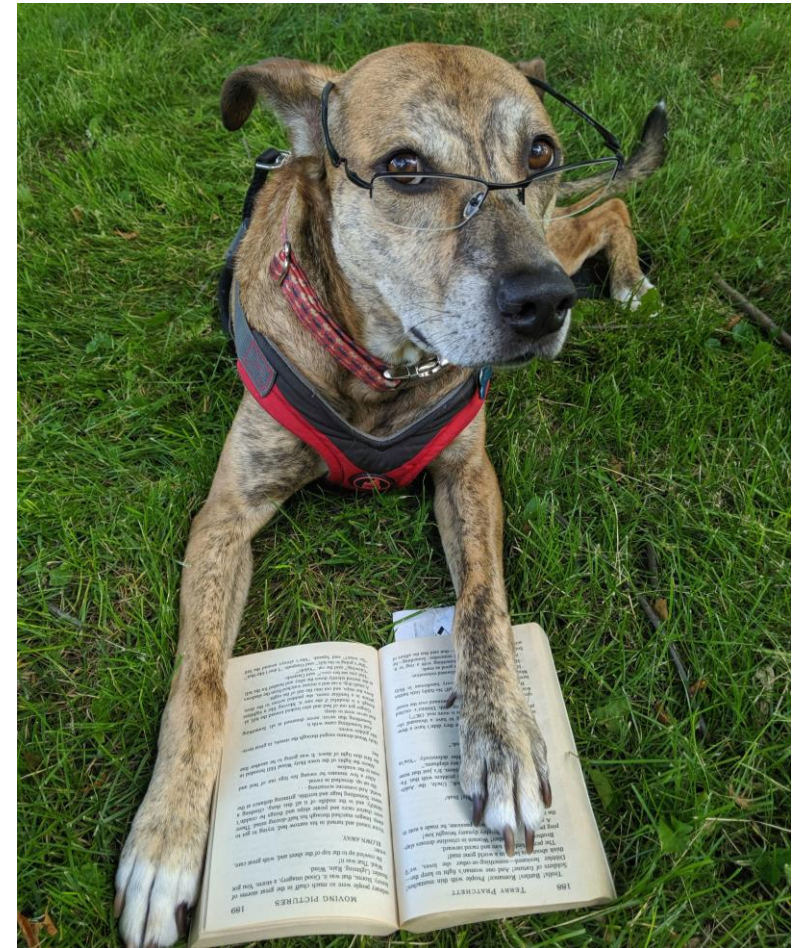
THE CHALLENGE OF DIAGNOSIS IN MENTAL HEALTH

- With a medical condition, the diagnostic process is clear:

Dog displays high blood pressure → Suspected heart disease → Confirmed by ECG/blood tests

- With a mental health condition, there are no observable biological markers:

Dog displays fearful behaviour → Suspected anxiety disorder → Confirmed by fearful behaviour



WHAT MAKES A MENTAL HEALTH DISORDER?

- “Behaviour that differs from the norm”
 - Homosexuality was classed as a mental illness in the DSM until 1973.
 - Most behaviours are normal at some point – being highly anxious is normal if there is a threat to your life.
 - The norm is affected by social perception - aggression may be a desirable behaviour for guard dogs, just not family dogs.
- “Thoughts or feelings that cause distress”
 - Would that make grief a mental illness?
- “Maladaptive behaviour that causes a risk to yourself or others”
 - Most behaviour is adaptive in some way – for example abnormal repetitive behaviours are often coping mechanisms.

DIFFERENCES WITHIN DISORDERS - EXAMPLE

- Major Depressive Disorder in the DSM-V:
 - Five of the following over a two-week period (including at least one of the first two):
 - **Depressed mood**
 - **Lack of interest in pleasurable activities (anhedonia)**
 - Significant weight loss or weight gain (5% change within one month)
 - Insomnia or hypersomnia
 - Psychomotor agitation
 - Fatigue or loss of energy
 - Feelings of worthlessness or guilt
 - Diminished ability to concentrate or make decisions
 - Recurrent thoughts of death
 - Clinically significant distress or impact on functioning
 - Not attributable to a substance or another medical condition

Patient 1:

- Depressed mood
- Weight loss
- Insomnia
- Psychomotor agitation
- Feelings of worthlessness

Patient 2:

- Lack of interest in pleasurable activities
- Weight gain
- Hypersomnia
- Fatigue
- Diminished ability to concentrate or make decisions

SO WHAT ABOUT BIOLOGY?

- Biology plays an undeniable role in the development of behavioural problems.
 - For example: Neurotrophic Theory of Depression
 - BDNF levels are often lower in depressed patients, which may influence depressive symptoms by interacting with serotonin neurons.
 - Polyakova et al. (2015) found levels of BDNF in blood samples could be a predictor of response to antidepressant drugs.
 - Overall indicates BDNF levels influence the development and maintenance of depression.
- However, the relationship between BDNF levels and depression is not a perfect correlation. It makes more sense to understand BDNF as an **influencing factor** (and useful biomarker) of depressive symptoms, than a cause.

HOW DO WE DESCRIBE BEHAVIOUR?

- What term should we use?
 - Mental illness
 - Behavioural disorders
 - Abnormal behaviour
 - Madness
 - Behavioural challenges



SUMMARY OF THE STRENGTHS AND WEAKNESSES

Benefits of Diagnosis

- Can serve as a compass for identifying common comorbid symptoms, required treatments, and potential outcomes.
- Allows fast communication between professionals.
- May help owners sympathise with their pet's difficulties.
- Can be empowering for some owners

Weaknesses of Diagnosis

- No identifiable biomarkers – only confirmed by the presence of clinical signs.
- Implies there is a disorder underlying the behaviour, however whether a behavioural is abnormal is often down to social perception.
- The boundaries of diagnoses of very broad – if there are reliable biological explanations, they are likely to differ between individuals.
- Risk of causing owners to fixate on particular solutions and follow dangerous recommendations.

For more on the benefits and drawbacks of diagnosis see Perkins et al. (2018).

PSYCHOLOGICAL FORMULATION

- One way in which mental health professionals in human psychology and psychiatry have overcome these drawbacks of diagnosis is through “psychological formulation”.
- In some cases, professionals are completely replacing diagnoses with formulation, however, more often diagnoses and formulation are used in combination.



WHAT IS FORMULATION?

Cole et al. (2011)

- Summary of the individual's core problems, and the way in which the difficulties may relate to one another.
- This is achieved by drawing on psychological theories and principles.
- Formulation aims to explain the development and maintenance of the individual's difficulties.
- The purpose is to identify the best way forward and inform the interventions agreed upon.

