BJPsych | The British Journal of Psychiatry (2024)
225, 473–475. doi: 10.1192/bjp.2024.168

Feature

Unravelling Stendhal syndrome: the intersection of art, emotion and neuroscience

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Stendhal syndrome represents a compelling psychosomatic response, characterised by intense emotional and physiological reactions to viewing art, that intersects the fields of psychiatry, neurology and aesthetics. Despite lacking formal diagnostic recognition, a confluence of historical anecdotes and contemporary research underscores its validity as a unique neuropsychiatric phenomenon. This review endeavours to integrate insights from various scholarly domains to elucidate the syndrome's clinical manifestations, neurobiological foundations and its cultural and psychological relevance. Through an examination of historical contexts, clinical case studies and the underlying neurological mechanisms, this article aims to provide a comprehensive overview of Stendhal syndrome, thereby contributing to the broader discourse on neuroaesthetics and the profound impact of art on human emotion and cognition.

Keywords

Stendhal syndrome; neuroaesthetics; psychosomatic response; art and emotion; neurology.

Stendhal syndrome, an intriguing psychosomatic condition, emerges at the intersection of psychiatry, neurology and aesthetics, captivating those who delve into the realms of art and human emotion. This condition, named after the 19th-century French author Marie-Henri Beyle, known by his pseudonym Stendhal, describes the profound emotional and physical disturbances some individuals experience when exposed to extraordinary works of art. Despite its lack of formal recognition within diagnostic manuals, the accumulation of both historical accounts and recent scientific studies point to a genuine neuropsychiatric phenomenon, meriting a closer examination. This review article aims to synthesise the diverse array of findings from multiple disciplines, offering a holistic understanding of Stendhal syndrome by exploring its manifestations, underlying mechanisms and broader cultural implications.

The concept of Stendhal syndrome originates from the personal experiences of its namesake, Stendhal, who recounted episodes of overwhelming emotion and physical distress during his encounters with the art and beauty of Florence in 1817. These accounts have sparked a fascination with the condition, leading to its investigation from both clinical and anecdotal perspectives. The syndrome is characterised by a spectrum of symptoms, including dizziness, tachycardia, fainting and intense emotional upheaval, all triggered by the sensory overload of experiencing art of exceptional beauty.

This phenomenon raises compelling questions about the nature of human interaction with art and the capacity of beauty to influence our psychological and physiological states. As such, Stendhal syndrome sits at a unique crossroads of art appreciation and medical enquiry, challenging researchers to unravel the complex web of factors that contribute to its onset. Through a detailed exploration of its historical background, clinical presentation and the insights provided by neurology and psychology, this article endeavours to shed light on the enduring mystery of Stendhal syndrome and its significance within the broader context of neuroaesthetics and the human experience of art.

Historical and cultural context

Stendhal syndrome, historically rooted in the nuanced experiences of artists, writers and travellers, manifests as intense emotional and physiological reactions to the sublime beauty encountered within art and architecture. The syndrome first gained attention in 1817 when Stendhal described feeling 'close to heaven', overwhelmed by an intense emotional response that nearly led him to collapse, encapsulating the quintessential experience of the syndrome.

The universality of Stendhal syndrome extends beyond the Renaissance art of Florence or the geographical confines of Europe, suggesting a global human capacity to be deeply moved by aesthetic beauty. Arias[1] delves into the neurological underpinnings of such experiences, writing that they may be attributed to the activation of the anterior insular cortex and networks associated with mirror neurons, introspection and emotional processing. This neurological perspective provides a scientific basis for understanding the ecstatic experiences historically considered mystical or supernatural, including those of notable figures like Paul the Apostle and Dostoevsky, further validating the physiological impact of profound aesthetic experiences.[1]

Further historical exploration by Cruz Hermida into Leonardo da Vinci's Mona Lisa exemplifies the syndrome's trigger through art's enigmatic beauty,[2] suggesting that the profound emotional responses it elicits may be linked to the viewer's neurological and psychological makeup. Similarly, the collective work of Guerrero et al[3] and Palacios-Sanchez et al[4] on the syndrome's occurrence among neurologists and the general populace highlights its prevalence and the varied emotional effects art can induce, from pleasure to overwhelming awe, underscoring the syndrome's significance across different cultures and professions.

Stendhal syndrome thus stands as a testament to the power of art to transcend mere visual appreciation, affecting individuals on a deeply emotional and physiological level. It underscores a universal human capability to experience profound emotional responses to beauty, a phenomenon that bridges the gap between the realms of art, history and neuroscience.

