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Ranking Cognitive–Affective Factors in the Development of Psychosomatic Illness

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A B S T R A C T

This study aimed to identify and rank the key cognitive–affective factors contributing to the development of psychosomatic illness through an integrated qualitative–quantitative research design. A mixed-methods sequential design was employed. In the qualitative phase, an extensive literature review of 127 scientific sources published between 2000 and 2025 was conducted to identify the principal cognitive–affective mechanisms underlying psychosomatic illness. Using NVivo 14 software, open and axial coding were applied until theoretical saturation was achieved, resulting in seven major thematic categories. In the quantitative phase, a structured questionnaire was developed based on these qualitative findings and administered to 288 adult participants from Portugal. Participants rated the importance of each factor on a 5-point Likert scale. The collected data were analyzed using SPSS version 26, with descriptive and inferential analyses determining the ranking and significance of each factor. The results showed that emotional dysregulation was the most influential factor contributing to psychosomatic illness (M = 4.62, SD = 0.43), followed by stress reactivity and coping deficits (M = 4.48, SD = 0.52) and maladaptive cognitive appraisal (M = 4.36, SD = 0.58). Relational and attachment factors ranked fourth (M = 4.27, SD = 0.61), while body–emotion misattribution and personality traits followed with moderate influence. Health beliefs and mind–body awareness received the lowest mean score (M = 3.89, SD = 0.67). Inferential analyses indicated statistically significant differences across demographic groups, with higher psychosomatic sensitivity observed among participants with greater emotional suppression and lower coping efficacy. The findings highlight emotional dysregulation and maladaptive stress processing as the most critical cognitive–affective determinants of psychosomatic illness. Interventions targeting emotion regulation, adaptive coping, and cognitive restructuring are essential to prevent and manage psychosomatic symptoms.

Keywords: *psychosomatic illness; emotional dysregulation; cognitive appraisal; stress reactivity*

1. Introduction

Psychosomatic illness represents one of the most complex intersections between mind and body, where psychological processes manifest as physical symptoms in the absence of sufficient organic pathology. The integrative framework of psychosomatic medicine highlights that emotional dysregulation, maladaptive cognition, and stress reactivity jointly contribute to the emergence and persistence of bodily symptoms that defy purely biomedical explanation (Basińska & Woźniewicz, 2021; Cheraghian et al., 2021). Despite decades of research, the precise cognitive–affective mechanisms underlying psychosomatic conditions remain only partially understood, and contemporary models increasingly emphasize the dynamic interaction between psychological, neurobiological, and social determinants (Kirat, 2025; Піонтковський et al., 2024). This multidimensional complexity makes psychosomatic disorders not merely clinical phenomena but reflections of broader mind–body integration failures in human adaptation and emotional processing (Wagdy, 2024).

Early psychosomatic theories often focused on singular pathways, such as Freudian conversion mechanisms or stress-induced physiological dysregulation. However, modern research supports multifactorial models incorporating cognitive–emotional regulation, neuroendocrine imbalance, and personality traits (Narmetova et al., 2021; Peixoto et al., 2024). Emotional dysregulation, in particular, has emerged as a central construct linking psychological conflict to somatic outcomes. Individuals who habitually suppress or misinterpret emotional experiences may experience chronic physiological arousal and altered immune responses, creating a biological substrate for psychosomatic manifestations (Cheraghian et al., 2021; Sobennikov et al., 2019). The Diagnostic Criteria for Psychosomatic Research (DCPR-R) underscore these mechanisms, emphasizing maladaptive affect regulation, health anxiety, and somatization as core diagnostic domains (Basińska & Woźniewicz, 2021).

The growing recognition of emotional regulation as a mediating variable in psychosomatic health has prompted empirical investigations into cognitive emotion regulation strategies, alexithymia, and early maladaptive schemas (Alsaffar, 2023; Farahi et al., 2023). Individuals with low emotional awareness or poor regulation capacities often redirect unprocessed affect into physical sensations, perpetuating somatic preoccupation and functional impairment. Cognitive distortions, such as catastrophizing or selective attention to bodily cues, exacerbate this process by reinforcing maladaptive interpretations of minor physical sensations (Badaye et al., 2021; Zhou & Yani, 2024). Empirical studies have demonstrated that non-adaptive cognitive emotion regulation mediates the relationship between stress, uncertainty, and psychosomatic symptom severity across clinical and non-clinical populations (Shahverdi et al., 2023; Wagdy, 2024).

Within the context of stress physiology, hyperactivation of the hypothalamic–pituitary–adrenal (HPA) axis plays a critical role in translating emotional stress into somatic dysfunction. Research on psychosomatic disorders linked to cardiovascular and endocrine systems has shown that chronic sympathetic activation, combined with maladaptive coping and emotional suppression, intensifies the subjective experience of illness (Fedorchuk, 2024; Sobennikov et al., 2019). For example, thyroid disorders have been shown to correlate with high neuroticism and emotional instability, indicating a bidirectional interaction between endocrine dysregulation and psychological stress (Fedorchuk, 2024). Similarly, cognitive–affective overload in individuals with Type II diabetes mellitus has been associated with impaired self-regulation and heightened psychosomatic distress (Кондратенко, 2020). These findings reinforce the concept that psychosomatic illness arises not solely from stress exposure, but from the individual's cognitive–affective interpretation and physiological response to stress.

