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BEHAVIOR MODIFICATION IN FEAR AND PHOBIA PROBLEMS

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INTRODUCTION

Fear-related behavior problems in dogs are widespread and can significantly impact both their quality of life and that of their caregivers[1]. Despite their prevalence, many cases go unreported, and those presented at behavioral clinics likely represent only a fraction of affected dogs. Several factors may contribute to this underreporting, such as:

- Lack of owner awareness of the problem
- Misconceptions regarding the impact of the behavior on the dog's well-being
- Misunderstandings about the origins, development, prevention, and treatment of behavioral problems
- Insufficient promotion of referral systems for high-quality behavioral services (i.e., not knowing help is available)
- Additional barriers, such as financial or time constraints.

Advancements in clinical animal behaviour are making treatment increasingly science-based, leading to improved understanding and management of behavior cases presented at clinics[2]. While applying this knowledge in practice can be complex, ongoing research and collaboration among specialists continue to refine best practices. Discussions on paradigms, behavioral diagnoses, and diagnostic criteria are helping to shape a more standardized approach[2]. Efforts to address terminological inconsistencies are also enhancing the comparability of findings across scientific studies. Research into the etiology of behavior problems, the efficacy of treatment methods, and the reliability of diagnostic tools—such as questionnaires and behavioral tests—is progressing, with continuous improvements strengthening their application in clinical settings.

Owner compliance plays a crucial role in the success of behavior modification programs, and understanding the factors that influence it can enhance treatment outcomes. Research into compliance has highlighted several key factors that help establish and sustain owner compliance throughout the process[3 4], which can be summarized as clinician-related factors, owner-related factors and treatment related factors[3].

- Clinician-related factors: These relate to how confident and experienced the clinician is perceived to be. A client-centered approach, characterized by strong interpersonal skills, plays a crucial role. Effective communication, including a clear and logical explanation of the pet's behavior problem and its causes, along with supportive non-judgmental attitude, helps establish trust in the clinician's advice.
- Owner-related factors: Compliance is influenced by the client's personal circumstances, including family dynamics and the extent to which the behavior problem disrupts daily life. Having realistic expectations regarding treatment outcomes and timelines is essential, as well as ensuring that caregivers feel actively involved in the rehabilitation process.
- Treatment program-related factors: The complexity and duration of a behavior modification program can significantly influence compliance. Programs tailored to the needs of both the pet and the owner, broken down into manageable stages, and incorporating practical demonstrations of techniques are more likely to be successful. Identifying and addressing potential barriers to implementation during consultations is crucial. Additionally, a well-structured follow-up system helps maintain engagement. If previous interventions have failed, owners may be reluctant to retry similar approaches due to concerns about causing distress to their pet. In such cases, providing a clear explanation of why past strategies were ineffective and how adjustments will improve their likelihood of success is essential[4].

ANXIETY, FEAR AND PHOBIA: UNDERLYING CONCEPTS

Fear is a fundamental emotion that plays a crucial role in an animal's self-defense mechanisms, contributing to individual survival[1 5 6 7]. As one of the primary drivers of behavior, fear—along with related emotions as anxiety and phobia—is commonly associated with canine behavior problems[1 5 6 7]. They are all negatively valenced emotional states characterized by heightened arousal and coping strategies aimed at avoiding or mitigating exposure to what the animal perceives as aversive stimuli[1 5 6 7]. While fear is an obvious underlying factor in certain problems, such as noise phobia, social avoidance, and defensive behaviors, it can also intensify and complicate a wide range of behavior problems. Recognizing how fear manifests in different contexts enables clinicians to guide caregivers effectively in managing fear-related challenges, including sensitivity, anxiety, and phobias[1]. Fear-induced behaviors can be categorized into four distinct clinical presentations based on their intensity and adaptive function[1].

