GRUPO EDITORIAL DE PSICOFUNDACIÓN

Papeles del Psicólogo (2026) 47(2) 143-145

Papeles del Psicólogo
Psychologist Papers

https://www.papelesdelpsicologo.es/ • ISSN 0214–7823 • eISSN 1886–1415

PAPELES DEL PSICÓLOGO
PSYCHOLOGIST PAPERS

Revista del Consejo General de la Psicología de España

Debate

Human Intelligence and Artificial Intelligence: The Dependence on Emotional and Bodily Processes in the Construction of Consciousness and its Limits in Technological Replication

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ARTICLE INFO

Received: April 30, 2025
Accepted: December 15, 2025

Keywords
Somatic marker
Embodied cognition
Consciousness
Artificial intelligence
Clinical psychology

ABSTRACT

This article examines the role of bodily and emotional processes in shaping consciousness and rational thought, drawing on Antonio Damasio's work and its subsequent developments. Rejecting the traditional mind-body split, it is argued that human rationality is grounded in the biological processes that sustain it, which raises significant limitations for the feasibility of replicating the human mind through artificial intelligence (AI). Clinical implications of these findings are discussed, particularly within the context of rapid technological growth and the increasing presence of intelligent systems in healthcare. Lastly, the article assesses the potential and limitations of embodied AI, proposing that the most fruitful path for mental health professionals lies not in substitution, but in critical collaboration between human minds and technical systems.

Inteligencia Humana e Inteligencia Artificial: la Dependencia de los Procesos Emocionales y Corporales en la Construcción de la Conciencia y sus Límites en la Replicación Tecnológica

Palabras clave
Marcador somático
Cognición corporizada
Conciencia
Inteligencia artificial
Psicología clínica

RESUMEN

Este artículo explora el papel que desempeñan los procesos corporales y emocionales en la construcción de la conciencia y el pensamiento racional, a partir de la obra de Antonio Damasio y sus desarrollos posteriores. Frente al dualismo cartesiano, se argumenta que la racionalidad humana está enraizada en los procesos biológicos que la sustentan, lo que plantea serios límites a la posibilidad de replicar la mente humana mediante inteligencia artificial (IA). Se reflexiona además sobre las implicaciones de estos hallazgos en el ejercicio de la psicología, en un momento de expansión tecnológica acelerada y de presencia creciente de sistemas inteligentes en contextos sanitarios. Por último, se revisan las posibilidades y límites de la denominada inteligencia artificial corporizada (*embodied AI*), sugiriendo que el horizonte más fecundo para los profesionales de la salud mental no es la sustitución, sino la colaboración crítica entre mente humana y sistemas técnicos.

Cite this article as: Diaz-Leiva, J. (2026). Human intelligence and artificial intelligence: The dependence on emotional and bodily processes in the construction of consciousness and its limits in technological replication. *Papeles del Psicólogo/Psychologist Papers, 47*(2), 143-145. https://doi.org/10.70478/pap.psicol.2026.47.16
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Human Intelligence, Artificial Intelligence

El error de Descartes [Descartes' Error] (Damasio, 1994) is a foundational work in neuroscience and philosophy of mind, which rethinks the relationship between emotion, body, and reason. Its central thesis is that Cartesian dualism—the idea that the mind and body are separate entities—is mistaken: rationality cannot be understood without the emotional and bodily processes that support it. This thesis is articulated around the following three main ideas:

1. **Emotional processes and rational thought:** Emotions are not an obstacle to rationality, but rather a prerequisite for it. Patients with damage to the ventromedial prefrontal cortex retain their cognitive abilities intact in formal tasks (language, memory, logic), but lose the ability to make effective decisions in everyday life. Damasio illustrates this phenomenon with the clinical case of Elliot, a patient who had a tumor removed from this region. After the operation, he began to show a disconcerting emotional indifference and was unable to prioritize tasks or anticipate the practical consequences of his behavior. This and other clinical studies show that anticipatory emotional responses, measured through physiological indicators such as electrodermal activity or heart rate variation, predict successful decisions even in the absence of conscious reasoning.
2. **The somatic marker hypothesis:** The body contributes to rational thinking through physiological signals (visceral, hormonal, and muscular) associated with past experiences. These signals act as emotional shortcuts that guide complex decision-making, without the need for exhaustive logical analysis. Functional neuroimaging studies have shown differential activation in structures such as the insula, orbitofrontal cortex, and the amygdala in decision-making tasks under uncertainty. The clinical validity of this hypothesis is also relevant: anxiety disorders, avoidance, or behavioral inhibition can be understood as disturbances in the reading or encoding of these markers.
3. **The mind-body interconnection:** Damasio proposes a model in which mental states are inseparable from bodily states. The mind is formed *with* and *through* the body. This view anticipates what is now known as embodied cognition, also present in theories such as the "minimal embodied self" (Metzinger, 2010), "enactivism" (Varela et al., 1991), or the notion of interoception developed by Craig (2002). Within this framework, consciousness is not a cerebral epiphenomenon, but rather the felt orientation of an organism acting within a dynamic environment.

Several mechanisms are involved in the somatic marker hypothesis, generally involving fronto-limbic regions and brainstem structures. All of them participate in body representation, emotional evaluation, and the maintenance of the integrated sense that *we have* and *are* a body. Homeostasis, understood as biological self-regulation, appears as a precondition for thought, rather than its consequence. In *El extraño orden de las cosas* [*The Strange Order of Things]* (Damasio, 2017), the author expanded this view by considering homeostasis as the organizing principle of life and culture, positioning feeling as a key adaptive form in evolution. Consciousness emerges from gradual biological processes, but these processes do not only include brain and somatosensory activity, but all visceral activity that sustains and maintains homeostasis. These developments have had an impact not only on neuroscience but also on clinical practice. The understanding of symptoms as embodied experiences, the role of the body in emotional disorders, and the need for psychotherapy that includes the visceral and affective dimension of the patient are lines of work that derive directly from these theories. Decision-making, emotional regulation, and clinical judgment cannot be separated from their corporal foundations.