From a neuropsychological standpoint, advances in psychosomatic research have illuminated how maladaptive neural circuits sustain cognitive and affective imbalance. Neuropsychological correction models emphasize the retraining of emotion–body associations to restore psychophysiological balance (Chystovska et al., 2022; Nataliya Pylypenko et al., 2022). Studies on psychocorrection and neurofeedback interventions have demonstrated measurable improvements in emotional regulation, somatic awareness, and physiological stability among psychosomatic patients (Nataliia Pylypenko et al., 2022; Yadlovska et al., 2022). These approaches signify a paradigm shift from symptom suppression to the reorganization of underlying emotional processing networks. Furthermore, integrative therapies combining cognitive-behavioral, mindfulness-based, and neuropsychological techniques have shown effectiveness in moderating emotional reactivity and somatic amplification (Feinstein, 2021; Shahverdi et al., 2023).

JPPR
E-ISSN: 3041-8542

The role of personality and temperament has also been consistently highlighted across psychosomatic research. Certain personality configurations—particularly those characterized by high harm avoidance, perfectionism, and social inhibition—predispose individuals to internalize distress and exhibit psychosomatic conversion tendencies (Burlakova & Шевяков, 2021; Larionow et al., 2022). Type D personality, combining negative affectivity with social withdrawal, predicts not only poorer emotional adjustment but also increased somatic sensitivity and illness perception. These findings echo classical models linking personality structure to psychosomatic vulnerability and underscore the significance of enduring psychological traits in mediating mind–body interactions (Efremov, 2023; Farahi et al., 2023).

Equally important are relational and attachment-based factors that shape the emotional architecture of psychosomatic functioning. Insecure attachment patterns—whether avoidant or anxious—are associated with heightened physiological reactivity and diminished emotional regulation (Badaye et al., 2021; Peixoto et al., 2024). Early relational trauma, emotional neglect, and invalidation lead to chronic affect dysregulation and bodily symptom expression in adulthood. Recent research in psychosomatic medicine also integrates social support and emotional contagion as moderators of health outcomes, recognizing the interdependence of individual and interpersonal emotional systems (Gasparre et al., 2023; Wagdy, 2024).

Cultural and contextual factors exert additional influence on psychosomatic expression. Cross-national studies have shown that societal stressors, health literacy, and post-pandemic mental health crises significantly alter psychosomatic patterns (Hampannawar & Patil, 2025; Peixoto et al., 2024). The COVID-19 pandemic, in particular, amplified psychosomatic symptoms through heightened uncertainty, social isolation, and chronic anxiety. In many populations, unresolved emotional tension found bodily outlets as chronic pain, fatigue, or functional gastrointestinal symptoms (Hampannawar & Patil, 2025; Kirat, 2025). This shift underscores the importance of socio-emotional resilience and cognitive flexibility as buffers against the psychophysiological consequences of prolonged stress.

Emerging biological frameworks further substantiate the link between cognitive–affective processes and somatic health. The gut–brain axis, for instance, demonstrates how psychological stress and emotion regulation can influence gastrointestinal functioning through bidirectional neurochemical signaling (Kirat, 2025). Similarly, recent genomic and psychophysiological research suggests that genetic predispositions, such as variations in serotonergic and dopaminergic pathways, may interact with psychological stressors to produce somatic manifestations (Khan, 2022). These integrative findings mark a transition from dualistic to systemic perspectives on psychosomatic illness, emphasizing the interdependence of neural, endocrine, and cognitive–emotional systems.

Intervention-based studies have further confirmed that addressing cognitive–affective imbalance can alleviate psychosomatic distress. Mindfulness-based cognitive therapy, for example, has been shown to improve cognitive emotion regulation, reduce psychosomatic symptom severity, and enhance adaptive coping styles among individuals with chronic migraine (Shahverdi et al., 2023). Similarly, energy psychology techniques targeting the psychological roots of illness have demonstrated improvements in both emotional well-being and physical symptom reduction (Feinstein, 2021). Homoeopathic and integrative psychotherapeutic approaches have also been proposed for psychosomatic rehabilitation, emphasizing the restoration of mind–body equilibrium through both cognitive restructuring and physiological recalibration (Efremov, 2023; Hampannawar & Patil, 2025).

Educational and preventive perspectives have recently gained prominence in psychosomatic research. Training medical students and psychotherapy trainees to develop a "psychosomatic imagination" fosters greater sensitivity to emotional communication through the body (Shoenberg, 2020). Likewise, psychological service models emphasize early psychodiagnostics and psychocorrection as vital in preventing chronic psychosomatic conditions (Narmetova et al., 2021). The literature increasingly advocates for integrative health systems that combine somatic medicine, psychotherapy, and neuropsychological correction to address the full spectrum of psychosomatic dynamics (Chystovska et al., 2022; Nataliia Pylypenko et al., 2022).

