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**Результати.** В ході дослідження доведено, що ефективне часове регулювання та динаміка прийняття рішень у надзвичайних ситуаціях є важливими складовими авіаційної безпеки. Здатність керувати часом, приймати швидкі рішення та визначати пріоритетні завдання має вирішальне значення в авіаційній індустрії, яка працює в умовах високого стресу та залежить від часу. Теоретичне навчання разом з тренуваннями на симуляторі, мають важливе значення для розвитку цих навичок. Проаналізовані тематичні дослідження ілюструють вплив цих навичок на безпекову складову діяльності.

**Висновки.** Дослідження підкреслює важливість навчання, регулятивного нагляду та адаптації до нових технологій та передового досвіду, необхідність постійного навчання та розвитку, гарантуючи, що пілоти можуть приймати ефективні рішення під тиском та підтримувати безпеку.

**Ключові слова:** авіація; надзвичайні ситуації; прийняття рішень; регуляторні органи; часова регуляція.

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### EMOTIONAL BURNOUT RESEARCH AND ITS FACTORS IN PROGRAMMERS

#### Abstract

*The article analyzes the concept of emotional burnout, approaches to its study; psychological features of programmers' activities are considered; the factors causing emotional burnout among software developers are characterized; such factors of emotional burnout as overstrain at work due to excessive workload, devaluation of the essence of work, which becomes uninteresting, and emotional instability were investigated.*

**The purpose of the article** is a theoretical analysis and empirical description of emotional burnout and its factors in IT specialists.

**Methods** of analysis of systematization and generalization of theoretical material of modern scientific sources on the problem of emotional burnout in professional activity. The following methods were used in the empirical study: Burnout questionnaire by K. Maslach, Test of motivational structure by F. Herzberg, Methodology of multifactorial personality research by R. Cattell, Methodology "Index of organizational tension", Questionnaire of self-organization of activity by E. Mandrikova; methods of mathematical processing: descriptive statistics (arithmetic mean, percentages), Student's T-shaped test, Pearson's R-correlation test including regression analysis.

**The results.** It has been established that the main factors of programmer burnout are overstrain at work due to excessive workload, devaluation of the essence of work, and emotional instability.

**Conclusions:** The conducted empirical study of the psychological factors of emotional burnout among programmers made it possible to single out the main organizational, motivational and personal factors that influence the formation of the burnout syndrome and its individual symptoms. Among the methods of prevention and correction of emotional burnout, the implementation of a system of providing psychological assistance in the organization is considered the most effective; training employees in simple methods of relaxation, distraction, switching attention, autogenic training and meditation; development of employees' ability to optimally distribute the workload, take rest breaks and realize the limitations of their own resources. When conducting psychocorrection of symptoms of emotional burnout, the main focus should be on restoring the normal functioning of the emotional sphere of employees, normalizing interpersonal relationships and forming a positive attitude towards professional activity and towards oneself as a specialist.

**Keywords:** emotional burnout; motivation; organizational tension; self-organization; programmers.

**Introduction.** In recent decades, interest in the problem of emotional burnout, mechanisms of its occurrence and prevention has been growing. Emotionally saturated, intensive professional

communication, high responsibility among representatives of most professions contributes to the emergence of fatigue, nervous and mental tension, stress, exhaustion and forms protective reactions that eventually form the syndrome of emotional burnout.

Emotional burnout is interpreted as a state of physical and emotional exhaustion that occurs as a result of professional activity, which is accompanied by fatigue and stress.

The term "emotional burnout" was introduced into scientific circulation by the psychiatrist G. Freudenberger in 1974 in the work "Staff Burnout" (Freudenberger, 1974:159). He traced and described the phenomenon of fatigue and demoralization among psychiatric ward employees. And already in the 80s, large-scale studies of this phenomenon began thanks to the works of K. Maslach, S. Jackson, N. Vodopyanova, V.V. Boyka, E.S. Starchenkova, E. Perlman, B. Hartman and others.

In the International Classification of Diseases (ICD-11), emotional burnout is classified as an "occupational phenomenon" rather than a disease and is defined as a syndrome "arising from chronic stress at work, which a person cannot cope with and is characterized by three dimensions: a sense of loss energy and exhaustion, psychological detachment from work, feelings of negativity or cynicism towards one's work, as well as reduced professional effectiveness." (World Health Organization, 2023).

