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## ERGONOMIC METHODS TO OVERCOME THE EMOTIONAL BURNOUT OF THE MODERN MANAGER IN THE SPHERE OF INFORMATION SECURITY

### ЕРГОНОМІЧНІ СПОСОБИ ПОДОЛАННЯ ЕМОЦІЙНОГО ВИГОРАННЯ СУЧАСНОГО МЕНЕДЖЕРА У СФЕРІ ІНФОРМАЦІЙНОЇ БЕЗПЕКИ

*The article defines the key aspects of overcoming emotional burnout of modern manager in the sphere of information security. A research was conducted within the framework of the outlined issues. This research was aimed at studying the emotional burnout of a modern manager. The study, which was conducted from September 2019 to January 2022, involved 204 respondents aged 24 to 59, of whom 120 were men and 84 were women. The pilot study covered managers in the field of information security in Berdiansk, Kyiv, Kryvyi Rih and Kropyvnytskyi. As part of the research, the participants were offered a system of recommendations, which included ergonomic methods to overcome emotional burnout, specific exercises and self-improvement methods. Among the recommended ergonomic methods to overcome emotional burnout among managers in the field of information security, special attention is focused on such things as: social empathy; maintenance of highly professional activities; time management; intelligent recharging; full nutrition. It was found that the implemented ergonomic methods for the preventive measures of emotional burnout and the advice provided contributed to reducing the level of emotional burnout in managers. Their condition has significantly improved. Not a single respondent was found who would not have demonstrated positive changes in emotional state. The indicators of each phase after the application of the proposed ergonomic directions and the implementation of the provided recommendations proved the positive dynamics of changes. The most significant positive changes are monitored at the level of the exhaustion phase. In terms of tension and resistance phase, the indicators have also improved. However, it is not necessary to stop there, so that managers can fully cope with emotional burnout. It has been established that if you do not neglect the recommendations developed by us, which are aimed at overcoming emotional burnout, you can improve the emotional, mental, social and physical state of the manager. All respondents who faithfully followed the ergonomic advice had positive dynamics of changes both at work and at home. The proposed ergonomic methods are focused on the formation of successful modern manager personality in the field of information security, and require further more detailed scientific researches.*

**Key words:** modern manager, the field of information security, emotional burnout, professional burnout, ergonomic methods, overcoming emotional burnout.

*У статті висвітлено ключові аспекти подолання емоційного вигорання сучасного менеджера у сфері інформаційної безпеки. У рамках окресленої проблематики було проведено дослідження, яке спрямоване на вивчення емоційного вигорання сучасного менеджера. У дослідженні, яке здійснювалося з вересня 2019 року по січень 2022 року, взяла участь 204 респонденти віком від 24 до 59 років, з них 120 чоловіків та 84 жінки. Пілотним дослідженням були охоплені менеджери у сфері інформаційної безпеки м. Бердянська, м. Києва, м. Кривого Рогу та м. Кропивницького. У рамках дослідження учасникам було*

запропоновано систему рекомендацій, яка містила ергономічні способи подолання емоційного вигорання, конкретні вправи та техніки роботи над собою. Серед рекомендованих ергономічних способів подолання емоційного вигорання у менеджерів у сфері інформаційної безпеки особливу увагу акцентовано на таких, як: соціальна емпатія; підтримання високопрофесійної діяльності; тайм-менеджмент; інтелектуальна підзарядка; повноцінне харчування. За результатами дослідження з'ясовано, що вжиті ергономічні заходи щодо профілактики та попередження емоційного вигорання та надані поради сприяли зниженню рівня емоційного вигорання в менеджерів, їх стан суттєво покращився. Це твердження стосується як жінок, так і чоловіків. Нами не виявлено таких респондентів, які б не демонстрували позитивних змін їх емоційного стану. Показники кожної фази після застосування запропонованих ергономічних напрямів та виконання наданих рекомендацій засвідчили позитивну динаміку змін. Найбільш істотні позитивні зміни відстежуються на рівні фази виснаження. За фазою напруги та резистенції показники також поліпилися, проте не варто зупинятися на досягнутому, щоб менеджери повністю впоралися з емоційним вигоранням. Встановлено, якщо не нехтувати розробленими нами рекомендаціями, які спрямовані на подолання емоційного вигорання, то можна покращити емоційний, психічний, соціальний та фізичний стан менеджера. Усі респонденти, хто не лінувався виконувати ергономічні поради, мали позитивну динаміку змін як на роботі, так й вдома. Запропоновані ергономічні способи зорієнтовані на становленні успішної особистості сучасного менеджера у сфері інформаційної безпеки, потребують подальших більш детальних наукових розвідок.

