



Research article

GENDER DIFFERENCES IN PERSONALITY TRAITS RELATED TO NEGATIVE EMOTIONALITY

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Abstract:

This study investigates gender differences in three key personality traits associated with negative emotionality: neuroticism, trait anxiety, and aggressive irritability. A population-based sample of 208 Greek adults (131 women, 77 men), aged 19 to 63 years ($M = 36.44$, $SD = 10.43$), voluntarily participated in the research. Neuroticism was assessed using the Eysenck Personality Questionnaire – Revised (EPQ-R), anxiety was measured through the Trait scale of the State-Trait Anxiety Inventory (STAI), and aggressive irritability was evaluated using the relevant subscale of the Buss-Durkee Hostility Inventory (BDHI). Results indicated that women scored significantly higher than men on both neuroticism and anxiety, consistent with previous findings on gendered emotional vulnerability. In contrast, no significant gender differences emerged in aggressive irritability. These findings underscore the importance of considering both prevalence and expression of emotional traits in gender-based psychological research.

Keywords: gender differences, neuroticism, anxiety, irritability, negative emotionality

Introduction

The relation between personality and emotions became very clearly evident in the results of personality studies using this approach, as it became apparent how many words describing personality and words describing emotions overlap (Lin et al., 2014). Moreover, this relationship is not only close but also bidirectional: emotions influence the formation of personality during the early stages of ontogenetic development, while later in adulthood, personality affects the course of emotions and determines which emotions will predominate in an individual's life.

Neuroticism emerges as one of the most frequently studied personality traits probably because it appears to be one of the most important personality dimensions, because it is related to emotions and mood and emotion disorders, and because it exists clearly delineated neuroanatomical structures that underlie this personality traits (Wright et al., 2007).

Neuroticism represents a fundamental personality dimension that reflects a person's habitual sensitivity to negative emotional experiences. Individuals who score high in this trait often find themselves more susceptible to emotions such as anxiety, sadness, frustration, and irritability (Lahey, 2009). They are generally more emotionally reactive, struggle with managing stress, and may feel as though they have little control over their surroundings or internal states. (Barlow et al., 2014).

An important dimension of this trait is its consistent variation across genders. Empirical evidence shows that, across many societies and age groups, women tend to report higher levels of neuroticism than men (Costa & McCrae, 1992). The reasons behind this gender gap are complex and multifaceted. On the biological front, hormonal fluctuations and differences in stress hormone regulation may partly account for women's heightened emotional responsiveness. From a sociocultural standpoint, gender-role expectations often encourage women to be more expressive about their emotions, while men may be subtly discouraged from acknowledging or displaying emotional vulnerability (Barlow et al., 2014; Lahey, 2009).

Notably, this gender divergence in neuroticism is detectable as early as adolescence and appears to remain relatively consistent over the course of life (Feingold, 1994). This enduring difference also helps explain broader trends in mental health: internalizing disorders, such as anxiety and depression, are more prevalent in women, while men are more prone to externalizing problems, including aggression and substance abuse (Nolen-Hoeksema, 2001).

Because neuroticism is a strong predictor of both emotional distress and clinical diagnoses, the way it interacts with gender has significant implications. Recognizing these patterns is crucial not only for research but also for clinical practice. Tailoring mental health interventions and preventative measures to account for gender-based variations in emotional experience and personality traits like neuroticism can enhance outcomes and promote more personalized care.

Anxiety is another personality trait that is closely related to negative emotionality. This personality trait refers to a person's habitual tendency to perceive a wide range of situations as threatening, leading to frequent experiences of worry, tension, and nervousness. Unlike momentary anxiety, which arises in response to specific stressors, trait anxiety is stable over time and shapes how individuals respond to everyday challenges and ambiguous situations. It is considered a core component of personality models that emphasize emotional reactivity, such as the Big Five, where it is often linked closely to the broader trait of neuroticism (Costa & McCrae, 1992; Spielberger, 1985).