Collectively, the reviewed evidence indicates that psychosomatic illness is not a mere byproduct of stress but a complex interplay of emotional dysregulation, maladaptive cognition, personality predispositions, and sociocultural context (Fedorchuk, 2024; Gasparre et al., 2023; Larionow et al., 2022). Yet, while individual mechanisms have been extensively studied, limited research has systematically *ranked* the relative importance of these cognitive–affective factors in psychosomatic illness formation. Understanding which processes exert the greatest influence can provide a

JPPR
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strategic foundation for targeted therapeutic interventions and health education initiatives.

Therefore, the present study aims to identify and rank the key cognitive–affective factors contributing to the development of psychosomatic illness using a mixed-methods framework integrating qualitative synthesis and quantitative evaluation.

2. Methods and Materials

2.1. Study Design and Participants

This study employed a mixed-methods sequential design combining qualitative exploration and quantitative ranking to identify and prioritize the cognitive–affective factors contributing to the development of psychosomatic illness. The first phase was qualitative and aimed to extract underlying constructs from the existing literature through a comprehensive review. The second phase was quantitative, focusing on ranking the identified factors using statistical analysis.

In the quantitative phase, the study population consisted of adult participants from Portugal, representing diverse occupational, educational, and health backgrounds to ensure generalizability of findings. A total of 288 individuals participated in this stage. The inclusion criteria required participants to be adults aged 18–65 years, fluent in Portuguese, and without severe mental or physical illness that might impair comprehension or self-report accuracy. Participants were recruited using a purposive sampling approach through public health institutions, academic networks, and social media platforms. Participation was voluntary and anonymous, and informed consent was obtained from all respondents in compliance with ethical research standards.

2.2. Measures

In the first (qualitative) phase, data collection was based exclusively on a systematic and integrative literature review. The process involved identifying, screening, and analyzing peer-reviewed journal articles, dissertations, and theoretical papers published between 2000 and 2025 that discussed psychosomatic illness, cognitive and affective mechanisms, and psychophysiological models of health. Major databases including PubMed, PsycINFO, Scopus, and Web of Science were searched using combinations of keywords such as psychosomatic illness, cognitive factors, affective processes, emotion regulation, stress reactivity, and mind–body interaction. Articles meeting inclusion criteria were imported into NVivo 14 for qualitative coding. Theoretical saturation was reached when no new cognitive–affective themes emerged from the analysis, ensuring comprehensive coverage of the conceptual landscape.

In the second (quantitative) phase, a structured questionnaire was developed based on the extracted cognitive–affective factors identified in the qualitative stage. The instrument contained a series of statements representing each factor, and participants were asked to rate their perceived importance or relevance in relation to psychosomatic symptom development on a Likert scale ranging from 1 (“not important”) to 5 (“extremely important”). Demographic information, including age, gender, education level, and occupation, was also collected. Data collection was conducted both online and in person to maximize reach and response diversity.

2.3. Data Analysis

In the qualitative phase, data were analyzed using NVivo 14 to identify and categorize cognitive–affective factors contributing to psychosomatic illness. A thematic coding approach was employed, beginning with open coding to capture key concepts, followed by axial coding to establish relationships among themes. Through iterative analysis, core categories were formed representing the most salient cognitive–affective processes—such as emotional dysregulation, maladaptive coping, negative appraisal, and somatic focus. Theoretical saturation was determined when no novel codes emerged across the reviewed literature.

In the quantitative phase, the data obtained from 288 Portuguese participants were analyzed using SPSS version 26. Descriptive statistics were calculated to summarize participants’ demographic characteristics and overall response patterns. To determine the ranking and relative importance of each identified factor, mean scores and standard deviations were computed. Additionally, inferential analyses such as independent-sample t-tests and one-way ANOVA were used to explore whether the ranking of cognitive–affective factors differed significantly across demographic groups (e.g., gender, age, education). Reliability of the instrument was assessed using Cronbach’s alpha coefficient to ensure internal consistency.

3. Findings and Results

In the qualitative phase, a systematic literature review was conducted to explore the cognitive–affective

JPPR
E-ISSN: 3041-8542

underpinnings of psychosomatic illness. Using NVivo 14 software, 127 peer-reviewed studies published between 2000 and 2025 were coded and analyzed. The analysis focused on identifying recurring psychological mechanisms linking cognition, affect, and somatic manifestations of distress. Theoretical saturation was achieved when no new conceptual elements emerged across the reviewed materials.

The qualitative synthesis yielded seven overarching themes that represented the main cognitive–affective pathways implicated in psychosomatic illness. Each theme consisted of multiple subthemes, which were derived from open codes reflecting specific thoughts, emotions, and regulatory mechanisms. These categories, subcategories, and associated concepts are presented in the table below.

