ISSN-e: 2244-8276

DECIPHERING YOUR BRAIN: NEUROSCIENTIFIC MODEL FOR WELLNESS AND PERSONAL TRANSFORMATION

ROSA ELBA DOMÍNGUEZ BOLAÑOS
Benemérita Universidad Autónoma de Puebla, México.
Latin American Network of study and intervention in Happiness and Well-being
rosa.dominguez@correo.buap.mx
https://orcid.org/0000-0002-5260-5437

Abstract

Neuroscience is the scientific study of the brain and, more specifically, of the nervous system. Although attempts to understand its functioning date back centuries, it has been in recent times that this discipline has achieved important advances, especially thanks to discoveries such as the neuronal theory of Santiago Ramón y Cajal, which revolutionized the understanding of the nervous system, there is another emerging field that is raising important premises on how we could lead our brain to live states of well-being from understanding the neurobiological mechanisms that occur within it, considering practices that positive psychology has been supporting for more than forty years, such as: having healthy bonds, living with positive emotions, the practice of mindfulness, among others. It is clear that many people aspire to achieve well-being; however, this goal requires a constant and daily effort that must go beyond mere desire, involving the formation of habits that make it possible. The purpose of this paper is to present a theoretical model that identifies the fundamental elements for the formation of habits oriented to well-being. It is based on a theoretical review of several authors who have contributed to the field of neuroscience for well-being.

Key words: Neuroscience for well-being, neuroplasticity and personal transformation, conscious habits and sustainable well-being, life purpose, meaning and happiness, theoretical model.

RECEIVED: 09-07-2025 / ACCEPTED: 13-09-2025 / PUBLISHED: 22-12-2025

How to quote: Domínguez, R. (2025). Deciphering your brain: neuroscientific model for wellness and personal transformation. *Almanaque*, 46, 17 - 34. https://doi.org/10.58479/almanaque.2025.169

ISSN-e: 2244-8276

INDEX

Introduction

Contemporary neuroscience has significantly expanded our understanding of the transformative potential of the human brain, opening up new possibilities for intentionally intervening in the mental processes that shape the subjective experience of well-being. This chapter proposes a theoretical model based on the neuroscience of well-being that rigorously articulates recent findings in neuroplasticity, habit formation, and positive psychology. The proposal is based on the evidence that the brain can be structurally and functionally reconfigured through intentional and repetitive experiences oriented towards positive change. Within this framework, it is proposed that self-awareness, will, self-knowledge and conscious decision making are key factors that activate synaptic reorganization processes and consolidation of new neural networks associated with states of health, purpose and sustained well-being. Thus, this model integrates neurobiological knowledge about the malleability of the nervous system, with the goal of guiding the reader in understanding how habits can be designed with intention to transform life. This work represents an effort to systematize an integral approach that allows people to intervene their own neurobiology, strengthening their capacity to build a new self from science, awareness and constant practice.

Objective

To propose a theoretical model of neuroscience for wellness that integrates scientific foundations and provides the necessary elements to achieve a change of sustainable healthy habits, functioning as a transformative guide for the integral renewal of human life. The purpose of this model is to empower people towards a more conscious, fulfilling and meaningful existence, promoting human flourishing, strengthening their hope, sense of personal fulfillment, quality of life and subjective well-being.

Development

Origins of neuroscience

Neuroscience as a field of study has ancient roots, although its origin as a formal scientific discipline occurred in the 20th century, the study of the brain dates back to ancient Greece, the term neuroscience was coined in the 1960s when from the integration of biology, psychology, physiology and neurobiology, scientists began to understand the relationship between the brain and the nervous system in a more unified way. Santiago Ramón y Cajal, a physician by origin, was the first modern neuroscientist and is known as the father of neuroscience. He was the creator of the neuronal theory and together with Camilo Golgi won the Nobel Prize for medicine in 1906 (IBERO, n.d.). As can be seen, neuroscience or neurosciences, as they are also known, emerged as an interdisciplinary perspective of knowledge that has focused not only on a better understanding of the brain but also on understanding the functioning of the nervous system and all those processes that are linked to the mind. The advances made in recent years have had a favorable impact on areas such as neurology, psychiatry, psychology and education, among others. In this way neurosciences can be described as a set of sciences and disciplines that converge in their interest in understanding and studying the functioning of the nervous system, its biochemistry, its structure, as well as its pathological states and from the synergy of all these functions determine the biology of human behavior (Gago and Elgier, 2018).