Within this framework, gender-related differences in anxiety become particularly striking. Extensive psychological and epidemiological studies have shown that women, on average, report higher levels of trait anxiety than men (McLean et al., 2011). This gap emerges early in adolescence and persists through adulthood, suggesting that both biological and psychosocial factors contribute to shaping this disparity over time.

Biologically, fluctuations in ovarian hormones such as estrogen and progesterone are thought to modulate brain regions involved in emotion regulation, especially the amygdala, hippocampus, and prefrontal cortex (Altemus et al., 2014). These brain structures are central to the experience and regulation of fear and anxiety. Functional imaging studies have shown that women often exhibit greater amygdala reactivity to negative stimuli and reduced top-down control from the prefrontal cortex, a pattern associated with increased vulnerability to anxiety (Etkin et al., 2011).

Yet, these biological foundations interact with powerful sociocultural influences. From childhood, girls are generally socialized to be more emotionally expressive and sensitive to interpersonal dynamics, which may reinforce internalizing patterns such as worry and self-

GENDER DIFFERENCES IN PERSONALITY TRAITS RELATED TO NEGATIVE EMOTIONALITY

focused rumination, with both being closely associated with anxiety. In contrast, boys are often encouraged to suppress emotional distress, which may lead to alternative manifestations of anxiety or reduced reporting (Else-Quest et al., 2006). These gender norms not only influence the development of trait anxiety but also shape help-seeking behaviour, symptom recognition, and access to treatment.

The consequences of elevated trait anxiety also appear to differ by gender. Women with high anxiety are more likely to experience comorbid conditions such as depression, somatic symptoms, and eating disorders, and tend to report greater impairment in daily functioning. Men, while less likely to meet diagnostic criteria for anxiety disorders, may externalize their distress through behaviours such as substance use, which can obscure the presence of underlying anxiety (Rosenfield & Mouzon, 2013).

Irritability, defined as a heightened propensity to respond with anger, impatience, or frustration to minor provocations, is a multifaceted construct with both emotional and behavioral components (American Psychiatric Association, 2022). While it can manifest as a normal, situational reaction, for example, in the context of fatigue or hunger, its chronic and intense form is clinically significant and is frequently linked with mood and behavioral disorders (Toohey & DiGiuseppe, 2017; Vidal-Ribas et al., 2016).

When examining gender differences, research reveals that men and women experience and express irritability in notably distinct ways. A consistent pattern across empirical studies suggests that males are more likely to display irritability outwardly, often through aggressive, confrontational, or externalizing behaviors (Caprara et al., 1996; **Fava et. al., 1995**). In contrast, females tend to internalize irritability, with symptoms often presenting as part of depressive or anxiety-related conditions (Deveney et al., 2013; Vidal-Ribas et al., 2016).

Research further indicates that biological and psychosocial factors contribute to these gendered expressions. For instance, hormonal influences, especially fluctuations in estrogen and progesterone, have been linked to increased irritability in women, particularly during specific phases of the menstrual cycle or postpartum period (Farage et al., 2008).

Socialization patterns also play a role: boys are often encouraged to express anger openly, whereas girls are taught to suppress overt expressions of frustration, potentially leading to a more internalized form of irritability (Toohey & DiGiuseppe, 2017).

Some researchers emphasize that trait irritability, when stable across time, tends to be more prevalent in males, particularly when associated with behavioral dysregulation and low agreeableness (Caprara et al., 1996). In contrast, situational or phasic irritability, conceptualized as emotional reactivity in response to specific stressors, may be equally or even more prevalent among females, especially when linked to mood fluctuations and psychosocial stress (Stringaris & Taylor, 2015).

Moreover, comorbidity patterns differ between genders. For example, in boys, irritability is more frequently associated with externalizing disorders such as oppositional defiant disorder or conduct problems. In girls, however, irritability often co-occurs with

Garnetta, Elisavet

internalizing disorders like depression and generalized anxiety disorder (Ravi et al., 2021; Savage et al., 2015).

Despite these differences, both genetic and environmental influences shape the development of irritability across genders. Genetic studies have shown a moderate heritability of irritability, with evidence suggesting shared biological pathways between irritability and mood disorders (Vidal-Ribas et al., 2016). However, life experiences, such as adverse childhood events, inconsistent caregiving, or chronic stress, may influence how irritability is expressed in males versus females.

