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Research of Teachers' Occupational Health by Means of Digital Technologies

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Keywords: Teachers, Teacher's Health, Occupational Health, Stress Resistance, Pedagogic Consulting, Digital Technologies.

Abstract: The article is devoted to the problem of studying the teachers' state of occupational health and finding ways of its preservation and strengthening under the conditions of quarantine, caused by a coronavirus infection. To study the general state of teachers' occupational health, we used Google Forms questionnaire, which had been developed by the authors of the research. The questionnaire included defining the characteristics of teachers' motivation to engage in healthy activities, the study of the internal picture of occupational health, and their emotional well-being at school before and during the quarantine. The focus of the research was the analysis of the main psychological indicators of occupational health (emotional well-being, occupational stress resistance, satisfaction from teaching), considering the length of working in a school, type of school, gender. The results of the study of teachers' occupational health and its comprehensive analysis served as the basis for determining the content and form of providing them with consulting services. The study presents functions, directions, and the program of the Center of Pedagogical Consulting to preserve and strengthen teachers' occupational health, identify the opportunities to use digital technologies in the implementing of pedagogical consulting under quarantine restrictions, associated with the COVID-19 pandemic.

1 INTRODUCTION

Occupational health of a teacher is an important factor in the success of pedagogical activities, their creative self-realization, and safe constructive interaction in the educational process. The state of health of students also largely depends on the state of teachers' occupational health. Psychogenic maladaptation, didactogenia, psychosomatic disorders of students' health are very often the result of poor occupational teachers' health. And without a proper culture of occu-

pational health, teacher will not be able to form a culture of health of their students. Need to improve the quality of education, reformation of general secondary education, implementation of the concept of the New Ukrainian School, the concept of development of pedagogical education in Ukraine, digitalization of education increase the burden on teachers, at the same time set new tasks for a teacher. New working conditions during distance and blended learning due to a pandemic (Bobyliiev and Vihrova, 2021), insufficient skills in organizing distance learning using modern digital technologies add up to this. These problems are stressors that negatively affect teachers, worsen their psychological well-being, and occupational health (Velykodna and Frankova, 2021).

Occupational health of a particular teacher depends on their attitude towards it. It has been proven that teacher's awareness of the value of occupational health ensures the formation of their believes about

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the need to purposefully preserve and strengthen their own health through adherence to the principles of a healthy lifestyle (Meshko and Meshko, 2019). Irresponsible treatment of one's health leads to its deterioration, emotional exhaustion, reduced efficiency and accelerates occupational aging. An important condition for ensuring occupational health of a teacher is a high level of motivation to carry out healthy activities, emotional hardening of the body, prevention of excessive stress (distress). Therefore, teachers must have reasonable strategies for occupational health. Such aspects have not yet been properly reflected in the psychological and pedagogical literature and are insufficiently studied. Today we need to study preventive measures, ways to preserve and strengthen occupational health of teachers and increase the level of their stress resistance. This is especially true at the time when "the world is experiencing an unprecedented global health crisis – COVID-19 is spreading human suffering, destabilizing the global economy and radically changing lives of billions of people around the world" (UN, 2020a). Quarantine measures due to coronavirus infection cause deterioration in the mental health of people, including teachers, increasing the level of their anxiety. If the coronavirus affects the human psyche, the matter is not only in the manifestations of disease but in the atmosphere of anxiety created by the pandemic. To date, there is no accurate official data on the number of people suffering from various types of situational depressive disorders.

According to Bondar (Bondar, 2020), during the pandemic, about 80% of adult Ukrainians suffer from depressive disorders. Therefore, today the attention of world organizations is focused on the mental health of children and adults during the pandemic and the mass forced use of distance learning technologies in the context of ensuring both the right to education and the right to health (UN, 2020b). World Health Organization, together with partners, provides instructions and guidance to people on maintaining mental health during the COVID-19 pandemic.

All this raises the issue of psychological assistance to teachers, preventive and psycho-corrective measures to preserve and strengthen occupational health remotely, support their personal and professional growth. To address the outlined issues, it is important to monitor the state of occupational health of teachers, study the features of their internal picture of occupational health, the requests of teachers in the context of healthy activities. These data and their thorough analysis are necessary to determine the content and form of consulting services, develop a system of training sessions, workshops for personal and professional growth of teachers, increase their stress

resistance, master smart strategies for occupational health.

In today's COVID-19 environment, it is important and necessary to use digital technologies that allow both teacher's occupational health to be monitored remotely and to help restore, preserve, and strengthen it. Therefore, the purpose of the study is to examine the state of teachers' occupational health, the features of their internal picture of occupational health by digital technology to determine the content and form of providing them with consulting services.

2 METHODS

In the research, occupational health is interpreted as an integral characteristic of the functional state of the body, the global mental state of the individual, which is characterized by dynamic harmony of internal experiences and related efficiency and success of teaching, the ability to resist negative factors accompanying this activity.

The study is based on the principles of orthobiosis of the individual, which means a person's mental health, a healthy lifestyle. A healthy, intelligent lifestyle is the self-organization of an individual's life on the principles of ecology, optimism, and positive activity (Makarova and Gakh, 2005, p. 93).

In the study, we focused on maintaining and strengthening mental health of a teacher, because it is a system-forming component of health and all its aspects. Mental health reflects the state of the intellectual and emotional sphere of teacher, his general mental comfort and provides an adequate behavioral response. Mental health lays the foundation for its higher-level - psychological health, which is the ability to fully develop, to be the subject of their own lives. Psychological health is associated with resistance to stress, harmony, and spirituality of the individual makes the individual self-sufficient. Its core is the subjectivity of the individual, characterized by an understanding of himself and others, the ability to set life priorities, direct activity responding their own needs and interests, conscious and a responsible attitude to their lives and future.

The study is based on the statements of psychosomatics (Malkina-Pykh, 2005) and psychoenergetics (Boyko, 2008) that by caring about one's mental health, one is concerned about one's physical health, solving psychological problems and getting rid of many physical ailments, achieving emotional well-being, and creating a good mood – and improves physical well-being.

The crucial role in maintaining and strengthening

health belongs to the person himself, his way of life, values, attitudes, and subjective attitude to his own health (Batsyleva et al., 2018, p. 39). In scientific literature, the terms “subjective concept of health” and “internal picture of health” are used to characterize the subjective attitude to one’s own health. The concept of “perception of health” dominates in the scientific literature.

In the context of our study, the concept of the subjective concept of health is important for a comprehensive description of a person’s perception of their health. This concept covers the types of attitudes towards health, assessment of the condition, and efforts aimed at its preservation, strengthening development, and implementation (Savchyn, 2019, p. 190). The attitude to occupational health is manifested in the actions and deeds of teachers, their experiences, and judgments about the factors that affect their physical and psychological well-being. Attitudes towards occupational health can be conscious or unconscious, responsible or irresponsible, adequate or inadequate, value-based. Savchyn (Savchyn, 2019) singles out the following strategies of a person’s attitude to his health: 1) the strategy of constant subjective and objective control of the state of health; 2) health strategy; 3) strategy for strengthening and developing health; 4) strategy of timely full-fledged rehabilitation and restoration of health; 5) strategy for implementation, use and testing of health; 6) strategy of pathological attitude to health (Savchyn, 2019, pp. 144-145). These strategies concern not only general health of a person, its individual components, but also occupational health.

In health psychology, the internal picture of health is interpreted as a special attitude of an individual to their health, which is expressed in the awareness of its value and active-positive efforts to improve it (Nikiforov, 2006, p. 437). Ananyev (Ananyev, 1998) defined the internal picture of occupational health as self-awareness and self-knowledge of a person himself/herself in terms of health. The internal picture of occupational health reflects the individual’s perception of health in general and their own health in particular. These concepts are interrelated.

