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THE ROLE OF BIOFEEDBACK IN THE PRACTICE OF PSYCHOLOGISTS

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Abstract
This article about a new modern method of psychology provides complete information about biofeedback, describes in detail the use of biofeedback in the practice of psychologists in the Uzbek environment as an effective psychocorrective weapon for various psychological and psychophysiological problems in the implementation of psychocorrective work.

Keywords Method, physiology, psychophysiology, brain, structure, object, nerve, neuron, cell, mechanism, psychology, pedagogy.

INTRODUCTION

By the Decree of the President of the Republic of Uzbekistan dated August 14, 2018 No. PP-3907-FZ "On Amendments to certain legislative Acts of the Republic of Uzbekistan", thus, in order to improve the psychological and pedagogical support of mentally retarded children and increase their level of preparation for special disciplines. In this direction, psychological diagnostic techniques have been developed and put into practice, aimed at improving the effectiveness of training, motivation and self-realization of psychologists with short-term social knowledge [1].

In the field of psychophysiology, Jose is engaged in the diagnosis of sensory mechanisms, perception, perception and perception, motivation and emotions, thinking and thinking, ontology, cognitive behavioral and functional activity, as well as mechanisms that affect the psychophysiology of an individual include encoding and processing information in the nervous system.

Biological correction (ot) is a method of psychological and psychophysiological correction that allows a person to instantly and continuously respond to physiological changes in the functioning of internal organs. Based on this hypothesis, it can be concluded that ichthyosaurs were not domesticated, but were domesticated as a result of ichthyosaurs [2].

Edmund Jacobson was one of the founders of the electromyographic theory of stress (EM), one of the founders of the modern theory of stress and in the 1920s developed a method of progressive relaxation. Due to the limited activity of somatic neurons, their electrodes stimulate muscle spasms and accelerate the process of somatic relaxation. However, this method is not currently used, as it is based on masked electronic distortions.

In 1932, the American physiologist Walter Kennedy, who studied the relationship between humans and animals and proposed the name “homeostasis”, proposed the classification of autonomous nervous systems into sympathetic nervous systems.A differentiated individual has

come to the conclusion that he cannot perform reactions. At one time, this type of hooliganism was considered classic and was cited in all textbooks on physiology [3].

In this regard, psychiatrists distinguish psychosomatic disorders characterized by personality disorders, mental disorders, manic reactions and symptoms caused by the autonomic nervous system. The first Guarani describes the physiological processes occurring in the brain, and the second describes the autonomic nervous systems of humans, which are formed in the process of autonomic nervous activity.

Thus, in the physiology of consciousness, there are two types of conditioned reflexes: synovial and cholinolytic, which manifest themselves in a violation of consciousness and in a violation of consciousness. As an example of Pavlov's conclusions, it can be cited that when heated in containers formed during heating, the electrodes included in the containers are “brewed”.

In classical physics, arousal is a conditional stimulus that causes a special reaction necessary for arousal. Thus, the possibilities of this method are limited [4].

The reaction resulting from the reaction is called a reversible reaction, and the reaction resulting from the reaction is called a reversible reaction. Thus, feedback can be used to enhance the stimulus: the response to the stimulus can be enhanced by the stimulating factor, and the response to the stimulus can be enhanced by the stimulating factor.

And finally, all of the above factors that can be used to create skeletal reactions that can be caused by the effects of certain factors on the body. The classical autonomic nervous system is a set of autonomic nervous systems consisting of visceral and visceral nerve fibers. In 1961, J.In a review of the physiology of consciousness, Kimble stated that “all data for autonomous reactions can be obtained not only with the help of artificial intelligence, but also with the help of classical biology” [5].

These mullahs are descendants of amalasunta. People practically do not feel visceral reactions occurring in the body. If a person experiences physiological disorders (for example, atherosclerosis or atherosclerosis of the lungs), this can lead to amnesia.

However, in the 50s of the XX century, due to the expansion of the range of products, its production was discontinued. Outstanding Russian physiologists took part in this work, in particular, I. N.M.Sechenov and I.P. As a result of the action of conditioned reflexes, K.M. Biocorticovisceral alkaloids B. V.G. In the laboratory of the Chernihiv Research Institute of Neuroanatomy, obtained data proving the presence of autonomic nerve endings in the hemispheres of the brain. Library, library, library, library, library, library, library, library, library.K. Anokhin's theory of functionals, N.P.Bekhtereva and the laboratory rely on the theoretical foundations of the theory of pathological conditions. Biologically, therefore, the autonomic nervous system is able to modify the reactions of internal organs to incoming signals, that is, operant reflexes. A. physiologist N.E. Miller suggested that in 1941, not only two, but perhaps one of them was probably caused by the eruption of Mount Vesuvius, which was caused by the eruption of Mount Vesuvius. In 1957, he published a paper in which he justified the possibility of visceral reactions in cells associated with cell division. Paralyzed patients who are injected with electrodes and catheters (kalamushi) also have thyroid dysfunction (heart rate, arterial spasms), keratinization, budding. In 1961, the results of scientific work were presented to the scientific community at the III World Congress of Psychiatrists, held in Nebraska and Montreal [6].

In the same years, research studies were actively conducted in the USA to confirm that visceral responses such as heart rate (HR), skin-galvanic response (TGR), and blood-vascular responses can be elicited using equipment training methods.

