

Psychological Biology Is a Basic Subject for Professional Psychologists

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E-mail: aleksidze.nugzar@yahoo.com**Submitted:** 13 Oct 2019; **Accepted:** 20 Oct 2019; **Published:** 02 Nov 2019**Abstract**

The modification of Dmitri Uznadze well known concept "Attitude-Behavior", as a triad "Attitude - Adaptive syndrome-Behavior", based on modern achievements in functional neurochemistry, presented in this article is in full accordance with the theory of psychological attitude.

Keywords: Attitude, Adaptive Syndrome, Psychoemotional Loading

Introduction

In 2007, I was invited to read a lecture course in psychological biology for psychologists at St. Andrew the First Called Georgian University. For this purpose, I specially was acquainted with the preparatory educational programs and their syllabi for psychologists from universities all over the world. According to these programs, two books: "Lecture Course" [1] and "Basics of Psychological Biology" [2] were prepared and published by us.

After being acquainted with the educational programs of psychologists from foreign universities, I became convinced that their training was mainly based on the learning of psychological biology. Despite, there are several textbooks, for example, "Biological Psychology", published at California University in 1999 (M Rosenzweig, AL Leiman, SM Vreedlove), according to their content the definition of psychological processes takes place on the basis of biological, particularly, on functional neurochemical achievements. This is also indicated in the below cited sources, in which the emphasis is made on the processes of psychological biology. Psychobiology has since continued to pursue a broad range of projects focused around the growth of brain circuits, consolidation of the memory trace [3]. Psychobiology is the highest degree of efficiency. Coincidentally, the nerve cell has lost the power of contraction.

Proceeding from all mentioned, the above said textbooks were published under the title of Psychological Biology [1,4]. Unfortunately, in the former Soviet states, and in a number of Asian and European countries, including Georgia, the training of psychologists took mainly place based on biological psychology. All this is based on verbal and logical assessment and analysis and remains at the level of Dmitri Uznadze psychological biology of the attitude, acceptable by that time. Dmitri Uznadze was the first, who in the history of psychological research proved theoretically and studied empirically such an unconscious mental reality, which

combined the necessary moments and actions of the activity in it, as a psychological act of expedient implementation [2]. In due time a French scientist J. Piaget estimated this fact as a fundamental essay and called it Dmitri Uznadze's effect.

After the detailed acquaintance with the textbooks published abroad in biological psychology, I have been convinced that the attitude, stress, aggression, murder, suicide, cognitive memory, behavior and other psychological processes are considered and analyzed at the basis of achievements in modern functional neurochemistry. It should be noted that the attitude reflects not only the cognitive data of the subject reality, but also those operational capacities are prepared, because of which the individual's behavior should be implemented [5]. This was well manifested in the conditions of various psychoemotional behaviors.

Currently, it has already been established that the manifestation of the behaviors of psychological character of all types is preceded by the changes in quantitative distribution of biologically active substances, endocrine hormones and neuromediators, the realization of which takes place by the activation of reprogramming of neurochemical processes, adaptive syndromes and the metabolism. For example, if a person is disposed to quarrel, because of the activation of adaptive syndrome and reprogramming the metabolism, epinephrine, i.e. a quarrel hormone is excreted from the organism in excess amounts for the purposeful accumulation of energetic substance in the organism—glucose. After the anaerobic and aerobic transformation of glucose the macroergic substances rich in necessary energy for a quarrel-ATP and creatine phosphate are synthesized [6].

At the first parachute jump, depending on psychoemotional attitude of a parachute jumper a quantitative increase of such endocrine hormones as cortisol, epinephrine, norepinephrine, testosterone and growth hormone enhances in the jumper's blood. This fact, of course, is due to adequate reprogramming of the metabolism to psychological attitude and the activity of adaptive syndrome [2-4].