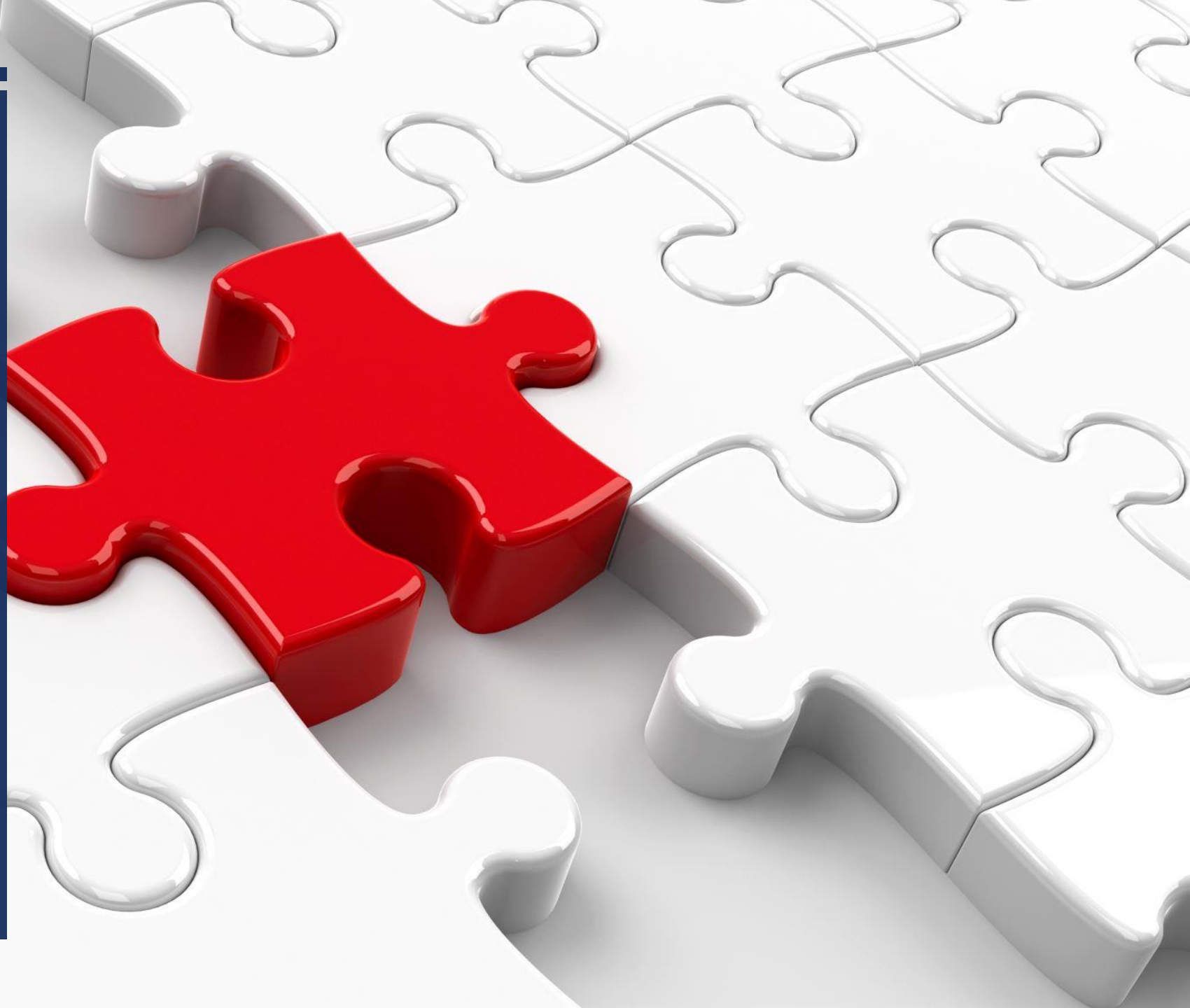


Good Practice Guidelines on the use of
psychological formulation

December 2011

(SOME) METHODS OF FORMULATION

- The Five Ps Approach
- The Five Aspect Formulation
- Functional Analysis
- Systemic Approach
- The 5 Axis Model