An effective way to protect against occupational stress is to increase the level of occupational stress resistance of teachers, which determines the ability to withstand stress, negative factors of pedagogical activities, stressful situations, overcome occupational difficulties without harm to health and activities, find their own resources in difficult conditions (Meshko and Meshko, 2019, p. 60). Increasing the level of occupational stress resistance of a teacher is associated with the search for resources that help

them overcome the negative effects of stressful situations. The effectiveness of counteracting occupational stress is determined by several personal characteristics, among them a decisive role belongs to the motivational sphere of teaching. From the perspective of our study, it is important to say that active coping with stressful situations in combination with the positive use of social contacts increases the stress resistance of a teacher (Nikiforov, 2006, p. 231). Increasing the stress resistance of teachers contributes to mastering the skills of constructive conflict resolution; formation of stress protection strategy; learning methods and techniques of self-regulation; formation of sanogenic thinking.

One of the main conditions for the formation of psychological stability is autopsychological competence, which is manifested in high mobilization, readiness, and ability to maximize volitional stress, the ability to actively suppress negative emotions, maintain self-control and endurance in any situation (Stepnova, 2017, p. 117). Autopsychological competence is a personal neoplasm that triggers the mechanisms of self-regulation, self-control, etc. The development of autopsychological competence makes it possible to actively influence functional states and thus increase the ability to withstand stress and improve performance. Therefore, a necessary prerequisite for maintaining and strengthening occupational health is the development of the autopsychological competence of a teacher, the focus on self-development, personal and professional growth. These occupational health provisions became the substantive basis for the study.

The Digital Competence Framework for Educators (DigCompEdu), which covers 22 digital competencies, served as a methodological guideline for organizing and conducting research using digital technologies (Brolpito, 2018). These competencies are the basis for the organization of distance education with distance learning technologies. Besides, in the study, we relied on the guidelines of the Ministry of Education and Science of Ukraine on the organization of distance learning and the use of digital technologies in educational institutions (thedigital.gov.ua, 2020; mon-covid19.info, 2020; Vuorikari et al., 2016), took into account international experience on this issue in the EU (www.osvita.org.ua, 2020).

The analysis of normative documents (MON, 2021, 2013; Sakalo, 2020; uiite.kpi.ua, 2000) gives grounds to claim that digital technologies of distance education can be used to improve the skills of teachers, provide them with educational services and psychological support. These technologies are already

in use both in the European and Ukrainian universities to provide psychological support to teachers and improve their skills in the application of these technologies in distance education. There is also the practice of using team building by teachers, school counselors, social workers, psychologists to improve the well-being of students through socio-emotional learning (SEL), which is possible through the training of teams of specialists in schools, counseling and special events for them (Balch et al., 2021).

As far as the main psychological indicators of teachers' occupational health are emotional well-being, occupational stress resistance, and satisfaction with teaching, they have been the focus of our research. The research used a questionnaire developed by us to study general state of occupational health of teachers, as well as observations and conversations with teachers (novpoltava, 2020). The survey revealed the degree of awareness of teachers' occupational health, the depth, and characteristics of their motivation to carry out health activities, the study of the internal picture of occupational health, as well as the state of their emotional well-being at school. The survey was conducted using a questionnaire via Google Forms. Teachers from Ternopil, Poltava and Kharkiv regions (Ukraine) took part in the survey anonymously and voluntarily.

The questionnaire, developed by us, contains 12 questions, which provides answers to each of them in two aspects – before quarantine and during the quarantine. The first question is aimed at teachers' self-assessment of their general health; the second is to identify the peculiarities of the attitude to one's health; third, finding out how educators address health issues. The second block of the questionnaire covers 4 questions, which are aimed at identifying the following aspects: 1) what emotional state (mood) prevails among teachers at school; 2) whether they feel psycho-emotional stress at school; 3) how easy it is for them to control their emotions, to control themselves in situations of professional interaction, including during distance learning; 4) whether teachers have techniques for relieving emotional stress. The following block of questions of the questionnaire is aimed at finding out: 1) whether teachers have the opportunity to receive timely psychological assistance in solving their personal problems; 2) whether the state of their health affects the productivity of professional activity; 3) whether they are satisfied with their professional activity; 4) whether teachers need psychological help to maintain and strengthen occupational health. This section of the questionnaire provides questions for tracking the relationship between teachers' well-being and distance learning, identifying the

impact of the use of digital technology on the psychological well-being and occupational health of teachers.

The survey let us make the identification of gender differences in occupational health of teachers, differences in the health of teachers with different lengths of service, as well as teachers of rural and urban schools, which is also important for determining the content of consulting services, the content of correctional and preventive programs under the conditions of activity of the Center of pedagogical consulting, and under the conditions of quarantine.

3 RESULTS

322 teachers took part in the survey, in particular, 202 teachers (62.7%) of urban schools and 120 (37.3%) of rural schools. 90% of respondents are women, 10% are men. Experience of 20 surveyed teachers (6.2%) up to 3 years; 52 (16.2%) – from 3 to 10 years; 114 (35.4%) – 10–20 years; the rest – 136 (42.2%) have been working at school for more than 20 years.

The results of the study allow us to characterize general state of teachers' occupational health. We determine some indicators of teachers' health. It is possible to trace the attitudes of teachers to their health and to analyze the dynamics of basic psychological indicators of teachers' occupational health (emotional well-being, occupational stress, occupational satisfaction), taking into account gender, type of school, and work experience.

When answering the first question of the questionnaire "Assess general state of your health", the majority of teachers (50.7%) chose the answer "good". The "excellent" option was chosen by 25.4% of respondents; 18.3% of teachers chose the "satisfactory" option; 5.6% of teachers rated their health as unsatisfactory. Teachers assessed their health during the quarantine in a slightly different way. The number of teachers who assessed their health as satisfactory increased 2.5 times (to 45.6%). Quarantine has greatly influenced teachers' assessment of their own health. This can be explained both by the influence of distance learning and by increasing the level of anxiety during the quarantine, the disease of some teachers on COVID-19. Researchers have found that COVID-19 can affect patients' mental health. Patients who have relapsed with COVID-19 are more likely to suffer from a post-traumatic stress disorder and obsessive-compulsive disorder. In addition, patients with coronavirus are more likely to experience symptoms such as anxiety and insomnia (new-s.com.ua, 2020; NAMSU, 2020). A comparative analysis of the

indicators of the state of occupational teachers' health in urban and rural schools revealed differences in their assessment of their own health (figure 1, 2).

In particular, teachers of rural schools rated their health before the quarantine higher (the option "excellent" and "good" was recorded in 81.3% of responses. For teachers of urban schools, this percentage is 73.1%. During the quarantine, these figures decreased by 23% of teachers in rural schools and 28.3% – in urban schools.

The quarantine has made more changes in women's teachers' assessment of their own health. In particular, the number of female teachers who rated their health as "excellent" decreased by 17.5%, and the number of women who rated their health as "good" decreased by 9.5%. It is worth pointing that a significant part of male teachers assessed their health as "unsatisfactory" (18.8% before the quarantine and 16.7% during the quarantine), and as "satisfactory" (12.5% before the quarantine and 41.7% after the quarantine).

The study revealed differences in the health status of teachers with different teaching experience. It has been found that the longer the teaching experience, the worse occupational health of teachers. In particular, the deterioration of health indicators is observed in those whose work experience in school exceeds 10 years, a sharp deterioration – after 20 years of school-work. A negative state of quarantine was recorded in 10.2% of teachers with more than 20 years of experience.

Teachers' answers to the second question of the questionnaire "How do you feel about your health?" allowed us to determine trends in the change of teachers' attitudes to their health during the quarantine.

The percentage of teachers who chose the answer "my health worries me on a case-by-case basis (illness, preventive examination, medical commission, etc.)" has tripled. The number of educators who are concerned about their health even when they are feeling well has increased. During the quarantine, significantly more respondents (49.7%) (before the quarantine – 35.4%) strive to maintain their own health at the appropriate level. This indicates both greater attention to their health and increased levels of anxiety during the pandemic, which only forced teachers to pay attention to their health. A prolonged pandemic can help shape the need and develop the habit of taking care of their health under any circumstances.