Clinical presentation and case studies

Stendhal syndrome, traditionally considered a psychosomatic condition triggered by exposure to profoundly moving art or beauty, has been increasingly substantiated by recent neurological and

https://doi.org/10.1192/bjp.2024.168 Published online by Cambridge University Press

clinical research. Arias[1] posits that the syndrome is underpinned by distinct neurological processes, particularly the activation of the anterior insular cortex and networks related to emotional processing, introspection and social cognition. This suggests a biological basis for the intense affective and somatic responses individuals experience when encountering art.[1]

Case studies further illustrate the diverse manifestations of Stendhal syndrome. For instance, Nicholson et al describe an older artist who developed transient paranoid psychosis during a cultural tour of Florence, a city with particular emotional significance to him.[5] This patient's case underscores the syndrome's capacity to induce profound psychiatric disturbances in susceptible individuals. Similarly, Palacios-Sanchez et al provide a comprehensive review of Stendhal syndrome,[4] noting its occurrence across various demographics and the wide spectrum of symptoms, from mild dysautonomia to severe emotional and cognitive disruptions.[4,5]

These clinical presentations align with historical accounts and observations by psychiatrists like Graziella Magherini, who first coined the term Stendhal syndrome based on her observations of tourists in Florence experiencing acute neuropsychiatric disturbances. Such case studies and clinical evidence lend credence to the syndrome's recognition as a legitimate medical and psychiatric condition, challenging previous perceptions of it as merely an exaggerated or romanticised response to art.

Furthermore, Guerrero et al investigated the incidence of Stendhal syndrome among neurologists, revealing that a significant proportion of the participants experienced symptoms related to the syndrome, albeit in a milder form.[3] This finding suggests that even individuals with a strong understanding of neurological conditions are not immune to the profound effects of art on the human psyche and body.[3]

In summary, the clinical presentation of Stendhal syndrome ranges widely, from transient psychological disturbances to severe psychiatric conditions, underpinned by identifiable neurological processes. The case studies and clinical research underscore the importance of recognising the profound impact that art and beauty can have on individuals, offering insights into the intricate relationship between the aesthetic experience and human neurology.

Neurological and psychopathological perspectives

The intricate relationship between neurology and psychology provides a comprehensive understanding of Stendhal syndrome, illuminating its aetiological underpinnings. The syndrome's manifestation, characterised by intense emotional and physical responses to art, can be attributed to the activation of specific brain regions. Arias[1] elucidates the role of the anterior insular cortex and associated neuronal networks in mediating experiences of ecstasy, highlighting their involvement in processes of introspection, social cognition and emotional regulation. This neurobiological perspective suggests that Stendhal syndrome may arise from the brain's inherent mechanisms for processing aesthetic and emotional stimuli, thereby offering a scientific explanation for reactions historically deemed supernatural or paranormal.[1]

Moreover, the comparison of Stendhal syndrome with conditions such as ecstatic epilepsy and musicogenic seizures reveals the broad spectrum of human responses to various forms of stimuli. These conditions share common neurological pathways that underscore the brain's capacity to generate profound affective states in response to art, music and religious experiences. Such comparisons not only enrich our understanding of Stendhal syndrome but also challenge the traditional boundaries between neurology and psychology.[1]

Psychopathologically, Stendhal syndrome encompasses a range of symptoms from mild disorientation and euphoria to severe anxiety and transient psychosis, as documented in case studies.[4,5] This variability in clinical presentation reflects the psychological complexity of the syndrome and underscores the need for a nuanced approach to diagnosis and management. The psychopathological aspects of the syndrome suggest that the intense encounter with art can act as a trigger for underlying psychological vulnerabilities, leading to the manifestation of symptoms.

The neurological and psychopathological perspectives on Stendhal syndrome converge to highlight the role of the brain in the aesthetic experience and its potential to evoke significant emotional disturbances. This interdisciplinary approach not only advances our understanding of the syndrome but also emphasises the profound impact of art on the human psyche and its capacity to transcend ordinary perception, evoking states of consciousness that border on the mystical.

In sum, the exploration of Stendhal syndrome from both neurological and psychopathological viewpoints offers valuable insights into the complex interplay between the brain, art and emotional well-being. It underscores the importance of further research to unravel the mysteries of this fascinating condition and its implications for the fields of neurology, psychology and art appreciation.

Art, aesthetics and the mind

The exploration of the relationship between art, aesthetics and psychopathology offers a profound insight into the complex phenomenon of Stendhal syndrome, situating it at the intersection of neuroaesthetics – a field that investigates the neural basis of aesthetic experiences and creative processes. The syndrome, characterised by intense emotional and sometimes physical reactions to art, underscores the profound impact that aesthetic experiences can have on individuals. Recent neuroscientific research, including studies by Arias,[1] provides evidence that specific brain regions are activated during encounters with art, suggesting a biological foundation for the profound emotional responses associated with Stendhal syndrome.