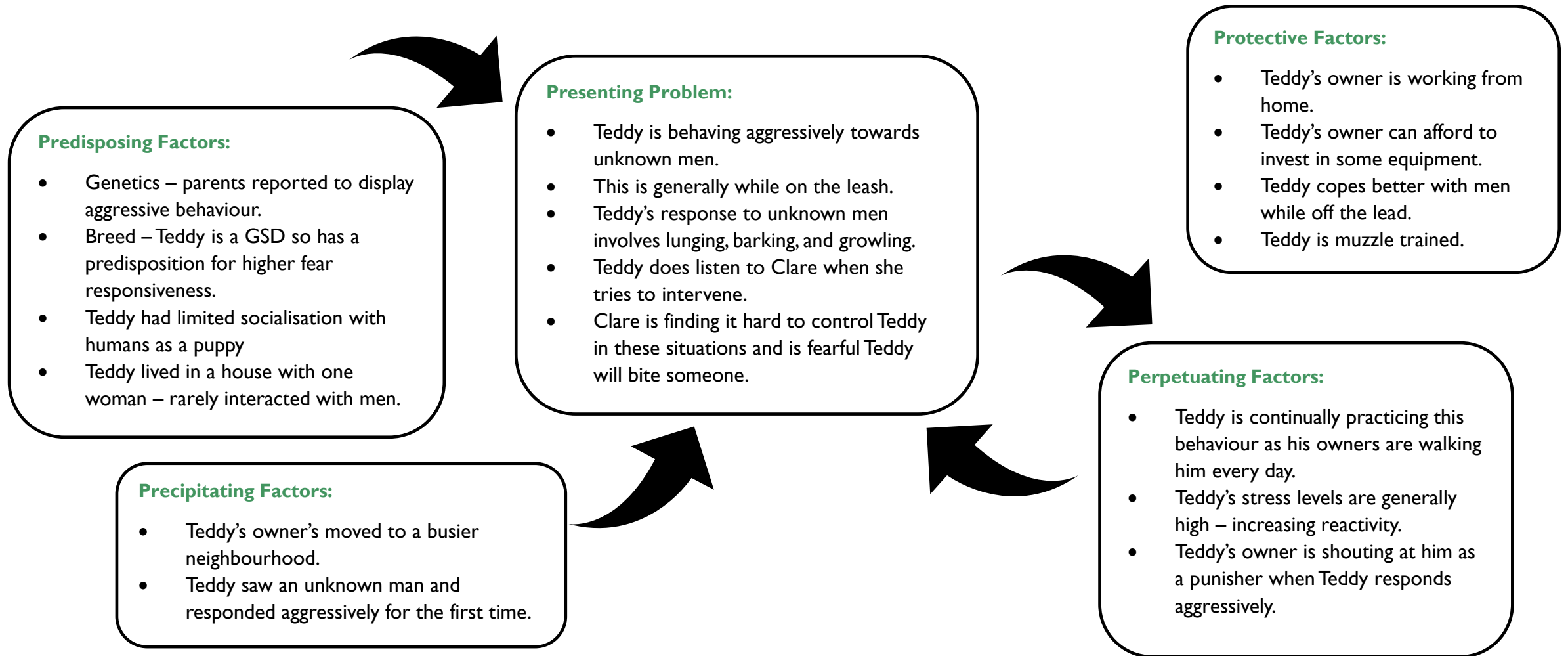


THE FIVE Ps MODEL

- CBT based model, focussed on understanding how an animal's **emotions, cognitions, and behaviour** are formed and maintained.
- Breaks down a problem into 5 factors:
 - Presenting Problem
 - Predisposing Factors
 - Precipitating Factors
 - Perpetuating Factors
 - Protective Factors

THE FIVE Ps

Dudley and Kuyken (2013); Birdsey (2020)

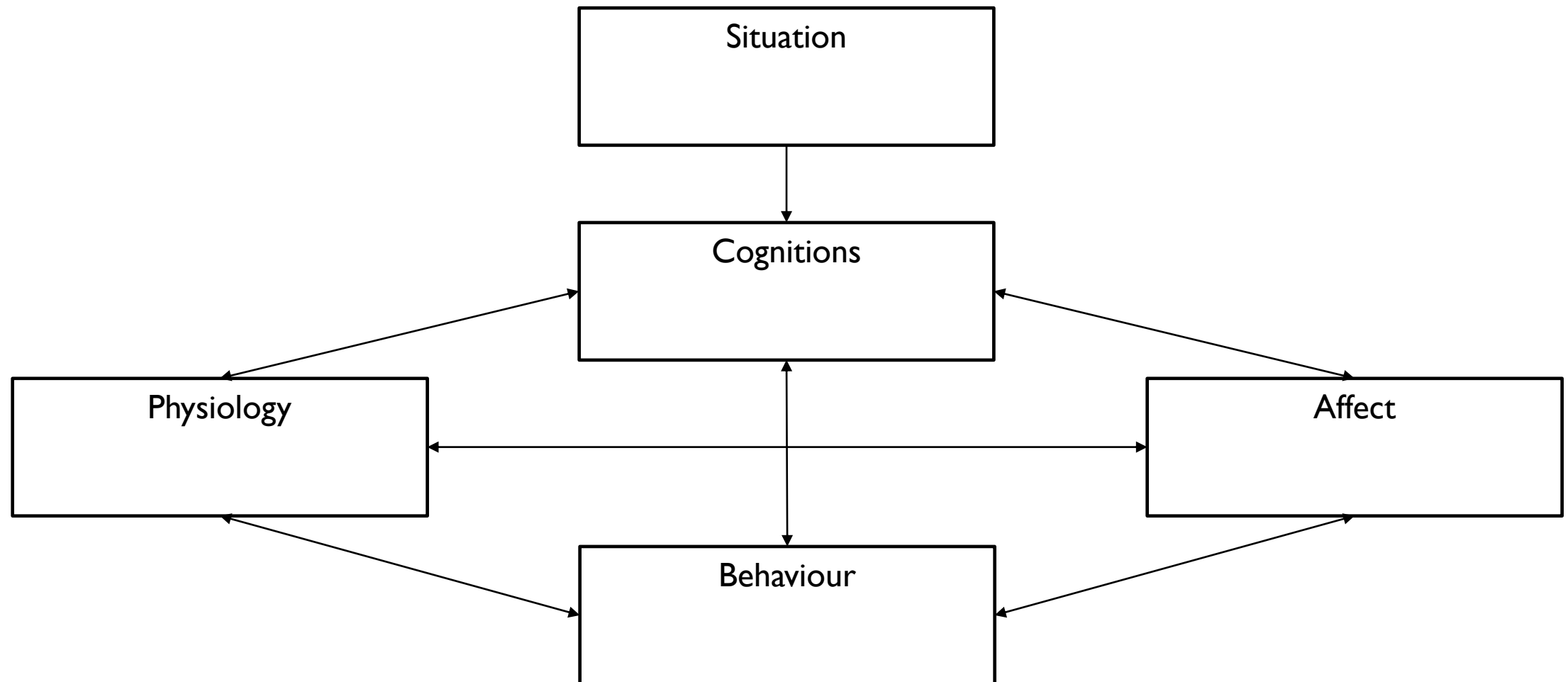


BIOPSYCHOSOCIAL

Tanzania and Mbelwa (2017)