To identify the specifics of healthy activities, the questionnaire provides the question "How do you solve your health problems?". The results of the survey show that before the quarantine, 32.9% of teachers solved their health problems on their own, and

61.5% of respondents sought medical help. During quarantine, the number of respondents seeking medical help increased to 87.1%. They are driven by fear of coronavirus infection, the severity of the disease, and the complexity of its treatment, the possibility of health complications.

The results of the study give grounds to state the strengthening of negative trends in the psychological well-being of teachers during the quarantine. Respondents' answers to the questionnaire "What emotional state (mood) prevails in school?" (figure 3, 4).

Before the quarantine, only 4.5% of school teachers had an unstable, often negative mood. Respondents with a depressive, negative attitude to the quarantine were not identified, while 6.7% of surveyed teachers during the quarantine at school are dominated by a negative, depressive state. It is worth noting that 24% of teachers believe that during the quarantine they are in school with a predominance of unstable, often negative mood. The number of teachers who assessed their mood as stable, positive, and energetic significantly decreased (from 66.2% to 21.8%) during the quarantine. Before the quarantine, both urban and rural school teachers were dominated by a positive mood (the total response rate was "stable, positive, vigorous" and "unstable, often positive" – 95.2% and 95.5%, respectively). Somewhat different results were found during quarantine: the depressive, negative mood was found in 31.1% of urban teachers and 30.1% of rural school teachers. The use of digital technologies has a more negative effect on the well-being of most teachers in rural schools, both in the quarantine and after it. During the quarantine, psychological well-being deteriorated significantly for teachers of all ages, the largest share among teachers with up to three years of experience (10% are in a negatively depressive state, 20% – in an unstable, often negative state) and with more than 20 years of experience (6% are in a negative, depressive state, 33.3% – unstable, often negative state). During the quarantine, negative tendencies in the emotional state of both male and female teachers intensify. Therefore, prevention of negative attitudes and special work on psychological support of teachers is needed. In this context, the presence in Ukraine of the community "Psychological Support", which arose during the pandemic and operates in the Viber messenger within the "Coronavirus_info". But today, this practice of support, as our study shows, is not enough for teachers as representatives of a very stressful profession. Teachers note the presence of disorders in their own emotional sphere (tension, difficulties in managing their emotions). Previously acquired knowledge and skills of self-regulation of emotional states

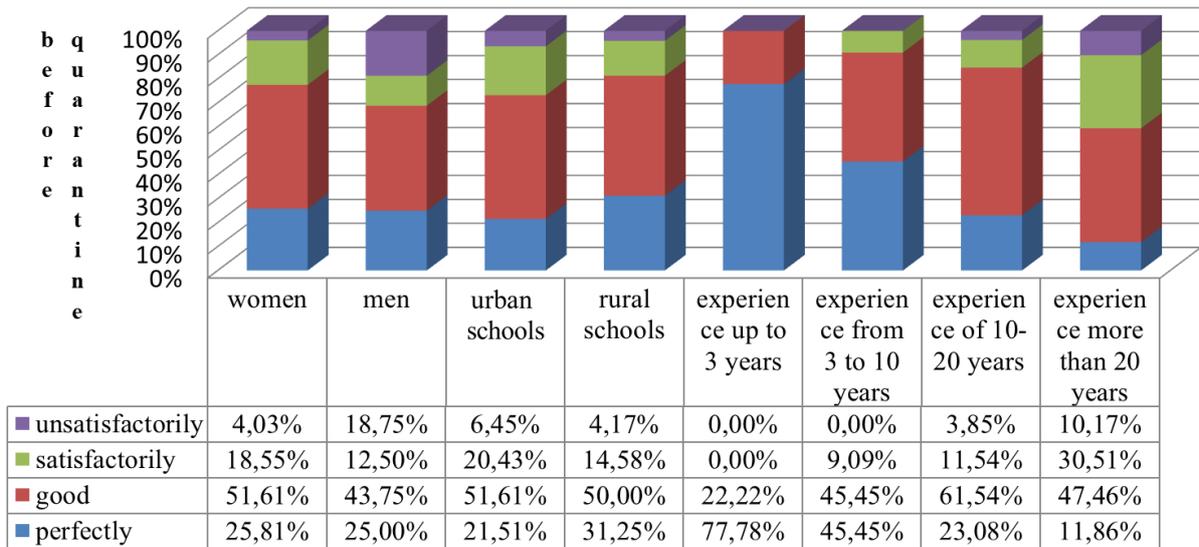


Figure 1: The indicators of the state of occupational teachers' health before quarantine.

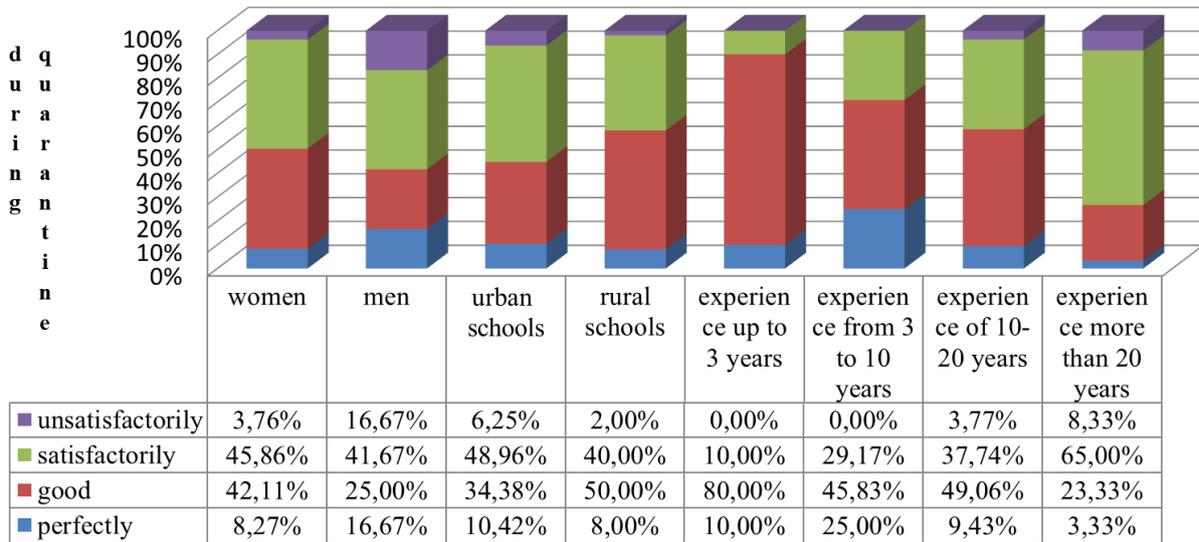


Figure 2: The indicators of the state of occupational teachers' health during quarantine.

in the current pandemic was not enough. So, psycho-emotional stress from work at school before the quarantine (5.8% of respondents chose the answer “yes”; more than tripled (up to 18.6%) the number of such teachers during quarantine). The number of respondents (from 21.2% before the quarantine to 46.9% during the quarantine) who chose the answer “rather “yes” than “no” to the questionnaire “Do you feel psycho-emotional stress from working in school?”.

Teachers also noted problems in managing their emotions, self-regulation in the situations of professional interaction, in particular, during distance learning. The number of respondents significantly increased (by 34.2%), who answered the questionnaire

“How easy is it for you to control your emotions in situations of professional interaction, including during distance learning?” chose the answer “I encounter some difficulties” in managing emotions, self-control; the number of those who chose the answer “difficult, I encounter significant difficulties” increased by 8%.

In the context of providing counseling help, determining the content of consulting services, teachers' answers to the questionnaire “Do you know how to relieve emotional stress?” (figure 5, 6).