In 1969, N. E. Miller's large scientific article published in the American magazine "Science" was evaluated by many experts in the field of BQA as a priority research work. In this article, the author, in addition to his experiments on rats, presented the results of his studies on paralyzed people who were trained to control arterial blood pressure (AB) (without affecting the controlled indicator of skeletal muscle condition). The story of a young man with a burning desire to walk on crutches, despite his legs being paralyzed as a result of an injury, is particularly moving. Unfortunately, due to postural hypotonia, when he rose to the upright position, he was unable to maintain the upright position due to exhaustion due to the sudden drop in blood pressure. Then NE Miller taught him to raise his AB using "equipment training". Minimum diastolic AB was monitored by a device worn on the patient's arm. When the pressure changed in the desired direction (in this case it was raised), an audible signal was heard indicating that the task was successfully completed. As the successes increased, the tasks became more difficult. Thus, the patient learned to raise his blood pressure by 30 mm. He used this skill to stand upright and later learned to walk on crutches [7].

According to N. E. Miller, in machine learning, the physiological indicator is measured continuously, value changes are given in the form of a signal that is understandable for the patient. At the same time, the patient must have a clear motivation to successfully complete the task given by the guide. In this case, the method of biological feedback will be implemented in practice. "In fact, N.E. Miller as the founder of visceral training pointed to the development of the ideas of operant training and the implementation of the basic laws of the cortico-visceral theory in the formation of the BQA direction, its introduction into the clinic"

It should be noted that the first experiments on voluntary control of visceral reactions were conducted in Russia. As early as 1885, the professor of the Military Medical Academy, I.R. Tarkhanov, suggested increasing the frequency of heart contractions to the subject, while at the same time information was transmitted about each heartbeat in the blood vessels (but the effect of the skeletal muscles was not eliminated). In addition, I.R. Tarkhanov stated that the participants of the experiment, who can voluntarily contract muscle groups that are not normally controlled (for example, move the ears), can control their visceral reactions better than anyone else. Therefore, this experiment cannot be included among the experiments conducted on the conversion of involuntary reactions to voluntary reactions [8].

It should be noted that the first edition belonging to BQA was published in 1955 in Russia. M.I. Lisina, a graduate student of the Institute of Psychology, convincingly proved the possibility of turning involuntary reactions into voluntary reactions in experimental studies. The idea and specific method of the research belonged to its leader, psychophysiologist A. V. Zaporozhets. In 1955, M.I. Lisina defended her thesis, which was later included in the monograph of A. V. Zaporozhets. In these studies, volunteers were taught to control vasomotor responses, that is, the voluntary constriction or dilation of blood vessels. Information about the volume of blood vessels was transmitted to volunteers in the form of a sound signal. When the blood vessels widened, the pitch decreased, and when they narrowed, it increased. After the audio signal was turned off, subjects who underwent vasomotor control exercises were able to rapidly constrict and dilate blood vessels following the experimenter's verbal instructions

[9].

The US psychophysiologists have a preference for the term "biological feedback". This priority appeared in 1963 in J. Basmajan's scientific work on teaching the control of electrical activity released from a single muscle fiber.

The electrical activity of the muscle fiber was recorded using a needle electrode, then amplified and transmitted to an oscillograph. The curve on the oscilloscope screen was considered as a visual feedback signal. A modified signal of electrical activity is transmitted to a radio speaker, the pitch of which is changed by the change of electrical activity. This was an audible feedback signal. Participants learned to tense and relax individual muscle fibers at desired positions.

It should be noted that after this research of J. Basmajan, researchers began to use the term "biological feedback" more and more instead of the terms "operant conditioning" or "machine learning".

In 1969, a group of researchers from California, USA, without knowing each other personally, founded the BQA (Biofeedback Research Society) in order to organize professionals working in the field of BQA as supporters of the same topic in their work. This name was proposed by J. Basmajan, one of the founders of the society.

Since 1969, research using the terms operant or instrumental learning has declined, which cannot be explained solely by the convenience of the newly introduced term BQA. The fact is that BQA and machine learning cannot be completely equated with each other. The feedback transmitted during operant training takes the form of an inevitable reward or punishment designed to create motivation for the formation of the desired behavior. When performing BQA, information is usually presented to the patient in the form of sounds or images. In this case, other forms of motivation come into play. These forms have an element of social reinforcement not found in animals. For example, a person may want to please a researcher conducting a BQA training session. Therefore, human expectation of symbolic social reward in BQA training is an important variable absent in animal studies. (It should be noted that the ability to train the autonomic nervous system using instrumental operant conditioning or to shape its response using conditioned reflexes was of little concern to most practicing psychologists) [10].

In 1969 J. Kamiya's scientific works were published, in which he wrote about the operant control of alpha-rhythms of the brain and the effect of this process on consciousness. This article was published in the collection "Altered States of Consciousness" and coincided with the Eastern religion that was popular at the time and related trends such as hypnosis, yoga, meditation, relaxation, autogenic training.

Since then, articles devoted to the research and application of the BQA method have proliferated. First, the effect of treatment was observed by chance. In the mid-1960s, famous BQA researchers Elmer Greene and Alice Greene J. Basmajan decided to repeat the method given above in order to teach anxious patients to change the blood circulation in the fingertips, for which at the same time the temperature of the skin of the fingers was measured using thermistors. During the experiment, one patient who suffered from headaches felt better. Soon it became known that the blood circulation in the fingertips has a generalized feature and reflects the general state of blood circulation in the body, since headache is associated with changes in the blood circulation in the blood vessels of the brain, voluntarily raising the temperature of the fingertips began to be considered as a new method of headache treatment. Later, scientific articles were published

against and in favor of this method, but it was found that conscious control of blood circulation is possible and that it has an effect on vascular headaches.

Thus, the method of biological feedback is of great importance as a psychocorrective method in the field of psychology and psychophysiology. The main solution to mental disorders in the practical work of psychologists is considered.

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