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Psychological Correlates of Snake Fear and Related Phobic Reactions: A Review of the Roles of Personality Traits, Emotional Intelligence, and Gender

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Abstract

Snake fear represents one of the most prevalent and evolutionarily significant human fears. Although caution toward snakes may have adaptive value, excessive fear can develop into ophidiophobia, a specific phobia characterized by intense anxiety, avoidance behavior, and significant psychological distress. Contemporary research indicates that individual differences in personality traits, emotional intelligence, and gender contribute substantially to the development and maintenance of phobic reactions. This review examines current literature on snake fear and related phobic reactions, emphasizing the role of personality traits, emotional intelligence, and gender. Evidence suggests that neuroticism is consistently associated with increased vulnerability to anxiety and phobic disorders, whereas emotional intelligence functions as a protective factor through enhanced emotional regulation and coping abilities. Gender differences have also been observed, with women generally reporting higher prevalence rates of specific phobias and greater emotional sensitivity than men. The review further discusses recent empirical findings, cultural considerations, particularly within the Indian context, and the potential mechanisms linking personality and emotional functioning to fear responses. Existing literature reveals a scarcity of studies specifically examining ophidiophobia and an absence of integrated models that simultaneously consider personality traits, emotional intelligence, and gender. The review concludes by proposing a conceptual framework and identifying future research directions relevant to understanding snake fear among adults.

Keywords: Ophidiophobia, snake fear, personality traits, emotional intelligence, gender differences, specific phobia, anxiety disorders

Introduction

Fear is a universal emotional response that promotes survival by preparing individuals to respond to threats. While adaptive fear serves protective functions, excessive fear can become maladaptive and interfere with daily functioning. Specific phobias are among the most common anxiety disorders and involve excessive fear toward particular objects, animals, or situations (American Psychiatric Association [APA], 2022).

Among animal-related fears, fear of snakes occupies a unique position. Across cultures, snakes evoke strong emotional responses ranging from fascination and reverence to intense fear and avoidance. Evolutionary psychologists have argued that humans possess a biologically prepared tendency to

detect and fear snakes because of their historical threat to survival (Öhman, 2018). Nevertheless, considerable variation exists in individual responses to snakes. While some individuals handle snakes professionally or recreationally without distress, others experience severe anxiety merely from viewing snake images. The existence of such individual differences suggests that psychological factors play an important role in shaping fear responses. Personality traits influence emotional reactivity, cognitive processing, and coping behaviours, whereas emotional intelligence determines how effectively individuals perceive, understand, and regulate emotions. Gender differences further contribute to variability in fear responses and emotional functioning.

This review synthesizes contemporary literature regarding the psychological correlates of snake fear and related phobic reactions, focusing specifically on personality traits, emotional intelligence, and gender differences.

Understanding Ophidiophobia

Ophidiophobia refers to an excessive, irrational, and persistent fear of snakes. It is classified under animal-type specific phobias in the DSM-5-TR (APA, 2022). Individuals with ophidiophobia often experience intense anxiety when exposed to real snakes, photographs, videos, or even verbal references to snakes.

Common Symptoms Include:

- Rapid heartbeat
- Sweating
- Trembling
- Shortness of breath
- Panic reactions
- Avoidance of snake-related situations
- Intrusive thoughts regarding snake encounters

Clinical research suggests that ophidiophobia frequently develops during childhood or adolescence and may persist into adulthood if untreated (Craske *et al.*, 2022). The disorder can significantly impair occupational, educational, and recreational activities, particularly in regions where snake encounters are common.

Importantly, ophidiophobia differs from rational caution. Individuals with the disorder typically overestimate the probability and severity of danger posed by snakes, even in objectively safe situations. These cognitive distortions contribute to persistent avoidance and reinforce fear responses over time.

Theoretical Perspectives on Snake Fear

Evolutionary Perspective

The evolutionary preparedness theory remains one of the most influential explanations of snake fear. According to this perspective, humans evolved specialized mechanisms for detecting snake-related threats because snakes represented a recurrent danger throughout evolutionary history (Öhman, 2018).

Research has demonstrated that individuals identify snake images more rapidly than neutral stimuli and that infants exhibit heightened attention toward snake-like patterns (LoBue & Rakison, 2019). Neuroimaging studies further reveal enhanced activation of threat-processing brain regions, particularly the amygdala, in response to snake stimuli (Van Strien *et al.*, 2020).

Although evolutionary predispositions explain the widespread nature of snake fear, they do not adequately explain why only some individuals develop clinical phobias.