During the quarantine, the total number of teachers who gave an affirmative answer to this question decreased from 34.5% to 13.3%. During the quarantine, the indicators of rural school teachers deteriorated

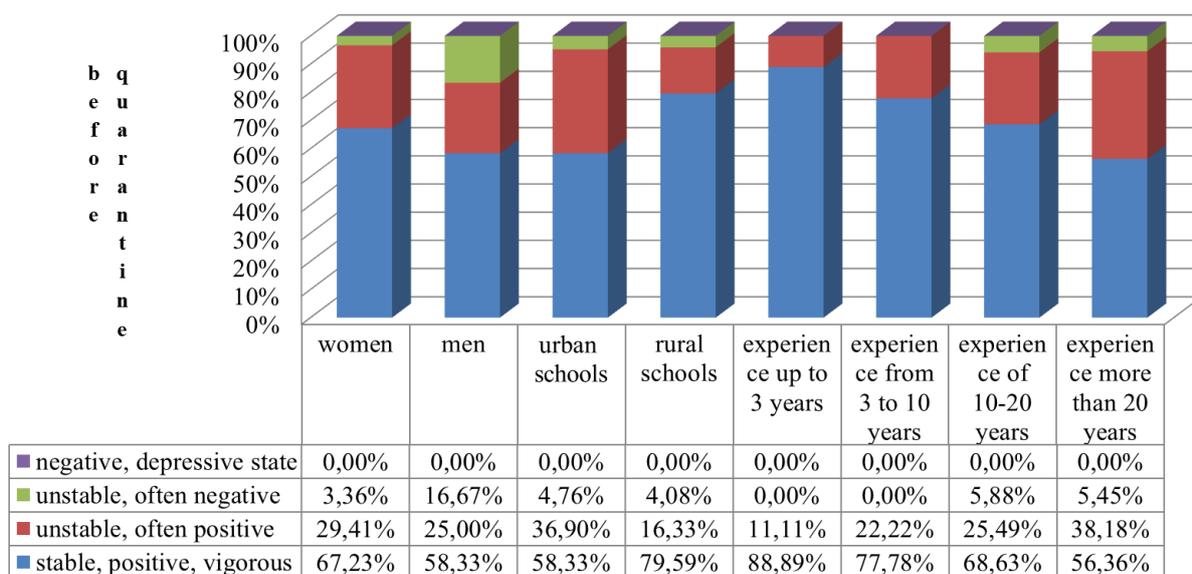


Figure 3: Respondents' answers to the questionnaire "What emotional state (mood) prevails in school?" before quarantine.

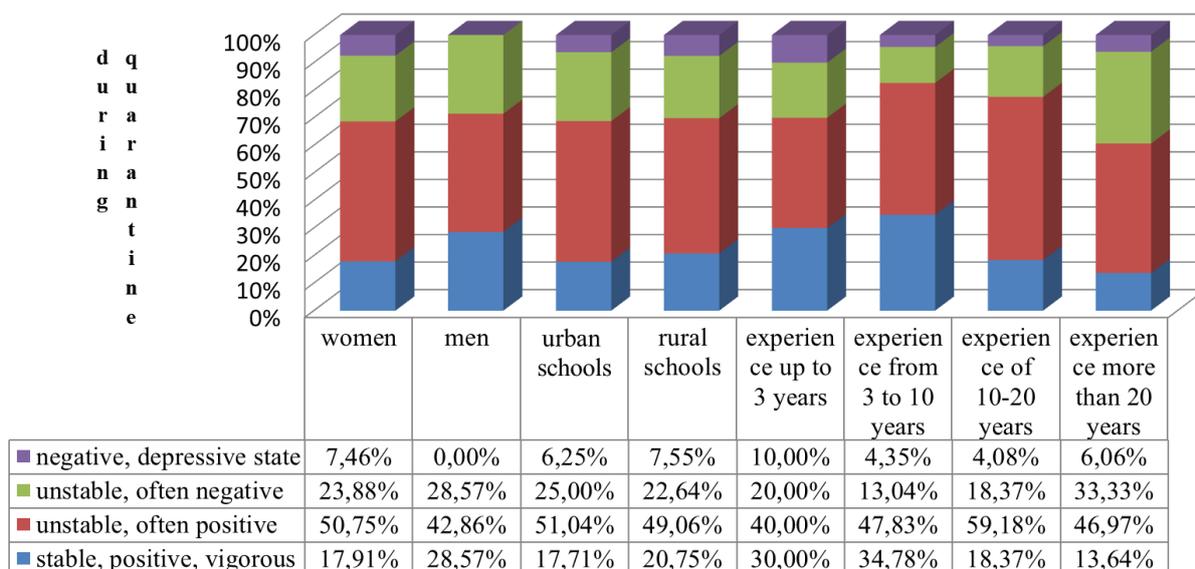


Figure 4: Respondents' answers to the questionnaire "What emotional state (mood) prevails in school?" during quarantine.

rated even more (from 44.2% to 29.5% the number of respondents decreased, who have techniques for self-regulation of emotional state). The answers of female and male teachers to this question can be interpreted ambiguously: during the quarantine, the number of female teachers who have techniques for relieving emotional stress has significantly decreased (from 37.5% to 13.7%). Both before the quarantine and during the quarantine, we recorded the same number of male teachers who have techniques for relieving emotional stress, (15.38%). The share of such teachers, who chose the answer "yes" rather than "no" during

quarantine, decreased by 8%). Before the quarantine, every fourth teacher with up to three years of working experience did not have the techniques to relieve emotional stress. During the quarantine, the most problems in mastering the techniques of self-regulation were found with teachers who have up to ten years of experience – such as 27.3%. 45.5% of teachers chose the answer "no" sooner than "yes" with work experience of up to three years experience, 36.7% – work experience of 10–20 years, 28.8% – work experience of over 20 years. Increasing emotional stress during a pandemic is caused not only by the coron-

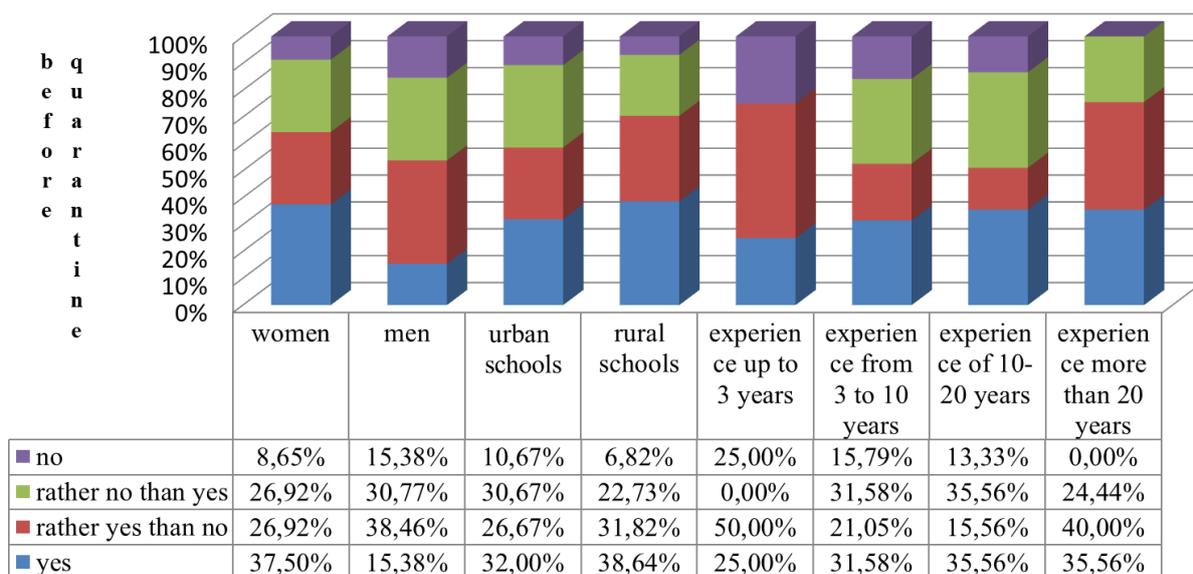


Figure 5: Respondents' answers to the questionnaire "Do you know how to relieve emotional stress?".