Neuroscience for well-being

For its part, neuroscience for well-being, also known as neuroscience of happiness, as a branch of neuroscience study began to take shape in the late twentieth century and early twenty-first century, thanks to the rise of neuroimaging techniques, such as functional magnetic resonance imaging, which allowed researchers to study how the brain and nervous system respond to favorable, positive and satisfying experiences in people, such is the case of the study of happiness, gratitude, compassion, among others. Likewise, through various studies it has been observed how happiness is particularly linked to the activation of certain brain regions, such as the nucleus accumbens, the prefrontal cortex and the limbic system (Cortez et al. 2023).

The neuroscience of well-being has shown that there are factors capable of significantly influencing brain structure and function throughout life, such as mindfulness training, guided imagination, physical exercise, and breathing, among others; it has been observed that these can significantly impact people's well-being and life satisfaction (Dolcos et al. 2018).

Relationship between habit formation, neural plasticity and well-being.

William James (1989) argues in his work *Principles of Psychology* that human beings are essentially constituted by a base of habits, which form the essence of their life experience. These habits can be innate or acquired through learning and socialization processes throughout life. From the perspective of positive psychology, it is essential that habits that promote well-being are consolidated through repetition and constant practice, until they become integrated as automatic patterns of behavior that sustain a healthy and meaningful life (Castés, 2025).

Dr. Marianela Castés (2025) suggests that the emergence of a new biological self is possible, as a result of the formation of new neural networks derived from recent learning. This transition process, which goes from the old self to a renewed or new self, entails a significant change aimed at achieving greater well-being. According to Castés, this change is achieved through the disconnection of neural networks associated with negative experiences such as suffering, anger, pain, victimization and hopelessness, and the simultaneous connection with new networks that facilitate the achievement of greater well-being and happiness. In this sense, the acquisition of any new habit necessarily involves the creation of new synaptic connections. In short, it is a matter of ceasing to activate the neural networks associated with affective states and negative patterns, and getting the brain to start activating and consolidating new networks linked to more positive and healthy thoughts, emotions and habits.

It is essential to remember that neurons can form lasting relationships, and that repetition is the key mechanism for consolidating these connections. Hence the importance of establishing positive habits that, once automated, facilitate a daily experience of greater well-being. Neural networks are activated and connected repeatedly until they are sealed with neural growth factor. Therefore, learning and repetition is what will keep them together, as well as the new experiences and experiences that are related to these learning processes (Castés, 2025).

What this neuroscientific model is about, then, is to offer a theoretical and practical support to the real possibility of transformation of the individual, through the substitution of neural networks that are no longer useful, for new ones that support a more harmonious and healthy life experience. This process implies a reconfiguration and restructuring of the brain that does not occur automatically, but demands training, conscious effort, discipline, dedication and sustained practice. In this sense, achieving authentic and lasting well-being requires setting clear goals and maintaining a constant attitude of commitment, since without perseverance, such transformation could hardly be sustained over time (Duckworth, 2016).

The way in which the new habits are established is based on the repetition of the same, with which the old networks will be silenced and then fall off, so the new networks will become the most predominant and strongest voice that will be established now in your brain; what follows is to seal the new network with the neural growth factor that is equivalent to a glue that

makes them united, when the old networks are detached and detached, you can take that same glue to consolidate the new networks (Castés 2025). The challenge now is the formation of these new learning processes based on new habits that can be maintained over time.

It is important to note that from the point of view of brain plasticity or also known as neuronal plasticity and neuroplasticity, there is sufficient evidence that the brain can change in order to adapt to various changing environmental circumstances (Puderbaugh & Emmady, 2023). This fact can also be understood, from its own definition as any brain response that occurs in the face of internal and external changes (Garcés & Suarez, 2014).