The World Health Organization identifies 3 main symptoms of emotional burnout:

1. exhaustion or fatigue, which cause problems with sleep and concentration, decreased immunity;
2. distance from work (intellectual and emotional) - work situations are evaluated negatively, sometimes cynically, professional motivation decreases, there is a feeling of isolation from colleagues;
3. decrease in professional efficiency, which causes the experience of one's inability and incompetence (World Health Organization, 2023).

Christina Maslach is the author of the term "burnout syndrome", which she considered as a 3-component model containing emotional exhaustion, depersonalization and reduction of personal achievements (Maslach, 2001).

According to K. Maslach's burnout syndrome model, 3 independent symptoms are formed in specialists. The first symptom - emotional exhaustion - is the result of long-term fatigue (physical and emotional), constant stress in professional activities and communication with clients or patients. An important reason for the formation of emotional exhaustion is the lack of resources for restoring one's condition, which at the time of formation of burnout have already been exhausted.

The second symptom of burnout is depersonalization, which the authors define as manifestations of cynicism and indifference to both clients and one's own professional activity. Depersonalization causes deterioration of relations with colleagues, conflicts in communication, deterioration of performance of professional duties.

Reduction of professional achievements is the third symptom of burnout, which looks like underestimation of one's own professional achievements, negative assessment of one's performance, feelings of incompetence, dissatisfaction with work (Maslach, 2017).

Like stress, emotional burnout has 3 dimensions: physiological, affective-cognitive, and behavioral. At the physiological level, it manifests itself in physical exhaustion, at the affective-cognitive level - in emotional exhaustion and depersonalization, at the behavioral level - in a decrease in productivity. According to the stress development model of B. Perlman and E. Hartman, it has 4 stages. (Perlman & Hartman, 1982).

At the first stage, there is a discrepancy between the professional activity and the individual characteristics of the employee. It can be insufficient skills and abilities of a young specialist, or the inconsistency of professional activity with his expectations or needs. As a result of these contradictions, tension and stress arise. In the second stage, the individual is aware of and experiences a state of stress, and its formation largely depends on his assessment of stress factors, his own resources and ability to cope with difficulties. At the third stage, 3 main groups of reactions to stress are manifested: physiological, affective-cognitive and behavioral. And actually the fourth stage - the consequences of stress - is emotional burnout.

Nowadays, there are more and more studies documenting emotional (professional) burnout among specialists in the "Human-Sign system" professions, specialists in the field of IT technologies.

The profession of a programmer is constantly changing due to the global technology and digitization of Ukrainian society, the continuous emergence of new knowledge and the need to form new skills and abilities in the field of software development. Unlike many other professions, programming requires constant continuous learning, mastering of innovative approaches and methods in the professional field, which makes high demands on specialists (Perlman & Hartman, 1982).

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As noted by D.J. Armstrong and co-authors, programmers must keep up with modern knowledge and the latest technologies, which requires constant updating of already formed skills, mastering new methods and tools in the field of IT technologies (Armstrong, 2016). For many professionals focused on achieving success in their professional activities, such continuous learning will cause only positive motivation and a desire to increase their own awareness and professional competence, but for other specialists, constant retraining contributes to the development of fatigue and emotional exhaustion (Shih, 2016).

The nature of the activities of IT specialists is also changing: often large projects require the involvement of a whole team of specialists who not only work with iconic systems, but also must interact effectively with each other, with customers and intermediaries. There is a problem of developing communication and management skills to increase the effectiveness of interpersonal communication, because among programmers there is a significant number of introverted personalities and individualists who have difficulties in communication.

In addition, there are so-called "toxic relationships" in companies, often provoked by experienced specialists who are condescending to young professionals, show cynicism and ridicule them for mistakes. Such an unfriendly attitude can be caused by a lack of personnel and a high demand for specialists in other companies, due to which they allow themselves to treat their colleagues incorrectly, being sure that they will not be fired.