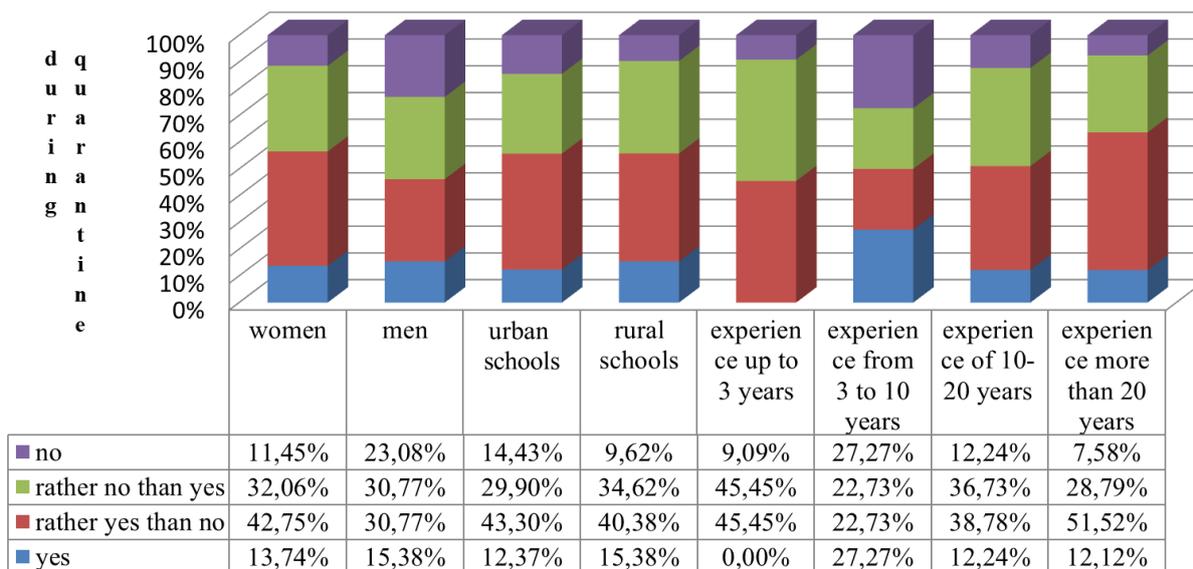


Figure 6: Respondents' answers to the questionnaire "Do you know how to relieve emotional stress?" during quarantine.

avirus pandemic, but also by the new working conditions of teachers in the distance and blended learning, the need to master digital technologies in a short time, and unwillingness to act in changed conditions.

Not all teachers have the opportunity to receive timely psychological assistance (figure 7, 8).

Answering the question of the questionnaire "Do you have the opportunity to receive timely psychological assistance in solving personal and professional problems?", 9.4% of teachers chose the option "no", and 39.8% – "rather no than yes".

During the quarantine, the emphasis shifted some-

what: the number of respondents who have the opportunity to receive psychological assistance decreased. Interestingly, teachers of urban (52.5%) and rural schools (44%) both before quarantine and during the quarantine are not able to receive psychological assistance in solving personal and professional problems. The explanation for this is: many teachers of rural schools are looking for other ways to solve personal and professional problems, more stress-resistant, they have formed a position of "self-psychotherapist". This was evidenced by the results of interviews with teachers and the observation of their professional ac-

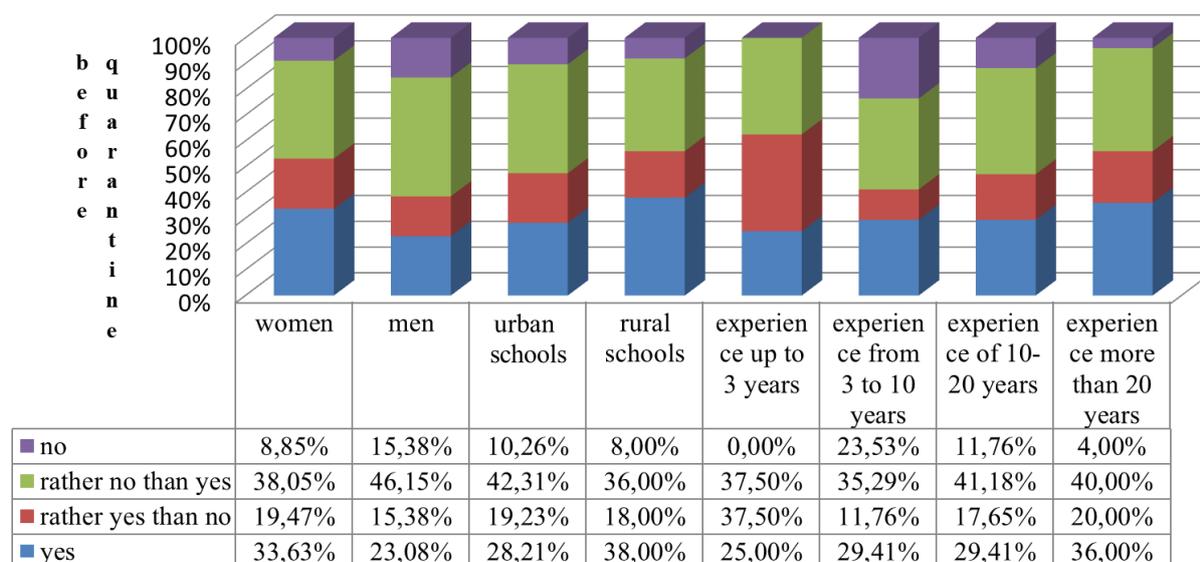


Figure 7: Respondents' answers to the questionnaire "Do you have the opportunity to receive timely psychological assistance?" before quarantine.

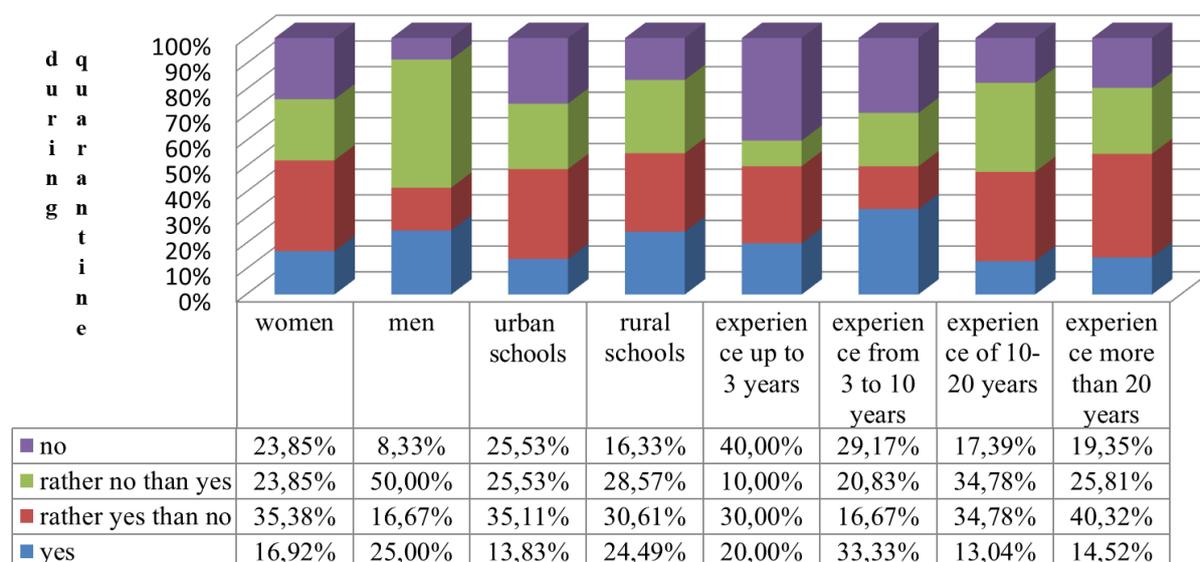


Figure 8: Respondents' answers to the questionnaire "Do you have the opportunity to receive timely psychological assistance?" during quarantine.

tivities. The presented results will encourage the shift of emphasis in consulting activities, the definition of its new facets (aspects). During the quarantine, more psychological help is needed, but female teachers are not able to receive it (their number increased from 8.9% to 23.9%). The same applies to teachers whose school experience is from 3 to 10 years (23.5% of respondents). Among the surveyed teachers who work at school for up to three years, there are no those who are not able to receive the quarantine for psychological assistance; during the quarantine, their share in-

creased to 40%. This indicates an increasing need for psychological help and professional counseling. The school psychological service does not pay enough attention to maintaining and strengthening the professional health of teachers. Its focus is on working with students and their psychological support in the educational process. A special center for professional psychological and pedagogical support for teachers is needed.