Thus, the nervous system is capable of making functional and structural changes from the experiences lived in the physical, mental, social and educational context, so it becomes essential to find the various ways to favorably influence the brain. In this way, neuronal plasticity enables neurons to regenerate both anatomically and functionally, as well as providing the possibility of forming new synaptic connections (Cognifit Research, 2025). Neuroplasticity allows the brain to constantly observe the environment and store learning outcomes and experiences as memories. In this way, it prepares itself for future situations that may arise. Thus, it can be said that the brain is malleable and can make visible important changes in neurons as a result of the influences received (Morandín, 2022). (See Figure 1).

Figure 1. Process of neuronal plasticity.

Based on Cognifit Research, 2025.

It is important to note that the understanding of habit has undergone a significant evolution within the field of psychology and neuroscience. From the first conceptions proposed by William James, who argued that much of our life is governed by habits, through the formulations of behaviorism, where habits were understood as responses conditioned by reinforcement, to

reach in more recent times a deeper understanding of its neurobiological basis involved in behavior, since thanks to the discoveries of neuroscientists and researchers such as Ann Graybiel it has been possible to identify specific neural circuits and brain regions involved in the formation, automation and maintenance of habits (Wood & Rünger, 2016).

One definition of habit, which maintains several important elements of origin is the one that sees it as a sequence of automated behaviors, initiated by signals that can be internal or external to the person and maintained by neural reward circuits, which is consolidated through repetition and allows the brain to save cognitive energy by delegating decisions to unconscious patterns of action (Wood, 2019; Duhigg, 2012; Fogg, 2019; Graybiel, 2008). For his part Duhigg (2012) mentions that habits are a pattern of automatic behavior, learned by repetition. They are formed in the basal ganglia and allow brain efficiency, these can have a healthy or dysfunctional and harmful result. He also mentions that there are three important moments for habit formation: the first is the signal (or trigger) which refers to the stimulus that activates the habit. It can be an emotion, a place, a time of day, etc., the second element is the routine that is related to the behavior or action that is performed in response to the signal and the third element is the reward that refers to the gratification obtained by performing the routine, which reinforces the habit so that it is repeated in the future. Duhigg argues that by understanding this cycle, one can identify the signal and reward that are driving a negative habit and then modify the routine to replace it with a more desirable, healthy and beneficial routine.

For their part Bernacer and Murillo (2014) propose a new conceptualization of habit based on the cognitive enrichment of actions to the role of habits in pathological conditions; this contribution can shed light on the understanding of habits as an important feature of human action. Habits, seen as a cognitive enrichment of behavior, are a crucial resource for understanding human learning and behavioral plasticity. This means to stop seeing habit as an automatic routine to be repeated without reflection and to move on to a deeper notion of habit construction based on awareness, will and the real desire to change a behavior. In this way understanding how habits are formed, and more importantly, how they can be intentionally developed through volition, can support people to become stronger and empowered to make healthier choices and build a lifestyle that supports their long-term and sustained well-being (Almalki, et al., 2024).

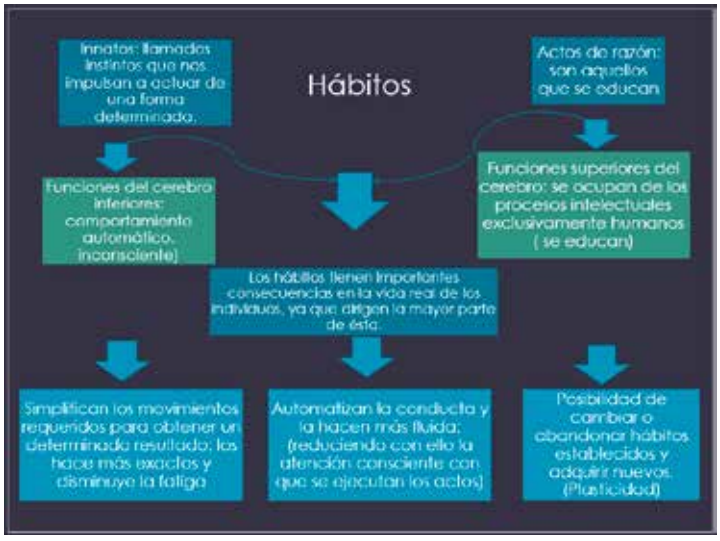
From neuroscience, a wellness-oriented habit is one that stimulates positive neuroplasticity, i.e., the brain's ability to form new neural connections, reorganize its internal structures and strengthen existing mind-body links. This type of plasticity favors greater harmony in the overall functioning of the organism, facilitating healthy transformations at both the cerebral and physical levels. Practices such as mindfulness meditation or regular physical exercise have been scientifically proven to be effective in activating these processes. Therefore, any brain change that promotes a healthy integration between the psychic and corporal dimension of the individual contributes significantly to the achievement of a fuller, more balanced and happier life (CEUPE, n.d.).