Every year, the digitalization of society is growing and the need for specialists in the field of IT technologies is increasing. During the COVID-19 pandemic, many companies, organizations, and educational institutions were transferred to a remote form of work, which led to a sharp increase in the need for software products and technical support staff. Even now, during the war in Ukraine, the demand for specialists servicing computer equipment, system administrators, and programmers remains high. All this leads to a shortage of IT specialists in the labor market, which in turn leads to excessive workload in the field and understaffing.

Also, the work of programmers has its own specifics, which affects the formation of emotional burnout. Programming is a complex and highly intellectual work that requires concentration and long-term mental effort. The need to be fully focused on work for a long time contributes to the development of mental fatigue and a decrease in work efficiency.

Not so long ago, the term "information stress" entered the scientific lexicon - a state of mental tension due to an excessive amount of information or the complexity of its processing. The peculiarities of the programmer's professional activity contribute to the formation of information stress more than in representatives of other professions, because their work consists in constant interaction with a large amount of information. Software developers process and analyze different codes, technical documentation, work with different programming languages, which requires a lot of concentration and quick switching of attention. The work of programmers means sitting for a long time at a computer or laptop, which causes not only intellectual, but also physical fatigue, and over time - problems with vision, musculoskeletal system, posture distortion, muscle overstrain, venous insufficiency due to hypodynamia. Because of this, many companies organize special recreation areas near the workplace equipped with exercise machines, horizontal bars, or jogging tracks. Even a short break for physical activity improves the mental state of software developers due to the production of endorphins and helps to increase the efficiency of activities.

Many specialists in the field of IT do not have a stable work schedule and are involved in projects from time to time. If there are professional tasks, they can work continuously for weeks, and then have free time for the next project. If programmers work from home, they experience a deficit in social connections and interpersonal communication. For office workers, on the contrary, an unfriendly, toxic atmosphere at work can contribute to job dissatisfaction and tension.

The research of H. Fedoryshyn and Y. Boyarchuk showed that companies need to introduce certain bonuses and social packages in order to interest employees. So, the main factors in choosing an organization for programmers are salary, self-development and professional growth, a positive atmosphere in the team, and working conditions. Extraordinary tasks and a flexible work schedule were also important (Fedoryshyn & Boyarchuk, 2019).

Among the social package options, programmers value sick pay, sports programs, incentives for years of work, insurance for relatives, informal meetings, additional vacations more. Bonuses were also described that attract new employees and keep existing employees. Among them are a flexible work schedule, recreation areas, learning foreign languages, a gym, advanced training courses, and consultations with a full-time psychologist.

So, the features of the professional activity of programmers that can contribute to the development of emotional burnout syndrome include:

1. the need for continuous training and updating of existing skills and abilities;
2. the need to develop and improve interpersonal communication, which can cause difficulties for introverted individuals;
3. excessive overload due to shortage of personnel and understaffing;
4. toxic relationships in the team, which can lead to a decrease in motivation for professional activity and job satisfaction;
5. complex intellectual activity that requires long-term concentration, the urgency of tasks and is accompanied by the absence of a stable work schedule;
6. constant sitting at the computer, which causes health problems and physical fatigue;
7. constant interaction and processing of a large amount of information, which leads to the development of information stress.

The analysis of scientific studies of the causes of emotional burnout and the mechanisms of its development showed that the monotony of work, its tension, emotionally saturated, often negative communication with clients or colleagues contribute to the emergence of this condition. Insufficient material reward, underestimation of work by colleagues and management are also among the factors of emotional burnout.

When analyzing the factors of burnout, according to many researchers, personal and organizational factors turned out to be the most important. B. Perlman and E. Hartman described the following determinants of burnout in social professions: personal, role and organizational (Pines & Aronson, 1981:229).

Individual and psychological factors in the formation of emotional burnout are a tendency to compassion, idealism, dreaminess. The study of emotional burnout in representatives of the "People-to-people" professions showed that there are a number of personal traits that contribute to its development, among them anxiety, stress, restraint, indecision, conformity, conservatism, etc. Introverts are more prone to emotional burnout, so they need to limit communication and stress on the emotional sphere as a whole.