Analysis of the answers to the following question of the questionnaire "Does the use of digital technolo-

gies in the learning process affect your psychological well-being and health" revealed the following: during the quarantine, the number of teachers increased (from 19.5% to 49.3%) almost three times who estimate their psychological well-being more negatively than positively affected by the use of digital technologies in the learning process. Both before and after the quarantine, the use of digital technologies has a more negative effect on the well-being of rural school teachers. This is because of the unwillingness of many teachers to distance and blended learning, the uncertainty of requirements, low digital competence of some teachers, lack of access to quality Internet. In this context, the course, "Effective Google solutions for Education for cloud interaction", developed by Google Ukraine with the support of the Ministry of Education and Science of Ukraine for teachers of general secondary education, is relevant (MON, 2020; Academy of Digital Development, 2020).

The state of health, according to many teachers, hinders their productive professional activity: the answer "yes" was chosen by 13.4% of teachers; "rather yes" than "no" – 17.5%; "Rather "no" than "yes" – 32.5%); "no" – 36.5%). During the quarantine, these indicators did not change for the better, in particular, the number of teachers whose health hinders productive professional activity increased by 2.2%; by 14.2% – the number of respondents whose health mostly hinders productive teaching (answer option "rather yes, than no"). This means that the limitations of quarantine and the new burdens caused by it affect the way of life that previously allowed teachers to work productively. Lack of training, closure of fitness clubs, restrictions on health and recreation, the prohibition of mass events, sports events, lack of new positive experiences, etc. affect the health of teachers, their satisfaction with their professional activities. We need a new model of life during a pandemic, which would help us learn the new rules of a healthy (smart) lifestyle.

The results of teachers' answers to the questionnaire "Are you satisfied with your professional activity?" are extremely important (figure 9, 10).

During the quarantine, the number of respondents satisfied with their professional activities decreased from 78% to 26.4%; the number of those who are partially satisfied increased from 21.2% to 68.1%, and those who were dissatisfied with professional activity – from 0.8% to 5.6%. Those who are dissatisfied with professional activities and partially dissatisfied with pedagogical activities in this category were not identified for the quarantine among teachers of urban schools – 22.5%. Among rural school teachers, – 1.9% were dissatisfied with their professional

activities, and 19.2% – chose the "partially satisfied" answer. During the quarantine, the number of rural teachers increased almost fourfold, and the number of urban school teachers who were completely or partially dissatisfied with their professional activities tripled. This situation can be explained by the uncertainty and complexity of a teacher in the quarantine, unwillingness to use digital technology in the educational process, and distance and blended learning. It is worth noting that the number of dissatisfied with professional activities to the quarantine was found much higher among male teachers than among female teachers, namely: 41.7% chose the option "partially dissatisfied" with quarantine, and during the quarantine from 0% to 15.4% increased the number of male teachers who are dissatisfied with the teaching. During the quarantine, the number of female teachers who are dissatisfied or partially dissatisfied with their professional activities increased (a total of 74.5%). Negative tendencies in the satisfaction with professional activity of teachers of different age categories during the quarantine are revealed: before the quarantine, teachers who are dissatisfied with pedagogical activity are not revealed; after the quarantine, their share is – 10% (work experience up to 3 years), 50% (work experience – 3–10 years), 31.1% (work experience – 10–20 years), 17.5% (work experience – more than 20 years).

During the quarantine, the number of teachers who need psychological help in terms of maintaining and strengthening occupational health has increased (figure 11, 12).

The answer "yes" before the quarantine was chosen by 3.1%, after the quarantine – 11.2% of respondents, the answer "yes" or "no" before the quarantine was chosen by 12.2% after the quarantine – 28.7% of respondents. Before the quarantine, 12.8% of female teachers and 21.4% of the male teachers needed assistance in terms of healthcare. Somewhat different indicators were found during quarantine: 42% of female teachers and 25% of male teachers need such psychological help. A significant percentage of teachers with different teaching experience who gave an affirmative answer to the question of the need for psychological assistance in maintaining occupational health: 50% (work experience up to 3 years), 38% (work experience from 3 to 10 years), 26.6% (work experience from 10 to 20 years), 46% (work experience more than 20 years). It is much more difficult for rural teachers to get direct, immediate psychological help, digital technologies can be useful here. In this perspective, a large field of activity of the Center of Pedagogical Consulting, whose activities should be aimed at identifying teachers' occupational health problems

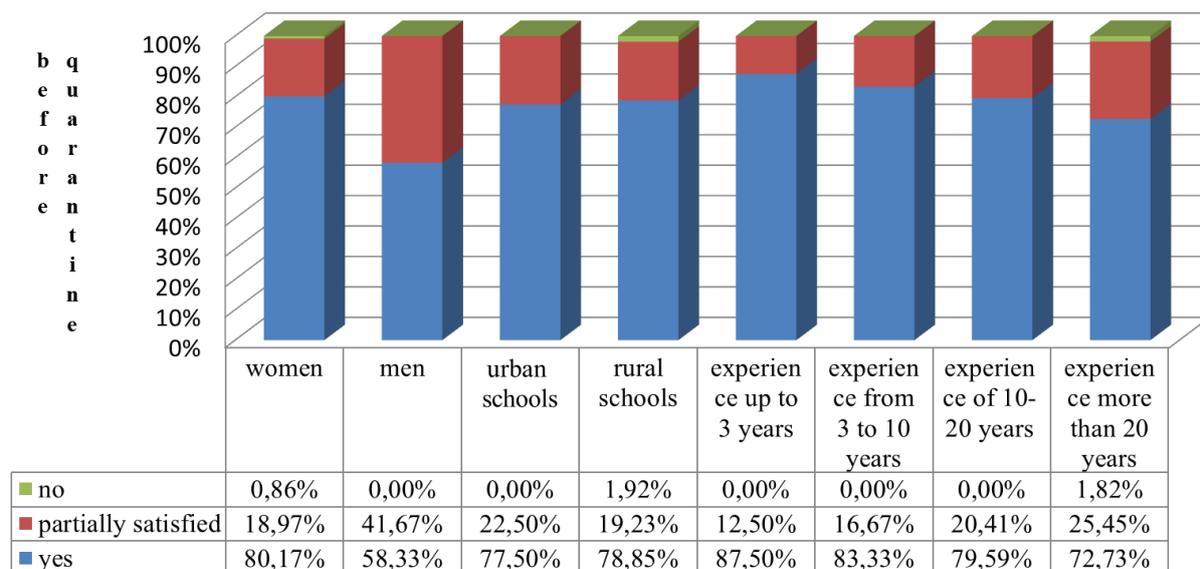


Figure 9: Respondents' answers to the questionnaire "Are you satisfied with your professional activity?" before quarantine.