Cognitive-Behavioural Perspective

Cognitive-behavioural theories propose that snake fear develops through learning experiences and maladaptive cognitions (Craske *et al.*, 2022).

Fear Acquisition May Occur Through:

1. Direct traumatic encounters with snakes.
2. Observational learning.
3. Negative information transmission.
4. Cultural beliefs and narratives.

Maladaptive beliefs such as "all snakes are deadly" or "I cannot cope if I encounter a snake" contribute to the maintenance of phobic reactions.

Emotional Processing Theory

Emotional Processing Theory suggests that fear-related memories form dysfunctional fear structures that are activated upon encountering feared stimuli (Foa & Kozak, 2019). Repeated avoidance prevents corrective learning and strengthens fear responses.

Personality Traits and Fear Vulnerability

Personality traits influence how individuals perceive and respond to threatening situations. The Five-Factor Model (FFM) provides a useful framework for understanding personality correlates of phobic reactions.

Neuroticism

Neuroticism is characterized by emotional instability, anxiety, vulnerability, and negative affectivity. It is the strongest personality predictor of anxiety disorders (Kotov *et al.*, 2021).

Individuals High in Neuroticism:

- Experience stronger emotional reactions.
- Exhibit greater anxiety sensitivity.
- Perceive situations as more threatening.
- Display lower stress tolerance.

Numerous studies have demonstrated that neuroticism is associated with fear conditioning, avoidance behavior, and phobic symptomatology (Soto, 2019). Consequently, neurotic individuals may be especially vulnerable to developing ophidiophobic reactions.

Extraversion

Extraversion involves sociability, assertiveness, and positive emotionality. Higher levels of extraversion are generally associated with reduced anxiety and greater resilience (Bucher *et al.*, 2019).

Extraverted Individuals Often Display:

- Greater confidence
 - Better coping skills
 - Increased willingness to confront feared situations
- Therefore, extraversion may function as a protective factor against phobic avoidance.

Openness to Experience

Openness reflects intellectual curiosity, flexibility, and receptiveness to novel experiences. Individuals high in openness may demonstrate greater willingness to engage with unfamiliar situations and challenge irrational beliefs (McCrae & Costa, 2020).

Such characteristics may reduce susceptibility to exaggerated fear responses.

Agreeableness and Conscientiousness

Conscientiousness contributes to self-control, planning, and emotional regulation. Agreeableness promotes social support and adaptive interpersonal functioning.

Although these traits exhibit weaker relationships with anxiety than neuroticism, they may indirectly influence coping and resilience in fear-provoking situations.

Emotional Intelligence and Snake Fear

Emotional intelligence (EI) refers to the capacity to perceive, understand, manage, and utilize emotions effectively (Mayer *et al.*, 2016).

Recent literature highlights emotional intelligence as an important psychological resource that promotes mental health and adaptive functioning (Keefer *et al.*, 2018).

Emotional Awareness

Emotionally intelligent individuals accurately identify their emotional states and understand the causes of emotional reactions. Such awareness facilitates adaptive responses to fear-inducing situations.

Emotional Regulation

Emotion regulation is among the most important components of emotional intelligence. Individuals who effectively regulate emotions are less likely to experience overwhelming anxiety and panic reactions (Zeidner *et al.*, 2020).

Strategies Associated with High Emotional Intelligence Include:

- Cognitive reappraisal
- Problem-focused coping
- Relaxation techniques
- Mindfulness

These strategies reduce the likelihood that fear develops into a persistent phobic condition.

Emotional Intelligence as a Protective Factor

Research consistently demonstrates negative associations between emotional intelligence and anxiety symptoms (Pérez-González & Qualter, 2018). Individuals with higher emotional intelligence exhibit greater resilience under stressful conditions and recover more rapidly from negative emotional experiences (Mikolajczak *et al.*, 2020). In the context of snake fear, emotional intelligence may buffer the effects of threat perception and reduce avoidance tendencies.

Relationship between Personality Traits and Emotional Intelligence

Personality traits and emotional intelligence are distinct but interconnected constructs. Several studies report strong relationships between emotional intelligence and the Big Five personality dimensions (Veselka *et al.*, 2021).

Specifically:

- Neuroticism is negatively associated with emotional intelligence.
- Extraversion is positively associated with emotional intelligence.
- Conscientiousness predicts better emotional regulation.
- Agreeableness predicts empathy and emotional understanding.

Individuals high in neuroticism and low in emotional intelligence may experience amplified fear responses due to heightened emotional reactivity and poor regulation skills.