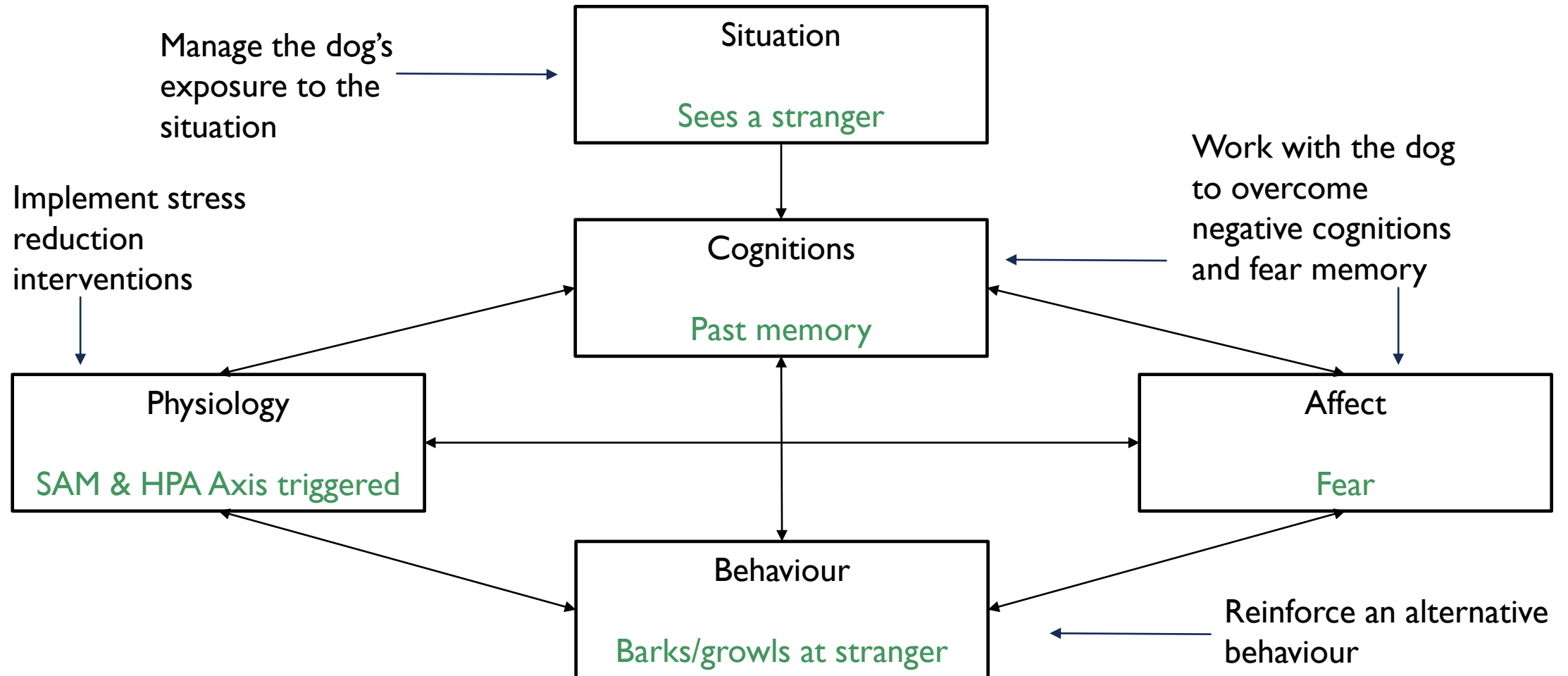
Factors	Biological	Psychological	Social
Presenting	<ul style="list-style-type: none">At risk of physical harm	<ul style="list-style-type: none">Teddy is highly anxious which is impacting his psychological welfare.	<ul style="list-style-type: none">Teddy's behaviour poses a risk to strangers and is impacting Clare's daily life.
Predisposing	<ul style="list-style-type: none">Breed disposition for vigilant behaviour.	<ul style="list-style-type: none">Lack of adequate maternal input from parentsWas not appropriately socialised	<ul style="list-style-type: none">Living in a busy neighbourhood.Single person household.Perceptions of GSDs leading to unusual behaviour directed towards him.
Precipitating	<ul style="list-style-type: none">Adolescence period beginning	<ul style="list-style-type: none">Perceived scary incident with unknown stranger	<ul style="list-style-type: none">Moving house to a new neighbourhood
Perpetuating	<ul style="list-style-type: none">Regular high levels of stress chemicals increasing reactivity	<ul style="list-style-type: none">Regular rehearsal of aggressive behavioursPunishment associated with unknown males	<ul style="list-style-type: none">Influence of Clare's familyClare's views on aggression
Protective	<ul style="list-style-type: none">Physically healthy	<ul style="list-style-type: none">Responded to basic training	<ul style="list-style-type: none">Clare is well prepared to support Teddy

THE FIVE ASPECT FORMULATION



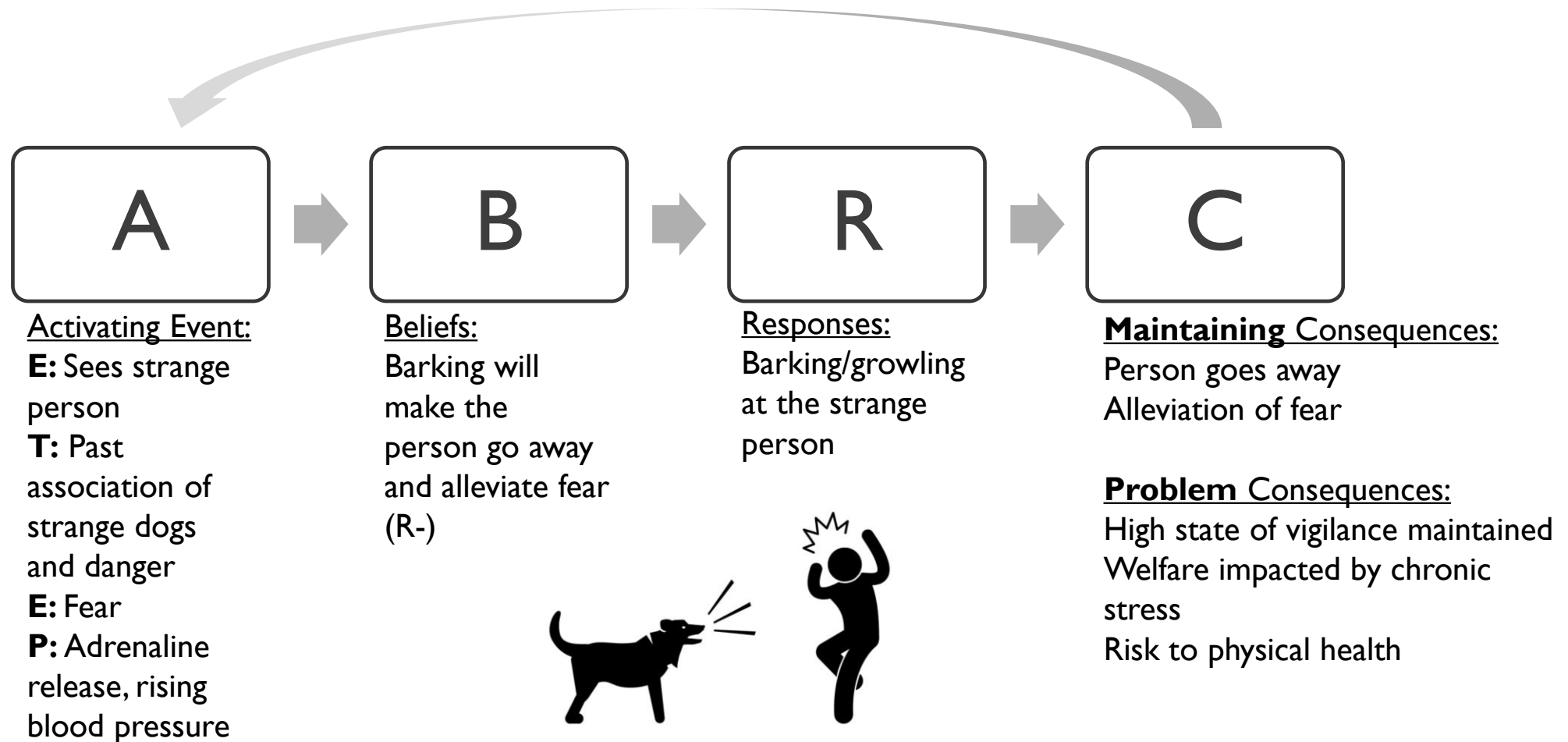
THE FIVE ASPECT FORMULATION

Greenberger and Padesky (2016)