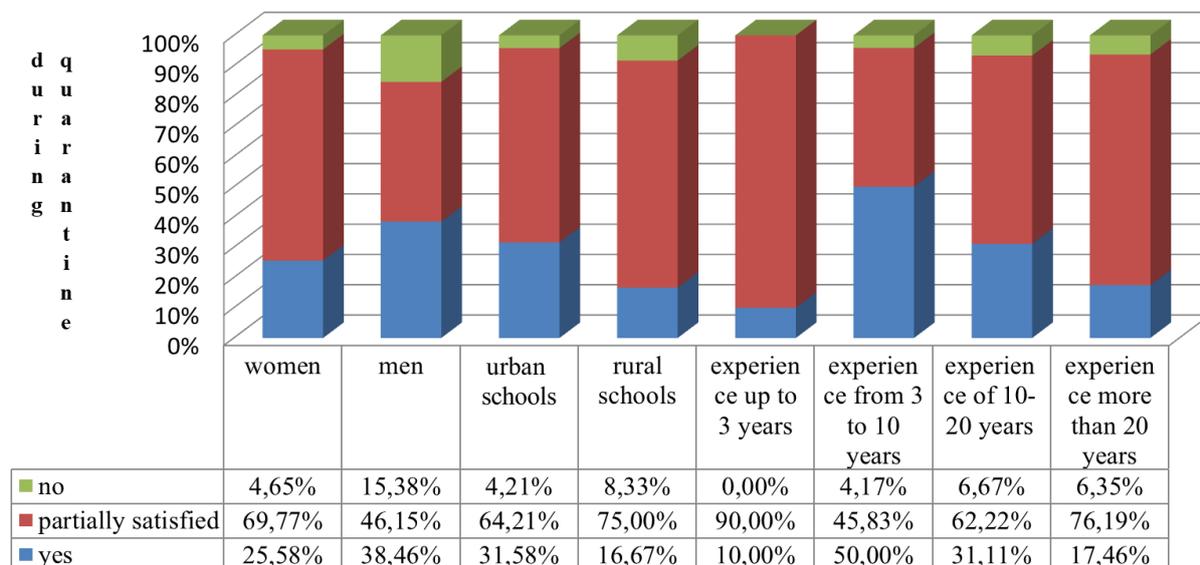


Figure 10: Respondents' answers to the questionnaire "Are you satisfied with your professional activity?" during quarantine.

and helping to address them.

4 DISCUSSION

The results of the study show low occupational health of teachers, high levels of emotional stress, the depressing feeling of uncertainty during the pandemic, distance and blended learning, insufficient motivation for healthy activities, low level of self-regulation of emotional states, increased need for psychological help in maintaining and strengthening occupational

health, combating occupational stress and emotional exhaustion.

The analysis of the results of the study made it possible to identify differences in the state of occupational health of teachers with different teaching experience. It has been found that the longer the teaching experience, the worse occupational health of teachers. In particular, the deterioration of health indicators is observed in those whose work experience in school exceeds 10 years, a sharp deterioration – after 20 years of schoolwork. Similar data are presented in some foreign publications on this issue. Thus, a study by Pecherkina and Muslumov (Pecherkina

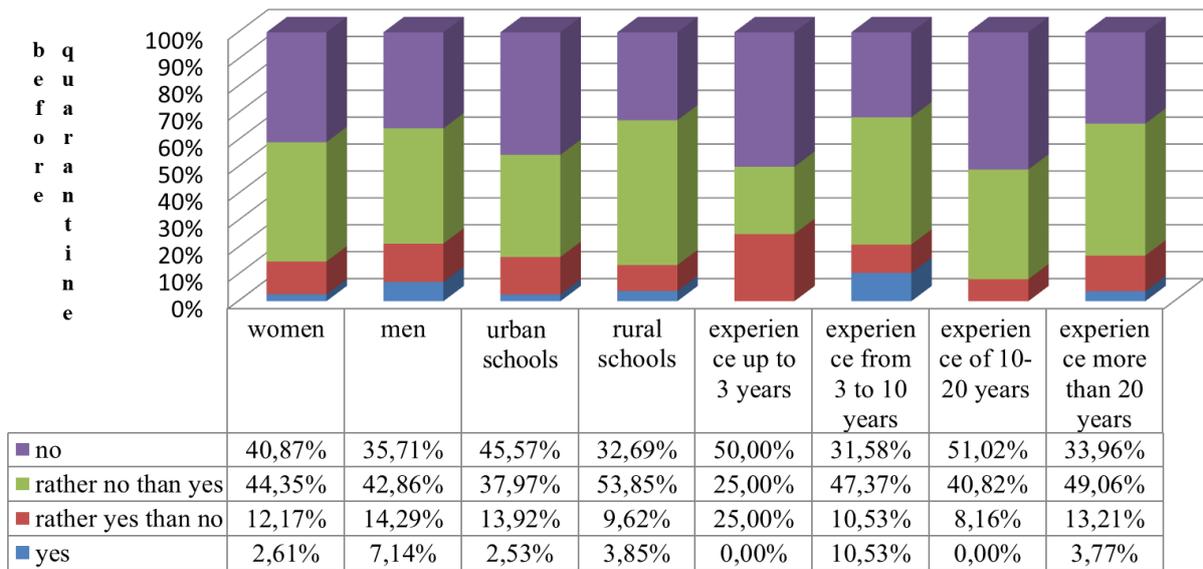


Figure 11: Respondents' answers to the questionnaire "Do you need psychological help to maintain and maintain your professional health?" before quarantine.

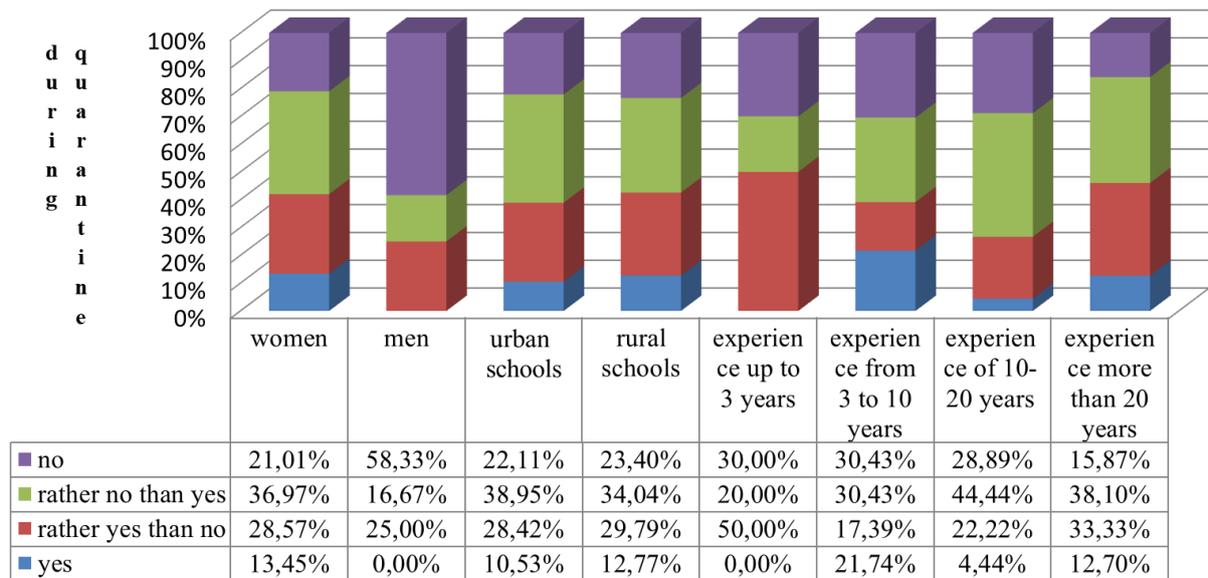


Figure 12: Respondents' answers to the questionnaire "Do you need psychological help to maintain and maintain your professional health?" during quarantine.

and Muslumov, 2018), which was published before the pandemic in 2018, shows that the state of professional health of teachers depends on the stages of their professional development (experience). The authors conclude that the expression of indicators in the process of professional development of motivational, emotional, and reflective components of professional health of teachers changes. It is characterized by increased motivation to succeed, acute anxiety, increased rigidity, the development of systemic

reflection. We should emphasize that in the course of our study it was found that during the pandemic, anxiety increases regardless of the stage of professional development. Surveys of teachers in the EU confirm that teachers' occupational development is connected to their efforts to maintain occupational health if their health values coincide with their own ones and respond to the school's mission, current identity, and teachers' practice (Jourdan et al., 2016).

A comparative analysis of the indicators of the

state of occupational health of teachers in urban and rural schools shows differences in their assessment of their own health, deterioration of emotional state during the quarantine, self-control in professional interaction, satisfaction with professional activities.

The analysis of the answers to the questionnaire revealed gender differences in occupational health indicators of male and female teachers. The results of the survey showed differences in the ability of female teachers and male teachers to self-regulate, mastery of techniques to relieve emotional stress, satisfaction with teaching. The analysis suggests that there is no need to develop separate psychoprophylactic and correctional programs in the coordinates of occupational health separately for female and male teachers. Women's occupational health should focus more on teaching them emotional self-regulation skills. In working with men, more attention should be paid to the formation of motives for personal and professional self-improvement.