- Sensitivity: Sensitivity refers to the mildest form of fear response triggered by a perceived threat. This reaction is generally adaptive, often manifesting as an orienting response or a startle reflex. Fear-related behaviors at this stage are minimal, and most animals gradually habituate to the stimulus. However, there is a potential risk of sensitization, where repeated exposure to the perceived threat could lead to an intensified fear response over time[1].
- Fear: Fear is an emotional reaction triggered by the presence or closeness of a stimulus that a dog perceives as threatening. This response involves psychological and physiological changes, including somatic, emotional, cognitive, and behavioral aspects. In many cases, fear serves as a normal and adaptive mechanism. Whether a fear response is appropriate depends on its intensity and the context in which it occurs[1 5 6 7].
- Anxiety is the anticipation of a potential threat or danger, functioning normally as an adaptive mechanism that supports survival. Unlike fear, anxiety can occur without an identifiable stimulus and may become generalized or linked to specific situations perceived as threatening. Dogs that have previously experienced intense fear in a particular context may develop anxiety in anticipation of a similar event. Signs of anxiety include physiological arousal (e.g., autonomic activation, hypervigilance, gastrointestinal disturbances) and behavioral responses such as freezing, lip licking, pacing, hiding, stress vocalizations, and restlessness[1 5 6 7].
- Phobias are maladaptive responses characterized by exaggerated and persistent fear reactions that are disproportionate to the triggering stimulus and for coping with an actual threat. These responses interfere with normal functioning. With repeated exposure to the eliciting stimulus, extreme fear persists or even intensifies. Phobic reactions often generalize to multiple contexts, significantly affecting the animal's well-being[1 5 6 7].

The perception of fear is associated with the biological stress response, which is triggered by the amygdala, activating the individual to cope with a perceived threat or challenging situation through the activation of fear pathways. The stress response includes the behavioral component, the autonomic component, the neuroendocrine component involving the hypothalamic-pituitary-adrenal (HPA) axis, and the immune component[1 5].

Neurotransmitters such as serotonin, noradrenaline, and GABA mediate the fear response, influencing emotional regulation. Dysregulation of fear pathways is a significant manifestation of phobias and anxiety disorders[1 5].

Several factors contribute to the development of fear-related behavior problems in dogs. Genetics plays a role, as fearfulness has a heritable component. Medical factors, including pain, influence the emergence and manifestation of fear. Additionally, developmental factors contributing to the animal's temperament such as early handling, maternal care, and exposure to social and non-social stimuli during sensitive periods of development are crucial in shaping the dog's fear responses. Appropriate learning experiences are essential for equipping the dog with the capacity to function in society and cope with challenges. A lack of or inappropriate learning experiences may substantially contribute to the development of fear problems. For example, insufficient learning experiences can hinder a dog's ability to cope. The use of aversive training methods can exacerbate fear responses and contribute to anxiety[1 5 6 7].

FOUNDATIONAL TREATMENT APPROACHES

Effective treatment of fear-related behavior problems requires a multi-faceted approach that includes four key components: (1) assessment of overall health and well-being, (2) management strategies to avoid or reduce exposure to fear-eliciting stimuli which includes education of the caregivers, (3) neurochemical modulation through medications, supplements, diet, and additional therapies such as pheromone therapy, and (4) the application of behavior modification techniques[1 5 6 7].

Successful treatment requires the careful consideration of the relevance of these components and carefully tailoring them to the specifics of the case. When creating a behavioral therapy plan several important factors should be considered[1 5 6 7]:

- Identification of fear or anxiety-inducing stimuli: A list of triggers that cause fear or anxiety in the pet should be compiled.
- Recognition of body language: Identifying specific body language cues that signal fear or anxiety is crucial.
- Assessment of functional rewards: Determine the reward that reinforces the fearful or anxious behaviors, helping to understand the motivation behind them.
- Threshold identification: Recognize the point at which fear responses are triggered in the pet, establishing a threshold for fear.
- Controlled exposure: Gradually expose the pet to fear-inducing stimuli in a controlled manner to reduce its impact.
- Teaching coping mechanisms: Provide the pet with tools or alternative behaviors to help manage anxiety or fear.
- Emotional state modification: Work to modify the emotional response of the pet to reduce fearful behaviors.
- Avoidance of aversive methods: Ensure no aversive training techniques are used, as these can worsen fear-related behaviors.
- Use of behaviour modification techniques including training to increase control over the dog, systematic desensitization and classical and operant counter-conditioning techniques.

Systematic desensitization involves gradually exposing the dog to a low-intensity version of the fear-inducing stimulus, increasing exposure over time while ensuring the dog remains below its fear threshold. This can be best achieved by identifying the specific characteristics of the stimulus and structuring exposure sessions progressively to avoid overwhelming the animal[1 5 6 7]. Classical counterconditioning works by replacing negative emotional associations with positive ones, pairing the fear-inducing stimulus with highly rewarding experiences, such as food or play[1 5 6 7]. Operant counterconditioning focuses on teaching behaviors that are incompatible with the problem behavior[1], such as training the dog to focus on the owner, move away from the fear-inducing stimulus, or engage in calm behaviors like settling, which enhances the dog's coping mechanisms and helps build confidence over time.

