

**UDC:61.613.6.027**

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**ASSESSMENT OF THE IMPACT OF THE PSYCHOLOGICAL  
BURDEN OF PRIMARY SCHOOL TEACHERS**

***Annotation.*** A quantitative assessment of the psychological burden on primary school teachers is given and its connection with the formation of mental and physical fatigue is established. The authors consider it advisable to use this method to monitor working conditions in professions characterized by high mental stress in order to regulate psychological stress and reduce their negative impact on performance.

***Keywords:*** psychological stress, monitoring of working conditions, efficiency.

**УДК:61.613.6.027**

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## **ОЦЕНКА ВОЗДЕЙСТВИЯ ПСИХОЛОГИЧЕСКОЙ НАГРУЗКИ НА УЧИТЕЛЕЙ НАЧАЛЬНЫХ ШКОЛ**

*Аннотация.* Дана количественная оценка психологической нагрузки на учителей начальных классов и установлена ее связь с формированием умственного и физического утомления. Авторы считают целесообразным использовать этот метод для мониторинга условий труда на профессиях, характеризующихся высоким умственным напряжением, с целью регулирования психологического напряжения и снижения его негативного влияния на производительность.

**Ключевые слова:** *психологический стресс, мониторинг условий труда, эффективность.*

**Introduction.** In occupational medicine, the opinion has been established that the preservation of professional longevity of workers in the digital economy is possible with a synchronous assessment of the intensity of mental work and the severity of the negative impact of a complex of industrial stress factors affecting their mental and physical health. An advanced area of research is the search and approbation of quantitative criteria of mental workload, accompanied by monitoring of the working capacity and functional state of specialists [1]. The factors of the labor process that have the properties of psychophysiological effects on the human body, in accordance with the existing classification, include physical and neuropsychiatric stress. The latter include

mental stress, stress of analyzers, including those caused by information load, monotony of work, emotional stress. It is proved that the long-term influence of neuropsychiatric stress in the course of work creates a state of tension and overstrain, contributes to the development of occupational stress and work-related diseases [4, 5]. At the same time, each type of activity has its own characteristics, characterized by the combined and united influence of the above factors on the human body, which fully applies to the professional activity of a school teacher [5]. The introduction of the state program of informatization of education opens up wide opportunities for access to information educational resources and technologies in the organization of the educational process, checking the level of knowledge, developing the creative personality of each child, expands the possibilities of teacher self-education, thanks to the exchange of experience between teachers in the application of innovative technologies and techniques. At the same time, the information load aggravates the traditional psychosocial stress factors of a teacher's professional activity - high personal responsibility, mental stress, psycho-emotional tension, lack of time, intense, monotonous and overtime work, interpersonal conflicts, mobbing [6].

**Methods of research work** is to substantiate the use of quantitative assessment of the information load, taking into account the totality of its characterizing parameters (importance, complexity, etc.) as a method of monitoring working conditions in groups with a neuropsychiatric nature of professional activity. 35 primary school teachers from one of the state educational institutions in Tashkent took part in the study. The professional group was represented by women aged 25 to 60 years, among whom 60% of teachers with more than 20 years of experience in the profession. The anonymous survey of the subjects was conducted using a specially developed questionnaire "Comprehensive assessment of factors affecting the health of knowledge workers", which contained open and closed questions concerning

the subjective assessment of working conditions and health status. The assessment of the mental workload (MWL) of teachers was carried out on the basis of subjective assessments of respondents using tables and scales of MWL levels in accordance with the methodological recommendations (MR) "Information as a hygienic factor and principles of prevention for innovative work" [7]. The scale used from the MR to assess MWL reflects a person's attitude to information, including: readiness to receive information, assessment of its importance, complexity and emotional coloring. At the same time, the five levels of each of the listed categories of information are evaluated in points in the range from 1 to 10. The result of the assessment is the product of all levels of MWL in points ( $MWLR \times MWLI \times MWLE \times MWLC$ ), where: • MWLR – readiness to receive information, • MWLI – importance of information, • MWLE – emotional assessment, • MWLC – complexity of information. The minimum ML score according to the level scale corresponds to 1 point, and the maximum possible number of points can be 100 points.

**Results.** The assessment of the impact of mental stress on the performance of teachers was carried out using a package of standard questionnaires: "Differentiated assessment of performance" (DAOP), "Assessment of acute mental fatigue", "Assessment of acute physical fatigue" and "Degree of chronic fatigue". The DAOP questionnaire (adaptation by A.B.Leonova) allows us to assess the severity of the components of a person's functional state by indices – fatigue (IF), monotony (IM), satiety (IS) and stress (IST) using the appropriate "keys". At the same time, the assessment of the severity of the studied component is determined by the index value in points: less than 18 points – not expressed; from 18 to 29 points – expressed; more than 30 points – strongly expressed. According to the developers, DAOP is proposed to be used in the preparation of comprehensive recommendations for optimizing the work of specialists in various fields. 122 The questionnaire "Assessment of