**Ключові слова:** сучасний менеджер, сфера інформаційної безпеки, емоційне вигорання, професійне вигорання, ергономічні способи, подолання емоційного вигорання.

**Formulation of the problem.** A modern information security manager spends a lot of time at work. The professional activity of a manager involves the daily performance of complex tasks that require high concentration of attention and neuro-emotional stress. Being in specific work situations that require every day to work beyond the limits of available resources causes neuropsychological overload in such specialists. In the initial stages, it manifests itself as fatigue and overfatigue. In the future, such excessive loads, constant stay in a state of stress lead to the occurrence of professional deformation, which scientists have described with the term "emotional burnout". Among the professional deformations, the transformation of behavior, feelings, sensations, memory, attention, thinking, health, etc. can be distinguished. In addition, they include changes in attitude to work, to the social environment and to one's own life.

It is known that professional burnout is only a part of emotional burnout. The leading factors that provoke burnout include a high level of personal responsibility and a perfectionist attitude towards both oneself and one's environment. In today's world, the impact of these factors on the modern manager profession in the field of information security and his/her professional duties are reinforced by the events caused by the COVID-19 pandemic and war. This requires additional mental and energy costs to relieve neuro-emotional tension, severe mental pain, consequences of war losses, etc.

Features and activity conditions are an important factor in the development of the modern manager personality. On a psychological level (thoughts), he/she is constantly within the framework of work, even when he/she is outside it. In a short period of time, the internal balance is disturbed, as the available resources are used excessively on a daily basis. As a result, professional deformation occurs. Then comes professional burnout. And then the whole spectrum of emotional burnout is revealed. In particular, difficulties in managing oneself and one's own emotions begin. This creates anger and aggression. Emotional burnout is a relentless process that develops over time.

**Analysis of recent researches and publications.** Recently, scientists note the spread among modern managers in the field of information security of such phenomenon as professional deformation. In scientific studies, it was called emotional burnout.

Many national and international researchers have devoted their works to the problem of emotional burnout, including: Ananiev B., Aronson E., Boyko V., Vodopyanova N.,

Greenberg J., Jackson S., Dyrendonk D., Eisenhower D., Ivaniki E., Ilyenko M., Karamushka L., Kovalchuk V., Lazarus R., Leonov O., Maksimenko S., Maslach K., Miroshnychenko O., Orel V., Pines E., Rubinstein S., Selye H., Sixma H., Skoryk T., Starchenkova O., Formanyuk T., Freudenberger H., Schaufeli V., and others.

The concept of "burnout" in scientific circulation is relatively new. It was introduced in 1974 by the American psychiatrist Freudenberger H.. In the same year, his book "Burnout: The High Cost of High Achievement" was published. The scientist proposed the following definition of the term: "the fading of motivation or incentive, especially where commitment to a task or relationship does not produce the desired results" [5].

Burnout reduces productivity and work efficiency. A personality during burnout spends more and more of its energy or does not feel it at all. Such a person becomes increasingly helpless, hopeless, cynical and resentful. At the final stage of burnout, a person may feel that he/she is no longer able to perform the tasks prescribed by professional activity, everyone is better than him/her, he/she cannot keep up with the daily changes.

The consequences of emotional burnout affect all areas of life of a modern manager in the information security field. They have a negative impact not only on the professional activity itself, but also on social life, interpersonal communication, etc. In addition, burnout can cause long-term changes in physical, mental, and social health. So, for example, there is vulnerability to such diseases as colds, acute respiratory viral infections, flu, allergies, etc. Considering the negative consequences of the outlined phenomenon, the manager must make significant efforts to prevent its occurrence. And if this could not be achieved, then help to overcome burnout.

Emotional burnout is a long process that drags on gradually; arises as a result of internal accumulation of negative emotions. And then this process takes the specialist out of working condition for an indefinite period, if you do not intervene, do not make attempts to help [2; 3].

Among the factors of emotional burnout, which are directly related to professional activity, the following ones stand out: the feeling that the manager is losing control over work; lack of recognition or reward for quality work; unclear, blurred, or overly demanding job expectations, etc.

