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Bodily self-consciousness and its relation with health.

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ABSTRACT

This article is devoted to the issue of understanding bodily self-consciousness in the health context through the correlation between body and consciousness.

Bodily self-consciousness and body consciousness are new terms in health context without a direct and validated definition to health area. Some contemporary neuroscientific researches point out to an embodied mind and the hypothesis that the explanation of how this process happens could be the key to explain somatoform diseases.

Many disorders of bodily self are shaped by both neurological and social factors. The social cognitive neuroscience approach is needed to fully understand the bodily self and its disturbances.

The awareness of bodily self-consciousness, which means the congruence between body image and real body, its features, and process, could contribute to elaboration and development of mind, conscious, psychological and behavioral characteristics of the human being throughout this contact between body and world.

Keywords: bodily self-consciousness, body consciousness, body image, self-perception, somatic disease.

Human beings' thoughts and behaviors are based in bodily processes. From this perspective, body is how the "I" connect and interact itself with the world, through multi-combinations of exteroceptive, proprioceptive and interoceptive impressions. Presented with the organs of sense such as ears, eyes, and nose, exteroceptive is related to stimuli received by an organism from outside; proprioceptive, also known as kinesthesia, is the sense of self-movement and body position, given by mechanosensory neurons located within muscles, tendons, and joints; and interoceptive involves the sense of internal systems of body such as cardiovascular, gastrointestinal, endocrine etc., and can be conscious and non-conscious process. Ainley and Tsakiris suggest that interoceptive awareness, for instance, cannot measure the important aspects of body awareness that are captured by self-report instruments. It's not enough to have only an individual's feelings about bodily signals [1]. Also it's important to mention the work of professor Olaf Blanke [5] and his recent research in cognitive neuroscience which has linked self-consciousness and consciousness generally to the processing of BSC. "Certainly "it is not enough to say that the mind (and consciousness) is embodied. You also have to say how" and bodily self-consciousness may provide this link," he says. [5]

The purpose of this article is defining the term "bodily self-consciousness" using a scientific basement in the modern context. With this work, we want to mark the understanding of this term in interrelated scientific fields where one of the main aspects is a correlation between body and consciousness. It's a try to design the definition of bodily self-consciousness in cognitive neuroscience. One of our questions is about how a relationship between BSC and health works.

The method we chose is the bibliographic review of such the terms as "body-consciousness", "bodily self-consciousness", "self-perception" and "somatic disease" based on the works

published in PubMed site. PubMed is a bibliographic database for biomedical literature, which gives a free search for any type of materials that are needed for a researcher and based on the United States National Library of Medicine.

The term "body consciousness" (BC) compounds various fields that bring its own concepts of the subject. So, it's a reason why body consciousness is understood broadly as dynamically and constantly updating, where one's body is and how it functions. BC is a process, where we combine information from different senses to semantic and emotional knowledge of our body [12]. The study of BC is quite often based on the comparison between different groups, for example, bodily experts or certain psychiatric groups with atypical bodily experiences. Our personal experiences, somatic markers and psychological constructs are mixing based on the aspects from a broad societal level to an individual. This is the reason why BC studies integrate philosophical and psychological points of view.

Bodily self-consciousness (BSC) indicates the way to understand the process of diseases which involves a relationship between body and mind. We've mentioned before the key-factors given by three phenomena: proprioception, interception, and exteroception, which boost our body awareness. The sense of our body varies depending on body awareness, and in fact, the quality result of our life might be worse or better. A good example may be derived from the study [17] about dancers. It's a first known effort in the field of BC research to control an aspect of dancing, active movement by incorporating the control groups of athletes. The researchers discovered that there is something special in the relationship between dancing or dancers and BC other than moving the body. They captured both the overestimation of the body among people dealing with eating disorders and the relational advantage of dancers and athletes. Also and eventually they marked out the amelioration unrealistic estimations of the body in psychiatric states after physical training exercises.

Since the late 19s art has become one of the central points in BSC studies with theatre directors and researchers such as Konstantin Stanislavski (1863–1938), Vsevolod Meyerhold (1874–1940), and successors. The intersections of art and health, like art-therapy and some empirical theories about the importance of bodily-image in health with psychomotricity approach – Eutonia technique and Feldenkrais method, – appeared in the mid-20th century.

The scientific proves about the relationship between body and mind was possible just with the advance of technologies in neuroscience in the later 20th century due to the possibility to observe the alive and functioning brain. Bodily self-consciousness and body consciousness are new terms in health context without a direct and validated definition to health area. Until here there is no “Body consciousness is...” To start debating and doing researches on BSC could be a key to understand somatic health conditions, thorough explanations of how the mind is embodied.

“Human adults experience a ‘real me’ that ‘resides’ in ‘my’ body and is the subject (or ‘I’) of experience and thought.” [5] This is a superficial summary of the relationship between the self and its body. As a result, bodily self-consciousness is the congruence between the body-image and the real body of a person [4].