PRACTICAL CONSIDERATIONS FOR THE BEHAVIOR MODIFICATION OF SPECIFIC FEAR PROBLEMS

In the following section, practical considerations for treating specific fears in dogs will be explored. Behavior modification incorporates knowledge from various fields, and while clinicians are well-equipped with both theoretical and practical expertise, applying this knowledge in real-world situations can present challenges. Behavior modification may not always adhere to textbook guidelines due to factors such as the complexity of individual cases and practical constraints. Textbooks often offer valuable general treatment approaches, but it is the clinician's responsibility to tailor these methods to the unique needs of each case. When the presented literature provides detailed instructions, such as in client handouts, clinicians must critically evaluate the proposed protocols to ensure their feasibility, safety, and effectiveness. Clinicians also need to navigate the vast amount of advice available from both experts and non-experts, discerning what is truly valuable and what may be less relevant or even harmful. The

ability to "separate the wheat from the chaff" is crucial for achieving the best possible outcomes for both dogs and their caregivers.

In the following sections for the treatment of specific fear-related problems, including fear of animate objects, sound phobia, and separation anxiety, selected topics are discussed with the intention of possibly inspiring clinicians when facing challenges in enhancing owner compliance and achieving optimal treatment success.

FEAR OF ANIMATE OBJECTS: PEOPLE AND OTHER DOGS

One significant contributing factor to fear-related issues is inadequate or inappropriate learning experiences, particularly during early development[8 9 10]. Providing science-based guidance to puppy owners to prevent problem behaviors remains challenging due to gaps in scientific knowledge regarding optimal socialization practices. Much of our understanding of canine behavioral development comes from early research that examined how developmental phases influence learning and socialization [8 11]. However, these studies were conducted in highly controlled laboratory environments that do not reflect real-world conditions. Many early experiments focused on deprivation, rather than identifying best practices, limiting their applicability. While early research clarified what should be avoided, it did not provide concrete guidelines on what should be done[11].

Recent research has offered valuable new insights[8 11 12]; however, there remains a lack of consensus among scientists and professionals who provide advice to puppy owners on several topics. These include the optimal age for homing, the provision of appropriate learning experiences (such as timing, amount, and type of exposure), and whether or not—and how—to provide emotional support.

Recent research and literature aimed at offering puppy owners information based on scientific insights and best practices include advice on homing puppies before eight weeks. It emphasizes that exposure to social and non-social environmental stimuli for socialization and habituation should be an ongoing process. This process should involve gradual introductions to new stimuli, with the intensity of exposure carefully monitored to avoid exceeding the puppy's capacity to maintain emotional homeostasis. This ensures that the puppy develops positive associations and desirable behavioral responses. The use of maintenance stimuli, also called comfort stimuli, to help the puppy remain in a positive emotional state and support the puppy during challenging situations is essential for fostering desirable coping mechanisms and building resilience[13].

A key practical consideration in preventing and treating fear problems in dogs is understanding the approach-avoidance conflict[5] and its role in achieving and maintaining emotional homeostasis. A dog may experience both curiosity and a tendency to explore and approach, and apprehension when encountering a stimulus or situation. The stimulus's salience, along with the predictability and control the dog has over the situation, and the availability of maintenance stimuli to maintain in a positive emotional state plays a crucial role in determining its response. At a greater distance, when the stimulus has a lower salience than as at a closer distance, the dog's tendency to investigate is stronger than its urge to avoid. However, as the dog moves closer, the motivation to avoid increases. The dog will willingly approach only up to a certain threshold; beyond this point, it experiences fear and will choose to stop rather than move closer. At this critical distance, hesitation and anxiety become evident. The dog may display subtle or more pronounced body language indicating its negative emotional state, along with behaviors such as alternating between approach and avoidance or retreating further away. If the salience of the stimulus does not increase and the dog has the opportunity to self-regulate its emotions and successfully cope with the situation, its apprehension will gradually decrease. The dog will normally cautiously approach closer until it feels assured that there is no threat. Through repeated exposures in which the dog maintains control over its emotions, decides when it is ready to approach and explore further, has access to maintenance stimuli for emotional support if needed, and experiences a predictable environment (e.g., no sudden changes such as the stimulus unexpectedly moving, making noise, or behaving differently than expected), its apprehension will diminish. Over time, the dog will either ignore the stimulus or, if the approach is associated with positive experiences, will form a positive emotional association with the stimulus in future encounters.