Factors of emotional burnout that manifest outside of professional activity include:

- 1) the work itself, which takes too much time for interpersonal communication, rest, life in general;
- 2) lack of family or relatives, friends who would support;
- 3) too many commitments without enough help from others;
- 4) lack of hobbies;
- 5) lack of walks, sports, etc. [3; 6].

**Formulation of the purpose of the article.** The purpose of the article is to analyze ergonomic methods to overcome emotional burnout of a modern manager in the field of information security.

**Presenting of the main material.** Ergonomics is a science that comprehensively researches the peculiarities of human production in the "man-man", "man-machine" system with the aim of improving working conditions; increasing productivity and work efficiency, safety and comfort. This science appeared in the USA in the 1920s of the 20th century at the border of psychology, physiology and occupational hygiene [4].

Ergonomics studies the activities of workers with the aim of optimizing tools and the work process, providing the necessary amenities for a person. That is, it is aimed at researching and creating such conditions under which the productivity of employees increases, and the preservation of their physical, mental and social health is guaranteed. Necessary measures are also taken to prevent emotional burnout.

The concept of "ergonomics" was introduced by English scientists in 1949. Ergonomics allows you to find out a number of problems that affect stress resistance, fatigue, overwork,

pressure, emotional factors, etc. As part of ergonomics, occupational health and safety are also distinguished [4].

Occupational safety and health is a system of legal, socio-economic, organizational-technical, sanitary-hygienic and medical-prophylactic measures and means aimed at preserving the life, health and working capacity of a specialist in the process of work [4; 6].

It is in ergonomics that a person's adaptation to the surrounding conditions in the work process is considered as something that can cause emotional and professional burnout. This happens if the employee does not follow the rhythm, pace of work, aesthetics of service.

"Occupational hygiene" is a branch of hygiene that studies the impact on the human body of labor processes and the surrounding industrial environment, develops hygienic standards and measures to ensure proper working conditions and overcome occupational diseases [4].

The purpose of occupational hygiene is:

- 1) promotion and support of the highest level of physical, mental and social well-being of the employee in all types of his/her work;
- 2) prevention of reduction of labor force because of illness due to working conditions;
- 3) protection of employees in their professional activities from risks arising from factors unfavorable to health;
- 4) distribution and maintenance of workers in a production environment adapted to their physical and mental capabilities [4].

We conducted a pilot study of managers in the field of information security in Berdiansk, Kyiv, Kryvyi Rih and Kropyvnytskyi in order to overcome emotional burnout in the specified category using ergonomic methods. The study was conducted from September 2019 to January 2022. 204 respondents aged 24 to 59 took part in it, of which 120 were men and 84 were women. During the research, the participants were offered ergonomic ways to overcome emotional burnout, specific exercises and self-improvement techniques.

Effective ergonomic methods of overcoming emotional burnout among managers in the field of information security include the following:

1) *Social empathy*. This is one of the most effective methods of overcoming emotional burnout, which is aimed at preventing it from growing.

First of all, you should turn to your social circle – this is family, friends, relatives, pleasant acquaintances. Experience demonstrates: if you can see with the naked eye that the manager is "burnt out", then his/her condition has acquired enough intensity in terms of emotional stress. At this time, problems seem insurmountable, everything looks gloomy, and nothing brings pleasure. Taking constructive steps to address burnout requires effort and energy, which is already in short supply. Everyone has much more control over stress than they realize. There is a positive direction in ergonomics, which helps to cope with excessive stress and bring life back to balance [6].

Social contact is like nature's antidote to stress. One-on-one interpersonal communication with a good active listener is a "healing medicine" that helps calm the nervous system, balance the psycho-emotional state, and relieve stress.

Limiting contacts with negative people will also contribute to reducing the intensity of stress, lowering the level of personal and situational anxiety, irritability, and stress. Personal anxiety depends on conflict situations, which are accompanied by emotional and nervous breakdowns and psychosomatic diseases. For example, let's look at a corporate meeting-party with negative colleagues who do nothing but complain. If you have to work with a negative person, it is better to limit the amount of time with this person. And this will help reduce the intensity of emotional stress.

2) *Support of highly professional activities*.

For the normal functioning of managers in the process of work, the necessary conditions should be created for long-term maintenance of mental capacity at a high level. It is also necessary to prevent premature fatigue, arrange convenient work schedule, and take care of the hygiene level. The priority task of the work process should be to preserve health in order

to avoid disturbances in the functioning of the musculoskeletal system, cardiovascular and nervous systems.