Among the causes of emotional burnout, researchers call organizational factors one of the most important. So, according to K. Maslach, burnout syndrome develops in response to long-term situations of professional activity that require significant emotional costs. Among the organizational factors that can contribute to the development of emotional burnout are poor, strained relationships in the team, ineffective management, unfair remuneration for work performed, lack of professional growth (both career and professional development). According to K. Cherniss, it is the management of the organization that is responsible for the development of emotional burnout among employees, because it depends on the well-thought-out organization of the workplace, the even distribution of the load on all employees, a fair system of rewards, etc. Also among the causes of emotional burnout are the feeling of injustice, the experience of social insecurity, the dependence of specialists on clients (patients) and management.

The relationship between emotional burnout of programmers and loyalty to the organization was analyzed by E.Chernyakevich. In general, loyalty to the organization is influenced by the value and moral orientations of employees, their career preferences, positive results of their own activities, and support from management. An inverse relationship between the level of emotional burnout and a positive attitude to professional activity was established, and as attachment to the organization increases, the level of exhaustion and depersonalization among employees decreases.

As a result of the correlation analysis E.Chernyakevich established inverse relationships between indicators of emotional burnout and involvement in activities. Therefore, when emotional burnout is formed, the level of employee involvement in the field of activity and commitment to the organization decreases significantly, perseverance in solving problems, inspiration and pride in one's work decreases. In our opinion, the obtained data can be interpreted in a different way: emotional burnout is formed more quickly in employees who are less involved in professional activities and have a low level of loyalty to the organization (Chernyakevich, 2022:2015).

In the study of I.Zabari shows the dependence of programmers' emotional burnout on their value attitude towards their profession. In the group of programmers who highly value their profession, a high level of emotional detachment, selective emotional response and experiencing psycho-traumatic circumstances was diagnosed. According to the author, under the pressure of negative external circumstances, professionals develop a psychological defense that forces them to seek more comfortable emotional contacts (friends, family, colleagues) and avoid those persons who cause tension and negative emotions.

It has been established that in the phase of exhaustion programmers develop indifference, alienation and avoidance of unpleasant and conflicting spheres of activity. On the other hand, good relationships with friends and family, satisfaction with one's material condition, understanding of the prestige of one's profession and one's authority among colleagues prevent the formation of emotional burnout. Personal traits that contribute to the formation of emotional burnout among programmers have also been identified: insecurity, guilt, anxiety, and withdrawal.

Research by O.Muravyova and K.Kozlova showed that programmers have the most pronounced component of reduction of professional achievements, in contrast to representatives of "helping" professions, in which emotional exhaustion dominates. Moreover, indicators of emotional burnout do not depend on age and experience, which is confirmed by correlation analysis.

O.Andryushchenko and E.Bekhtev emphasize the increasing level of stress and burnout among programmers during remote work in connection with the COVID-19 pandemic. In their opinion, working from home has its advantages and disadvantages. It is noted that even before the pandemic, some large organizations implemented various options for remote work, using mainly online communication with employees. This allows each employee to develop a convenient, flexible work schedule, better concentration, and comfortable working conditions (Andryushchenko & Bekhteva, 2022).

According to Gallup polls, before the COVID-19 pandemic, the level of emotional burnout among remote workers was significantly lower than during the pandemic. According to scientists, it is the forced work at a distance, the complete cessation of face-to-face communication, that forms emotional burnout in IT specialists. At the same time, specialists with less work experience burn out faster when working remotely. They experience a feeling of loneliness and isolation from the team, it is difficult for them to combine household chores with work (Hickman & Wiger, 2020). In addition, when working remotely, interpersonal relationships between company employees are disrupted: it is difficult to maintain and form new interpersonal relationships through online communication. The factors of emotional burnout of IT professionals working remotely include excessive workload, blurring of the border between work and home, personal and working time, the need to be constantly in touch, and a decrease in free time (Andryushchenko & Bekhteva, 2022). Also, during the pandemic, the demand for digitization of various organizations and enterprises that switched to a remote format, including educational institutions, increased significantly, which increased the need for software products and IT specialists. Next, we will try to prove these assumptions in the process of empirical research.