Discussing the concept of approach-avoidance conflicts with clients allows treatment programs to be tailored to individual cases, as understanding these factors helps caregivers predict and interpret their dog's behavior more effectively[5].

- It clarifies the variability in a dog's responses to stimuli in different situations, enabling caregivers to anticipate and prevent potentially problematic encounters.
- It encourages the creation of environments that foster a positive emotional state while minimizing negative emotional experiences, achieved through both management strategies and controlled exposure that allows the dog to self-regulate its emotions.
- It discourages counterproductive techniques, such as placing a fearful or anxious dog in an approach-avoidance conflict by luring to approach and offering treats from the hand (commonly known as 'socialization biscuits'), forcing exposure to the stimulus, or interfering with the dog's natural coping strategies which might result in the dog displaying defensive behaviour.

To successfully apply techniques that prevent approach-avoidance conflicts and create environments where puppies can maintain emotional homeostasis through self-regulation, it is essential that caregivers are educated in carefully observing their dog's behavior. This includes recognizing early signs of emotional imbalance, including those that are less commonly described in the literature. Caregivers should be trained to identify subtle indicators such as stimuli appearing on the dog's radar, body position geometry, slight changes in breathing, and the use of social or environmental strategies to avoid or cope with aversive stimuli. Recognizing these signals allows for timely intervention to adjust the situation and create a more favorable outcome. This client education should go beyond general discussions of common signs illustrated with examples, such as drawn illustrations. While these can be useful for structuring a conversation, the focus should be on a detailed analysis and discussion of the dog's specific behavior, ideally using real-life observations or video footage whenever available.

Practical implementation of behavior modification techniques in daily life is often complicated. Ideally, exposure to fear-eliciting stimuli should be avoided to prevent negative emotional states and learning experiences that could exacerbate the problem[1 5 6 7.] However, this is not always realistic. For example, avoiding unfamiliar people may only be partially achievable through changes in routine, such as for a dog living in an apartment who must walk on a busy street. Additional challenges include time constraints and the lack of a support system[4], such as difficulty finding sufficient volunteers to assist in training. These techniques often require multiple sessions. The length and complexity of the treatment program, combined with the limited practicality of implementing it in daily life, pose significant barriers. This may result in caregivers feeling discouraged if they perceive little short-term progress, especially if they believe they have already tried similar techniques without success[4]. Selecting training techniques that minimize the risk of approach-avoidance conflicts, increase the dog's sense of control and predictability, and provide opportunities for self-regulation and using desirable coping strategies are likely to result in quicker success making the treatment program more feasible to implement. Examples of techniques applying these principles include exercises such as 'Treat- Retreat[14],' 'Auto-check in[14],' 'Go Say Hi[14],' 'Come Away,[5]' 'Turn'.

Although these training techniques are easy to teach, it is essential that the explanation is not limited to a theoretical discussion. A theoretical explanation outlining the goal and key elements of the training serves as a starting point to help the owner understand its purpose and stay motivated. However, as with any training exercise that is only explained theoretically, there is a high risk of incorrect implementation. This may result from the owner misunderstanding the instructions, misinterpreting key aspects, or simply finding it challenging to apply even seemingly simple techniques. Clinicians should carefully and systematically explain and demonstrate each step of the training. Next, they should observe the caregiver implementing the technique with the dog, provide coaching throughout the exercise, offer feedback, and adjust the training protocol as needed. This ensures that the general training protocol is tailored to the specific situation, including the individual caregiver and dog. Implementing a theoretical training protocol in a practical training session can be unpredictable—it may go very well (e.g. due to clear instructions and a skilled owner) or poorly (e.g. if unexpected behaviors emerge from the dog, the caregiver, or both), requiring further refinement of the training approach. In the author's opinion, behavior consultations in which training exercises are not actively implemented by the clinician—or, if the clinician is unable to do so (e.g. due to time constraints or lack of practical skills),

by an appropriately trained professional—are highly unlikely to be successful. Clinicians who do not leave their desk during consultations, miss essential opportunities to set their clients up for success.

Fear and fear-related defensive behaviors towards other dogs often stem from owner misconceptions, such as the belief that dogs should resolve conflicts on their own or that play sessions are always positive. Educating owners on correct and incorrect play, as well as ensuring they choose appropriate training classes, is essential. When treating fear-related behaviors, it is crucial to observe the dog's natural reactions in the problem context, ideally in real-life situations rather than just on video. The role of the owner in these situations must also be considered. Teaching exercises in which the dog is stationary, such as asking it to sit, could increase tension. In contrast, exercises like teaching the dog to walk while focusing on a treat are easy to implement and decrease the risk of building up tension.