FUNCTIONAL ANALYSIS

(Spada, 2010)

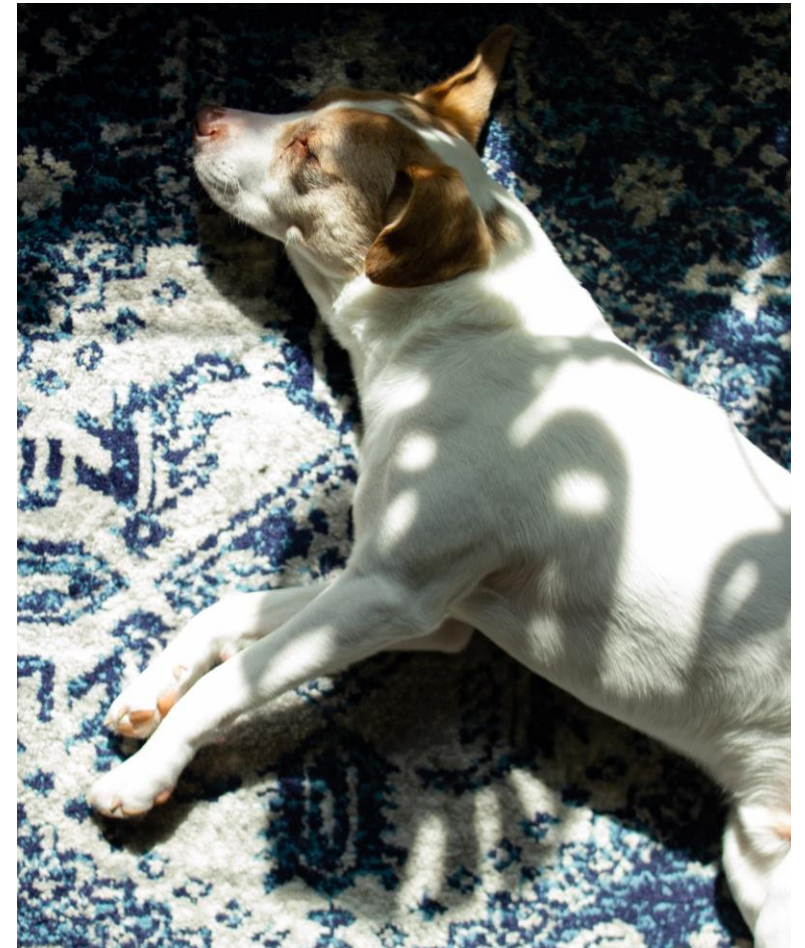


SUMMARY OF THE CBT BASED MODELS

- Five Ps
 - Provides a useful way to understand and differentiate the development and maintenance of behaviour problems.
 - Ensures all factors that may influence a problem are considered, and identifies strengths in the dog that may predict a positive outcome.
 - Limited scope as primary focus on the individual, not social and cultural factors.
 - Categories are not always clear cut – oversimplified.
- The Five Aspect Model
 - Easy overview which cognitions, behaviour, emotions, and physiology interact.
 - Good way to identify clear points for intervention.
 - Simple to understand, useful when working with clients.
 - However, forces inclusion of 5 factors and less individualised.

SUMMARY OF THE CBT BASED MODELS

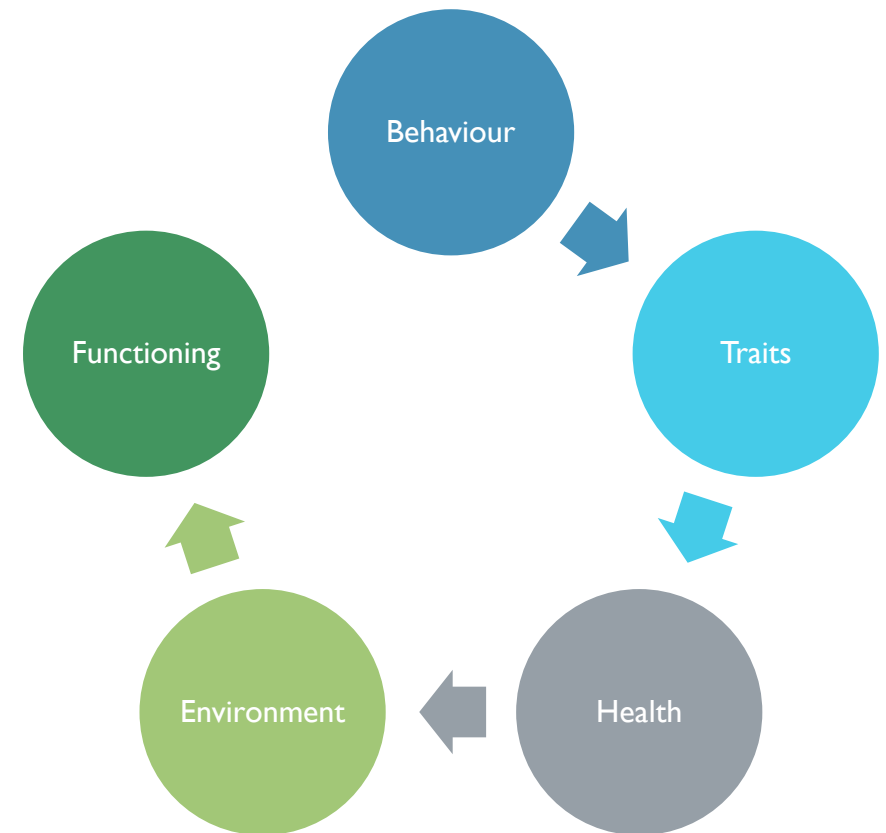
- The Biopsychosocial
 - Good overview of a number of factors, includes social factors which few other CBT based models do.
 - Heavily forces categorisation and does not allow for analysis of the interaction between categories.
- The Functional Analysis
 - Integration of behavioural, cognitive, physiological and emotional components.
 - Analysis of the consequences key of understanding the maintenance and problems associated with maladaptive behaviour.
 - Clear unfolding sequence, similar to ABA, however, considers the animal's internal state and long term consequences of the behaviour – more useful for building empathy and understanding in clients.