Therefore, it is extremely important to identify additional aspects of ensuring occupational health of teachers in the coordinates of the Center of Pedagogical Consulting, which is a new structure in the system of pedagogical education. The Center can work in person and remotely, with the help of digital technologies, which will allow each teacher to use the Center and its resources at a time convenient for them. For this purpose, the university website, YouTube channel, messenger communities, teacher questionnaires in Google forms, groups on social networks, telephone counseling, blogs of the Center's employees can be used.

Based on the analysis of the results of the study, the strategic objectives of the Center of Pedagogical Consulting to preserve and strengthen occupational health of teachers: increase the level of professional stress resistance, the development of mental self-regulation skills; mastering constructive coping strategies, technologies of self-rehabilitation, psychotechnologies of self-healing. Efforts should be made to shape teacher's subjective position as the bearer of a reasonable lifestyle.

Activities to preserve and strengthen occupational health of teachers should be aimed at: increasing the interest of teachers in occupational health as a professional and personal value and ways to ensure it; mastering the methods of implementing health-preserving techniques; self-knowledge and self-development of teachers; activity and creativity of teachers in search and creation of their own systems of improvement, their own experience of maintenance of an optimum condition of occupational health; assisting teachers in overcoming obstacles to a sensible lifestyle. Import-

tant aspects of work in this aspect are the prevention of occupational stress, correction of chronic stress of occupational origin, prevention of emotional burnout. It is also necessary to form such a quality of teacher's personality as resilience, i.e. the ability to maintain stability under the influence of external and internal threats, without losing the pace of development to overcome the prevention of destructive behavior, quality of life, and professional activity (Fletcher and Sarkar, 2013).

The results of the analysis of aspects of the responsible attitude of teachers to their health, features of the internal picture of their occupational health served as a basis for determining areas of preventive and psychocorrectional work with teachers, for the content of training practices to form reasonable strategies for occupational health, harmonization of a teacher in the coordinates of the Center of Pedagogical Consulting, which operates at the Ternopil Vladimir Hnatiuk National Pedagogical University (TNPU, 2020c,a,b).

The activities of the Center of Pedagogical Consulting give support for teachers in the educational process and provide them with advice on solving problems related to educational and cognitive activities of students and their personal and professional development (Borova et al., 2019). The mission of the Center is to promote the personal and professional growth of teaching and managing staff.

The Center of Pedagogical Consulting provides educational consulting services (informational, scientific-methodical, instructive-methodical, diagnostic, expert-consultative) in the following areas: professional development of pedagogical workers, implementation of professional development programs, the introduction of innovations in pedagogical activity, implementation of pedagogical projects, experimental work in educational institutions, psychological and pedagogical support of students in the educational process, the formation of the individual educational trajectory of students, the formation of the psychologically safe educational environment, the introduction of health technologies in educational institutions, preservation and strengthening of occupational health of teachers, organization of inclusive education, etc.

The Center of Pedagogical Consulting directs its activities to:

- the study of problems of the educational environment that need to be solved (consulting) and the provision of services;
- carrying out constant information and advertising activities to inform the heads of educational institutions and teachers about the possibility of re-

ceiving consulting services;

- organization and holding of pieces of training, master classes, seminars, round tables under the needs of teachers both within the Center and directly in educational institutions;
- organization of individual and group consultations for management and pedagogical staff;
- organization of corporate training of teachers on the stated topic;
- creating opportunities and providing appropriate services for the development of psychological and pedagogical competence of students-future teachers and future managers-heads of educational institutions;
- researching to improve the quality of training of future teachers and managers for innovative activities in educational institutions.

The program of activities of the Center of Pedagogical Consulting for the preservation and strengthening of teachers' occupational health provides areas of activity, each of which covers a set of activities – specific forms of work that will help to achieve the desired result. This is counseling; use of psychological diagnostic techniques and tests; psychological correction; coaching; seminars, webinars, anti-burnout pieces of training, anti-stress pieces of training, social and psychological actions and initiatives within the activity of LLC “Academy of Innovative Development of Education” (scientific and pedagogical project under the program of joint activities of Ministry of Education and Science of Ukraine and National Academy of Educational Sciences of Ukraine (Academy of innovative education development, 2020b,c,a); mastering the technology of stress management, methods of self-regulation, etc.

We have a matrix of developed activities that can be offered to teachers. In our activity we are guided by the principle: “we have developed, we know – we carry it out for you”. The guiding postulate for the Center of Pedagogical Consulting is: we carry out what is in demand, what is relevant, necessary, “hurts” teachers. In our previous publications (Meshko et al., 2020; Meshko, 2016) the pieces of training developed by us, their semantic and procedural filling, influence on an increase of the level of stress resistance, harmonization of teacher's personality are presented.

The Center of Pedagogical Consulting has developed anti-stress training, anti-burnout training, masterclass “How not to burn in the flames of the profession”, a system of webinars for teachers (TNPU, 2020a), some of them were presented at the National

Educational Forum, which took place on October 18, 2020, at Ternopil Volodymyr Hnatyuk National Pedagogical University remotely (TNPU, 2020a,d). During the educational forum, 96 teachers took part in activities proposed by the Center of Pedagogical Consulting. Shortly, it is essential to develop masterclasses and webinars on the problems of self-regulation, prevention of professional deformations of teachers, increase of their stress resistance, and development of resilience, which, under the quarantine restrictions associated with the COVID-19 pandemic, will be carried out remotely.

5 CONCLUSIONS

A teacher's occupational health is one of the factors of professional suitability, an important condition for the effectiveness of pedagogical activities, and an indicator of the quality of professional life. The state of occupational health of a teacher affects the results of educational activities and the stability of work results, determines the self-efficacy of teacher's personality.

Preserving and strengthening occupational health of teachers is a strategic task of modern society and the New Ukrainian School, an urgent problem of pedagogical and psychological science. Teacher's health activities involve constant monitoring of occupational health, which is a prerequisite for determining the content and form of consulting services.

The analysis of the results of the study of teachers' occupational health allowed to identify problems that have been exacerbated by the quarantine caused by the coronavirus pandemic, in particular: increasing negative trends in psychological well-being and emotional state, their deterioration in distance and blended learning; increase in anxiety; inability to receive timely psychological help in resolving personal and professional issues; increasing the number of teachers who are dissatisfied with their professional activities; increasing the number of teachers in need of psychological support and help; generally not very responsible for their own occupational health. General condition and features of occupational health of teachers are analyzed, taking into account the length of work in school, type of school, gender, which is very important for determining the content of consulting services.

In preserving and strengthening occupational health of teachers, it is important to operate the Center of Pedagogical Consulting, whose activities are aimed at: acquaintance with modern technologies for maintaining and strengthening occupational health; development of emotional-value, responsible attitude of

teachers to occupational health; increasing the level of motivation, maintaining the “professional form”; development of the subjective position of a teacher as a carrier of a sensible way of life; increasing the level of professional stress resistance; prevention of occupational burnout; prevention of professional deformations and destructions of teachers; formation of their resilience; conducting personal and professional growth pieces of training, anti-burnout pieces of training, anti-stress pieces of training, round tables, masterclasses; advisory assistance.

Due to the quarantine measures caused by COVID-19, developments using digital technologies are required: webinars, online masterclasses on prevention of professional deformations of teachers, anti-burnout training, anti-stress training, personal and professional growth training, round tables to increase professional stress, prevention of emotional burnout of teachers, in general ensuring their occupational health. Need to implement the Center of Pedagogical Consulting in the coordinates of occupational health of teachers and technology of social and psychological resilience to develop skills to overcome crises with the least emotional or psychological losses.

We see the prospects for further research in identifying gender differences in teachers’ implementation of occupational health strategies and the formation of the appropriate content of psycho-correctional work remotely under the conditions of the quarantine restrictions associated with the COVID-19 pandemic.

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