



**THE IMPORTANCE OF PSYCHOPHYSIOLOGICAL
FACTORS IN PREPARATION FOR EXTREME SITUATIONS**

Rokhimova Shirin Ollanazarovna

*Associate Professor, Department of Exact Sciences, Academy of the
Ministry of Internal Affairs*

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Abstract. This article examines the issues of psychophysiological preparedness of law enforcement officers and cadets performing their duties in extreme conditions. The impact of stress, emotional strain, cognitive processes, and the adaptive capabilities of the human body on professional performance is analyzed from a scientific perspective. The study also substantiates the importance of psychophysiological training in ensuring psychological stability, concentration of attention, and effective decision-making in extreme situations.

Keywords: extreme situation, psychophysiology, stress, adaptation, cadet, law enforcement agencies, emotional stability, professional performance.

Modern society requires law enforcement officers to demonstrate a high level of professional competence in ensuring public safety, maintaining public order, and preventing offenses. In particular, effective performance in extreme situations depends not only on professional knowledge and skills but also directly on the psychophysiological state of an officer. During emergencies, the apprehension of criminals, suppression of mass disturbances, or counterterrorism operations, the human body experiences significant psychological and physical stress [1].

Today, the study of human activity under extreme conditions is one of the key scientific areas in medicine, physiology, psychology, and law enforcement sciences. Research shows that a considerable proportion of mistakes made during duty performance are associated not with insufficient knowledge but with disruptions in psychophysiological mechanisms caused by stress. Therefore, understanding

Contact: 99 826 99 56





psychophysiological factors is essential in preparing cadets for activities under extreme conditions [2].

An extreme situation refers to circumstances that threaten human life, health, or professional activity and require rapid decision-making. Under such conditions, a person's normal mode of functioning changes, and all functional systems of the body begin to operate at a heightened level.

In the system of internal affairs bodies, extreme situations include armed confrontations with criminals, mass riots, hostage situations, natural and technological disasters, and other emergency circumstances. The main characteristics of such situations are high responsibility, limited time, elevated risk, and insufficient information for decision-making [3].

In extreme situations, individuals must cope not only with external threats but also with internal psychophysiological reactions. As a result, stress responses develop in the body, and their intensity directly affects the effectiveness of professional performance.

Psychophysiology is a scientific discipline that studies the relationship between psychological processes and physiological functions. It examines the physiological mechanisms underlying emotions, memory, attention, thinking, and motor activity.

The effectiveness of human activity in extreme situations largely depends on psychophysiological preparedness. Psychophysiological preparedness can be defined as the ability to maintain functional stability of the organism under the influence of stress factors [4].

The central nervous system plays a leading role in coordinating all reactions that arise in extreme situations. The cerebral cortex receives and analyzes information from the environment and generates appropriate responses. At the same time, the limbic system plays a crucial role in regulating emotional states, and its activity significantly increases under stressful conditions.





Individuals with a high level of psychophysiological preparedness are capable of controlling their actions, making quick and accurate decisions, and maintaining emotional stability even in dangerous situations [5].

One of the primary physiological responses occurring in extreme situations is stress. Stress is an adaptive reaction of the body to external or internal influences, and its physiological basis consists of the sympathetic nervous system and the hypothalamic-pituitary-adrenal (HPA) axis.

Under stress, the hypothalamus becomes activated and stimulates the pituitary gland to release adrenocorticotrophic hormone (ACTH). This hormone activates the adrenal glands, increasing cortisol production. Although cortisol plays an important role in adaptation to emergencies, prolonged elevation of cortisol levels can have harmful effects on the body.

Simultaneously, activation of the sympathetic nervous system increases the release of adrenaline and noradrenaline. This results in elevated heart rate, increased blood pressure, accelerated breathing, and enhanced blood circulation in muscles [6].

While short-term stress can improve alertness and performance, chronic stress may lead to decreased attention, fatigue, sleep disturbances, and reduced work capacity.

Success in extreme situations largely depends on the condition of cognitive processes. Attention, memory, thinking, and decision-making abilities are particularly important under such circumstances.

Attention is the ability to focus on significant information while filtering out irrelevant stimuli. Under stress, the scope of attention narrows, and individuals may fail to perceive important information, increasing the likelihood of errors during duty performance [7].





Memory also plays a vital role in extreme situations. Rapid retrieval of previously acquired knowledge and skills ensures effective practical actions. However, severe stress may temporarily disrupt memory processes.

Decision-making is highly sensitive to stress. Elevated cortisol levels can impair the functioning of the prefrontal cortex, reducing logical thinking and the ability to analyze situations effectively [8].

When preparing cadets for extreme situations, practical training is as important as theoretical instruction. Simulation technologies make it possible to recreate dangerous scenarios artificially and develop appropriate behavioral responses and operational skills [9].

Psychological training contributes to increased stress resistance, emotional self-regulation, and communication skills. Such training enhances self-confidence and improves performance in hazardous situations.

Physical fitness is also an essential component of psychophysiological stability. Regular physical exercise improves cardiovascular and respiratory functions, reduces the negative effects of stress hormones, and enhances the adaptive capacities of the organism [10].

Modern studies also indicate that breathing exercises, relaxation techniques, and biofeedback technologies are highly effective tools for stress management.

Psychophysiological prepared officers make decisions more quickly, commit fewer errors, and demonstrate a higher degree of emotional stability in extreme situations.

Research shows that officers with greater stress resilience perform their duties more effectively and are less likely to experience occupational burnout and psychosomatic disorders [10].





Psychophysiological preparedness is important not only for ensuring personal safety but also for coordinating teamwork and maintaining public safety during emergencies.

In conclusion, psychophysiological factors play a decisive role in preparation for extreme situations. Stress resistance, emotional stability, concentration, rapid thinking, and effective decision-making are essential components of successful professional performance.

During the training of cadets and law enforcement officers, special attention should be given to psychophysiological preparedness through the wider use of simulation technologies, psychological training programs, and physical fitness exercises.

Furthermore, a deeper understanding of physiological processes occurring in the human body under extreme conditions can contribute significantly to improving operational effectiveness, reducing professional errors, and protecting the health of personnel.

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Contact: 99 826 99 56