FEAR OF NOISES

Fear of noises is a common behavioral problem in dogs, with typical triggers including thunder, fireworks, engine noises, and gunshots[5 6 7 15 17]. It encompasses a range of responses, including noise-related anxiety (anticipation of potential danger), fear reactions (a natural response to a perceived threat), and phobias (persistent, exaggerated, and maladaptive fear responses that appear disproportionate to the stimulus from the caregiver's perspective) [5 6 7 15 17] The severity of the reported fear problem varies between dogs, ranging from mild stress signals to moderate signs, and in some cases, dogs may be severely affected[1 5 6 7 15 17]. The specific signs displayed can vary widely depending on the individual dog and the context. These may include general signs of anxiety such as excessive salivation, trembling, vocalizations, attempts to escape, pacing or freezing, seeking comfort, hiding, vomiting, heightened vigilance and scanning, and involuntary urination or defecation. Understanding the range of reactions is crucial for developing an effective treatment strategy and determining prognosis[7].

The etiology of sound phobias is well understood and has been extensively documented in scientific literature, including the effectiveness of various treatment options. Bowen et al. (2012)[16] developed a sound sensitivity questionnaire to identify the extent to which an animal is affected. This questionnaire evaluates multiple aspects of a dog's response to noise events, providing an assessment of the severity of its reaction. Based on the score for "Behavioral Stress Signs," dogs are assigned to categories showing mild, moderate, or severe signs, with treatment recommendations corresponding to the score[16 17 18]. A description of the approach, including treatment options, is available online at the Vet Times website for veterinary professionals via this link: https://www.vettimes.co.uk/app/uploads/wp-post-to-pdf-enhanced-cache/1/prevalence-and-impact-of-sound-sensitivity-in-dogs.pdf

A study investigating self-help desensitization and counterconditioning programs for firework-related fears, combined with the use of Dog Appeasing Pheromone, suggested that this method may effectively reduce owner-reported fear-related behaviors in dogs. The findings highlight that clear and well-structured instructions are crucial in ensuring that clients perceive the program as manageable and easy to follow[17]. The Self-help sound recordings and the booklet with instructions on how to apply the treatment included in the study are freely available on the DogsTrust website via this link: https://www.dogstrust.org.uk/dog-advice/understanding-your-dog/sound-therapy-for-pets

SEPARATION ANXIETY

The diagnosis and treatment of separation anxiety highlight the ongoing progress in companion animal behavior counseling, despite some challenges and variations in the field. One area of improvement is the increasing consistency in terminology, which has helped clarify the concepts around this condition. In the past, terms were often used interchangeably without clear definitions, making it difficult to navigate the literature on the underlying causes, diagnostic criteria, and treatment options. Different authors would use the same term with varying interpretations, resulting in inconsistencies in how conditions were diagnosed and treated. Fortunately, recent advancements have led to more consistent terminology. The term "Separation-Related Problems" (SRP) is now more widely used to encompass all problem behaviors displayed when the dog is left alone, regardless of the underlying

emotions or motivations. Within this broader category, separation anxiety is recognized as a specific subclass, characterized by a distinct emotional and behavioral response to separation[20].

For many behavior problems under the SRP umbrella, the underlying causes are well understood, which makes diagnosis and the selection of effective treatment options relatively straightforward. The work of McCrave (1991)[21] has provided a valuable overview of differential diagnoses, which has contributed to the development of more refined diagnostic frameworks for SRP. However, the etiology of separation anxiety itself remains less clear[22]. Various theories have been proposed over time, with a different focus on underlying causes, diagnostic criteria, and treatment options[22]. Traditionally, separation anxiety was viewed primarily through a behavioral lens, with the condition often attributed to factors such as "spoiling" dogs or fostering an over-dependency on the owner, which was inadvertently reinforced through attention-seeking behaviors. As a result, treatment strategies focused on ignoring distress behaviors and promoting independence. Today, separation anxiety is recognized as a complex affective condition, and modern treatment approaches are multimodal and welfare-centric, with a focus on addressing the dog's underlying emotional state. However, there is still a lack of consensus on the underlying causes and mechanisms, with different theories being proposed, such as hyper-attachment and an insecure attachment style of the dog to its caregiver[22]. Ongoing research aims to improve our understanding of the etiology of separation anxiety. This research may hold great potential if the methodologies used and the results obtained can be translated into practical clinical applications. For diagnostic purposes, multiple factors are explored to support either the acceptance or rejection of a differential diagnosis. This means that not all criteria need to be met, but a specific combination of criteria increases the likelihood of an accurate behavioral diagnosis. In some cases, scientific research conducted in more controlled settings could be more limiting and may overlook relevant factors or lead to the dismissal of a potential underlying cause based on a single presenting sign—something that would not typically occur in clinical practice. In addition, recent research has focused on the role of frustration as a differential diagnosis for separation-related problems, highlighting an underlying emotion that may have previously been overlooked[23].

