

Personal indicators of occupational stress of employees working remotely in a pandemic quarantine

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Abstract. This article highlights the problem of occupational stress of workers in the mass transition to remote work caused by the difficult conditions of our time in a pandemic COVID-19. Based on the results of theoretical analysis of scientific literature, the classification of the main models of stress is given. The content, features, factors, consequences of occupational stress of workers working remotely in general in a pandemic in particular are highlighted. Personal indicators of occupational stress of employees are revealed. The role of personal qualities of employees in the emergence of occupational stress as a buffer that mediates the impact of stressors, enhancing their action, or inhibiting it, negatively affecting the mental health, psychological safety of employees and the quality of their professional activities are shown. The results of an empirical study show that the influence of stressors, which is significantly enhanced in the forced transition to remote work, causing violations in the communicative, emotional, volitional and need-motivational spheres of personality of employees in general and depending on gender and age and professional features of employees in particular. The expediency of taking into account the personal characteristics of employees to prepare them for the prevention and overcoming of occupational stress, developing the ability of employees to conscious and active stress management and counteracting stressors is stated.

Keywords: occupational stress, pandemic COVID-19, remote work, mental health, psychological safety

1. Introduction

The dynamic changes observed in Ukrainian society are caused by a significant number of stressors in professional activities, which, combined with the personal characteristics of employees, contribute to occupational stress, which negatively affects the effectiveness of professional activities and well-being. This problem is especially vital in today's difficult conditions when due to the COVID-19 pandemic a significant number of specialists went to work remotely, which led to a radical change in the usual way of life and, consequently, the emergence of new, additional stressors. Because of this, the problem of studying the personal indicators of professional stress of specialists deserves special study.

Analysis of the literature shows that the problem of stress is the subject of research by many scientists. Intensive research of the phenomenon of stress began after the publication of the works of Selye [44] in the 1950's, in which the main attention was focused on physiological changes in the body under the influence of stressors. Later, the psychological component of stress development was singled out and, accordingly, the concept of "psychological stress" was introduced as a product of the subject's cognitive processes ([1, 9, 28, 40] etc.).

The problem of occupational stress as a factor influencing the ability to work, quality of work and health of employees of organisations, devoted to the research of many scientists (Beehr and McGrath [3], Burke, Greenglass and Schwarzer [7], Cohen and Wills [8], Cooper, Kirkcaldy and Brown [10], Edwards, Caplan and Harrison [13], Greenberg [17], Karamushka and Gnuskina [23], Leonova [30], Pankovets [37], Sharit and Salvendy [46], Vodopyanova [49], Zhou and Salvendy [54] etc.). The problem caused by the COVID-19 pandemic, which causes additional stress factors that affect all areas of human life, is being investigated [2, 6, 12, 16, 31, 42, 47] etc., including the specifics of the organisation of effective work of remote virtual teams online (Orti and Middlemiss [35], Pazos [39]) and the possibility of obtaining the psychological safety in such teams (Costello [11], Lechner and Tobias Mortlock [29] etc.).

At the same time, the features and personal factors of occupational stress of specialists who telework in general and forced due to a pandemic, in particular, have not previously been the subject of a special study. The urgency and insufficient study of the problem determined the purpose of the study – to theoretically substantiate and empirically investigate the personal indicators of occupational stress of employees who were forced to switch to distance work in a

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pandemic.

2. Literature review

An in-depth analysis of stress models was made by Pankovets [37], who classified such models depending on the factors that cause stress and ways to manage it.

Thus, the models based on biological stressors include P. Parson's Model of Predisposition [4], G. Selye's physiological model [4, 37, 44], J. Fuller's genetic-constitutional model [4]. Psychological factors are taken into account primarily in the cognitive model of Lazarus [28] and models of mental tension of Nayenko [33]. Complex (biological and psychological) factors are considered in the integrative model of Wong, Wong and Scott [51] and the model of Greenberg [17], and socio-psychological – in the interdisciplinary model of Basovich et al., Dooley's theory of conflict and Dorenvend's model [4]. In addition, the scientist distinguishes models of stress depending on the methods of stress management through the mechanisms of adaptation (model of Mechanic), systemic self-regulation (system model of Ford and Schwart), or coping (model of coping Lazarus and Folkman [4, 17, 28]).