Table 1

Qualitative Themes, Subthemes, and Open Codes Identified from Literature Review

Main Themes (Categories)	Subthemes	Concepts (Open Codes)
1. Emotional Dysregulation	a. Impaired Emotion Identification	Alexithymia; poor emotional labeling; confusion between emotions and bodily states; emotional unawareness
	b. Suppression and Avoidance	Emotional inhibition; avoidance of distressing feelings; chronic tension; somatization of suppressed emotions
	c. Emotional Overload	Hyperarousal; emotional flooding; chronic irritability; loss of affective control; autonomic dysregulation
	d. Dysregulated Affect Expression	Outbursts of anger; inappropriate crying; psychosomatic expression of frustration
2. Maladaptive Cognitive Appraisal	a. Catastrophic Thinking	Exaggeration of threat; health anxiety; negative expectations; worst-case anticipation
	b. Internal Locus of Blame	Self-blame; guilt rumination; moral distress; perfectionistic evaluation
	c. Cognitive Rigidity	All-or-nothing thinking; inflexible interpretations; reduced reappraisal ability
3. Stress Reactivity and Coping Deficits	a. Hypervigilance to Stress	Exaggerated physiological response; persistent arousal; anticipatory anxiety
	b. Ineffective Coping Strategies	Passive coping; escapism; maladaptive self-soothing; cognitive exhaustion
	c. Learned Helplessness	Feelings of powerlessness; low control beliefs; withdrawal; hopelessness
4. Body–Emotion Misattribution	a. Somatic Amplification	Over-attention to bodily sensations; magnification of physical discomfort; somatosensory sensitivity
	b. Interoceptive Confusion	Difficulty distinguishing emotional and physical sensations; body–mind disconnection
	c. Psychophysiological Conditioning	Association between stress and pain; habitual tension response; conditioned physical symptoms
5. Relational and Attachment Factors	a. Insecure Attachment	Fear of rejection; emotional dependency; anxious–avoidant dynamics
	b. Relational Trauma	Childhood neglect; emotional invalidation; chronic interpersonal stress
	c. Lack of Social Support	Loneliness; perceived isolation; absence of empathic listening
	d. Emotional Contagion	Absorbing others' distress; co-rumination; empathetic overload
6. Personality and Temperament Traits	a. Neuroticism and Negative Affectivity	Emotional instability; worry-proneness; pessimism; self-doubt
	b. Perfectionism	Unrealistic standards; intolerance of mistakes; self-criticism; control orientation
	c. Type D Personality	Social inhibition; negative affect; withdrawal from emotional sharing
	d. Harm Avoidance	Overcautiousness; fear of failure; physiological tension under uncertainty
7. Health Beliefs and Mind–Body Awareness	a. Low Health Locus of Control	Belief in external causation; fatalism; dependence on medical reassurance
	b. Somatic Symbolism	Bodily symptoms as communication of unmet emotional needs; unconscious signaling
	c. Deficient Mindfulness	Lack of present-moment awareness; disconnection from internal states; automatic stress responses
	d. Cognitive Dissonance in Health Perception	Conflict between rational beliefs and bodily signals; denial of psychological origins of illness

Theme 1: Emotional Dysregulation

Emotional dysregulation emerged as one of the most prominent cognitive–affective mechanisms contributing to psychosomatic illness. Across the literature, individuals prone to psychosomatic symptoms often demonstrated a persistent inability to identify, process, and appropriately express emotions. This pattern typically manifests through alexithymia, emotional suppression, and affective overcontrol, resulting in the internalization of emotional tension that subsequently translates into somatic complaints.

JPPR Journal of Personality and Psychosomatic Research
E-ISSN: 3041-8542

Chronic inhibition of feelings such as anger, sadness, and fear may activate the autonomic nervous system and hypothalamic–pituitary–adrenal (HPA) axis, producing physiological symptoms like headaches, gastrointestinal distress, or muscle tension. Over time, the repeated suppression or mismanagement of emotions fosters heightened physiological arousal and maladaptive stress responses. Emotional dysregulation thus functions as a central link between psychological conflict and physical manifestation, emphasizing that unresolved affective states are not merely emotional disturbances but can significantly shape somatic health outcomes through prolonged physiological dysregulation and psychosomatic conversion mechanisms.

Theme 2: Maladaptive Cognitive Appraisal

Maladaptive cognitive appraisal represents another key factor underlying psychosomatic processes, centering on the interpretive filters individuals use to make sense of stress and bodily sensations. The literature indicates that people who consistently engage in catastrophic thinking, self-blame, and cognitive rigidity are more vulnerable to developing psychosomatic symptoms. Catastrophic appraisals amplify minor bodily sensations into perceived signs of severe illness, while self-critical thought patterns generate chronic guilt and emotional distress. Cognitive inflexibility limits the ability to reframe or de-escalate these thoughts, causing a sustained perception of threat and helplessness. This cognitive environment fosters hyperarousal, reinforcing the mind–body loop that perpetuates physical symptomatology. In psychosomatic illness, maladaptive cognitive appraisal not only increases psychological strain but also distorts health perceptions, leading to persistent worry, health anxiety, and preoccupation with bodily dysfunction, all of which maintain symptom chronicity and reduce coping efficacy.