**Methods and methods of research.** An empirical study of the psychological factors of emotional burnout of programmers was conducted on a sample of 57 programmers, employees of the Elogic Commerce company, all male, aged 23 to 48 years, average age 29.6 years, experience from 3 to 27 years, average experience 8 years using such psychodiagnostic methods: Burnout questionnaire by K. Maslach, Test of motivational structure by F. Herzberg, Methodology of multifactorial personality research by R. Cattell, Methodology "Index of organizational tension" (modification by L.Karamushka, K.Tereshchenko), Questionnaire of self-organization of activities (OSD) E. Mandrikova.

**Research results.** Diagnostics of the level of emotional burnout showed that the burnout syndrome was formed in 27% of respondents, at an average level - in 50%. The most pronounced scale is the reduction of professional achievements: its high level is diagnosed in 36% of programmers, the least - depersonalization or cynicism - only 14% of employees have a high level. Emotional exhaustion at a high level is expressed in 30% of respondents.

It was found that financial (56%) and social recognition motives (46%) were the most important among hygiene motives, and 42% of programmers had a high level of team cooperation and a positive working atmosphere. Among the motivational factors, the most important for programmers were career growth (46%), the essence of work (40%) and personal success (39%). The "Responsibility" scale is the least pronounced - a high level was diagnosed only in 26% of programmers, a low level - in 30%.

Diagnostics of the personal traits of programmers established that they are characterized by a high level of intellectual abilities, self-control, and emotional stability. Quite high indicators of independence, courage, radicalism and self-esteem were also obtained, which can become an obstacle to collective cooperation. On the other hand, a low level of such traits as sensitivity and dreaminess indicates the predominance of practicality, which can contribute to professional activity, but create obstacles in interpersonal relationships. The analysis of indicators of organizational tension showed that the most pronounced among programmers is the tension of personnel in "vertical" and "horizontal" interaction (33% of employees were diagnosed with a high level). In second place, programmers had 2 indicators: tension regarding the workload and the level of staff awareness, as well as tension regarding changes in the order of promotion and staff participation in the management of the organization.

According to the Questionnaire of the self-organization of E. According to Mandrikova, most programmers are diagnosed with an average and high level of self-organization. Plannedness and persistence are most pronounced (a high level is diagnosed in 33% and 32%, respectively), but some respondents received low scores on the above scales: 28% have a low level of planning, 26% have a low level of persistence, which can significantly complicate their work and hinder the implementation of their goals tasks Purposefulness and self-organization are expressed at a high level by 30% of programmers, at a low level by 23% and 21%, respectively.

**Discussion.** Prerequisites for emotional burnout of programmers, according to scientific research, are the conditions of their activity (both psychological and organizational) and the specifics of the profession, which lead to job dissatisfaction, a sense of hopelessness, and psycho-emotional stress. Unfulfilled motivations for creative self-realization, dissatisfaction with professional activity, insufficient material reward, etc., can become an important factor in emotional burnout.

Among the prerequisites of emotional burnout of programmers, the motivation of professional activity occupies an important place, namely, the failure to realize significant motives in the work, which depend on self-realization, job satisfaction, and the creative direction of specialists.

Scientific works quite often emphasize the importance of professional motivation of programmers in order to increase their efficiency and success and to reduce staff turnover in the organization. Researchers and managers agree that highly motivated professionals work better, perform tasks faster and more efficiently. In addition, it is economically more profitable to retain a highly qualified specialist than to look for a new one, which requires time and significant resources. Also, the activity of programmers requires both intellectual mobilization and high internal motivation for the successful creation of a new product, which shows the importance of motivational factors.

Distinguish material and immaterial motivation, internal and external in the field of IT technologies. Salary and various bonuses are considered as material motivation (as an example, a percentage of the organization's profit in addition to salary). Medical insurance, additional days off, advanced training at the expense of the company, the opportunity to attend conferences and seminars, flexible work schedule, foreign internship, etc. are indicated as non-material compensation.

The internal motivation of programmers includes such factors as self-development and self-improvement, the motive for achieving success and self-realization, personal and professional growth. External motivation are factors that contribute to the success of the professional activity of specialists. These include career growth, a positive attitude from colleagues and management, recognition of the authority of a specialist, and a favorable psychological climate in the team.