MULTI-AXIS ASSESSMENT OF BEHAVIOUR PROBLEMS

Fatjó and Bowen (2020)

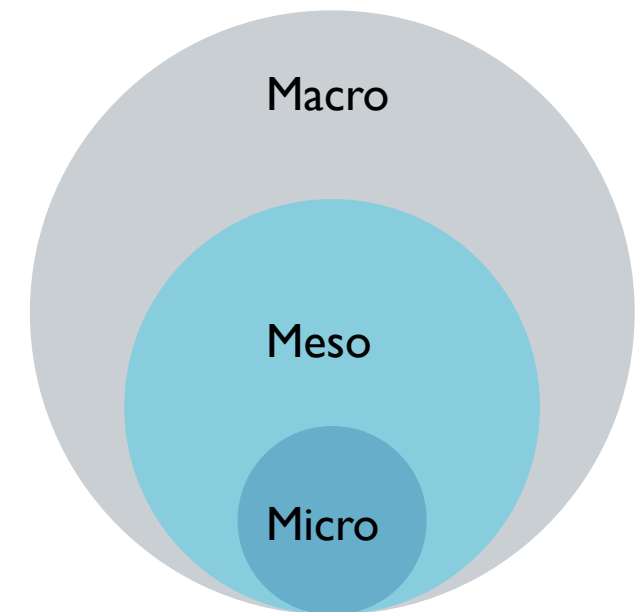
- Designed specifically for animals with behaviour problems.
- Considers immediate causes of the problem, from the perspective of environment, how it impacts functioning, and the influence of health.
- Considers the wider influence of the behaviour problem on the owner and society.
- Similarities to the biopsychosocial model.
- Little scope for analysis of the interaction between categories, however could easily be combined with other models to achieve this.



SYSTEMIC MODELS

Hudson et al. (2017)

- Argue that distress occurs as a result of unhelpful dynamics within a system, that have not been acknowledged or properly addressed.
- This may lead to negative repetitive patterns of behaviour, with problems being maintained by various cycles of unhelpful feedback.
- Distress can be viewed on three levels:
 - Micro – internal sources of distress
 - Meso – family system, wider family systems, regular contacts
 - Macro – cultural, political, and legal systems



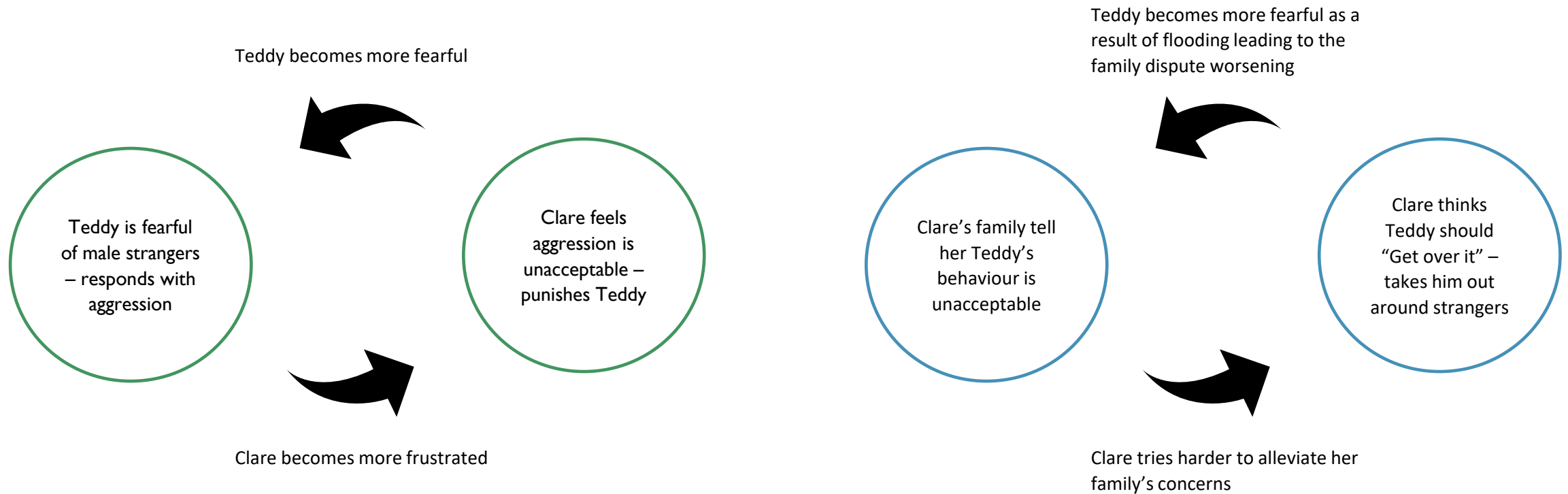
MODEL FOR SYSTEMIC FORMULATION

Dallos and Stedman (2013)

1. Deconstructing the problem
 1. What is the problem? Where does it occur? Where is it worst? How does it impact family relationships? How do family relationships impact the problem?
2. Problem maintaining patterns and feedback loops
 1. Are there patterns of behaviour maintaining the problem? Are there cycles where attempts to solve the problem are worsening it?
3. Beliefs and explanations
 1. What do the family believe about the problem? What do they believe about the dog? Are there conflicting beliefs?
4. Transitions, emotions, and attachments
 1. How have attachment relationships, traumatic experiences, life transitions disrupted the system and influenced the problem?
5. Contextual factors
 1. Macro systems – cultural factors, local community, wider society, legal factors.

FEEDBACK LOOPS

Johnstone and Dallos (2013)



SUMMARY OF SYSTEMIC APPROACHES

- Good for understanding the systems involved in a behavioural problem – not just about how it effects the dog – it is important to understand how it effects the family, and how family, and wider systems (extended family, community, culture) influence the problem.
- Shift from focussing on the individual may prevent there from being focus on treating the specific behaviour. However, this could be argued to be a good thing, as it may encourage owners to focus on the dog's welfare more generally.
- Digging into family systems can be problematic. And as someone there to support with the dog, we cannot overstep the mark. Have to strike a careful balance.