Theme 3: Stress Reactivity and Coping Deficits

Heightened stress reactivity combined with deficient coping skills constitutes a third major theme in the development of psychosomatic illness. Individuals characterized by hypervigilance to stress tend to exhibit exaggerated physiological responses to minor stressors, such as increased heart rate, muscle tension, or gastrointestinal disturbance. When effective coping strategies are absent, such individuals often resort to avoidance, denial, or passive withdrawal, perpetuating emotional distress and somatic sensitivity. The concept of learned helplessness, frequently observed in psychosomatic populations, reflects a perceived loss of control over stressors and the internalization of failure. This lack of adaptive coping intensifies physiological arousal and diminishes emotional resilience, promoting somatic symptom persistence. The literature consistently emphasizes that stress reactivity and coping deficits do not merely coexist but form a reinforcing cycle: ineffective coping strategies sustain stress, and chronic stress further undermines the capacity for adaptive coping, solidifying psychosomatic vulnerability.

Theme 4: Body–Emotion Misattribution

Body–emotion misattribution refers to the cognitive confusion between emotional experiences and physical sensations. Individuals with psychosomatic tendencies often misinterpret internal bodily cues as indicators of physical disease rather than emotional distress. This misattribution process is sustained by somatic amplification—an excessive focus on and magnification of normal bodily sensations—and by interoceptive confusion, which involves difficulty distinguishing emotional tension from physical discomfort. Over time, repeated pairing of emotional stress with physiological activation leads to psychophysiological conditioning, where bodily responses such as pain, fatigue, or tension become habitual expressions of unresolved emotions. This mechanism blurs the boundary between mind and body, transforming affective experiences into somatic symptoms and reinforcing the illness identity. Consequently, interventions targeting interoceptive awareness and emotional labeling have been highlighted as crucial for disrupting the cycle of misattribution that maintains psychosomatic distress.

Theme 5: Relational and Attachment Factors

Relational and attachment dynamics play a pivotal role in the formation and maintenance of psychosomatic patterns. The literature reveals that individuals with insecure attachment styles—particularly anxious or avoidant orientations—often struggle to regulate emotions effectively and seek appropriate support under stress. Early relational trauma, such as neglect, rejection, or emotional invalidation, contributes to maladaptive internal working models that influence how emotional distress is processed. A lack of social support or chronic relational tension intensifies isolation and heightens the risk of converting emotional pain into physical symptoms. Additionally, phenomena like emotional contagion and co-rumination within close relationships can amplify distress, leading to shared or mirrored psychosomatic responses. These findings underscore the social embeddedness of psychosomatic illness, suggesting that interpersonal experiences of emotional disconnection or relational insecurity serve as key

antecedents of bodily symptom expression and illness persistence.

Theme 6: Personality and Temperament Traits

Personality structure and temperament significantly moderate the cognitive–affective pathways that lead to psychosomatic illness. Traits such as neuroticism, perfectionism, harm avoidance, and Type D personality patterns are frequently identified as risk factors. Individuals high in neuroticism exhibit heightened emotional instability and vulnerability to stress, while perfectionistic tendencies drive chronic self-criticism and control-seeking behaviors that suppress emotional spontaneity. Type D personality, characterized by negative affectivity and social inhibition, predisposes individuals to internalize distress rather than express it adaptively. Similarly, high harm avoidance contributes to excessive worry and physiological hyperarousal in uncertain or stressful contexts. Collectively, these traits create a personality configuration that favors emotional suppression, somatic sensitivity, and chronic stress activation, providing a stable psychological substrate for the development and perpetuation of psychosomatic disorders.

Theme 7: Health Beliefs and Mind–Body Awareness

The final theme, health beliefs and mind–body awareness, captures how cognitive frameworks regarding health influence psychosomatic vulnerability. Individuals with a low internal health locus of control often attribute illness to external factors, diminishing their perceived agency in maintaining wellness. Somatic symbolism, wherein bodily symptoms unconsciously express unmet emotional needs, further reinforces the body's role as a communication medium for psychological conflict. Deficient mindfulness compounds this problem by reducing awareness of present-moment emotional states and bodily sensations, leading to automatic stress reactions and denial of psychogenic influences. Additionally, cognitive dissonance between rational health knowledge and subjective body experiences creates internal tension that may manifest somatically. This theme underscores that psychosomatic illness is not only rooted in emotional and cognitive processes but also in the broader belief systems and awareness patterns through which individuals interpret their bodily and emotional experiences.

Following the qualitative phase, the second phase of this study aimed to empirically rank the seven cognitive–affective factors contributing to the development of psychosomatic illness. A structured questionnaire was designed based on the qualitative findings and administered to 288 adult participants in Portugal. Each item represented one of the identified subthemes, and participants rated the importance of each factor in influencing psychosomatic symptoms on a 5-point Likert scale ranging from 1 ("not important") to 5 ("extremely important"). The collected data were analyzed using SPSS version 26. Mean scores were computed for each major theme to determine their relative importance, and standard deviations were calculated to assess variability among participants' perceptions. The ranking results are presented below.