During the pandemic and hostilities in Ukraine, the presence of a generator in offices, assistance in organizing the workplace at home, uninterrupted Internet began to be attributed to external motivators. Also important is the stability of the organization, which does not cut jobs, but tries to keep each employee and support those who need it in difficult times

According to specialists in the field of IT technologies, in addition to a high salary, an important motivational factor is the opportunity to constantly learn and develop, a creative approach to tasks, the significance of the developed product for society and a sense of one's own value as an employee. Continuous development, recognition of their merits, and a positive psychological climate were important for beginner programmers. Bad management and negative relations in the organization demotivate. With an increase in seniority and work experience (middle), the above motivators are joined by the possibility of career growth, leadership and mentoring. Participation in uninteresting projects and imperfect management reduce professional motivation. Experienced specialists in the field of IT technologies attach great importance to the stability of the organization, the social significance of projects, and the professional planning of the work of the development team. Unrealistic deadlines, ill-conceived or unstable projects, bad management, low salary demotivate. Employees of all levels highly value feedback on their activities from management and customers, the opportunity to learn and apply new technologies, as well as team motivation.

The study of the motives of the professional activity of programmers showed that the motive for achieving success in the professional sphere is the first, the need for creative activity, the constant increase in the complexity of tasks, and interesting extraordinary projects are the second. Specialists feel the need for continuous training and development of professional skills and abilities, seek recognition from colleagues and society as a whole. Effective communication with management and customers, as well as with the team of project developers, was ranked third in terms of importance. Programmers note the importance of effective interaction between developers and customers, they want to clearly

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understand the goals of the project and ways of its further implementation, to receive feedback about the developed product.

Researchers also emphasize the need for communication as one of the most important motivational factors in the professional activity of programmers. Communication is considered in both professional and informal contexts, emphasizing its importance for successful team performance. First, effective communication facilitates learning and gaining valuable experience from colleagues, which occurs through informal communication in forums, blogs and groups on the Internet. Such communication helps to keep track of novelties in the IT sphere, which appear literally every day. Secondly, effective communication between the customer, management and the development team creates conditions for a correct understanding of the task, helps to make corrections and identify inadequate solutions in time, creates an atmosphere of mutual understanding and trust. On the other hand, ineffective and unprofessional management is one of the most demotivating factors according to programmers. And thirdly, thanks to effective interpersonal communication with colleagues, the need for friendly relations, acceptance, feeling of being a part of the team is satisfied, which increases group motivation and satisfaction with work as a whole.

Among the factors of emotional burnout, inefficient self-organization of professional activities, which causes problems with time shortage, inability to distinguish priority tasks, set goals, and plan one's own activities are highlighted.

With effective self-organization, a person directs his thoughts, actions, and resources to achieve goals and perform tasks efficiently. Self-organization is manifested in activity, effective planning, purposefulness, ability to make decisions and take responsibility for them, critical evaluation of results. In addition, high self-organization of activities promotes the flexibility and adaptability of a specialist, helps to allocate resources and time, which in turn prevents overwork and emotional burnout. Research has shown a close connection between self-organization and stress resistance, which directly affects an individual's ability to effectively interact with both his internal resources and the environment.

Therefore, the analysis of the features of the professional activity of programmers and the factors of their emotional burnout allows us to single out the following factors that play an important role in the formation of the syndrome of emotional burnout in programmers: organizational, motivational, personal and operational. Low professional motivation, tension in the organization, personality traits of specialists that make communication difficult, insufficient self-organization of professional activities, which leads to the accumulation of urgent matters and stress, will contribute to the formation of emotional burnout. Correlation analysis showed significant relationships between emotional burnout and its symptoms with indicators of organizational tension, which indicates the very important role of the organization itself and the ability of managers to effectively interact with programmers and provide them with comfortable working conditions in the formation of burnout syndrome. Also, all indicators of self-organization of activity, except for the fixation scale, are inversely related to emotional burnout and its symptoms. It was established that the level of satisfaction of programmers with various motivational aspects of professional activity is inversely related to emotional burnout. Among the personal traits that contribute to emotional burnout are introversion (factor A), emotional instability (factor C), tendency to feel guilty (factor O) and internal tension (factor Q4).