With the rise of artificial intelligence (AI), the debate about the nature of the mind has been reignited. If we say that AI lacks a body subjected to biological processes and embodied emotions, could it come to replace the human mind in the future? The question is not merely technical. Within the framework of *weak AI*, we already have systems that outperform humans in specific tasks. Assistants such as ChatGPT, NotebookLM, Tandem Health, and other predictive models can surpass human capabilities in specific domains such as diagnostic imaging, syntactic analysis, or statistical prediction. But what happens with consciousness, moral judgment, or creativity? For classical authors such as Damasio and LeDoux (1999), these properties are irreplaceable unless the somatic and emotional substrates that enable a meaningful and self-aware mind are also replicated. In other words, if homeostatic processes are a necessary condition for thought, consciousness, and full rationality, then AI will not replicate our humanity.

The theory of *strong AI*, on the other hand, proposes the development of systems that not only process data, but are conscious, sentient, and autonomous. Some researchers propose the construction of *Embodied AI*, that is, robots with bodies that interact with the physical world, integrating sensory and motor signals (Brooks, 2003; Clark, 2016). In theory, this could bring them closer to a form of intelligence more similar to that of humans. Examples such as *Optimus* (Tesla's humanoid robot), *soft robots* (AI combined with neural networks to generate movement), and recent computational models of autonomous sensorimotor learning show progress toward an artificial intelligence capable of perceiving, moving, and adapting to the environment (Yifan et al., 2025). But even with a physical body, a real biological pressure system is still lacking. AI will be powerful and strong in speed, integration, and the generation of trillions of data points, but it will remain morally weak if it cannot develop a real preference between existing or not, or between one outcome and another. It will be able to "simulate" that it prefers something, but it will not be able to "make" the decision with genuine preference, since to do so it would have to experience its own fragility. Without something to protect—the pursuit of pleasure, the avoidance of pain and loss—there can be no interest in continuing to exist.

This difference is key to the practice of psychology and implies updating the way human suffering is assessed and approached. Patients who seek consultation because their thoughts are imbued with painful memories or emotions, or because they fear facing something that overwhelms them, are experiencing a distress that is the result of their ontological condition and that AI cannot experience. Without that experience, there is no suffering or moral system to guide life-defining decisions, which applies equally to the therapist. If ethics, as Nussbaum (2001) points out, emerges from the possibility of being hurt, then it is not enough to restructure cognitions; we must recover the felt experience, the one that is

embodied in each therapist-patient encounter. It is in this way that psychologists can—and must—participate in the debate on AI from their clinical specificity: what it means to be alive, what it means to change, what it means to decide from a position of vulnerability.

Instead of asking ourselves whether AI will become like us, perhaps we should consider how we want to relate to it. Augmented intelligence, which involves collaboration between human minds and artificial systems, offers a more realistic and useful horizon. In clinical contexts, this could translate into tools that help record and evaluate symptoms or detect behavioral patterns, but without replacing judgment, empathy, and human contact. Because what makes us unique lies not in the data, but in the way these data affect us. In this sense, psychology should not fear AI, but rather contribute to defining the limits of its application based on a deeper understanding of what it means to be human.

Conflict of Interest

The author declares that there are no conflicts of interest in relation to the content discussed in this article.

References

Brooks, R. A. (2003). *Carnes y máquinas: La revolución robótica [Flesh and Machines: How Robots Will Change Us]* (M. Acosta, Trans.). Ediciones Robinbook.

Clark, A. (2016). *Surfing uncertainty: Prediction, action, and the embodied mind*. Oxford University Press.

Craig, A. D. (2002). How do you feel? Interoception: the sense of the physiological condition of the body. *Nature Reviews Neuroscience*, *3*(8), 655-666. https://doi.org/10.1038/nrn894

Damasio, A. (1994). *El error de Descartes: La emoción, la razón y el cerebro humano [Descartes' Error: Emotion, Reason, and the Human Brain]* (J. A. Soriano, Trad.). Editorial Destino.

Damasio, A. (2017). *El extraño orden de las cosas: La vida, los sentimientos y la creación de las culturas* [*The Strange Order of Things: Life, Feelings, and the Making of Cultures*] (J. A. Soriano, Trad.). Editorial Destino.

LeDoux, J. (1999). *El cerebro emocional: Los misteriosos fundamentos de la vida emocional [The Emotional Brain: The Mysterious Underpinnings of Emotional Life]* (M. Hermida, Trad.). Editorial Ariel.

Metzinger, T. (2010). *El túnel del yo: Ciencia de la mente y mito del sujeto [The Ego Tunnel: Science of the Mind and Myth of the Self]* (C. Jara, Trad.). Katz Editores.

Nussbaum, M. C. (2001). *Upheavals of Thought: The Intelligence of Emotions*. Cambridge University Press.

Varela, F. J., Thompson, E., & Rosch, E. (1991). *The embodied mind: Cognitive science and human experience*. MIT Press.

Yifan, C., Wei, M., Wang, X., Liu, Y., Wang, J., Song, H., Ma, L., Di, D., Sun, C., Liu, K., … Zhang, W. (2025). Embodied AI: A Survey on the Evolution from Perceptive to Behavioral Intelligence. *SmartBot*, *1*(3), e70003. https://doi.org/10.1002/smb2.70003