Based on the analysis of these models, we can conclude that the occurrence and development of stress depend on both the constantly changing external environment and the individual psychological characteristics of the individual [4]. The latter is caused by the fact that a difficult situation can be stressful for one person and not for another. It depends on how threatening the person is. The emergence of negative effects of stress is due primarily to the peculiarities of cognitive assessment of the environment and their own resources, in case of non-compliance of the latter with the requirements of the environment in which the person is.

To explain and describe the stressors associated with work, use close but not synonymous concepts: "work stress", "organisational stress", "occupational stress", which carry different content loads [27, 34, 37, 41].

Thus, work stress (job stress, stress at work), according to researchers, occurs as a result of complications related to the work environment (features of the workplace, working conditions, etc.). Organisational stress arises as a result of the negative impact of the characteristics of the organisation in which the entity operates. These concepts are close, but not synonymous. Therefore, it is vital to use them adequately following the objectives.

Occupational stress is often understood as such a negative mental state, which is caused by the peculiarities and requirements of the profession itself, in its narrow sense [4, 20, 24, 25, 32]. These are complications:

- arise in the organic and psychological spheres in the performance of functional duties (according to the requirements of the profession) by the subject of professional activity and depend on the specifics of each profession;
- arising in the absence of a role balance between the professional sphere and the personal sphere: role overload, fuzzy role definition, role conflicts;
- due to the low level of satisfaction of the needs of the subject of professional activity in the process of performing this professional activity and the emotional attitude of the subject to the same work [37].

Currently, there are three main approaches to the study of occupational stress: environmental, transactional and regulatory [18, 41]. The main task of the environmental approach is to find links between the content of work, the characteristics of the professional environment, the individual characteristics of staff and the violation of the health and psychological well-being of employees.

In the transactional approach, a great role is given to cognitive assessment by employees of professional situations and their own resources. Proponents of the regulatory approach [4, 30] emphasise the mechanisms of regulation of activity and the mental state of specialists under the influence of various factors. Based on this, occupational stress can be defined as a specific form of violation of the physiological and mental activity of the individual, which is due to individual and personal characteristics and occurs in response to the negative impact of the professional situation.

Both the features of the organisational and professional environment and the personal qualities of employees have a great influence on the development of stress, due to which they, when perceiving such influence of stressors, can reduce their significance or, conversely, strengthen them. In the latter case, there are complications in the psychophysiological state and psychological health and well-being of employees.

In the context of the COVID-19 pandemic, additional stressors arose due to the forced transition of a significant number of employees to distance work. It is the compulsion of distance work that restricts people's freedom and, despite the understanding of the need for such a state of affairs for survival, at the same time causes internal resistance due to the heavy psychological, emotional and financial burden for individuals. Employees working at home, especially in small rooms where they are forced to stay with other family members, may feel angry, irritated by the inability to adapt to the conditions and to cope with the difficult current situation. As a result, there is a risk of deteriorating mental health, the spread of symptoms of psychological distress and disorders, and so on [6, 19, 38, 43, 52, 53].

During quarantine, employees receive basic information about the course of events from the media and social networks, which, unfortunately, often broadcast messages that update the perception of danger, threat and risk of infection, in particular, the number of new cases, fatalities on the background of inaccurate information about the pandemic and insufficiently substantiated explanation of the need for quarantine, thus, these are a significant source of stress for people [6, 12, 31].

As for social networks, they often talk about spreading unverified rumors or just misinformation, which causes unfounded fears among many people [5, 16]. In this case, it is stated that misinformation spreads faster than COVID-19 [2, 16, 47].

An equally vital factor in occupational stress is the risk of reduced working hours and job losses in unstable business conditions, which negatively affects the financial capacity of employees due to limited or lost income and, as a consequence – on their emotional state, mental and physical health [15, 36, 45, 48, 55].

The main physiological symptoms of stress include [37]:

- dysfunction of the nervous system;
- cardiac dysfunction;
- dysfunction of the gastrointestinal tract;

- respiratory dysfunction;
- sleep disorders.

Among the psychological symptoms are [22, 50]:

- decreased activity of the cognitive sphere: decreased attention; memory impairment; violation of the adequacy of perception and logic of thinking;
- disorders of the emotional sphere: increased anxiety; increase emotional rigidity; an increase in the number of generalized negative emotional reactions such as anger, guilt, shame;
- changes in the behavioural sphere: “stuck” on the problem; difficulty in performing official and domestic duties, etc.

Therefore, prevention and coping with occupational stress (stress management, according to Greenberg [17]) is based on the ability of employees to consciously and adequately use methods and techniques of stress management, in particular, the establishment of personal barriers at all stages of stress in order to combat stressors.