Regression analysis made it possible to establish the main psychological factors of burnout syndrome and its individual symptoms. Emotional burnout depends on 3 main factors: overstrain at work due to excessive workload, devaluation of the essence of work, which becomes uninteresting, and emotional instability. And the most significant contribution to the development of emotional burnout of programmers is made by excessive workload.

Emotional exhaustion occurs in those programmers who are very overloaded with work tasks, negatively evaluate the atmosphere in the team, feel strong tension in the organization in which they work, are emotionally unstable, have a low level of development of self-organization skills of their own activities, and are constantly worried. We can see that the biggest contributors to emotional exhaustion are excessive workload and poor team relations.

The main factors in the formation of the symptom of depersonalization in programmers: a decrease in the importance of the essence of work, suspicion, internal tension and low moral normativity. Therefore, in the emergence of depersonalization, in addition to the devaluation of work, the personal traits of programmers play an important role.

In the formation of the reduction of professional achievements, important factors are problems in career growth, a tendency to self-blame, and the absence or low assessment of one's own personal success

at work. All these factors contribute to the development of dissatisfaction with oneself as a professional, a negative assessment of one's competence and productivity.

Organizational, motivational, personal and operational factors play an important role in the formation of emotional burnout syndrome among programmers. Low professional motivation, tension in the organization, personality traits of specialists that make communication difficult, insufficient self-organization of professional activities, which leads to the accumulation of urgent matters and stress, will contribute to the formation of emotional burnout.

Diagnostics of the level of emotional burnout showed that the burnout syndrome was formed in 27% of respondents, at an average level - in 50%. The most pronounced scale is the reduction of professional achievements: its high level is diagnosed in 36% of programmers, the least - depersonalization or cynicism - only 14% of employees have a high level. Emotional exhaustion at a high level is expressed in 30% of respondents.

With the help of correlation analysis, it was established that emotional burnout develops faster in programmers who experience strong organizational tension, have low indicators of self-organization of activities, are dissatisfied with various motivational aspects of professional activity (career growth, personal success, relationships in the team, funding). Insularity (factor A), emotional instability (factor C), tendency to feel guilty (factor O) and internal tension (factor Q4) contribute to emotional burnout.

The main psychological factors of the burnout syndrome in programmers are overstrain at work due to excessive workload, devaluation of the essence of work, which becomes uninteresting, and emotional instability. And the most significant contribution to the development of emotional burnout of programmers is made by excessive workload.

**Conclusions.** Emotional (professional) burnout is interpreted as a state of physical and emotional exhaustion that occurs as a result of professional activity, which is accompanied by fatigue and stress. Among the features of the professional activity of programmers, which can contribute to the formation of burnout syndrome, there are long-term intellectual stress that requires concentration of attention; excessive overload due to shortage of personnel; the need for continuous training and updating of existing skills and abilities; urgency of tasks; constant sitting at the computer, which causes health problems and physical fatigue; processing a large amount of information, which leads to the development of information stress.

Organizational, motivational, personal and operational factors play an important role in the formation of emotional burnout syndrome among programmers. Low professional motivation, tension in the organization, personality traits of specialists that make communication difficult, insufficient self-organization of professional activities, which leads to the accumulation of urgent matters and stress, will contribute to the formation of emotional burnout.

Diagnostics of the level of emotional burnout showed that emotional burnout develops faster in programmers who experience strong organizational tension, have low indicators of self-organization of activities, are dissatisfied with various motivational aspects of professional activity (career growth, personal success, team relations, funding).

The main psychological factors of the burnout syndrome in programmers are overstrain at work due to excessive workload, devaluation of the essence of work, which becomes uninteresting, and emotional instability. And the most significant contribution to the development of emotional burnout of programmers is made by excessive workload.

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## ДОСЛІДЖЕННЯ ЕМОЦІЙНОГО ВИГОРАННЯ ТА ЙОГО ЧИННИКІВ У ПРОГРАМІСТІВ

### Резюме

У статті проаналізовано поняття емоційного вигорання, підходи до його вивчення; розглянуто психологічні особливості діяльності програмістів; охарактеризовано фактори виникнення емоційного вигорання у розробників програмного забезпечення; досліджені такі чинники емоційного вигорання як – перенапруження на роботі через надмірне навантаження, знецінення сутності роботи, яка стає нецікавою та емоційна нестабільність.

