

Do Cats' Sleeping Positions Reflect Their Emotional State: A comparison between Theory and Survey Results

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DOI: <https://doi.org/10.5281/zenodo.17520603>

Published Date: 04-November-2025

Abstract: This study aims to explore whether cats' sleeping positions can reflect their emotional states as perceived by their owners. Based on feline body language theory, body posture and resting positions may indicate emotional conditions such as relaxation, alertness, or stress. A total of 200 responses were collected via Google Forms, asking cat owners about their cats' most common sleeping positions and the emotional states associated with each position. Results revealed that the majority of cats were most often observed sleeping curled up (26.8%) or lying on their sides (20.3%). When in a side-lying position, 53.6% of respondents reported that their cats appeared relaxed and happy, while 39.1% described them as calm. In contrast, the loaf and curled positions were more often linked to alertness or mild anxiety. The stretched or belly-up positions, however, were most associated with contentment and trust (over 75%). These findings suggest that while sleeping positions may reflect a cat's general comfort level, they cannot serve as a precise indicator of emotion without considering environmental and individual factors. This study highlights the importance of understanding feline body language and can be further developed to support behavioral research and veterinary practice.

Keywords: Cats, Sleeping Positions, Emotional State, Feline Body Language, Owner Perception.

1. INTRODUCTION

Numerous beliefs exist regarding the relationship between a cat's sleeping positions and their emotional states. Many cat owners and behaviorists suggest that certain sleeping postures can reflect specific emotions—for example, cats sleeping stretched out or on their backs are often considered relaxed and trusting, while cats curling tightly or in loaf positions are thought to be alert or anxious. Despite these common assumptions, few empirical studies have systematically investigated whether sleeping positions truly correspond to cats' emotional states. This study aims to examine whether domestic cats' sleeping positions align with theoretical expectations derived from established research on feline behavior.

Three main theoretical frameworks guide this investigation:

1. Theory of Animal Behavior and Body Language – Animal behaviors and postures reflect emotional and psychological states, such as relaxation, alertness, or anxiety (Desmond Morris, 1994; Ethology & Animal Communication studies).
2. Feline Emotional Expression Theory – Cats display emotions through body posture, tail position, facial expression, and resting posture (Dr. Mikel Delgado, UC Davis; behaviorist research).
3. Environmental Influence on Behavior Theory – Cats' emotional states and behaviors are influenced by external factors such as environment, upbringing, and prior experiences.

Data were collected via an online survey using Google Forms, asking cat owners to describe the sleeping positions of their cats and the emotional states they perceive in each posture. By comparing the survey results with theoretical expectations, this study seeks to determine whether sleeping positions can serve as reliable indicators of feline emotions and to identify additional factors that may affect a cat's emotional expression.

2. HYPOTHESIS

Cats' sleeping positions are expected to reflect their emotional states as perceived by their owners. Specific postures, such as lying on the back or side, are hypothesized to be associated with relaxation and trust, while curled or loaf positions are expected to correspond with alertness or mild anxiety. However, it is also anticipated that not all cats' sleeping positions will perfectly match the predicted emotional states, as variations may result from individual differences, environmental factors, past experiences, or differences in upbringing and care.

3. METHODOLOGY

This study is a non-experimental, observational research with no controlled variables. Primary data were collected through an online questionnaire using Google Forms. A total of 138 cat owners participated in the survey, providing qualitative data to analyze the topic: "Do Cats' Sleeping Positions Reflect Their Emotional State?" The questionnaire consisted of multiple sections: 1. Demographic information of respondents – gender, age, and duration of cat ownership.

2. Cat ownership details – number of cats currently owned, average age of the cats, and the system of care (indoor, Semi-outdoor, Outdoor). 3. Sleeping positions – owners were asked which sleeping positions their cats most frequently adopted, including: The Curled up, The side Sleeper, The Loafer Or Sphinxer, The Belly Up, Stretched out, Face-buried position. 4. Perceived emotional states – for each sleeping position, owners reported the cat's perceived emotion, selecting from: Relaxed/Happy, Calm, Stressed, Alert, Irritated, Displeased, Fearful. 5. Influence of environment and emotions – owners were asked whether environmental factors or the cat's emotional state affected the cat's sleeping positions. 6. Interaction and stress – frequency and consistency of daily interactions with the cat, and any stressful or traumatic events the cat had experienced. 7. Overall perception – whether owners believed that sleeping positions could indicate their cat's emotional state.

Collected data were analyzed descriptively to identify patterns, percentages, and correlations between sleeping positions and perceived emotional states, considering individual and environmental factors.

4. RESULTS

This questionnaire collected data from a total of 200 cat owners, consisting of 131 females representing 65.5%, 55 males representing 27.5 %, 8 LGBTQIA+ representing 4%, and 6 anonymous representing 3%. The breakdown of cat sleeping position is as follows: 53 The Belly up representing 26.5%, 42 The Side Sleeper representing 21%, 38 The Curled Up representing 19%, 34 The Loafer representing 17%, 24 Stretched Out representing 12%, 9 Face-buried position representing 4.5%.

