

## The Issues of Stress and its Reduction Methods in Modern Science

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### Abstract

*In everyday life, the word "stress" is often used as a synonym for strong excitement, emotions. But this concept is much broader. Stress is the body's reaction to any irritating effects: problems at work, exams, hunger, lack of sleep, even fluctuations in atmospheric pressure. For many people, such stresses interfere with normal psychological, physical and social functioning. Prolonged stress damages the mechanisms of self-regulation of the body and leads to subsequent disturbances of biorhythms. The natural cycle of sleep and wakefulness changes, as a result, performance and self-control decrease, memory and attention deteriorate. Daily fluctuations in hormone levels, breathing rhythms and heartbeat are also disrupted. Chronic stress weakens the immune system, suppresses the protective reactions and barrier functions of the cells of the gastrointestinal tract and skin, which complicates the course and prognosis of any somatic diseases, including infectious. As a result, stress increases the risk of so-called "diseases of civilization" and contributes to their development: hypertension, diabetes mellitus, bronchial asthma, chronic pain, immune disorders and many others.*

**Keywords:** *Stress, Risk, Reduction, Wakefulness, Immune System.*

### Introduction

The life and activity of a person in the socio-economic and industrial conditions of modern society is inextricably linked with the impact of unfavorable environmental, social, professional and other factors on him, which is accompanied by the emergence, development of negative emotions, strong experiences, as well as the transfer of physical and mental functions. The most characteristic mental state developing under the influence of extreme living conditions is stress.

The problem of stress is a scientific problem, In recent years, the efforts of scientists of various specialties and directions have been focused on solving this problem.

The teaching profession is connected with the satisfaction of intellectual needs. Putting intellectual loads above all else, the teacher exposes the body to endless mental overloads. When working, teachers tend to ignore accumulated tension and fatigue, forgetting the right rule: "You need to rest before you get tired."

The teacher needs to be able not only to replenish his resources, but also to spend them wisely during the school year. For this and it is necessary to have an idea of the nature of stress and the ways of self-regulation, i.e. the ability to manage one's own mental states and behavior, in order to act in an optimal way in difficult pedagogical situations. In this regard, it is obvious that teachers should have knowledge about various manifestations of stress, the main causes of its occurrence, its patterns, and, most importantly, possess effective methods of its optimization. Stress resistance, protection of one's physical and mental health from the influence of stress factors, it largely depends on the person himself, his desire and ability to use certain methods and techniques of self-regulation.

In the first half of the 20th century, a small note by a young scientist Hans Selye appeared in one of the European journals dated July 4, 1936 in the section "Letters to the editor".

The note consisted of only 74 lines and was called "Syndrome, caused by various damaging agents." Exactly this article marks the beginning of the concept of stress. A little later, the American Walter Cannon, in his classic works on the universal reaction "fight or flight", introduced the term "stress" into

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physiology and psychology.

Stress (from the English stress – load, pressure, tension) is a non-specific (general) reaction of the body to an action (physical or psychological) that violates its homeostasis, as well as the corresponding state of the nervous system of the body (or the body as a whole).

Thus, this definition reflects that on the organism reacts to each requirement of the environment with a special tension. Stress is perceived by what is happening and occurs at the moment of the most intense reaction, getting out of control. The problem with stress is that such the manifestation can be expressed in an extraordinary way, restrained or not at all. At the same time, stress is one of the most common causes of distress, suffering and failures of any person, because the modern lifestyle is a constant rush, nerves, emotions. Hans Selye emphasized that there is no need to be afraid of this, stress is an obligatory component of a person's life. Stress it manifests itself both in love and in creativity, of course, bringing pleasure and protecting from the blows of life. Joy, of course, in exceptional cases, leads to tragic consequences, but in most cases it stimulates life.

Stress ideas are very popular in the scientific world. The term "stress" is widely used in biology, establishing a connection between physiological and psychological phenomena.

In psychology, this concept includes the concepts of anxiety, conflict, emotional distress, threat to one's self, frustration, stress, etc. From the middle of the 20th century to the present day, theories and models of stress have been intensively developing, each in its own way explaining the views and attitudes to the essence of stress, the causes of its development, mechanisms of regulation, features of manifestation.