Gender Differences in Snake Fear and Emotional Functioning
Gender differences are among the most robust findings in phobia research.

Prevalence of Specific Phobias

Women consistently report higher prevalence rates of specific phobias than men (APA, 2022). Animal phobias, including snake fear, are particularly common among women.

Potential Explanations Include:

- Hormonal influences
- Greater emotional sensitivity
- Enhanced threat perception
- Socialization practices

Gender Differences in Personality

Women typically score higher on neuroticism and agreeableness, whereas men often score higher on assertiveness and risk-taking behaviors (Weisberg *et al.*, 2021). Because neuroticism is strongly associated with anxiety vulnerability, these differences may partially explain gender disparities in snake fear.

Gender Differences in Emotional Intelligence

Cabello *et al.* (2019) reported that women generally outperform men in several dimensions of emotional intelligence, including:

- Emotion recognition
- Emotional awareness
- Empathy

Interestingly, despite higher emotional intelligence, women continue to report greater fear intensity. This suggests that emotional intelligence and fear susceptibility may operate through distinct psychological pathways.

Recent Empirical Evidence (2018–2025)

Recent research provides valuable insights into the relationships among personality, emotional intelligence, and anxiety-related disorders.

Kotov *et al.* (2021) reported that neuroticism remains one of the strongest predictors of internalizing disorders, including anxiety and phobias. Similarly, Soto (2019) found consistent associations between personality traits and mental health outcomes across diverse populations.

Studies examining emotional intelligence have demonstrated protective effects against anxiety and emotional distress. Zeidner *et al.* (2020) concluded that emotional intelligence contributes significantly to psychological well-being through effective emotion regulation.

Mikolajczak *et al.* (2020) observed that individuals with higher emotional intelligence exhibit greater resilience under stressful conditions and lower levels of anxiety.

Cabello *et al.* (2019) identified significant gender differences in emotional intelligence, with women displaying stronger emotional perception and recognition abilities.

Van Strien *et al.* (2020) reported enhanced neural activation in fear-processing regions among individuals exposed to phobia-related stimuli, supporting neurobiological models of fear processing.

Collectively, these studies support the proposition that personality traits and emotional intelligence play significant roles in fear-related phenomena.

Indian Context of Snake Fear

India provides a unique sociocultural context for studying snake fear. Snakes occupy a complex position within Indian society, simultaneously symbolizing danger, spirituality, and religious significance.

Several Hindu traditions revere snakes, particularly during festivals such as Nag Panchami. Nevertheless, frequent reports of snakebites and human-snake conflict contribute to fear and avoidance behaviors in many communities.

Despite the cultural relevance of snakes, psychological research on ophidiophobia in India remains limited. Existing

studies predominantly focus on epidemiology and snakebite prevention rather than psychological determinants of fear. Given India's cultural diversity and varied ecological conditions, research examining personality traits, emotional intelligence, and snake fear among Indian adults is particularly warranted.

Proposed Conceptual Framework

Based on the reviewed literature, a conceptual model can be proposed.

Independent Variables

- Neuroticism
- Extraversion
- Openness
- Agreeableness
- Conscientiousness
- Emotional Intelligence

Dependent Variable

- Snake Fear/Ophidiophobia

Moderating Variable

- Gender

The model proposes that personality traits directly influence snake fear while emotional intelligence acts as both an independent predictor and a potential buffer against maladaptive fear responses. Gender may moderate these relationships.

Research Gaps and Future Directions

Several significant gaps remain in the literature:

1. Limited research specifically focused on ophidiophobia.
2. Scarcity of studies simultaneously examining personality and emotional intelligence.
3. Lack of culturally sensitive investigations in India.
4. Insufficient understanding of gender-specific pathways leading to snake fear.
5. Absence of integrated predictive models.

Future research should employ longitudinal and cross-cultural designs to clarify causal relationships among these variables.

Conclusion

Snake fear represents a multifaceted psychological phenomenon influenced by evolutionary, cognitive, emotional, and personality-related factors. Current evidence suggests that neuroticism increases vulnerability to fear and anxiety, whereas emotional intelligence promotes adaptive emotional regulation and resilience. Gender differences further contribute to variations in the prevalence and expression of phobic reactions.

Despite growing research on personality and emotional intelligence, ophidiophobia remains underexplored, particularly within non-Western populations. An integrated framework incorporating personality traits, emotional intelligence, and gender may significantly enhance understanding of snake fear and contribute to the development of targeted interventions. Such research is especially relevant in culturally diverse settings such as India, where interactions with snakes remain common and psychologically meaningful.

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