Importance of elements such as: self-knowledge, self-awareness, will, decision making and life purpose in the formation of intentional and sustainable long-term habits for well-being.

In the field of wellness neuroscience and positive psychology, it is increasingly recognized that the process of healthy habit formation cannot be understood solely from a behavioral, automated and unconscious approach. Recent research has shown that factors such as self-knowledge, self-awareness, willingness and conscious decision making are essential to establish routines that last over time and are aligned with the integral well-being of the individual (Davidson, 2021; Damasio, 2018).

In this way factors such as: self-awareness, will, decision making, self-knowledge and life purpose among others, become fundamental in the process of the formation of healthy habits or for well-being, since these elements belong to the process of habit formation that were called by William James in 1890, acts of reason, where the prefrontal cortex which is the part of the brain that differentiates us from other living beings, takes relevance so that the person can direct his life towards where he wishes in a conscious way, with a clear purpose that allows him, through his intentional will, to make the necessary decisions for his life and to act his behavior in the direction of the formation of new habits that allow him to achieve the goals he sets to improve his life and live with plenitude. (See Figure 2).

Figure 2. Types of habits.



Source: (James, 1989)

Based on the idea that for most people the behaviors or behaviors they adopt are the reflection of a myriad of habits learned unconsciously throughout life and considering one of the most important postulates of neuroscience in the sense that it is feasible to carry out neuronal plasticity in the brain, it can be said then that it is possible to change at will and intentionally learn new habits to live with greater well-being and fulfillment because if the harmful behaviors were learned by force of repetition and were recorded in the brain, establishing automatic routines of life, often harmful to the person, they can also be reprogrammed, trained and consolidated to form and maintain new networks that support the well-being of the individual.

From affective neuroscience, Antonio Damasio (2018) emphasizes that decision making is not a purely rational process, but deeply involves the body, emotions and somatic memories. Therefore, cultivating bodily and emotional self-knowledge enables wiser and more lasting decisions. In this sense, will is not only a moral quality, but a neurobiological ability that depends on cortical networks such as the dorsolateral prefrontal cortex and the anterior insula, which regulate sustained attention, impulse inhibition and sense of purpose. With regard to decisions, it has been observed that in the process of habit formation this element will also interact and intervene with important areas of the brain. Thus, different neural correlates have been found for those who do not use drugs and are therefore healthy people, some "tend to use two cortexes, namely: the CPFVM and the CPFDL (especially the VM); on the other hand, those who use drugs, mostly use the right CPFOM, while bipolar people activate more the temporal and occipital lobe" (Barca Inovation Hub Universitas, n.d., p.10).

Richard Davidson (2021) mentions that self-awareness and the ability to observe one's own mental states with compassion is a trainable skill that strengthens brain circuits related to resilience, emotional regulation and persistence in the face of challenges. Through practices such as attentional meditation or guided introspection, regions such as the anterior cingulate cortex and ventromedial prefrontal cortex can be activated, which are key to sustaining conscious decisions and breaking unhealthy automatic patterns.

Barbara Fredrickson (2013) highlights that positive emotional states such as gratitude, hope and interest expand the individual's cognitive-behavioral repertoire, increasing the probability of making decisions that generate long-term well-being. Thus, the combination of will and positive emotions facilitates the learning of new habits because a reward circuit sustained by dopamine and endorphins, associated with meaningful achievement, is activated.