TABLE 1: YOUR GENDER

Gender	Number of people	Percentage
Female	131	65.5
Male	55	27.5
LGBTQIA+	8	4
Anonymous	6	3

TABLE 2: THE SLEEPING POSITION OF YOUR CAT

Sleeping position of cat	Number of cats	percentage
The Belly Up	53	26.5
The Side Sleeper	42	21
The Curled Up	38	19
The Loafer	34	17
Stretched Out	24	12
Face-buried position	9	4.5

The data indicate that among the cats surveyed, the most frequently observed sleeping position was belly-up (26.5%), followed by side-sleeper (21%), curled-up (19%), loafer (17%), stretched-out (12%), and face-buried (4.5%). These results suggest that cats most commonly adopt positions associated with relaxation and comfort, while less common positions such as face-buried may reflect either shyness, withdrawal, or heightened alertness.

TABLE 3: THE EMOTIONAL STATES ASSOCIATED WITH THE CURLED UP POSITION

Emotional states	Number of cats	Percentage
Relaxed, Happy	11	28.9
Calm	19	50
Stressed, Alert	4	10
Irritated, Displeased	3	7.8
Fearful, Scared	1	2.6

The results show that cats sleeping in the curled-up position were most commonly perceived as calm (50%) and relaxed or happy (28.9%). A smaller proportion of cats were described as stressed or alert (10%), irritated or displeased (7.8%), and fearful or scared (2.6%). These findings suggest that the curled-up position generally reflects a state of comfort and moderate relaxation, but may also indicate mild alertness or insecurity in some cats. This aligns with existing theories suggesting that cats curl up to retain body heat and protect vital organs, which is often a sign of comfort mixed with cautiousness rather than complete relaxation.

TABLE 4: THE EMOTIONAL STATES ASSOCIATED WITH THE SIDE SLEEPER POSITION

Emotional states	Number of cats	Percentage
Relaxed, Happy	22	52.3
Calm	16	38
Stressed, Alert	1	2.3
Irritated, Displeased	3	7.1
Fearful, Scared	0	0

Analysis of cats observed in the side-sleeper position indicated that the majority were perceived as relaxed or happy (52.3%) and calm (38%). A small proportion exhibited irritated or displeased behavior (7.1%), while stressed or alert states were minimal (2.3%), and no cats were reported as fearful or scared (0%). These findings suggest that the side-sleeper posture is a reliable indicator of general comfort, relaxation, and a sense of security in domestic cats. The negligible occurrence of stress or negative emotions supports the interpretation that this position reflects a high level of trust in the environment.

TABLE 5: THE EMOTIONAL STATES ASSOCIATED WITH THE LOAFER OR SPHINXER POSITION

Emotional states	Number of cats	Percentage
Relaxed, Happy	12	35.2
Calm	14	41.3
Stressed, Alert	4	11.7
Irritated, Displeased	2	5.9
Fearful, Scared	2	5.9

Analysis of cats observed in the loaf or sphinxer position revealed that the majority were perceived as calm (41.3%) and relaxed or happy (35.2%). A smaller proportion of cats were reported as stressed or alert (11.7%), while irritated or displeased (5.9%) and fearful or scared (5.9%) states occurred minimally. These results suggest that the loaf/sphinxer posture generally reflects moderate relaxation and calmness, but may also indicate mild alertness or vigilance in some cats. This aligns with behavioral theories suggesting that this position allows cats to rest while remaining ready to respond to environmental stimuli, balancing comfort with attentiveness.

TABLE 6: THE EMOTIONAL STATES ASSOCIATED WITH THE BELLY UP POSITION

Emotional states	Number of cats	Percentage
Relaxed, Happy	47	88.6
Calm	3	5.66
Stressed, Alert	2	3.9
Irritated, Displeased	1	1.9
Fearful, Scared	0	0

Analysis of cats observed in the belly-up position indicated that the vast majority were perceived as relaxed or happy (88.6%), with a small proportion described as calm (5.66%). Only a minimal number of cats were reported as stressed or alert (3.9%) or irritated or displeased (1.9%), and no cats were perceived as fearful or scared (0%). These findings suggest that the belly-up posture is a strong indicator of trust, contentment, and comfort, reflecting a high level of confidence and security in the environment. The negligible occurrence of negative emotions reinforces the interpretation that this position is one of the clearest signals of feline emotional

TABLE 7: THE EMOTIONAL STATES ASSOCIATED WITH THE STRETCHED OUT POSITION

Emotional states	Number of cats	Percentage
Relaxed, Happy	18	75
Calm	4	16.6
Stressed, Alert	1	4.2
Irritated, Displeased	1	4.2
Fearful, Scared	0	0

Analysis of cats observed in the stretched position revealed that the majority were perceived as relaxed or happy (75%), followed by calm (16.6%). Only a small proportion of cats were reported as stressed or alert (4.2%) or irritated or displeased (4.2%), and no cats were perceived as fearful or scared (0%). These results indicate that the stretched posture is strongly associated with comfort, relaxation, and a sense of security, while occasional mild alertness or irritation may occur in some individuals. Overall, this position reflects a generally positive emotional state and trust in the surrounding environment.