Therefore, although irritability is a transdiagnostic symptom, it is also a personality characteristic that shows meaningful gender differences in expression, course, and comorbidity. Men are more prone to externalized, behaviorally disruptive irritability, while women may experience internalized irritability, often embedded within mood disturbances. Recognizing these patterns is crucial for tailoring clinical assessments and interventions to gender-specific presentations.

In response to these persistent and insufficiently clarified issues, the present study was initiated with the aim to investigate whether gender is associated with significant differences in the presence of these personality characteristics linked to negative emotionality: neuroticism, anxiety, and irritability.

Method

Participants

This population-based study was conducted with a sample of 208 adults, all representative of the general Greek population. Participation was entirely voluntary, following informed consent regarding the study's scientific objectives. The participants ranged in age from 19 to 63 years ($M = 36.44$, $SD = 10.43$). The sample comprised 131 women and 77 men.

Instruments

To assess the personality trait of neuroticism, the Eysenck Personality Questionnaire – Revised (EPQ-R) was administered (Eysenck, Eysenck, & Barrett, 1985). Only the Neuroticism scale was used in the present study.

Trait anxiety was assessed using the Trait scale of the State-Trait Anxiety Inventory (STAI), developed by Spielberger (1983).

The aggressive irritability subscale of the **Buss-Durkee Hostility Inventory (BDHI;** Buss & Durkee, 1957) was employed to measure this specific trait. This scale evaluates tendencies toward impulsive reactions, emotional volatility, impatience, and a low threshold for frustration or delay. Individuals scoring high on this dimension are typically more susceptible to hostile outbursts under stress and are often characterized by a persistent predisposition to anger or annoyance in everyday situations.

All three tests are well-established self-report instruments widely used in personality research.

Results

Gender Differences in Neuroticism

To assess the impact of gender on neuroticism, an Independent Samples T-Test was conducted. The results are presented in Table 1.

GENDER DIFFERENCES IN PERSONALITY TRAITS RELATED TO NEGATIVE EMOTIONALITY

Table 1.

Mean Neuroticism Scores by Gender

	N	Mean	Std. deviation	Std. Error
Male group	77	9.74	5.17	.589
Female group	131	13.12	4.67	.408
<i>F (sig)</i>	<i>F</i> _{/206/} = 4.853; <i>sig</i> = .000			

As shown, female participants scored significantly higher on neuroticism than their male counterparts ($F_{/1, 206/} = 4.853, p < .001$).

Participant distribution across neuroticism levels by gender is detailed in Table 2.

Table 2.

Distribution by Neuroticism Level and Gender

Groups	Level of Neuroticism					
	Low		Normal		High	
	N	Percent	N	Percent	N	Percent
Male group	14	18.2	51	66.2	12	15.6
Female group	26	19.8	84	64.1	21	16.0
Pearson Chi-Square; Cramer's <i>V</i>	$\chi^2_{[2]} = .109, p = .947$; Cramer's <i>V</i> = .023					

No significant differences were found in distribution patterns across groups. The percentages were nearly identical between genders.

Gender Differences in Anxiety

An Independent Samples T-Test was also employed to explore gender differences in anxiety. Findings are summarized in Table 3.

Table 3.

Mean Anxiety Scores by Gender

	N	Mean	Std. deviation	Std. Error
Male group	77	39.80	10.35	1.179
Female group	131	43.30	9.36	.818
<i>t (p)</i>	<i>t</i> _{/206/} = 2.502; <i>p</i> = .013			

Female participants reported significantly higher anxiety levels than males ($t_{(206)} = 2.502, p = .013$).

Distribution across anxiety levels is presented in next Table 4.

Table 4.*Distribution by Anxiety Level and Gender*

Groups	Level of Anxiety					
	Low		Normal		High	
	N	Percent	N	Percent	N	Percent
Male group	10	13.0	50	64.9	17	22.1
Female group	11	8.4	66	50.4	54	41.2
Pearson Chi-Square; Cramer's V	$\chi^2_{[2]} = 8.060, p = .018$; Cramer's $V = .197$					

The difference in distribution was statistically significant. Notably, the proportion of females with high anxiety was nearly double that of males.