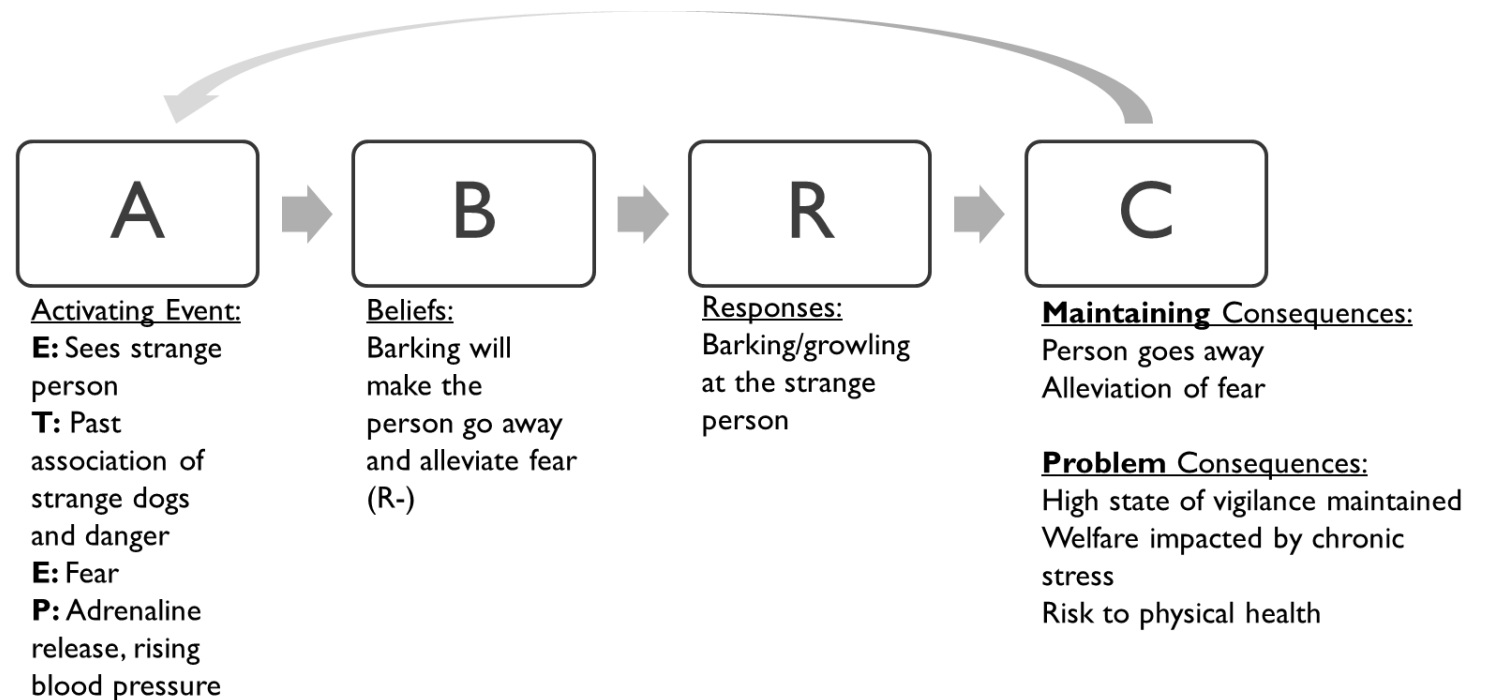


EXAMPLE OF AN INTEGRATIVE FORMULATION

Teddy displays aggressive behaviour towards males strangers on a regular basis. This involves, snarling, snapping, and lunging towards strangers.

Teddy was likely at higher risk of developing these aggressive behaviours due to his breed lineage and the limited parental input he received. Due to the nature of Clare's friendship circles, Teddy had limited opportunities to interact with unknown men when Teddy was a pup, which put him at higher risk of developing these aggressive responses.

Teddy's fear around men was initially triggered by an experience in which he was surprised by an unknown man whilst walking on lead on his way to the park, causing him to react fearfully. Since this incident, Teddy has consistently been reacting fearfully around men.



ANOTHER EXAMPLE OF A INTEGRATIVE FORMULATION

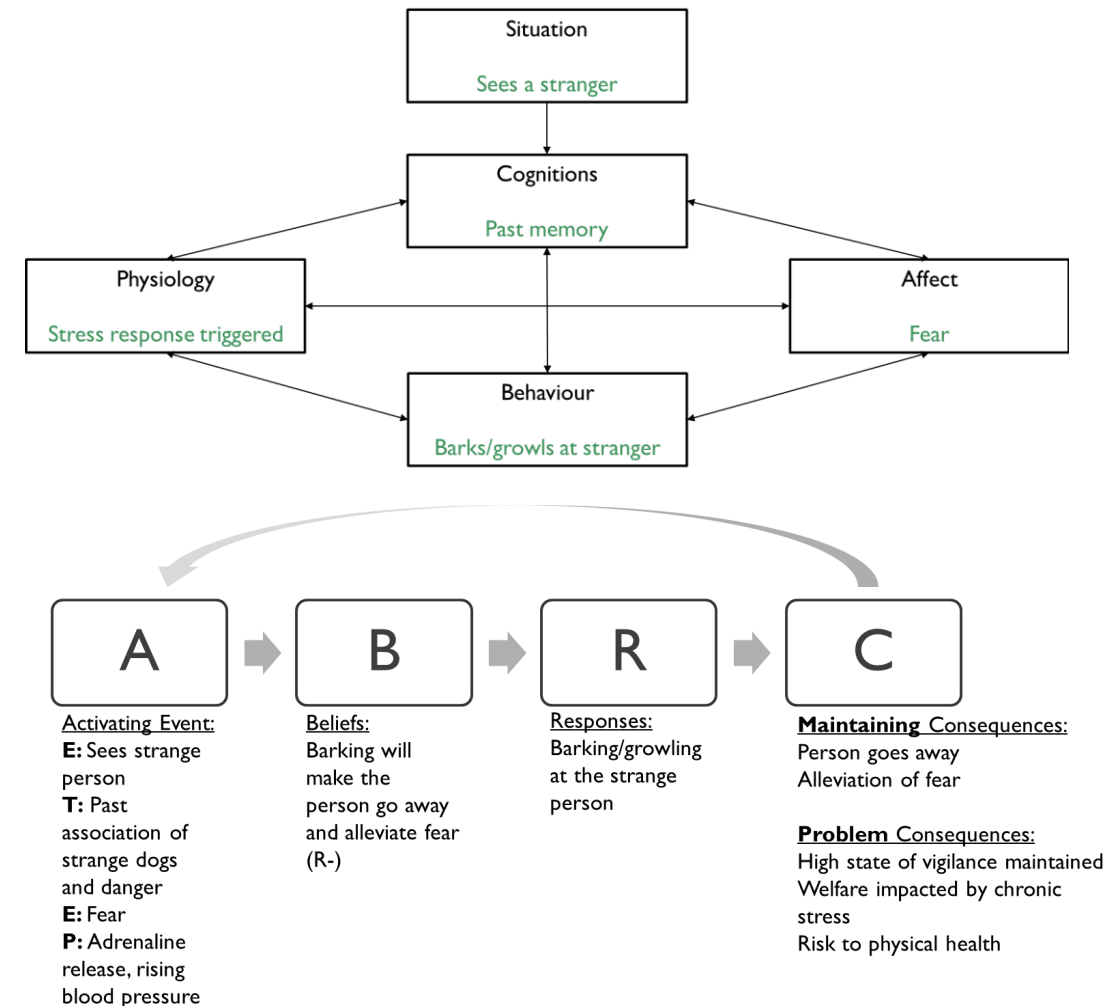
Teddy displays aggressive behaviour towards male strangers on a regular basis. This involves, snarling, snapping, and lunging towards strangers and other dogs. This tends to worsen when Teddy is on the leash. This is resulting in Teddy feeling highly anxious on a regular basis and having an impact on his welfare¹. He is struggling to settle in the home, and seems constantly alert both at home and whilst on walks. This is impacting Clare's social life, as she feels unable to leave Teddy alone and unable to have friends in her home. She used to really enjoy walking Teddy with her boyfriend, but now she is unable to as Teddy barks and lunges at him.