3. Organisation and procedure of research of personal indicators of professional stress of employees

3.1. Research methods

The following methods were used in the study: a questionnaire of interpersonal relations (author – V. Schutz, modification of A. Rukavishnikov) [26]), a questionnaire for self-assessment of patience (authors – E. Ilyin, E. Feshchenko) [21], the method “Motivation for success and fear of failure” (author – A. Rean) [14].

The questionnaire of interpersonal relations (author – V. Schutz, modification of A. Rukavishnikov) was used in our study to assess the communicative sphere of personality [26] in conditions of occupational stress.

The test measures personal characteristics and evaluates relationships between people. The type of behaviour is diagnosed in three areas:

- 1) an inclusion (the need to create and maintain satisfactory relationships with other people (psychologically acceptable), based on which there is interaction and cooperation, considered in two directions: the first - from individual to other people in the range from “establishing contacts with all people” to “does not establish contact with anyone”, the second – from other people to the individual in the range from “always establish contact with him” to “never establish contact with him”),
- 2) a control (the desire to create and maintain a sense of mutual respect, based on competence and responsibility, to feel competent and responsible person, ranging from the desire for power, authority and control over others to the desire to be controlled, to lose responsibility),

- 3) an affect (the need to create and maintain a satisfying relationship with other people based on emotional attachment, the desire to create and maintain a sense of mutual warm emotional relationship, the individual's need to feel worthy of love is considered in the range: behaviour expected by the individual from others in the range of "always establish a close personal relationship" to "never establish a close personal relationship with an individual").

In the process of the stressor's influence on the personality, its initial cognitive evaluation takes place by cognitive mental processes, such as thinking, memory, attention, imagination, will, etc. Based on this assessment, the situation is considered threatening or favourable, respectively, the analysis is carried out whether there are enough resources to cope at the emotional and volitional level or not.

That is why to assess the emotional and volitional sphere of employees we used the questionnaire for self-assessment of patience (authors – E. Ilyin, E. Feshchenko) [21]. Under the latter E. Ilyin understands the quality of personality for a long time with the help of strong-willed efforts to withstand adverse situations [21]. The questionnaire is aimed at studying the volitional component of personality, personal self-assessment of personality opportunities to perform work or perceive any situation.

The method "Motivation for success and fear of failure" (author – A. Rean) provided an assessment of the severity of motivation to achieve in situations of occupational stress, its impact on the effectiveness of employees who are forced to work remotely [14].

Analysis of the data by the method allows you to assess which desire mainly determines the behavior: the desire to succeed or avoid failure. The advantage of one of these two options largely determines the level of our aspirations – whether the person is ready to set difficult tasks to experience significant success, or chooses more modest goals so as not to be disappointed.

The sample consisted of 156 people, of whom 55.8% were employees with telework of labour organisation and 44.2% were employees at distance work.

The age composition of the sample is presented as follows: employees under the age of 30 – 51.9%; at the age of 35-45 years – 15.4%; at the age of 45-55 years – 25%; over 55 years – 7.7%

The organisation of employees of organisations was also divided according to the record of professional activity: up to 5 years (25%); 5–15 years (30.8%); 15–25 years (15.4%); more than 25 years (28.8%) of the respondents.

Regarding the organisational and professional composition of the sample, it is distributed as follows: managers – 25%, employees – 75%. Among them: 5.8% – top managers, 32.7% – middle managers, 61.5% – specialists.

The experimental array of data obtained during the experiment was subjected to quantitative and qualitative analysis. Data processing was performed using SPSS 23.0. Criterion χ^2 , correlation and analysis of variance were used to identify statistically significant differences and the relationship between different groups of respondents and data.

3.2. Features of the communicative sphere of personality of employees of the organisation

At the first stage, the study of the communicative sphere of the employees' personality with telework and distance organisation of work with the help of a questionnaire of interpersonal

relations (author – V. Schutz, modification of A. Rukavishnikov) [26]).

Table 1

Features of interpersonal needs and behavior of employees of organisations with different forms of work.

Trends in interpersonal interaction	The level of severity of the trend, %		
	low	medium	high
to be in the company of other people	42.2	38.5	19.3
the desire for others to show interest in the individual and accept him into their society	48.0	19.4	32.6
control relationships with others	21.1	13.5	65.4
to obey others in relationships	34.6	38.5	26.9
to establish close relationships with others	65.4	21.2	13.4
the desire to establish deep emotional relationships with other	38.5	26.9	34.6

As follows from the data given in table 1, a significant number of respondents (42.2%) have a low desire to belong to different social groups, avoid large and frequent communication with others; do not feel very comfortable among others. Moreover, they do not require others to be involved in active communication (48.0%).