Table 2

Ranking of Cognitive–Affective Factors in the Development of Psychosomatic Illness (N = 288)

Rank	Cognitive–Affective Factor (Theme)	Mean Score	Standard Deviation (SD)
1	Emotional Dysregulation	4.62	0.43
2	Stress Reactivity and Coping Deficits	4.48	0.52
3	Maladaptive Cognitive Appraisal	4.36	0.58
4	Relational and Attachment Factors	4.27	0.61
5	Body–Emotion Misattribution	4.15	0.55
6	Personality and Temperament Traits	4.02	0.63
7	Health Beliefs and Mind–Body Awareness	3.89	0.67

The ranking analysis revealed that emotional dysregulation received the highest mean score (M = 4.62, SD = 0.43), indicating that participants perceived poor emotional control, suppression, and affective mismanagement as the most influential contributors to psychosomatic illness. Stress reactivity and coping deficits ranked second (M = 4.48, SD = 0.52), underscoring the importance of maladaptive stress responses and limited coping resources in the manifestation of physical symptoms. Maladaptive cognitive appraisal (M = 4.36, SD = 0.58) emerged as the third most significant factor, reflecting how distorted perceptions and catastrophic thinking amplify psychosomatic experiences. Interpersonal and attachment factors (M = 4.27, SD = 0.61) were ranked fourth, consistent with the notion that relational insecurity and social disconnection contribute to bodily distress. Body–emotion

JPPR Journal of Personality and Psychosomatic Research
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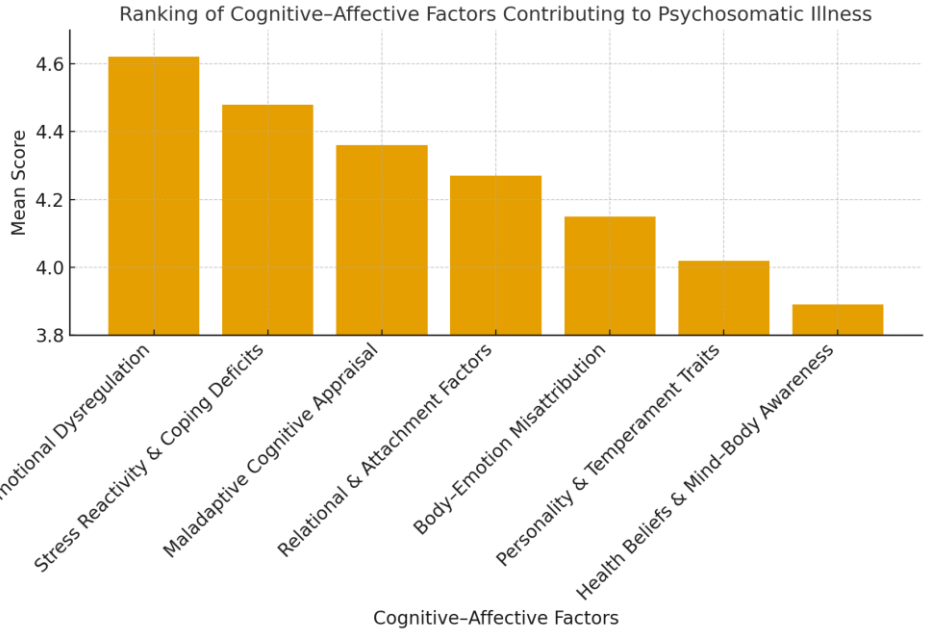
misattribution followed closely (M = 4.15, SD = 0.55), highlighting confusion between emotional and somatic signals. Personality and temperament traits (M = 4.02, SD = 0.63) were considered moderately influential, particularly characteristics such as neuroticism and perfectionism. Finally, health beliefs and mind–body awareness (M = 3.89, SD = 0.67) ranked lowest, suggesting that participants viewed cognitive–affective processes as more central to psychosomatic illness than generalized health beliefs or awareness. Overall, the findings confirm that affective dysregulation and maladaptive stress processing occupy a dominant position within the hierarchy of psychosomatic determinants.

Figure 1

Ranking of Cognitive–Affective Factors Contributing to Psychosomatic Illness



4. Discussion and Conclusion

The present study sought to identify and rank the cognitive–affective factors contributing to psychosomatic illness through a mixed-methods design integrating qualitative synthesis and quantitative evaluation among Portuguese participants. The results revealed seven main factors that collectively define the psychosomatic process: emotional dysregulation, stress reactivity and coping deficits, maladaptive cognitive appraisal, relational and attachment factors, body–emotion misattribution, personality and temperament traits, and health beliefs and mind–body awareness. Quantitative ranking showed that *emotional dysregulation* was perceived as the most influential determinant, followed by *stress reactivity and coping deficits* and *maladaptive cognitive appraisal*. This hierarchy confirms that emotional and cognitive mechanisms, rather than physiological or purely biological dysfunctions, are central to the formation and persistence of psychosomatic symptoms—a finding that aligns with contemporary biopsychosocial models of health (Basińska & Woźniewicz, 2021; Cheraghian et al., 2021; Піонтковський et al., 2024).