An attempt to establish a connection between the genetic disorder (genotype) and some physical characteristics that reduce the overall individual ability to resist stress was made in the genetic-constitutional direction. It presented its theory about the body's ability to resist stress. This ability is influenced by certain protective strategies of functioning that do not depend on current circumstances.

The psychodynamic direction in the explanation of stress is based on the theory of Sigmund Freud, where he described two the type of origin and manifestation of anxiety, anxiety: a) signaling anxiety arises as a reaction of anticipation of a real external danger; b) traumatic anxiety develops under the influence of an unconscious, internal source. The most striking example of the cause of this type of anxiety is the containment of sexual urges and aggressive instincts.

In modern man, the causes of stress are diverse. They can be divided into three main groups:

#### *Significant Life Changes*

Relationship difficulties. If some conflicts are normal, and from time to time this is a healthy characteristic of human relationships, then chronic and unresolved conflicts, which are characterized by relationship difficulties, are causes of significant personal stress and pose a serious risk to the mental and somatic health of the patient [Duckworth A. L., Kim B., Tsukayama E. Life stress impairs selfcontrol in early adolescence. *Front. Psychol.* 2012; 3: 608];

High-risk working conditions. In an urbanized society, work can be a significant cause of stress for the employed population, as well as for their family members, because the effects of work stress can be brought into the home environment. Workplace stress can lead to other outcomes (consequences), such as accidents, accidents, drug and alcohol problems.

The degree of health risk associated with these life events depends in particular on life habits, coping strategies and experience of preventive stress management practices that a person has already used before. These factors significantly help to compensate for the risks associated with stressful events.

The processes occurring in the body under stress are universal and the same for all people. When we are

affected by one or another stress factor, changes occur in the brain, the work of the endocrine and nervous systems. Stress hormones – adrenaline and cortisol - are released into the bloodstream. They force you to look for a way out of the situation, at the level of not only the brain, but also the whole body. To cope with this task, all cells become excited. Some of them emit a special substance – histamine, which can cause redness of the skin and itching. The cells of the muscle tissue begin to contract more actively, while a person has tachycardia or intestinal peristalsis increases, and he irresistibly wants to go to the toilet (this is popularly called "bear disease"). Someone has a reaction from the blood vessels: blood pressure rises, red spots appear on the body or face. Someone begins to sweat actively – this means that stress hormones have activated the autonomic nervous system. What kind of manifestations a particular person will have depends on his individual characteristics. In particular, it depends on how he was taught to react to stress in childhood. For example, a child whose mother had a headache against the background of excitement fixes this and, becoming an adult, gives the same reaction himself.

Another example can be given. In most cases, against the background of strong nervous tension, people lose their appetite – this is the effect of stress hormones. However, if the baby, as soon as he started crying, was immediately given a pacifier, in the future he is likely to eat a lot under stress, on the contrary. Or – to smoke. In general, to calm down by occupying your mouth with something.

Thus, stress can be dangerous and becomes a problem when a person has broken control and there is poor stress management.

But neither a "bear disease", nor a moderate increase in blood pressure, nor even overeating on the background of stress should be considered a disease. In general, these are normal reactions, so there is no need to run to a gastroenterologist or cardiologist. Another question is if all these manifestations cause severe discomfort, disorientate. A person needs to answer an exam, and he unbearably wants to go to the toilet. You need to speak in front of an audience, and he's covered in sweat. Once in such a situation, a person fixes it, remembers bodily sensations. In the future, knowing that he has an exciting event ahead of him, he begins to wait for physical troubles, this gives rise to fear in him. And fear further increases the release of stress hormones into the blood, and intestinal peristalsis, palpitations, sweating occur even faster. Each time the problem increases, and it becomes impossible to get out of this vicious circle on your own.