**Мета** статті полягає в теоретичному аналізі та емпіричному описі емоційного вигорання та його чинників у фахівців IT-сфери.

**Методи** аналізу систематизації та узагальнення теоретичного матеріалу сучасних наукових джерел з проблеми емоційного вигорання у професійній діяльності. У емпіричному

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дослідженні застосовані такі методики: Опитувальник вигорання К. Маслач, Тест мотиваційної структури Ф. Герцберга, Методика багатофакторного дослідження особистості Р. Кеттелла, Методика «Індекс організаційної напруженості», Опитувальник самоорганізації діяльності Е.Мандрикової; методи математичної обробки: описові статистики (середнє арифметичне, відсотки), *t*-критерій Стьюдента, критерій кореляції *r* Пірсона, регресійний аналіз.

**Результати.** Встановлено, що основними чинниками вигорання програмістів є перенапруження на роботі через надмірне навантаження, знецінення сутності роботи та емоційна нестабільність.

**Висновки:** Проведене емпіричне дослідження психологічних чинників емоційного вигорання у програмістів дозволило виокремити основні організаційні, мотиваційні та особистісні фактори, що впливають на формування синдрому вигорання та його окремих симптомів. Серед методів профілактики та корекції емоційного вигорання найефективнішими вважаються впровадження системи надання психологічної допомоги в організації; навчання співробітників простим методикам релаксації, відволікання, переключення уваги, аутогенному тренуванню та медитаціям; розвиток вміння співробітників оптимально розподіляти навантаження, робити перерви на відпочинок та усвідомлювати обмеженість власних ресурсів. При проведенні психокорекції симптомів емоційного вигорання основна увага має бути спрямована на відновлення нормального функціонування емоційної сфери працівників, нормалізацію міжособистісних стосунків та формування позитивного ставлення до професійної діяльності та до себе як фахівця.

**Ключові слова:** емоційне вигорання; мотивація; організаційна напруженість; самоорганізація; програмісти.

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О. Дацун

### РОЗВИТОК МУЗИЧНИХ ЗДІБНОСТЕЙ У ДІТЕЙ В УМОВАХ ЗАКЛАДІВ ПОЗАШКІЛЬНОЇ ОСВІТИ

#### Резюме

У статті розглядаються деякі аспекти розвитку музичних здібностей у дітей в умовах позашкільної освіти. Особливості організації гурткової роботи закладів позашкільної освіти, специфіка комунікації між вихованцями та викладачами, між дітьми, особливості мотивації до навчання є важливими чинниками, що впливають на процес розвитку музичних здібностей у дітей. **Мета дослідження:** проаналізувати нормативну базу, що регламентує організацію навчально-виховного процесу в музичних гуртках закладів позашкільної освіти, визначити основні соціально-психологічні чинники розвитку музичних здібностей у дітей в умовах навчання в закладах позашкільної освіти. Для вирішення поставлених завдань використовувались наступні **методи дослідження:** аналіз наукової літератури; аналіз нормативної бази; теоретичне моделювання, спостереження. **Результати:** На основі дослідження нормативно-правової бази стосовно організації навчально-виховного процесу в закладах позашкільної освіти, навчальних програм музичних гуртків, аналізу особливостей комунікації між викладачами та учнями, визначено, що організація навчально-виховного процесу в умовах закладів позашкільної освіти забезпечують оптимальні умови для розвитку музичних здібностей дитини.

**Висновки:** розвиток музичних здібностей у дітей залежить від особливостей організації навчально-виховного процесу в багатопрофільних закладах позашкільної освіти, який має свої особливості. Процес комунікації між викладачами та учнями є більш відкритим і виконує не тільки навчальну, а й значну виховну функцію. Особливості мотивації до навчання музиці у дітей в гуртках базується на їх інтересі до виконавської музичної діяльності, позитивних стосунках з однолітками та викладачами і позитивно підкріплюється гнучкістю навчального процесу в умовах позашкільної освіти.