Regarding self-awareness, which also implies self-knowledge of the self, a key component for the formation of sustainable habits oriented to well-being, since it allows recognizing and redirecting automatic patterns, aligning actions with values and maintaining intrinsic motivation, it has been observed by several authors that it emerges from the interaction of several highly integrated brain areas. Among the main regions involved and their specific function are the following: Medial Prefrontal Cortex (mPFC): which involves reflection on self, identity, intention, goals. personal. It is activated when we think about ourselves in the past or in the future.

Anterior Cingulate Cortex (ACC): responsible for error monitoring, evaluation of internal conflicts, conscious decision making in the face of automatic impulses. Dorsolateral Prefrontal Cortex (dlPFC): in charge of executive functions such as planning, response inhibition, behavior regulation, it is crucial in the deliberate phase of new habits. Anterior insula: in charge of interoceptive awareness (what we feel in the body), emotional perception, intuition. It allows detecting internal signals that motivate or block habits. Precuneus and posterior parietal cortex: its function is the integration of the self in space-time, autobiographical consciousness, representation of internal mental states. Orbitofrontal cortex (OFC), its role is the evaluation of rewards and long-term consequences. It is linked to decisions consistent with well-being. Default Neural Network (DMN): it is activated in moments of introspection, reflection and self-evaluation. It facilitates the connection between past experiences and future goals. Hippocampus: works episodic and contextual memory. It allows remembering past situations related to habits and learning. Ventral striatum (Nucleus accumbens): responsible for motivation and reward for behaviors consistent with purpose and well-being. It helps to sustain habits by internal satisfaction (Vago & Silbersweig, 2012; Damasio, 1999; Castro&Toro, 2002; Menon, 2023; Damasio & Damasio, 2022; Brewer, 2018).

For its part, life purpose helps form and maintain healthy habits because it activates brain regions related to motivation, attention, and sense of self. The medial prefrontal cortex allows us to reflect on our goals and act with intention (Menon, 2023). At the same time, the nucleus accumbens and the dopamine system make us feel rewarded when we do things aligned with our values (Haber & Knutson, 2010). According to Judson Brewer (2018), when we are aware of how we feel and think, we can change negative habits to healthier ones. In addition, the precuneus and insula help us connect with our personal history and inner feelings, which reinforces habits consistent with who we are (Damasio & Damasio, 2022). Thus, having a clear purpose not only gives meaning to what we do, but also makes it easier for those habits to last over time.

Forming healthy and sustainable habits requires an intentional will, driven by cognitive control, and the strengthening of key brain circuits. The dorsolateral prefrontal cortex (dlPFC) represents intention and executes conscious planning, while the anterior cingulate cortex (ACC) detects when we deviate from that intention (Friedman & Robbins, 2022). These two form the frontoparietal circuit, which directs attention toward desired goals. Then, the frontostriatal circuit, which connects the dlPFC with the nucleus accumbens, ventral tegmental area (VTA) and basal ganglia, transforms that intention into a repeated action (Orth et al., 2022). According to Da Cunha et al. (2012), the basal ganglia, which are part of the so-called deep brain (internal structures that regulate automatic functions), are essential for converting conscious behaviors into automatic habits. Simply put: first we think and decide, but by repeating it many times, the habit is transferred to more automatic regions, reducing mental effort. Thus, will, cognitive control and dopamine work together to integrate healthy habits into our identity and lifestyle to promote well-being.

Conclusion

Thus, proposing a neuroscience-based model that favors lasting changes aimed at personal well-being is a proposal supported not only by the fundamentals of positive psychology, but also by the neuroscientific evidence that supports the real capacity to voluntarily intervene in the brain. This change is possible as long as there is a clear and desired life purpose that acts as the internal engine of the process.

As the model shows, sustainable well-being depends on five essential factors: self-awareness, self-knowledge, decision-making, intentional will and conscious habit formation. Self-awareness allows the individual to recognize those behaviors that harm him or her and to differentiate those that favor health and development, even if they involve effort. This ability to perceive, evaluate and choose what is optimal for one's life is related to the activity of the medial prefrontal cortex and the insula, structures involved in the perception of the self and emotional regulation.