Gender Differences in Aggressive irritability

To evaluate aggressive irritability across genders, mean scores were compared using an Independent Samples T-Test. Results are shown in Table 5.

Table 5.*Mean Aggressive Irritability Scores by Gender*

	N	Mean	Std. deviation	Std. Error
Male group	77	2.50	2.05	.234
Female group	131	2.30	1.86	.163
$t(p)$	$t_{/206/} = 2.502; p = .013$			

No significant difference emerged in average aggressive irritability scores between genders ($t_{206} = 0.722, p = .471$).

Table 6 presents the distribution based on the presence or absence of irritability.

Table 6.*Presence of Aggressive Irritability by Gender*

Groups	Aggressive irritability			
	Absence of Irritability		Presence of Irritability	
	N	Percent	N	Percent
Male group	69	89.6	8	10.4
Female group	124	94.7	7	5.3
Pearson Chi-Square; Cramer's V	$\chi^2_{[1]} = 1.845, p = .174$; Cramer's $V = .094$			

Again, no significant difference was found. A slight, non-significant tendency for higher aggressive irritability in males was observed.

Discussion

GENDER DIFFERENCES IN PERSONALITY TRAITS RELATED TO NEGATIVE EMOTIONALITY

This study aimed to explore gender differences in personality traits linked to negative emotionality, specifically neuroticism, anxiety, and aggressive irritability. The findings revealed a complex picture in which gender-based variations are pronounced in neuroticism and anxiety and more nuanced in aggressive irritability.

Regarding gender differences in neuroticism and anxiety present study results confirmed previous research (Costa & McCrae, 1992; McLean et al., 2011) by showing that women scored significantly higher than men on both personality traits. Importantly, while the mean levels of neuroticism differed significantly between genders, the categorical distribution across low, normal, and high levels did not. This suggests that although women report more intense or frequent negative affect, the high neuroticism is not necessarily more prevalent among women in categorical terms.

In contrast, both the mean and distribution of anxiety levels significantly favored higher scores among females. Nearly twice as many women as men fell into the high-anxiety group, reinforcing the idea that both biological (e.g., hormonal modulation of emotional regulation systems) and psychosocial (e.g., gender-role socialization) mechanisms contribute to gendered emotional vulnerabilities (Altemus et al., 2014; Else-Quest et al., 2006; Etkin et al., 2011).

Unlike neuroticism and anxiety, aggressive irritability did not show significant gender differences in either mean scores or distribution, although a slight (non-significant) trend toward higher irritability in males was observed. This our finding contrasts with literature suggesting men typically display more externally directed irritability, particularly in the form of anger, confrontational behavior, and aggression (Caprara et al., 1996).

However, the lack of a significant gender difference in aggressive irritability in this sample may reflect shifting norms in emotional expression, measurement limitations, or age-related factors that moderate irritability expression. It's also possible that while men express irritability more behaviorally, women may still experience high levels of irritability but manifest it differently or inhibit outward aggression due to social expectations, as Toohey and DiGiuseppe have suggested (Toohey & DiGiuseppe, 2017).

The fact that the current study measured aggressive irritability specifically, rather than general or internalized irritability, may account for the observed gender balance. Aggressive irritability is more likely to be visible, socially discouraged in women, and underreported by women due to social desirability or internalized gender roles. Thus, while aggressive irritability appears to occur at similar rates across genders in this sample, it may be underpinned by distinct psychological or contextual mechanisms in men and women.

Conclusion

In summary, present study confirmed significant gender differences in neuroticism and anxiety, traits closely linked to internalizing forms of negative emotionality. In contrast, aggressive irritability showed no significant gender disparity, suggesting that while its expression may vary, its occurrence may be more evenly distributed than traditionally assumed.

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GENDER DIFFERENCES IN PERSONALITY TRAITS RELATED TO NEGATIVE EMOTIONALITY

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