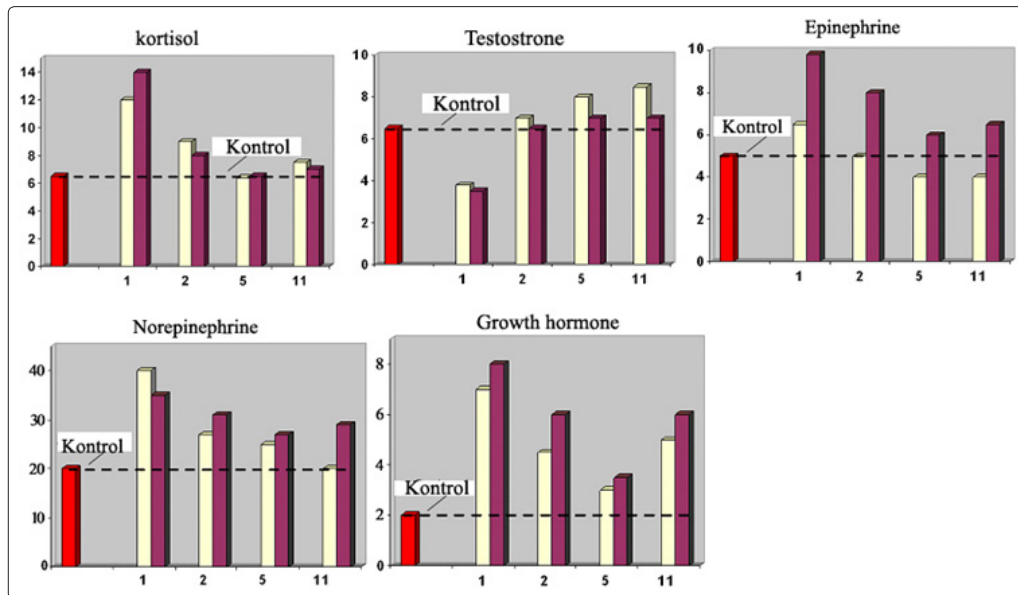


Figure 1: Quantitative Increase of Endocrine Hormones (Cortisol, Epinephrine, Norepinephrine, Testosterone and Growth Hormone) in the Jumper's Blood

It has been established that at the first parachute jump the number of endocrine hormones and neuromediators significantly increases, while at the following jumps, as a result of the activation of adaptive syndrome and the metabolism, their quantitative distribution decreases permanently and finally it returns to the norm.

It is particularly interesting how the quantitative distribution of hormones is changing in the blood of students in parallel with the psychological and emotional attitude in the preparatory period, during and after exams.

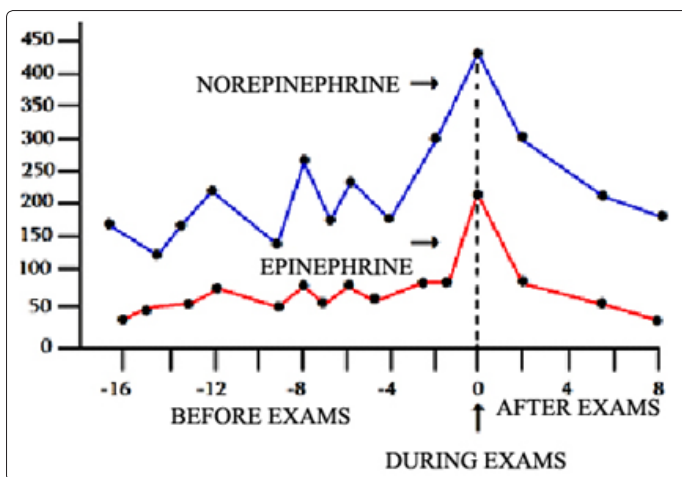


Figure 2: Changes in Quantitative Distribution in Hormones of Students Blood Before, During and After the Exams [7]

As seen from the Figure 2, a quantitative distribution of epinephrine and norepinephrine is within the limits of norm in the preparatory period, during the exams their number, relatively, increases by 340% and 240% and after the exams the quantitative changes in neuromediators return to the norm again [1,2,7]. Many similar examples can also be given to recognize the involvement of adaptive syndrome in the reprogramming of the metabolism, according to

psychological attitude. For example, because of long-lasting delay of rats in the socially enriched environment, the fundamental changes in a quantitative distribution of apical and basal dendrites in the brain, as well as in the activity of acetylcholinesterase and choline acetyltransferase of cholinergic system indicate the improvement of attitude and memory engram [8-10].

As it has been shown by us, especially interesting is the fact that an emotional attitude is reflected on the surface of erythrocyte membranes and in a quantitative distribution of terminal sugars of membrane proteins. This has been proved by the use of biologically active lectines, having a special affinity to carbohydrates [10]. Prospectively, by the use of this method, the aggressive organisms can be detected and the implementation of their psychological, musical and pharmacological therapy becomes possible [11].

According to D. Uznadze, the attitude is the whole condition of the subject that expresses its readiness to perform a specific behavior. The attitude arises from the human's need and on the basis of its satisfactory situation and determines the origin of all kinds of mental activity and its duration. The attitude appears to be a purposeful behavior, which gives this activity a subjective and objective reflection. According to D. Uznadze, any behavior is preceded by the emergence of attitude, which, in our opinion, leads to the action of adaptive syndrome and a targeted reprogramming of the metabolism [4].

Based on the achievements of functional neurochemistry, we have modified D. Uznadze's theory of psychological attitude (attitude-behavior), and based on it we offer psychologists a triad reflecting the attitude: attitude - adaptive syndrome - behavior, which, according to the achievements in modern neurofunctional chemistry fully meets the psychobiological basics of the attitude [11].

In our opinion, for the training of modern psychologists, a psychological biology should be involved into the teaching program of bachelors, as a basic subject [12, 13].

Conclusion

The article presents the modification of Dmitri Uznadze well known concept “Attitude-Behavior”, as a triad “Attitude - Adaptive syndrome - Behavior” based on the modern achievements in functional neurochemistry, which are in full accordance with the theory of psychological attitude.

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