

## Psychotherapy as epigenetic medicine: How to change the memes

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### Editorial

**Citation:** Farzanegan M. **Psychotherapy as epigenetic medicine: How to change the memes.** *Int J Body Mind Culture* 2022; 9(2): 61-2.

Received: 01 Mar. 2021

Accepted: 25 Mar. 2021

Psychological disorders can be considered as evolutionary deficits. These evolutionary problems can include, on the one hand, the insufficient genetically programmed neural pathways, especially between the limbic system and prefrontal cortex, and on the other hand, maladaptive cultural codes that change behaviors. Stress and relaxation responses and related dysregulations are not only biological circuits, but also social constructs that lead to our attention, interpretations, and consequently, our behaviors.

The effects that the environment has on its own genes are not only chemophysical, but can also be through cultural or symbolic codes; namely memes. Memes are pieces of information that include behavior patterns, printed words, melodies, rhythm, facial expressions, touch, spoken words, TV, phone call, radio, letters, etc. During development, especially in critical periods in early life, genes are turned off or on depending on stress, and lifestyle, thus giving rise to vulnerability to stress in later life (Leigh, 2010).

Dawkins defines these symbolic replicators, the memes, and their similarities to the biological replicators or genes:

“ Just as genes propagate themselves in the gene pool by leaping from body to body via sperms or eggs, so memes propagate themselves in the meme pool by leaping from brain to brain via a process which, in the broad sense, can be called imitation”. (1981: 143)

Stress memes interact with residence memes in the brain and they can cause the replication of stress memes. The host immune response is to turn off the stress response if the protective memes are active and abundant. Nevertheless, it is possible that stress memes be activated by input stress, especially when the protective memes have been weakened. Chronic stress causes a disconnection between new memes and residence

protective memes that are commonly dominant and it weakens memory function.

In the study of culture, it is understood that psychiatric syndromes are formed based on different cultural values and traditional ideas are considered as a core of culture (Gopalkrishnan & Babacan, 2015). In childhood, cultural memes are heavily potentiated and repeatedly introduced during a period of time in which the filtration system for meme initiation is immature. Ultimately, existing memes that may be in conflict with pre-existing potentiated memes are filtered. Therefore, during psychotherapy, clients need to be self-aware of cultural and individual memes.

Stress memes tend to disconnect perceptual or incoming memes from the memory memes. Thus, with the growth of individual consciousness and the conscious change of memes, we can close the gap between incoming memes and memory memes, and thus, reduce the distance between experiencing the self and memorizing the self. The coherence of memes is the key to healing and health.

From this point of view, psychotherapy is considered as a systematic deconstruction of stress memes through editing maladaptive schemas and dysfunctional beliefs, developing protective memes by making the psychological capital more accessible, and integrating perceptual and memory memes through mindfulness-based practices.

Many experimental and clinical trials have shown epigenetic changes after an effective course of psychotherapy (e.g., Stahl, 2012). Our neural functions and gene expressions are bounded by language and other symbolic codes. Thus, we can consider psychotherapy as microsurgery and epigenetic medicine which can moderate our emotions, behavior, and even psychoneuroimmunological responses.

Having such a systemic view in practice facilitates a psychosomatic approach to analyzing, treating, and educating patients, it can lead to the creation of more integrative and effective protocols, and can make psychology discourse and practice more critical in health and medicine.

### **Conflict of Interests**

Authors have no conflict of interests.

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