The main factors in the development of fatigue are, first of all, the microclimate of the working environment (temperature, humidity, chemical composition of air, specific smell, nature of lighting, noise level, etc.).

The following factors also affect working capacity:

- state of health (lack of sleep, hunger, previous illness, onset of illness, etc.);
- specific indicators of the mental sphere (level of anxiety, attentiveness, emotionality, perception, memory, etc.) [2; 4; 6].

If you get tired and don't rest, over time fatigue sets in.

Overfatigue is a serious violation of the normal physiological functioning of the body, which indicates the onset of one or another disease.

It is an intermediate state between health and disease. If there are signs of overtiredness, a person needs to consult a family doctor, neurologist, allergist, endocrinologist, etc.

In order to properly organize working hours, it is worth using time management. You can also try your own approach or use the advice of a specialist who will help you make an effective day plan.

You need to realize that time is the fastest. The vast majority of managers have an understanding that they don't have a free minute. They do not have time to perform specific types of work and cannot find time for hobbies, leisure, starting new businesses, etc. For them it is unreal.

We suggest finding a "free moment" even in the tightest schedule. This can be done by using the method of timing and photos of the working day during the month. In this way, you can determine what time is spent on during the day, taking into account even something insignificant (shower, lunch, shopping, the way to and from work, etc.). You can also analyze inefficient or redundant use of time and thus find time for rest.

In order to determine the main tasks, the ultimate goal should be formulated. B. Franklin's pyramid will help with this. It involves defining global goals taking into account life and professional values. Among the daily tasks, you can single out those that are needed to achieve goals. They can become a priority.

Time management methods include a to-do list based on D. Eisenhower's matrix. It is necessary to place tasks for the day in squares, in particular: "Urgent and important", "Non-urgent and important", "Urgent and unimportant", "Non-urgent and unimportant".

Matters in the box "Urgent and important" are their own priorities, so they should be done first. Matters in the "Non-urgent and important" square can wait several days. Matters in the box "Urgent and unimportant" – they must be delegated or automated. Matters in the "Non-urgent and unimportant" box can be deleted from your list.

An effective way to allocate time can be to make a to-do list. With the help of this to-do list, you can control your own time so that everything can be done in time. It is formed schematically without specifying what to do every minute.

The list of daily tasks should be arranged every evening or every day, when we plan what we will do the next day. It is desirable to keep the prospective plan in sight for further motivation. You can also use mobile applications more carefully to manage your time, in particular:

- 1) An online calendar that synchronizes all the information in the mobile phone with a personal computer or laptop. It is desirable to have several calendars – both private, personal, work and family. And also plan things in each of them for a day, a month or a year.

- 2) Evernote (notes). In this application, it is convenient to create thematic notebooks, store in them links to useful information, desired preferences and ideas. When an interesting idea comes to mind, you can immediately enter it into the mobile application. It is convenient to store videos, pictures and voice messages. Text notes and links are often enough to use it.

All these applications will help you save your time and find a free moment for your pleasure.

You should not try to jump above your head every day, because overtime work provokes emotional burnout. It should not be done even if overtime work becomes part of the manager's image. The best way to save time is to divide the responsibilities at home. If there are children in the family, and both men and women work, men spend an average of 10 hours more per week at work. At the same time, they have 5 hours more free time than women. After work, women are forced to take care of their household, children, and husband. This can cause women to have poor sleep, nutrition, digestion, and increased stress. This is also confirmed by previous studies [3; 4].

Active distraction from production problems protects against emotional burnout. So you should find your own hobby, start a fun project or something interesting. It is better to try a new occupation that is significantly different from the usual work [1].

It is important to allocate time for rest, relaxation, physical and emotional relief. This can be done by using relaxation techniques such as yoga, meditation and deep breathing. The specified techniques will activate the body's relaxation reactions. Relaxation exercises provide a state of calm, which is an excellent remedy for stress reactions [6].

It is advisable to properly organize the daily routine. In particular, it is necessary to provide enough time for sleep. Sleep is the body's psychological protection. It provides inner peace and better resistance to stressors during the day. While a person sleeps, his/her bones, blood vessels, digestive system, muscles, and organs are restored after the loads and damage that a person receives during the day. If you do sports or physical work, the body heals and strengthens at night. If a person does not sleep enough, it is dangerous for him / her to do physical exercises, because the result will be the opposite – the level of injuries and diseases increases [6].

Sleep is the only activity that cannot be combined with other activities. All other types of recreation can be combined with other concerns. You can also communicate with loved ones while cooking together or on a walk. Developing a healthy sleep regime is of great importance. You should fall asleep at the same time. [6].