The activation of the anterior insular cortex and related neuronal networks, as highlighted by Arias,[1] plays a pivotal role in processing emotions, empathy and aesthetic appreciation. This neurological perspective supports the idea that the overwhelming sensations experienced by individuals with Stendhal syndrome are not merely psychological anomalies but are deeply rooted in the brain's physiological response to beauty and art. Such findings bridge the gap between the subjective experience of art and its objective basis in brain function, offering a comprehensive understanding of how art affects us on a fundamental level.

Moreover, the comparison of Stendhal syndrome with other neurologically based conditions such as ecstatic epilepsy and musicogenic seizures[1] further illustrates the broad spectrum of human responses to aesthetic stimuli. This comparison not only emphasises the complexity of the brain's engagement with art but also aligns with historical accounts of individuals who have had profound life-altering experiences in the presence of art, as documented by Palacios-Sanchez et al.[4] Such accounts resonate with the neuroaesthetic perspective, suggesting that the experience of beauty can transcend ordinary perception, engaging the brain in a manner that can lead to extreme states of emotion.

The dialogue between art and psychopathology, enriched by neuroaesthetic research, offers a nuanced perspective on Stendhal syndrome. It highlights the essential role of art in human experience and its capacity to evoke a spectrum of responses, from joy and transcendence to overwhelm and distress. The interplay between the

https://doi.org/10.1192/bjp.2024.168 Published online by Cambridge University Press

subjective experience of beauty and its neurophysiological underpinnings challenges us to reconsider the boundaries between art, emotion and the brain, emphasising the integral role of aesthetics in understanding human psychology and neurobiology.

In conclusion, the examination of Stendhal syndrome through the lens of art, aesthetics and the mind reveals the intricate connections between our neurological makeup and our profound reactions to art. It underscores the importance of interdisciplinary research in unravelling the complexities of human emotion and cognition, offering valuable insights into the power of art to move, disturb and ultimately transform us.

Discussion

Stendhal syndrome, a phenomenon capturing the intense physiological and psychological reactions individuals may experience in the presence of profound artistic beauty, serves as a testament to the profound impact art can exert on the human condition. Although it has not been formally classified as a distinct psychiatric disorder within the diagnostic manuals, the exploration of this syndrome illuminates the intricate interplay between aesthetic perception, emotional arousal and neurobiological processes. The contributions from various disciplines, notably those by Arias,[1] Innocenti et al[6] and Palacios-Sanchez et al[4] underscore the necessity of an interdisciplinary approach to fully comprehend the underlying mechanisms of Stendhal syndrome and similar phenomena.

The research to date suggests that the activation of specific brain regions, such as the anterior insular cortex, which is involved in emotional regulation and introspection, plays a pivotal role in the onset of Stendhal syndrome.[1] This neurological basis for emotional responses to art offers a tangible link between the subjective experience of beauty and objective measurable brain activity, thereby challenging the traditional boundaries between the sciences and the humanities. Furthermore, the parallels drawn between Stendhal syndrome and other neurologically based conditions, such as ecstatic epilepsy and musicogenic seizures, expand our understanding of how the brain navigates the complex terrain of aesthetic experience and emotional response.

The significance of Stendhal syndrome extends beyond its classification within medical or psychological domains; it offers profound insights into the human capacity for emotional depth and the universal need for beauty. As such, it beckons further enquiry into not only the neurological substrates of aesthetic appreciation but also the psychological and sociocultural dimensions of art perception. This syndrome, as discussed by scholars like Woods[7] and reflected in personal accounts throughout history, illuminates the power of art to transcend ordinary experience, evoking states of ecstasy, transformation, and, at times, overwhelming emotional disturbance.

In conclusion, Stendhal syndrome encapsulates the complex, multifaceted relationship between art and the human psyche, serving as a compelling focal point for further interdisciplinary research. By delving into the neuroaesthetic underpinnings of this phenomenon, scholars can continue to unravel the mysteries of the human mind's response to beauty, enriching our understanding of art's enduring capacity to move, transform and occasionally overwhelm us. As we venture deeper into the exploration of this fascinating intersection between art, psychology and neurology, we not only gain insight into Stendhal syndrome but also open new pathways to understanding the depth and richness of the human condition.

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First received 7 Aug 2024, final revision 12 Aug 2024, accepted 16 Aug 2024

Declaration of AI assistance

In the preparation of this manuscript, I utilised GPT-4, a Generative AI tool, to assist in language editing and proofreading. As a non-native English speaker, I employed this AI technology to check for grammatical errors and spelling inaccuracies, as well as to enhance the clarity and appropriateness of expression in my writing. All content was meticulously reviewed and finalised by me, ensuring that I maintain full responsibility for its publication.

Funding

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

Declaration of interest

None.

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https://doi.org/10.1192/bjp.2024.168 Published online by Cambridge University Press