Despite the complexities of separation anxiety, a diagnostic and treatment model is proposed based on the author's research[11], incorporating new insights from recent studies. Following McCrave's approach, the first step in developing a behavioral diagnosis for conditions under the umbrella term Separation-Related Problems (SRP) should be to differentiate cases where anxiety or fear is the underlying cause from those with other causes. A newly proposed category includes cases where frustration is the primary emotion driving the problem behavior. The proposed model is based on the concept of emotional homeostasis and the role of maintenance stimuli in maintaining emotional homeostasis. Diagnosis is determined using a combination of criteria which does not require all identified signs to be present. A lack of evidence for one specific criterion does not automatically rule out a diagnosis, but a lack of support across multiple criteria, or the presence of strong indicators for an alternative diagnosis, would influence classification. Once a dog is classified into one of the identified groups, this classification guides the focus of behavioural therapy. The criteria used to categorize a dog are based on a detailed exploration of presenting signs, which have been shown to differ across the three groups. These criteria include the onset of the behavior problem, the duration and intensity of symptoms, the behavior when the owner is present, departure and greeting behavior, and a detailed analysis of symptoms when the owner is absent. The three groups are summarized as follows:

- Group A: Dogs in this group have not learned to rely on a broad range of maintenance stimuli to maintain emotional homeostasis. They rely on a single stimulus -usually the caregiver- to stay relaxed. Their interactions with the world are structured around the presence of this stimulus, and they seek proximity to it even in non-stressful situations. When this stimulus is absent, the dog experiences significant distress, usually beginning within 30 minutes of the person's departure. Coping behaviors focus on regaining access to the person or stimuli associated with the person. Treatment aims to increase the dog's independence, reduce reliance on a single social stimulus, and encourage comfort from alternative environmental stimuli.
- Group B: Dogs in this category initially developed the ability to rely on multiple maintenance stimuli, including environmental and social stimuli. However, they lost this capacity due to significant changes in their social or physical environment, such as the loss of multiple previous maintenance stimulus or an increased need to rely on the maintenance set for example after moving to a new house. Symptoms typically emerge after such changes, when the dog's need

for emotional support increases. The symptoms may be inconsistent and temporary, resolving as the dog adapts and establishes new maintenance stimuli. Coping strategies often involve seeking access to other significant maintenance stimuli, which may include non-social stimuli such as another room associated with safety. Treatment focuses on reestablishing a functional maintenance set to support emotional homeostasis.

- Group C: Dogs in this group do not exhibit overreliance on specific maintenance stimuli. They maintain emotional homeostasis through a well-developed and diverse set of maintenance stimuli. Their distress is typically triggered not by separation itself but by exposure to a fear-inducing stimulus, such as a thunderstorm. These dogs display symptoms only when left alone and simultaneously exposed to the distressing stimulus. Their coping behaviors involve escaping or avoiding the trigger, often by seeking out locations where the stimulus is less intense (e.g., digging into sofas or retreating to quieter rooms). Treatment focuses primarily on addressing the specific underlying fear, such as sensitivity to thunderstorms or fireworks.

For Group A and, in many cases, Group B (depending on the cause of the dysfunctional maintenance set), a key treatment element involves systematically and gradually exposing the dog to the caregiver's departures and absences while teaching relaxation. This is best achieved by establishing environmental maintenance stimuli that allow the dog to feel safe when alone. Creating predictability and using safety cues while progressively increasing the duration of alone time are fundamental to success[22 24]. Various techniques can facilitate this process, but it is crucial to ensure that the owner's presence is not unintentionally made more salient during training sessions. This risk is particularly high in exercises where the dog is taught to relax on a mat while being reinforced by the owner for staying calm over increasing time intervals and distances. If not carefully managed, such strategies may inadvertently increase the salience of the person and the dog's dependence on the person rather than fostering independence.

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