Of course, you should not bring yourself to such a state. Someone smart said a funny phrase: if you don't know how to relieve stress, don't wear it. Do you feel that your stomach is twisted because of excitement or your whole back is wet? Do not fixate on this state, but try to get out of it as soon as possible. Very simple techniques help to calm the nerves. Make a few swings with your hands or feet with a large amplitude, run a "hundred meter". Physical activity allows you to get rid of an excess of stress hormones in the blood, and bodily manifestations of excitement become less vivid.

It is also very important to increase overall stress tolerance. By the way, this is not blissful calmness and indifference to stress, but the ability to adequately respond to it and recover. After the body has mobilized to solve a particular problem, each of its cells needs to rest, recover, otherwise it can simply die. To do this, she needs energy and the ability to properly spend and store this energy.

Energy enters the body only with food. The more balanced it is in the main nutrients, as well as in the so-called anti-stress components (magnesium, B vitamins, lecithin, iodine, omega, etc.), the higher the stress resistance, and therefore adaptation to environmental stresses. Be sure to eat foods rich in these vitamins and trace elements, or consume in the form of food supplements. In order to better navigate the sea of various products yourself, you can look at the popular website of the international online platform of natural products for health and beauty - iHerb. There is a huge selection of natural ready-made anti-stress formulas (more than 100 names of biologically active additives) that increase stress resistance and contain magnesium, selenium, PUFA omega-3, B vitamins (thiamine, pyridoxine), vitamin C, probiotic systems that restore the intestinal microbiota, which increases the immunity of the whole body, as well as plant complexes to relieve tension and relaxation, restore sleep, for example ashwagandha.

The use of these complexes will increase the energy potential of both the brain and each cell of the body,

restore adaptive resources, as well as support immune activity under stress, become resistant to the effects of various infectious factors. And the excitement won't unsettle you.

The object of the study is the professional activity of teachers of a pedagogical college at different stages of the reorganization of this educational institution.

The subject of the study is the professional stress of teachers, the features of its manifestations and dynamics in the process of organizational changes. The purpose of the work was to study the features of the dynamics of occupational stress among representatives of a certain contingent of employees of the organization in the process of organizational changes and factors determining the nature of the impact of innovations on the formation of specific occupational stress syndromes. The study was conducted on the example of a comprehensive analysis of the professional activities of teachers of a pedagogical college.

## Materials and Methods

Research methods: the method of interviewing the administration, occupational activity analysis, the original methodology "Attitude to organizational changes", a battery of standardized psychodiagnostic tests, including 12 techniques.

The experimental part of the work was carried out on the basis of KazNPU named after Abai. The study, which was longitudinal in nature, includes two consecutive diagnostic sections at the beginning (2021) and after the completion of the reorganization of the school (2022).and

At the first stage (2020), sources devoted to professional military activities were systematized, a description and critical analysis of existing scientific directions were carried out.

At the second stage (2021), based on the research methodology, the theoretical and practical achievements of scientists and practitioners on the study of the performance of special forces personnel were analyzed, and the role of emotional parameters of the personality of military personnel on their performance of service and combat activities was determined, the research methodology corresponding to the goals and hypothesis was selected. The structure of the personality of a serviceman who has been in "hot spots" has been empirically investigated.

At the third stage (2022), the empirical part of the work was carried out to identify the relationship between the emotional parameters of the work of special forces employees and its effectiveness, the results were analyzed and conclusions and recommendations were formulated.

The method of determining the accentuations of K. Leonhard's character. The questionnaire was developed by Smishek and is aimed at studying existing personality traits, which in themselves are not yet pathological, however, under certain conditions they can develop in positive and negative directions. These features are, as it were, the sharpening of some unique, individual properties inherent in each person. The questionnaire identifies 10 main types of accentuations: hyperthymic personalities characterized by a tendency to high mood. stuck, with a tendency to delay, "stuck" affect and delusional (paranoid) reactions. pedantic, with a predominance of rigidity features, low mobility of nervous processes. anxious, with a predominance of anxiety traits. cyclothymic, with a tendency to depressive reaction. demonstrative, with hysterical character traits. excitable, with a tendency to increased impulsive reactivity in the sphere of drives. dysthymic, with a tendency to mood disorders. emotive, with high sensitivity and depth of reactions. exalted, prone to affective exaltation.