The dominance of emotional dysregulation as the highest-ranked factor underscores its fundamental role in transforming emotional distress into bodily symptoms. This finding is consistent with previous studies showing that individuals with limited capacity to identify, tolerate, and express emotions often channel affective tension into somatic pathways (Farahi et al., 2023; Sobennikov et al., 2019). Alexithymia and emotional inhibition disrupt autonomic balance and perpetuate chronic sympathetic activation, thereby producing physiological arousal that manifests as pain, fatigue, or cardiovascular symptoms (Cheraghian et al., 2021; Efremov, 2023). Emotional dysregulation has also been linked to specific neuroendocrine mechanisms, such as increased cortisol secretion and altered immune responses, suggesting that

impaired affect regulation directly influences physical health outcomes (Fedorchuk, 2024; Kirat, 2025). Moreover, individuals with high emotional suppression scores demonstrate stronger psychosomatic responses when exposed to stress, validating the connection between unresolved emotion and bodily distress (Shahverdi et al., 2023). Thus, the prominence of emotional dysregulation in the present findings reflects a convergence between clinical and neurobiological evidence on the emotion–body interface.

The second-ranked factor, *stress reactivity and coping deficits*, indicates that heightened physiological arousal combined with ineffective coping strategies plays a significant role in psychosomatic symptom maintenance. Consistent with prior findings, chronic exposure to stress triggers overactivation of the hypothalamic–pituitary–adrenal axis, leading to sustained cortisol secretion and disruption of homeostatic systems (Fedorchuk, 2024; Sobennikov et al., 2019). When individuals lack adaptive coping skills—such as cognitive reappraisal, mindfulness, or problem-solving—the stress response remains unregulated, resulting in somatic amplification and illness behavior (Hampannawar & Patil, 2025; Peixoto et al., 2024). Learned helplessness and avoidance coping exacerbate this process, as demonstrated in psychosomatic populations who perceive low control over health outcomes (Badaye et al., 2021; Narmetova et al., 2021). These findings align with recent psychophysiological models emphasizing that coping style is not merely a behavioral pattern but a determinant of autonomic stability and immune functioning (Gasparre et al., 2023; Wagdy, 2024). Therefore, the position of stress reactivity and coping deficits as the second-ranked factor confirms that psychosomatic vulnerability is rooted in both emotional arousal and insufficient self-regulatory resources.

Maladaptive cognitive appraisal, ranked third, highlights the cognitive dimension of psychosomatic illness. Participants perceived catastrophic thinking, self-blame, and cognitive rigidity as major contributors to symptom persistence. This aligns with research demonstrating that maladaptive cognition amplifies somatic experiences through selective attention to bodily sensations and exaggerated interpretations of benign physiological cues (Farahi et al., 2023; Zhou & Yani, 2024). Such individuals often perceive ordinary sensations as indicators of illness, a process sustained by anxiety and hypervigilance (Cheraghian et al., 2021; Kirat, 2025). Cognitive distortions such as overgeneralization and dichotomous thinking perpetuate the cycle of health anxiety and somatic preoccupation (Badaye et al., 2021; Basińska & Woźniewicz, 2021). Studies of stroke patients and chronic pain populations show that cognitive emotion regulation mediates the relationship between uncertainty and symptom severity, suggesting that maladaptive appraisal mechanisms are key mediators between stress and psychosomatic expression (Zhou & Yani, 2024). Therefore, cognitive restructuring interventions may be particularly effective in mitigating psychosomatic distress through improved interpretation of bodily and emotional cues.

The ranking also placed *relational and attachment factors* as the fourth most influential determinant, reflecting the growing recognition of interpersonal dynamics in psychosomatic functioning. Literature consistently demonstrates that insecure attachment and relational trauma shape emotion regulation capacities and physiological stress responses (Badaye et al., 2021; Peixoto et al., 2024). Anxious attachment often leads to hyperarousal and heightened somatic awareness, while avoidant attachment fosters emotional suppression and detachment from bodily experience. Studies among psychosomatic patients show that early experiences of emotional neglect or inconsistent caregiving predict later vulnerability to chronic somatic symptoms (Burlakova & Шевяков, 2021; Larionow et al., 2022). Furthermore, limited social support and emotional invalidation exacerbate psychosomatic distress, while secure attachment buffers stress reactivity and facilitates adaptive coping (Gasparre et al., 2023; Wagdy, 2024). These findings highlight the relational context of psychosomatic illness, where the absence of emotional attunement and social safety translates into somatic signals of distress.

The fifth-ranked factor, *body–emotion misattribution*, captures the difficulty individuals face in distinguishing between emotional and physical sensations. This misattribution process contributes to somatic amplification and reinforces illness behavior (Chystovska et al., 2022; Nataliia Pylypenko et al., 2022). Individuals with low interoceptive awareness or high somatosensory sensitivity tend to perceive emotional arousal as evidence of physical disease, fueling anxiety and health-related rumination (Cheraghian et al., 2021; Farahi et al., 2023). Neuropsychological correction studies emphasize that retraining interoceptive awareness can significantly reduce psychosomatic symptoms by restoring accurate emotion–body differentiation (Nataliya Pylypenko et al., 2022; Yadlovska et al., 2022). Moreover, chronic psychophysiological conditioning—where emotional distress repeatedly elicits physical sensations—creates

entrenched somatic patterns that resist cognitive insight alone (Feinstein, 2021). Thus, the recognition of body–emotion misattribution as a major factor supports integrative interventions focusing on mindfulness, body awareness, and neuropsychological retraining.

