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General Theory of Memories (GTM);
Hypothalamic Pituitary Adrenal (HPA);
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Postulate of the General Theory of Memories

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Abstract

Knowledge about the functioning of the human mind remains the objective of numerous researches around the world. In the present work, we postulate an unprecedented perspective of the connection between the formation of memories and the production of beliefs from the early stages of human brain development to adulthood. For this, we will use the General Theory of Memories (GTM), which postulates how it is possible to identify, understand and transform limiting beliefs.

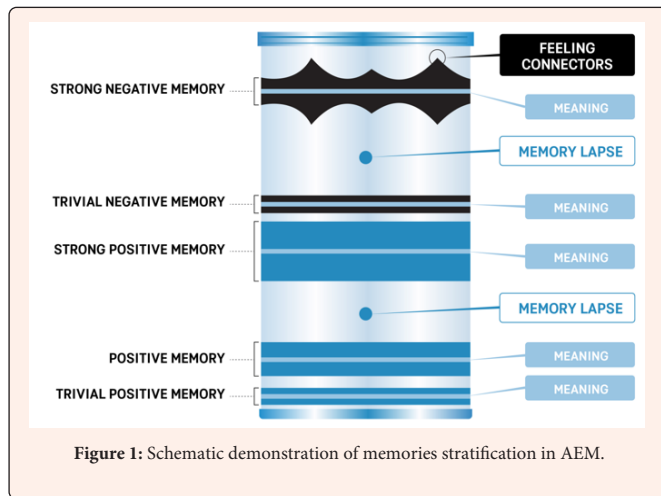
Introduction

Extensive evidence from studies employing a variety of mammalian species indicates that memory is organized in multiple brain systems that differ in terms of the type of memory they mediate [1,2]. Memories are formed in the human brain by sensory stimuli that reach specific areas and are stored and can be short or long term, allowing changes in the individual's behavior throughout his life [3,4]. This function is one of the most complexes of our kind, which is why major research centers around the world invest time and money in the search for more understanding. Memories formation and recall require cell activity and synaptic strengthening among activated neuronal ensembles in brain circuits and regions, through transmissions of nerve impulses and release of specific chemicals, neurotransmitters [5]. Many of these stimuli, constructive or dysfunctional, are stored and become meanings, generating the consolidation of these memories. Neural synapses are not static. Since environmental enrichment, at any stage of life, is capable of stimulating structural changes in neurons, such as the formation of dendritic spicules that will allow the greatest amount of synapses between these cells and consequently, the greater cognitive and emotional development [6].

In turn, the meanings are registered through active feelings in the individual during the memory formation process, being directly influenced by the stimuli captured by sensorial organs during the experience. By being able to be absorbed as positive or negative by the individual, meanings, regardless of the feelings that guide them, can formulate memories that can modulate the most diverse patterns of emotional behavior, such as happiness or sadness, empathy or anger, or even the development of diseases that affect the mind and the physical body, such as depression. In humans, childhood abuse alters axis Hypothalamic-Pituitary-Adrenal (HPA) stress responses and increases the risk of suicide, because maternal care influences HPA function through epigenetic programming of glucocorticoid receptor expression [7]. It is during the process of forming our memories that beliefs are built, which are patterns of behavior, arising from mental programming acquired as learning during life, which determines attitudes, results, achievements, and lifestyle. Beliefs act directly in the formation of our identity and can be reprogrammed, even if our memories remain stored in our brain, as we assume that each experience produces an experience and each experience registers an emotional pattern in it. It means that the memories recorded by the brain are accompanied by emotions and feelings [8], making it possible to create new memories from everything that the human being experiences sensorially, such as seeing, feeling, and listening, for example. To the extent that each of these created memories carries within it meanings and generates feelings, the lived experiences shape the form of perception, which is nothing more than the conscious introspection of a sensation, and thus, the various beliefs are limiting or empowering, are formed and adopted into forms of behavior. Memories of a traumatic event can be distressing and disruptive, and involve mental imagery-based impressions that intrude into mind involuntarily, and are emotional [9]. There is then the possibility of memory being constructed by what happens in the real, but also by what is imagined [10,11]. Such memories are arranged in an apparatus that we call the Emotional Memory Environment (EME), a neural deposit spread across cortical areas responsible for grouping sensory memories full of meanings and feelings. Such memories are overlapped sequentially and all active, working in the production and support of formed beliefs.

General Theory of Memories

General Theory of Memories (GTM) proposes that when memories are stored in this environment, they are chronologically superimposed, acting on our mental apparatus without conscious temporal distinction. All memories can be activated according to the sensory rescue (trigger) and the emotional intensity they have, consolidating these memories [12]. Thus, to support your decisions, through the activation of the prefrontal cortex, you need to bring different memories closer together, as necessary to signify a new experience. Are these perceptions that induce feelings in a particular process where each person gives meaning according to their repertoire of memories. The theory also argues that to interpret reality, we submit sensory and contextual information to beliefs formed from memories. Thus, if such memories have good meanings and feelings positive beliefs may emerge, even if linked to unfavorable situations; Meanings and feelings are intrinsically linked to this process. However, there is the possibility of choice in the quality of both. This quality can be chosen from what the GTM postulates as central experiences for the construction of positive memories and empowering beliefs. These ways of acting act directly in the generation of the individual's identity, making him conscious seek meanings that allow the production and recording of memories corresponding to these patterns. In this process of signification, GTM characterizes memories in up to five types, in which the emotional environment of memory, these are sequentially superimposed, similar to a stratification process as they are generated, with meanings and feelings being attributed to them (Figure 1).



Source: Febracis (2021).

Conclusion

The postulate of the general theory of memories presents itself as a real possibility to understand the mechanisms of memory formation throughout life and the possible meanings that they give to the most diverse sensory stimuli from the environment. Memory formation is dynamic in nature, and acquisition of new information is often influenced by previous experiences [13]. Beliefs formations are directly associated with the experiences lived by the individual and how these experiences are integrated and processed by the various brain areas that are related to emotions. Psychological theories posit that the hippocampus rapidly forms associations among ongoing events as they unfold. During a subsequent maturation process, so-called systems memory consolidation, these associations are gradually stabilized within distributed neocortical circuits through close interactions between the hippocampus and neocortex [14]. It is possible to identify in (Figure 1) the Trivial Positive Memories, which are formed throughout life accompanied by positive meanings and feelings. Strong positive memories are good memories with greater emotional impact and greater meaning than trivial ones [15]. They may or may not happen frequently, that's why they are so important for the formation of positive beliefs in the individual. Negative memories are like causes of ruined experiences that happen in the day, loaded with more harmful and impactful due to the intensity and feelings generated. Lastly, memory lapses represent the absence of meanings and emotions, causing a lack of referential memories. The comprehension of the general

theory of memories and their mechanisms allows us to act to modify them and prevent the patterns of behavior originated by the absence of identity and, consequently, by the lack of understanding of the raised capacities. The more absence of positive memories, the more loss of emotional and cognitive autonomy.

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