The methodology of diagnostics of the dominant strategy of psychological protection in communication. V.V. Boyko has developed a questionnaire aimed at determining the inherent personality strategy of psychological protection in communication with partners. The methodology consists of 24 questions with three possible answers. The more responses of one type or another, the more clearly the corresponding strategy is expressed; if their number is approximately the same, it means that in contact with partners, a

person actively uses different strategies to protect his subjective reality. The author identifies three main strategies.

## Results

The results obtained make it possible to justify the use of the principles of an integrated approach to the study of occupational stress in the process of organizational changes, expand scientific understanding of the features of occupational stress, the patterns of its dynamics and factors affecting its development.

Practical significance of the study. The results of the study can be used in the development of strategies and methods of working with personnel in the context of organizational changes, in the organizational and psychological design of innovative activities. The highlighted phenomena can be used in the practice of organizational consulting on the reform of organizations. The developed methodology for the study of attitudes to innovation allows for an analysis of employee satisfaction with innovations (as well as the dynamics of satisfaction), to identify the causes of negative attitudes and sources of possible resistance of personnel.

The prepared methodological complex of diagnostic tools and the proposed algorithms for multidimensional data processing can be used as an adequate tool for conducting applied research of a similar type in other areas of psychological practice.

## Discussion

Interesting are the theories of conflicts, which are based on social aspects. The main causes of tension are related to the need for members of society to comply with its social norms.

Stress can be prevented by providing members of the society with favorable conditions for development, freedom in choosing life attitudes and positions.

Also, preventive measures can include the stability of social relations, the distribution of economic benefits and services in society, interpersonal interaction in power structures. Social aspects also underlie such theories of stress as the evolutionary theory of social development of society, ecological theory (the role of social phenomena in society), the theory of life changes (in the family, at work, etc.)

One of the directions considered stress as a behavioral reaction to socio-psychological stimuli. The model of physiological stress of G. Selye was modified by B.P. Dorenwend. They approached stress as a state of the body that relies on adaptive and non-adaptive reactions. Stress factors are understood as social factors: economic or family failures, which act as objective events that disrupt (destroy) or threaten to undermine an individual's ordinary life. They are not necessarily negative and do not always lead to an objective crisis.

Attention is drawn to the cognitive theory of psychological stress by R. Lazarus, which is based on the position on the role of subjective cognitive assessment of the threat of adverse effects and its ability to overcome stress.

Each of the above theories and models of stress and many other theories have made a significant contribution to the development and understanding of this phenomenon, but each of them has its own limitations. Most of these limitations can be traced when switching from stress analysis at some one level of human functioning to a broader, informative level of analysis and understanding of the essence of stress.

Today, the word "stress" is at the peak of popularity and is being studied by a large number of scientists: psychologists, physiologists, sociologists, doctors. A number of studies prove that it causes diseases of the cardiovascular system and can even lead to the formation of cancer cells. Other they prove that such a mental shake-up can lead to neuralgia and depression. Anyway, psychologists are calling for a fight against stress.

## Conclusion

Stress is a justified reaction when it ends with a physical action, during which all the powerful energy of this state is realized. If there is no such action, then stress usually has a depressing effect on the body and (or) the psyche. Everyday, albeit small, long-term, continuous stress of life is almost always harmful. Stress is a state of mental tension, social and intrapersonal conflict of one of the parties to the negotiations, can cause a conflict in the negotiation process.

in a state of severe stress, we speak and think worse than in a normal state, which can negatively affect the negotiation process.

stress in our life often plays a negative role. It provides physical mobilization of the body, which, as a rule, is not required in difficult situations for a modern person. Life is almost a continuous solution to problems. This also applies to negotiations, since negotiations are the solution to the problem.

stress in the negotiation process can include such types of stress as acute, psychological, informational and managerial type of stress. The main factors affecting stress in the negotiation process include such factors as organizational and personal.

modern methods of stress relief – auto-training, biofeedback, rational therapy.

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