The development of this congruence is influenced by three factors: self-identification with the body, self-location, and the first-person perspective, according to a professor Olaf Blanke. The first factor, self-identification with the body is the experience of owning a body. Body ownership is the self-attribution of the physical body and its parts, such as limbs, the perception of “my” body’s belonging [5]. The second factor, self-location is the experience of where “I” am in space. This factor includes the self-location of “my” body not only as a unit but as its parts too. For example “Where is my right hand? My right hand is on my head.” And finally, the third factor, the first-person perspective is the experience from

where “I” perceive the world, the world from “my” point of view, “my” cognitive processes.

The ‘I’ of conscious experience is one of the most astonishing features of the human mind.

In 1994, the neuroscientist Antonio Damasio published his book “Descartes’ Error: Emotion, Reason, and the Human Brain” [9], where he argues the dualistic separation of mind and body using a neuroscientific approach. This work built a bridge between physical and mental spheres to health science.

With the advance of new technologies, cognitive neuroscience has been getting consistent indicators about linking self-consciousness to the processing of bodily self-consciousness. The range of disorders affecting a person’s bodily self is considerable; the body may experience the loss of physical sensation, sensation of not belonging a limb of body or feeling of lack of control, emptiness, and ugliness, detached or duplicated. As one of the results, it could develop a somatoform disorder.

Somatoform disorder (SFD), the precursor diagnostic category of “somatic symptom disorder” [2], is characterized by persistent physical symptoms that suggest the presence of a medical condition, but cannot be adequately explained by such a medical condition, nor by the direct effects of substance use or by a mental condition [3]. A core feature of somatoform disorder and somatic symptom disorder is the problematic relation of patients with their bodies [15].

Let’s take as an example such a disorder as anorexia nervosa. It is an eating disorder, characterized by low weight, food restriction, fear of gaining weight, and a strong desire to be thin. It’s common for patients with anorexia when they see themselves as overweight, even when they are in critical underweight. In this case, the pathology is caused by psychological conditions established by the absence of bodily self-consciousness related to the weight. This disease shows a lack of congruence between the body-image in mind and the real body. The reestablish

of a congruent bodily self-consciousness is indispensable for its treatment with physical and psychological assistance to help to support patients to understand the reality of its body's condition and how to deal with it.

The idea of bodily self-consciousness has been serving as a baseline to researches about disorders affecting a person's bodily self. Patients with structurally altered bodies, patients with altered functionality after hemiplegia, and patients with somatoform disorders are few examples.

Nowadays, World Health Organization (WHO) has included in the International Statistical Classification of Disease and Related Health Problems (2016) [18] a category that includes "Behavioral syndromes associated with physiological disturbances and physical factors (F50-F59)". Now we can see there is a possibility for a medical categorization of the disease with this specific relationship, including from "Eating disorders (F50)" to "Sexual dysfunction, not caused by organic disorder or disease (F52)". These new categories are innovative access to diseases because involve a holistic

understanding of the patient, focusing on the patient and not on the disease. It shows the urgency of researches related to somatoform disorders.

As social species, the human disorders of the person's bodily self affect all levels of the body representation: from single limbs to the entire body in a social context. Many disorders of bodily self are shaped by both neurological and social factors. The social cognitive neuroscience approach is needed to fully understand the bodily self and its disturbances.

The awareness of bodily self-consciousness, it means, the congruence between body image and real body, its features, and process, could elucidate not only how mind and consciousness are embodied, but also how circumstances, experiences, skills, ability to think, environment, psychological and physical traumas, contribute to elaboration and development of mind, conscious, psychological and behavioral characteristics of the human being throughout this contact between body and world.

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ЗНАЧЕНИЕ ТЕЛЕСНОГО САМОСОЗНАНИЯ В ОБЛАСТИ ЗДОРОВЬЯ ЧЕЛОВЕКА.

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Аннотация

Эта статья посвящена проблеме понимания телесного самосознания в контексте здоровья через взаимосвязь между телом и сознанием.

Самосознание и телесное сознание - это новые термины в контексте здоровья, не имеющие устойчивого определения в области понимания здоровья. Некоторые современные нейробиологические исследования указывают на гипотезу о том, что объяснение того, как происходит этот процесс, может быть ключом к объяснению соматоформных заболеваний. Многие расстройства телесной самости формируются как неврологическими, так и социальными факторами. Социально-когнитивный нейробиологический подход необходим, чтобы полностью понять телесную сущность и ее нарушения.

Осознание телесного самосознания, которое означает соответствие между образом тела и реальным телом, его особенностями и процессом, может способствовать выработке и развитию психических, сознательных, психологических и поведенческих характеристик человека, обуславливающих интеграцию в осознании взаимосвязи собственного тела и окружающего мира.

Ключевые слова: телесное самосознание, телесное представление себя, соматические болезни.

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