Teddy was likely at higher risk of developing these aggressive behaviours due to his breed lineage and the limited parental input he received². He was an accidentally farm pup with inexperienced breeders who were not aware of socialisation practices². Teddy is also a GSD which means his fear related behaviour was likely to onset at a younger age, meaning his socialisation window was even more limited³. Due to the nature of Clare's friendship circles, Teddy had limited opportunities to interact with unknown men when Teddy was a pup, which put him at higher risk of developing these aggressive responses.

Teddy's fear around men was initially triggered by an experience in which he was surprised by an unknown man whilst walking on lead on his way to the park, causing him to react fearfully⁴. Since this incident, Teddy has consistently been reacting fearfully around men. Teddy is also 16 months old, so likely to have begun adolescence, meaning his emotional responsiveness is heightened and inhibition poor^{5,6}.

Pressure from her parents to solve the issue has resulted in Clare has been taking Teddy out to see lots of strangers at the park and verbally punishing Teddy whenever he responded aggressively. However, from our discussions, we now realise this may have led to the aggression worsening as it has resulted in Teddy rehearsing the fearful response⁷. It also means Teddy is likely being exposed to high levels of the stress hormone cortisol, meaning he is at risk of being more reactive until his cortisol levels have returned to baseline⁸. The other challenge is Teddy lives in a busy neighbourhood, so leash walking is hard to avoid, and people are likely to be encountered every time he goes out.

Clare is currently working from home, and is prepared to dedicate time to resolving this issue, and is happy to invest in tools to support with Teddy's management and make handling him more comfortable and safer for her. Teddy is also physically healthy and any pain that may be influencing his condition has been ruled out by his vet.



REFERENCES FOR THE FORMULATION?

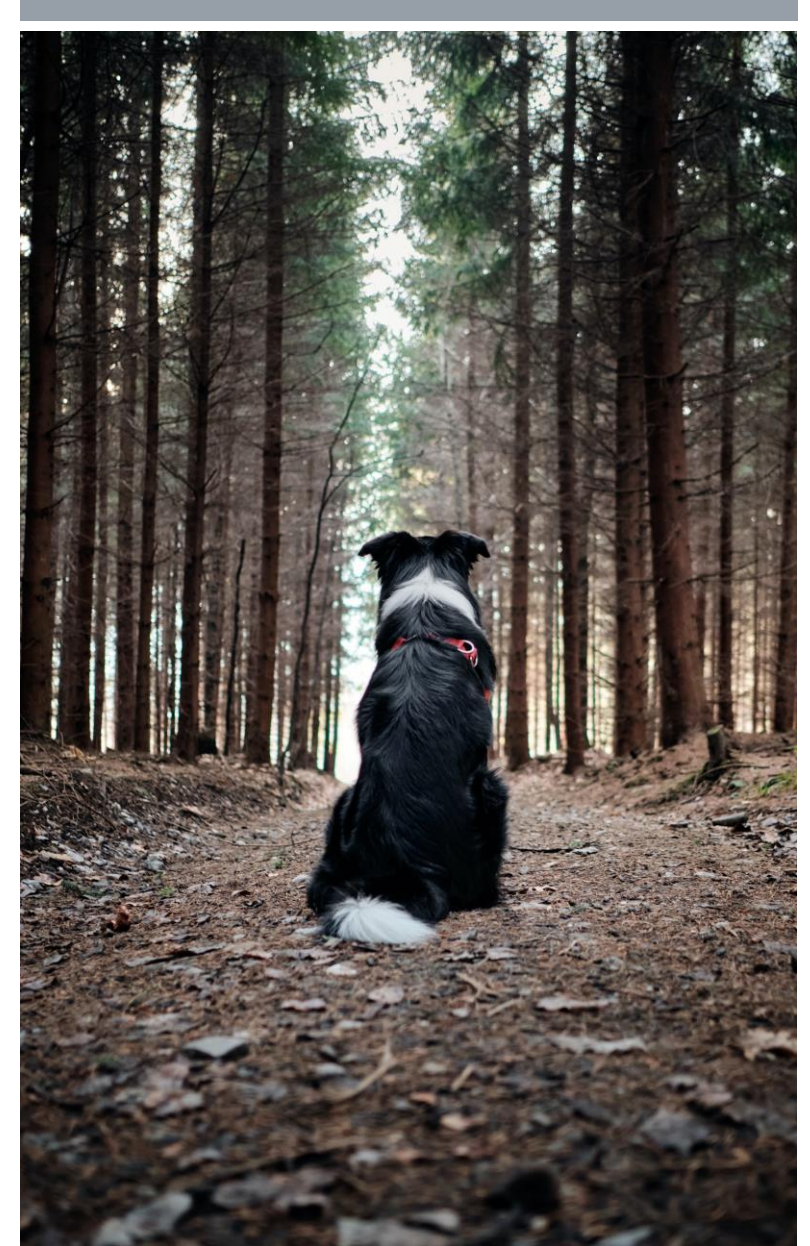
- Optional – likely to be overwhelming and unnecessary for owners. However may be useful to include if the formulation is drawn up for other professionals.
- Even if not used, it is important to know the sources you are referring to when making a formulation.

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IN SUMMARY

- Diagnosis is a useful tool when dealing with behaviour problems, however, to gain a more accurate assessment of an individual animal, a formulation based approach may be more useful.
- Some practitioners choose to provide a formulation alongside a diagnosis, whereas some practitioners prefer to provide a formulation alone. Both options can be useful.
- Formulation allows a behaviour problem to be viewed from a number of perspectives (individual, systemic, cultural) which enables a more integrated approach.
- Formulations and models of formulation are useful in developing our own understanding of a behaviour problem, and as a way to explain an animal's behaviour to the client. They can help map out the path ahead.
- Models may focus on the animal as a whole, or the animal's behaviour in a specific situation.
- There are a number of different approaches to formulation, however, in real life, most practitioners integrate techniques from various approaches.



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ANY QUESTIONS?

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