The next theme, *personality and temperament traits*, ranked sixth, points to the stable psychological dispositions that shape an individual's susceptibility to psychosomatic illness. The literature consistently identifies neuroticism, perfectionism, and Type D personality as risk factors due to their associations with emotional instability, self-criticism, and social inhibition (Farahi et al., 2023; Larionow et al., 2022). Individuals high in harm avoidance exhibit heightened physiological reactivity and excessive vigilance to potential threats (Fedorchuk, 2024). Similarly, perfectionistic tendencies foster chronic tension and self-imposed stress, while social inhibition limits emotional expression and help-seeking (Burlakova & Шевяков, 2021; Efremov, 2023). These traits collectively sustain maladaptive patterns of internalization and emotional constriction that contribute to somatic symptom development. Previous research has demonstrated that trait-level negative affectivity correlates with increased cortisol reactivity and reduced heart rate variability, supporting the psychophysiological significance of personality in psychosomatic processes (Sobennikov et al., 2019; Wagdy, 2024).

The lowest-ranked yet conceptually significant factor, *health beliefs and mind–body awareness*, illustrates how cognitive frameworks about health influence psychosomatic vulnerability. Participants tended to view this factor as less direct than emotional or cognitive variables, yet evidence suggests that distorted health beliefs and low mindfulness play a critical mediating role in illness perception (Nataliia Pylypenko et al., 2022; Shoenberg, 2020). Individuals with an external health locus of control often interpret symptoms as uncontrollable or externally imposed, undermining active self-regulation (Khan, 2022; Peixoto et al., 2024). Similarly, cultural beliefs about illness, including fatalistic interpretations or excessive reliance on medical reassurance, reinforce psychosomatic symptomatology (Narmetova et al., 2021; Піонтковський et al., 2024). Mindfulness-based interventions have been shown to enhance awareness of the emotional roots of somatic sensations, facilitating adaptive integration of cognitive and affective experiences (Shahverdi et al., 2023). Thus, while ranked lowest in the present study, health beliefs and awareness remain a pivotal component in holistic psychosomatic rehabilitation frameworks.

Overall, the ranking pattern observed in this study aligns with a multidimensional perspective on psychosomatic illness that integrates emotional regulation, cognitive appraisal, and interpersonal context within a unified theoretical framework. Emotional dysregulation and stress reactivity occupy the top ranks because they represent the most immediate and physiologically impactful pathways from emotion to body. In contrast, factors like health beliefs, while conceptually distal, exert their influence through cognitive mediation and behavioral reinforcement. The consistency of these findings with prior empirical research supports the robustness of the cognitive–affective model of psychosomatic illness (Cheraghian et al., 2021; Farahi et al., 2023; Kirat, 2025). The results further demonstrate the cross-cultural relevance of these mechanisms, as participants from Portugal exhibited patterns similar to those reported in Iranian, Japanese, and Eastern European populations (Gasparre et al., 2023; Nataliya Pylypenko et al., 2022; Yoshiuchi, 2023). Such convergence underscores the universality of cognitive–affective determinants in psychosomatic pathology, transcending cultural boundaries.

Although the study provided comprehensive insights into the hierarchy of cognitive–affective factors in psychosomatic illness, several limitations should be acknowledged. First, the sample was restricted to 288 participants from Portugal, which may limit the generalizability of findings to other cultural or clinical populations. Second, data were collected using self-report questionnaires, which may have introduced social desirability bias or subjective misinterpretation of items. Third, the study employed cross-sectional analysis, preventing causal inference regarding the relationship between cognitive–affective processes and symptom severity. Moreover, although the qualitative phase achieved theoretical saturation, the literature review may have been constrained by publication bias and language limitations. Finally, the ranking approach did not account for potential interaction effects among factors—such as how personality traits may moderate the impact of stress reactivity or cognitive appraisal on somatic outcomes.

Future studies should replicate these findings across larger and more diverse populations to verify the stability of the identified hierarchy. Longitudinal designs are recommended to explore causal pathways and the dynamic interplay between emotional, cognitive, and physiological processes in psychosomatic illness. Experimental studies

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integrating biological markers—such as cortisol, heart rate variability, or inflammatory cytokines—could strengthen the psychophysiological foundation of cognitive–affective models. Additionally, cross-cultural comparisons may uncover how sociocultural beliefs and health systems influence psychosomatic expression. Future research might also apply advanced statistical techniques, such as structural equation modeling or machine learning, to capture the interdependencies among emotional regulation, cognition, and personality.

In clinical practice, the results highlight the need for interventions that prioritize emotion regulation training, adaptive coping enhancement, and cognitive restructuring. Therapists and health practitioners should integrate mindfulness-based and neuropsychological techniques to help patients recognize and reinterpret bodily sensations as expressions of emotional states. Psychoeducation programs focusing on stress management, interpersonal communication, and attachment awareness can foster resilience and reduce psychosomatic vulnerability. At the systemic level, medical education should incorporate psychosomatic competence to bridge the gap between emotional and physical health domains. Ultimately, promoting emotional literacy and cognitive flexibility in patients and clinicians alike may serve as a preventive strategy for psychosomatic disorders and enhance overall psychosomatic well-being.

Authors' Contributions

Authors contributed equally to this article.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

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