Self-knowledge, closely linked to self-awareness, allows for a realistic diagnosis of strengths, weaknesses and acquired patterns, and is key to identifying the causes that sustain harmful habits, as well as the routes to build new and healthy habits. Decision-making, on the other hand, is the result of the integration of these elements: it is a conscious evaluation of the direction of life that the person wishes to assume, and of his or her capacity to act accordingly.

On this path, intentional will becomes the engine of change: it is the force that triggers the initiation of conscious behavior and persistence over time. Without a personal commitment to one's own well-being, understood as a sense of value and direction, change cannot be sustained. Finally, at the heart of this process are habits. Understanding their nature, how they are formed and how they are modified, is essential for the transformation to be viable, realistic and sustained.

This model posits that the synergistic interaction between all these elements: self-awareness, self-knowledge, decision-making, will and habits enhances human flourishing. However, for all these elements to be integrated and sustained over time, they must be articulated by a clear life purpose, which acts as an internal guide and source of meaning. Only when there is vital meaning, habits transcend the momentary will and become authentic expressions of the chosen wellbeing (See Figure 3) (See Figure 4).

Figure 3. Proposed neuroscience model for well-being.

Source: Own elaboration.

Figure 4. Proposed neuroscience model for well-being in letters (acronym).

Source: Own elaboration.

References

Almalki, F., Almuhayd, S., Alhammam, H., Alalhareth, M., Almansour, M., Alharith, M., Alhazmi, T., Sanari, M., Almohalbadi, A., Hadadi, R., Alrasheedi, A., Alishaq, J., Al Faraj, A., Alanazi, A. & Alzuraya, A. (2024). The Science of Habit Formation: Building a Healthy Lifestyle One Step at a Time. *Power Tech Journal,* 9(2), 88-102. https://powertechjournal.com/index.php/journal/article/download/1198/845/2221

Barça Innovation Hub Universitas (n.d.). Lecture 2: Neurobiology of Decisions. https://static.capabiliaserver.com/frontend/clients/barca/wp/wp-content/uploads/2019/04/4ee8e761-m%C3%B3dulo-1-lectura-2.pdf.

Bernacer, J., & Murillo, J. I. (November 3, 2014). *The Aristotelian conception of habit and its contribution to human neuroscience*. Frontiers in Human Neuroscience https://www.frontiersin.org/journals/human-neuroscience/articles/10.3389/fnhum.2014.00883/full

Brewer, J. (2018). The anxious mind: Why we become addicted and how we can end bad habits (A. Bixio, Trans.). Paidós.

Castés, M. (UNAD). (February 27, 2025). Psychoneuroimmunology and its impact on well-being. [Video Archive] YouTube. https://www.youtube.com/watch?v=SJBdlF0hxn4

Castro, L., & Toro, M. (July 1, 2002). *Neurobiology of consciousness: The mental activity of matter*. Review of Books. https://www.revistadelibros.com/neurobiologia-por-una-teoria-de-la-conciencia/

CEUPE. (n.d.). What is neuroplasticity? https://www.ceupe.com/blog/neuroplasticidad.html

Cognifit Research. (2025). Neuronal Plasticity and Cognition: structure and organization. https://www.cognifit.com/uy/plasticidad-cerebral

Cortéz, M., Suárez, A., & Chávez, L. (2023,12). Approaching happiness through neuroscience: contemporary views and practical utilities. *Contemporary Dilemmas: Education, Politics and Values,* (Special Edition). https://dilemascontemporaneoseducacionpoliticayvalores.com/index.php/dilemas/article/view/3893/3819

Da Cunha, C., Gómez-A., A., & Blaha, C. D. (2012). The role of the basal ganglia in motivated behavior. *Reviews in the Neurosciences,* 23(5-6), 747-767. https://pubmed.ncbi.nlm.nih.gov/23079510/

Damasio, A. R. (1999). *The feeling of what happens: Body and emotion in the making of consciousness.* Harcourt Brace & Company.

