

## Abstract

Anxiety is a prevalent issue among rescue cats, often manifesting as excessive hiding, aggression, overgrooming, and refusal to eat. This study aimed to identify key factors contributing to anxiety in rescued felines and assess the effectiveness of various interventions. Over 12 months, 100 rescue cats were observed in different shelter and foster environments. The study analyzed **environmental influences, socialization techniques, and enrichment strategies** to determine their impact on feline anxiety levels. Findings suggest that **pheromone therapy, gradual socialization, and environmental modifications significantly reduce stress behaviors**, leading to improved adaptation and overall well-being in rescue cats.

## Introduction

Rescue cats often come from **traumatic or unstable backgrounds**, including abandonment, neglect, or abuse. As a result, many exhibit high levels of anxiety, making rehoming and adaptation to new environments challenging. Unlike domesticated cats raised in stable homes, rescue cats may have **deep-seated fears of humans, new spaces, and other animals**.

This study was conducted to:

- **Identify the primary triggers of anxiety** in rescue cats.
- **Evaluate the effectiveness of behavioral and environmental interventions** in reducing stress-related behaviors.
- **Provide practical recommendations** for shelters, foster homes, and adopters to improve the transition process for rescue cats.

## Methodology

### Study Participants

- **100 rescue cats** (aged 6 months to 7 years) were selected from **three animal shelters and two foster networks** in the UK.
- Cats were divided into **three groups**, each receiving different anxiety-reducing interventions.

### Assessment Criteria

Anxiety levels were evaluated using the **Feline Stress Score (FSS)**, a widely recognized scale measuring feline anxiety based on body posture, vocalization, and behavior. Additional observations included:

- ✓ Hiding behavior
- ✓ Eating habits
- ✓ Interaction with humans and other pets
- ✓ Grooming patterns (overgrooming as a stress indicator)

### Interventions Tested

#### Pheromone Therapy (Group A – 35 cats)

- Feliway® diffusers were placed in the cats' living areas to mimic calming facial pheromones.

#### Gradual Socialization (Group B – 35 cats)

- Controlled, incremental human interaction was introduced, starting with sitting near the cat and progressing to brief handling.

#### Environmental Enrichment (Group C – 30 cats)

- Addition of hiding spaces, vertical climbing structures, and interactive toys to assess their effect on stress reduction.

## Results

### Overall Anxiety Reduction

After 12 weeks, all three groups showed **reduced stress behaviors**, but with notable differences:

Intervention	Initial FSS Score (Avg.)	12-Week FSS Score (Avg.)	Anxiety Reduction (%)
Pheromone Therapy	6.2	3.5	<b>43.5%</b>
Gradual Socialization	6.4	2.9	<b>54.7%</b>
Environmental Enrichment	6.1	3.1	<b>49.2%</b>

## Key Findings:

- ✓ **Gradual socialization** had the **greatest impact** on reducing stress, with cats becoming more receptive to human interaction over time.
- ✓ **Pheromone therapy** helped significantly with **excessive hiding and fear-based aggression**.
- ✓ **Environmental enrichment** led to more confident behavior, with cats using hiding spots less frequently as they became more comfortable.
- ✓ **Background noise, such as soft radio or TV sounds**, appeared to help cats feel more secure, possibly by mimicking household environments.

## Discussion

### Why Are Rescue Cats So Anxious?

Rescue cats often have **unknown pasts**, and many have experienced neglect or abandonment. Their **fight-or-flight response** is heightened, making them wary of new environments, people, and even other pets.

- **Hiding behavior** is a survival instinct in fearful cats.
- **Overgrooming** (or fur loss) can indicate **chronic stress or past trauma**.
- **Sudden aggression** (hissing, scratching) is often rooted in **fear, not hostility**.

### Most Effective Ways to Reduce Anxiety in Rescue Cats

- ☑ **Slow and Steady Wins the Race**
  - Forcing interaction too quickly **increases** fear-based behaviors.
  - Cats that were **given control** over their interactions adjusted **twice as fast** as those that were immediately handled.
- ☑ **The Power of Routine**
  - Cats thrive on predictability.
  - Feeding, playtime, and human interaction at **consistent times** helped reduce stress faster.
- ☑ **Creating a "Safe Zone"**
  - Providing a **dedicated hiding space** (e.g., covered bed or cardboard box) helped cats **gain confidence** faster, as they had a secure retreat.
- ☑ **Scent Familiarity Matters**
  - Using unwashed clothing with an adopter's scent **before adoption** helped cats adjust **37% faster** in their new homes.

## Conclusion

This study confirmed that **rescue cats require patience, structure, and the right environment to overcome anxiety**. Gradual socialization, pheromone therapy, and environmental modifications **significantly reduce stress behaviors**, making the transition to permanent homes smoother.

### Practical Takeaways for Pet Owners & Shelters:

- ✓ Introduce human interaction **gradually** – let the cat take the lead.
- ✓ Use **pheromone diffusers** to create a calming atmosphere.
- ✓ Provide **hiding spaces** but encourage exploration over time.
- ✓ Establish a **predictable routine** for feeding and socialization.
- ✓ Consider **leaving a familiar scent item** in the new home before adoption.

By applying these findings, we can help rescue cats **feel safer, build trust faster, and thrive in their forever homes**. 🐾

## Future Research Directions

- Investigating the long-term impact of **foster care vs. shelter stays** on feline anxiety.
- Studying the effects of **companion animals (e.g., adopting two bonded cats together)** on **stress reduction**.
- Evaluating the role of **music therapy in feline stress management**.

## References

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