3) *Intelligent charging*. Physical exercises and physical activity affect the quality of high intellectual activity.

When a person is tired, he / she does not want to do physical exercises at all. In this case, rhythmic exercises will help, such as various movements of the hands, body, and legs. They are a very effective way to uplift your mood, boost your energy, focus your attention, and relax both mind and body. Some people should try running, strength training, swimming, martial arts, dancing, hiking, digging beds, planting flowers, watering the garden, etc.

In order to reduce stress as much as possible, it is advisable not to continue concentrating on situations or on your thoughts, but to focus on your body and how a person feels during movement, in particular: the feeling of the feet hitting the ground, or the wind on the skin, or rain from walking.

4) *Complete nutrition*. Proper nutrition significantly affects health, mood and energy levels throughout the day. Eating should be regular, and nutrition should be balanced. It is necessary to consume foods rich in the amino acid tryptophan, which promotes the synthesis of serotonin. Tryptophan-containing products are useful for active life. These are cheese, dairy products, and bananas. You should limit the amount of "fast" carbohydrates eaten per day; minimize the consumption of sugar, refined carbohydrates [6].

Foods high in carbohydrates (pizza, pasta, pasta, vermicelli, baked goods, etc.) that contain gluten quickly lead to a decrease in cheerfulness and energy.

Sweets, potatoes and french fries, which were consumed shortly before going to bed, will not add a cheerful mood and energy in the morning. And they can add heaviness in the stomach, abdominal pain, lethargy, etc. [4].

An increase in receptions and the number of consumed products is harmful for aggravating the state of emotional burnout. The health benefits of foods high in fat and foods with

chemical preservatives or hormones are questionable. For example, caffeine can affect your mood for a while. Then there is the appearance of irritability, tension, decreased concentration of attention, a feeling of fatigue, etc.

According to modern psychophysiologicals, it is recommended to consume more fatty acids such as Omega-3 for a favorable state of well-being and cheerful mood. Fatty fish (salmon, herring, mackerel, anchovy, sardine, capelin, etc.), fish products, as well as algae, flax seeds and walnuts are rich in Omega-3 [4].

Avoiding nicotine improves well-being, relieves anxiety and tension. Smoking, and nicotine in particular, is a powerful stimulant that increases rather than decreases anxiety levels.

Alcohol should be consumed in moderation. Alcohol also temporarily reduces the level of anxiety, but it can also cause excessive anxiety, burlesque emotionality [4].

**Conclusions.** It was found that without carrying out ergonomic trends for the prevention of emotional burnout, there is a tendency to increase the intensity of its symptoms. The developed ergonomic trends for the prevention or overcoming of emotional burnout were tested within the framework of the outlined research. Positive improvements have been demonstrated.

The pilot study results on the elimination of emotional burnout syndrome among managers proved the following. There have been significant changes in the dynamics of indicators of this syndrome. In the subjects under study, there was a tendency to decrease the factors and symptoms of emotional burnout.

As part of the study, positive changes were found in the expression of tension phases, resistance, exhaustion and their symptoms; reduction of anxiety; being cornered, etc. At the same time, the participants recorded a desire to communicate with family, friends, and find time for themselves. This testifies to the favorable dynamics of the indicator of the effectiveness of the ergonomic areas of preventive measures and prevention of emotional burnout.

It has been proven that the conducted research on the preventive measures and prevention of emotional burnout contributed to reducing the level of emotional burnout in managers, and their condition began to improve. This applies to both women and men. Not a single respondent was recorded who did not experience any favorable changes. Indicators for each phase changed for the better after the introduction of ergonomic trends. The most significant positive changes were found in the exhaustion phase. For the tension and resistance phases, the results have improved. However, it is necessary to continue working with this phase in order for managers to fully overcome professional and emotional burnout.

It was found that if you do not neglect the recommendations developed by us regarding the ergonomic trends of overcoming emotional burnout, you can improve the emotional, mental, social and physical state of the manager. Thus, the results indicate that all respondents who followed ergonomic advice had favorable dynamics both at work and at home.

In order to get rid of the accumulation of stress, you should learn to keep it out of your professional and personal life. And if this has already happened, then it is necessary to overcome it in a way developed for a specific manager.

Thus, the outlined various ways that will contribute to the formation of positive and successful personality of a modern manager in the field of information security require further more detailed scientific researches.

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