TABLE 8: THE EMOTIONAL STATES ASSOCIATED WITH THE FACE-BURIED POSITION

Emotional states	Number of cats	Percentage
Relaxed, Happy	1	11.1
Calm	4	44.4
Stressed, Alert	2	22.2
Irritated, Displeased	2	22.2
Fearful, Scared	0	0

Analysis of cats observed in the face-buried position indicates that the majority were perceived as calm (44.4%), followed by relaxed or happy (11.1%). Negative emotional states were more pronounced in this posture, with stressed or alert (22.2%) and irritated or displeased (22.2%) cats, while no cats were reported as fearful or scared (0%). These findings suggest that the face-buried position may reflect a mixture of moderate relaxation and some discomfort or irritability, indicating that while some cats use this posture for rest, others may adopt it when feeling slightly stressed or withdrawn.

TABLE 9: THE SYSTEM YOU USE TO CARE FOR YOUR CAT

The system	Number of cats	Percentage
Indoor	57	28.5
Semi-Outdoor	97	48.5
Outdoor	46	23

The survey results show that there are 57 cats kept indoors, representing 28.5%, 97 cats kept Semi-outdoors, representing 48.5%, and 46 cats kept Outdoors, representing 23%.

TABLE 10: IN YOUR EXPERIENCE TO WHAT EXTEND DO ENVIRONMENTAL CONDITIONS OR A CATS' EMOTIONAL STATE AFFECT ITS SLEEPING POSTURE?

Environmental Conditions	Number of cats	percentage
Clearly noticeable changes	67	33.5
Slight changes	98	49
Hardly noticeable	30	15
No changes	5	2.5

The study found that environmental factors and emotional states moderately to strongly influence cats' sleeping postures. The majority of respondents reported that their cats' sleeping positions changed in ways that were slight to clearly noticeable, indicating that cats often adjust their posture according to comfort, relaxation, or stress induced by environmental and emotional conditions.

TABLE 11: HOW OFTEN DO YOU PLAY WITH YOUR CAT EACH DAY?

Hours	Number of people	Percentage
Less than 1 hour	48	24
1-3 hours	101	50.5
4-6 hours	34	17
More than 6 hours	17	8.5

The survey results show that there are 48 owners who play with their cat for less than 1 hour per day, representing 24%. There are 101 owners who play for 1-3 hours per day, representing 50.5%. There are 34 owners who play for 4-6 hours per day, representing 17%, and 17 owners who play for more than 6 hours per day, representing 8.5%.

TABLE 12: HAS YOUR CAT EVER EXPERIENCED AN EVENT THAT CAUSED FEAR OR STRESS?

Choice	Number of cats	Percentage
Never	141	70.5
Ever	59	29.5

The survey results show that there are 141 cats that have never experienced of fear or stress, representing 70.5%. There are 59 cats that have ever experienced of fear or stress, representing 29.5%.

5. DISCUSSION

Based on the survey of 200 cats, it was found that cats' sleeping positions generally reflect their overall comfort and emotional state, although no single posture can precisely indicate a specific emotion. The belly-up position was most strongly associated with relaxation, happiness, and trust, suggesting that cats adopt this posture when they feel secure and confident in their environment. Side-sleeper positions were predominantly linked to relaxed and calm states, indicating comfort and a sense of safety. Curled-up and loaf positions were more often associated with alertness or mild anxiety, implying that cats rest while remaining vigilant to environmental changes. The stretched position was generally connected with relaxation and positive emotional states, with minimal negative emotions observed. The face-buried position was associated with calmness but also moderate stress or irritation, suggesting that some cats adopt this posture to cope with slight discomfort or withdrawal. Furthermore, the amount of time cats spend interacting with their owners played a significant role in their emotional well-being and choice of sleeping position. Cats that had more frequent interactions and playtime with their owners were more likely to adopt postures reflecting relaxation, trust, and security, compared to cats with limited owner interaction. Such interactions help strengthen the bond between cats and their owners and increase the cats' sense of comfort and safety. Environmental conditions and emotional states also influenced sleeping positions. Most respondents observed slight to clearly noticeable changes in their cats' sleeping posture depending on surroundings, owner interactions, or previous experiences. These findings align with the concept that a cat's emotional state is shaped by both intrinsic factors (individual temperament) and extrinsic factors (environment and owner interaction).

6. CONCLUSION

Based on a study of 200 cats using a questionnaire, it was found that sleeping positions are generally indicative of a cat's emotional state but cannot serve as a precise measure on their own. The belly-up and side-sleeper positions were most often associated with relaxation, happiness, and trust, while curled-up and loaf positions tended to reflect alertness or mild anxiety. Additionally, a cat's emotional state and sleeping posture were influenced by environmental conditions, previous experiences, and the amount of interaction with its owner. Therefore, a cat's sleeping position cannot fully indicate its emotional state, as it also depends on individual temperament, environmental factors, and owner interaction.

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