acute mental fatigue" is designed to assess the degree of mental fatigue that develops during one working day in persons whose work is related to the processing of information flows. Together with the data from the questionnaire "Assessment of acute physical fatigue", this technique makes it possible to more fully characterize the syndrome of acute fatigue developing in representatives of mass professions. Both tests include 18 statements, in relation to each of which the subject can give one of three possible answers: agree (answer "yes"), disagree (answer "no"), not sure of a clear choice (answer "yes – no"). The answers received for each item are translated into a three-point evaluation scale. Based on the estimates obtained, general indicators are calculated – the index of mental fatigue (IMF) and the index of physical fatigue (IPF), the values of which can vary from 0 to 36 points, the higher the value, the more pronounced the degree of mental (physical) fatigue. The interpretation of data on the severity of fatigue is based on the following grades of IMF (IPF): less than 10 points – no signs of fatigue; from 10 to 16 points – mild fatigue; from 16 to 28 points – moderate fatigue and more than 28 points – severe fatigue. The "Degree of chronic fatigue" technique is designed to diagnose preclinical degrees of chronic fatigue, presented in the form of a questionnaire that includes 36 detailed statements corresponding to the most typical appearance of chronic fatigue in various spheres of life. To assess the presence of signs of chronic fatigue, the subject can use three possible answers: "I agree with the statement" (the answer is "yes"); "I disagree" (the answer is "no"); "I am not sure of a clear choice" (the answer is "yes – no"). The answers received are translated into a 3-point evaluation scale. The evaluation indicator of the methodology is the chronic fatigue index (CHFI), which is calculated as the sum of points for all points in the questionnaire. To make a diagnostic judgment on the degree of chronic fatigue, the following gradations are used: CHFI score is 48 points – the transition to the field of pathological conditions (asthenic syndrome). The survey was conducted in the morning, we did not set time limits for responses,

on average it took about 30-50 minutes for the subjects. As a result of the analysis of the research materials, it was found that the nature of the activities of more than 70% of teachers requires constant interaction with a PC to work with various types of information (text, numerical, graphical). At the same time, more than a third (36%) have this time of 6 hours or more. 94% of the survey participants consider heavy workload, high responsibility and work intensity to be the main problem in their workplace. Fatigue at the end of the working day is often experienced by 56%, while 28% of teachers associate their discomfort with prolonged computer work and attention strain, 64% – with high nervous and emotional stress, 72% - with high information and mental workload. In the general structure of teachers' health complaints, 8% are complaints of general weakness and fatigue, 6% each of frequent headaches, memory impairment, forgetfulness, and decreased ability to concentrate for a long time. According to subjective estimates, more than half of the respondents, the importance and complexity of the information they have to work with is of moderate severity. The emotional assessment of the information load in all cases was "positive" and "neutral". Quantitative values of teachers' mental workload, calculated using a scale of levels (MWLR x MWLI x MWLE x MWLC), were determined in the range from 6 to 120 points. Based on the fact that the maximum possible number of points for a negative scenario can be 10,000, teachers' MWL can be attributed to a lower-than-average level. The analysis of the results of the test survey indicates a moderate degree of severity of the performance indices – IF, IM, IS and IST; a mild degree of mental and physical fatigue and an initial degree of chronic fatigue. Consequently, even a low level of mental (informational) workload of teachers leads to a decrease in their performance and is accompanied by mental, physical and initial degree of chronic fatigue.

**Table 1**

**Psychodiagnostics of primary school teachers' performance indicators**

Performance indicators	M±m, ball
Differential assessment of performance	
The "Fatigue" index	22,3±0,99
The "Monotony" index	18,1±0,57
Index "Enlightenment"	17,7±1,08
The "Stress" index	19,1±0,68
Assessment of acute mental fatigue	
The index of mental fatigue (IMF)	12,8±1,16
Assessment of acute physical fatigue (AAPF)	
Assessment of physical fatigue (APF)	12,6±1,48
Assessment of the degree of chronic fatigue (DCHF)	
Chronic Fatigue Index (CHFI)	20,8±2,26

**Conclusion.** Our research confirms the active use of computer technologies by teachers, which determines their involvement in the information flows that are developing in modern civilization and are constantly increasing due to the introduction of various electronic devices into all spheres of life. Even the information load, which is not very high (below average) according to subjective estimates, combined with such factors of the labor process as heavy workload, high responsibility and work intensity, contributes to the feeling of fatigue among most teachers. Moreover, most teachers associate the uncomfortable conditions they experience at the end of the working day with a high information and mental load. Psychodiagnostics conducted using a package of standard test questionnaires showed that even a not very high level of information load against the background of the nervous and emotional nature of work leads to a decrease in performance and the appearance of signs of chronic fatigue. Thus, the quantitative assessment of information loads can serve as another factor indicating the level of mental stress and can be used to monitor working conditions and to develop recommendations for optimizing work activities.

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