Damasio, A. R. (2018). *Descartes' mistake: Emotion, reason, and the human brain.* Destiny.

Damasio, A. R., & Damasio, H. (2022). Homeostatic feelings and the biology of consciousness. *Brain,* 145(7), 2231–2235. https://academic.oup.com/brain/article/145/7/2231/6594735?login=false

Davidson, R. J. (2021). *The emotional life of your brain.* Penguin Group USA.

Dolcos, F., Moore, M., & Katsumi, Y. (2018,12). Neuroscience and Well-Being. ResearchGate. https://www.researchgate.net/publication/323072027_Neuroscience_and_Well-Being

Duhigg, C. (2012). *The power of habit: Why we do what we do in life and business.* Random House.

Duckworth, A. (2016). *Grit: The power of passion and perseverance.* Urano.

Fogg, B. J. (2019). *Tiny habits: The small changes that change everything.* Houghton Mifflin Harcourt.

Fredrickson, B. L. (2013). *Love 2.0: Creating Happiness and Health in Moments of Connection.* Penguin Random House.

Friedman, N. P., & Robbins, T. W. (2022). The role of prefrontal cortex in cognitive control and executive function. *Neuropsychopharmacology, 47*, 72-89. https://doi.org/10.1038/s41386-021-01132-0.

Gago, G., & Elgier, A. (2018). Drawing bridges between neuroscience and education. Contributions, limits and future paths in the educational field. *Psicogente, 21*(40), 476-494. https://doi.org/10.17081/psico.21.40.3087

Garcés M. and Suarez, J. (2014). Neuroplasticity: biochemical and neurophysiological aspects. *CES Medicine, 28*(1), 119-131. https://www.redalyc.org/pdf/2611/261132141010.pdf

Graybiel, A. M. (2008). Habits, rituals, and the evaluative brain. *Annual Review of Neuroscience,* 31, 359-387. https://doi.org/10.1146/annurev.neuro.29.051605.112851

Haber, S. N., & Knutson, B. (2010). The reward circuit: Linking Primate Anatomy and Human Imaging. *Neuropsychopharmacology,* 35, 4-26. https://doi.org/10.1038/npp.2009.129

IBERO.(n.d.). what is neuroscience and what is its importance? https://ibero.mx/prensa/que-es-la-neurociencia-y-cual-es-su-importancia

James, W. (1989). *Principles of psychology*. Fondo de Cultura Económica.

Menon, V. (2023). 20 years of the default mode network: A review and synthesis. *Neuron,* 111(16), 2469-2487. https://doi.org/10.1016/j.neuron.2023.04.023

Morandín, F. (2022). Neuroplasticity: reconstruction, learning and adaptation. *Neuroeducation as an epistemological tool* (pp. 23-43). Consejo de Ciencia y Tecnología del Estado de Puebla (CONCYTEP). https://philarchive.org/archive/MORNRA-7

Orth, L., Meeh, J., Gur, R. C., Neuner, I., & Sarkheil, P. (August 23, 2022). *Frontostriatal circuitry as a target for fMRI-based neurofeedback interventions: A systematic review. Frontiers in Human Neuroscience,* https://www.frontiersin.org/journals/human-neuroscience/articles/10.3389/fnhum.2022.933718/full.

Puderbaugh, M., & Emmady, P. D. (May 1, 2023). *Neuroplasticity*. In *StatPearls*. StatPearls Publishing.

Vago, D. R., & Silbersweig, D. A. (October 24, 2012). Self-awareness, self-regulation, and self-transcendence (S-ART): A framework for understanding the neurobiological mechanisms of mindfulness. *Frontiers in Human Neuroscience. https://www.frontiersin.org/journals/human-neuroscience/articles/10.3389/fnhum.2012.00296/full.*

Wood, W. (2019). *Good habits, bad habits: The science of making positive changes that stick.* Farrar, Straus and Giroux.

Wood, W., & Rünger, D. (2016). Psychology of habit. *Annual Review of Psychology, 67*(1), 289-314. https://www.researchgate.net/publication/281679387_Psychology_of_Habit.