At the same time, regarding the need for affect, it was found that more than half of the respondents (65.4%) feel very careful in establishing close, intimate relationships, based on love and emotional attachment. Only 13.4% of employees have a strong need to create and maintain a feeling of mutual warm emotional attitude.

Regarding the need for control, it was stated that more than half of the respondents (65.4%) seek to build and maintain satisfactory relationships with others based on a sense of mutual respect, competence and responsibility. In fact, we can talk about the expressed need for this category of workers to feel competent and responsible person.

The next step was the analysis of the communicative sphere of employees' personality with a remote of labour organisation by gender and organisational and professional characteristics.

Thus, according to the results of analysis of variance (figure 1) found statistically significant differences ($p < 0.05$) gender characteristics of employees in the desire to establish friendly relations with others depending on the form of work organisation. As figure 1 data shows, men, both at telework and distance work, show a low tendency to be in the company of people, while women at distance work are characterized by a greater desire to maintain relationships with others for interaction and cooperation. For women at telework, this need is relatively less important. In our opinion, this picture shows that women, having experience in the office with constant communication with employees, remain more oriented to psychologically satisfactory interaction with people.

In general, it should be stated that women, regardless of the forms of labour organisation, are more inclined to close emotional contacts with a partner and need a relatively greater feeling and confirmation in the love of a partner, in contrast to men.

Regarding the professional and organisational features of the communicative sphere of employees' personality, we revealed statistically significant differences ($p < 0.01$) in the desire for control in communication. Thus, employees in managerial positions show a greater need

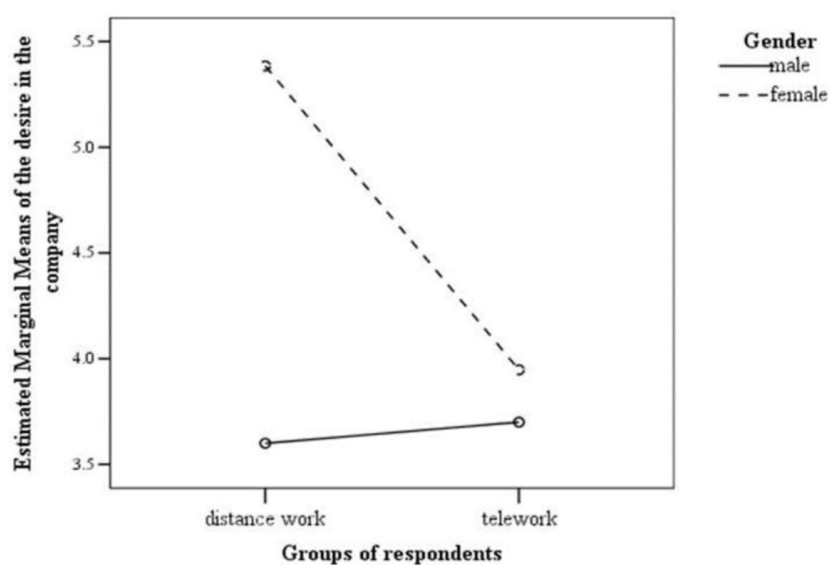


Figure 1: Features of the desire in the company of employees depending on gender and form of labour organisation.

for authority, influence over others, and are more likely to show responsibility and dominance over others, in contrast to ordinary employees. Instead, the tendency to obey others is more pronounced in ordinary employees, while managers are less likely to avoid responsibility and obey others.

3.3. Determining the indicators of the emotional and volitional sphere of employees of organisations

The next stage in the implementation of an empirical study involved the analysis of the emotional and volitional sphere with a questionnaire for self-assessment of patience (authors – E. Ilyin, E. Feshchenko) [21].

It was found that absolutely all the surveyed employees rated their patience at a high level, which indicates a tendency to highly appreciate the strong-willed qualities associated with purposefulness.

Regarding gender-age and organisational-professional features of subjective assessment of volitional ability to regulate activities, it was found that employees (women and men) of telework form of labour organisation evaluate their patience relatively higher as opposed to employees of the distance work form of employment.

Based on the results of the analysis of variance, the statistically significant differences ($p < 0.05$) were found in the level of subjective assessment of patience from the record of service.

The group of employees of the distance work form of labour organisation with work experience up to 15 years tends to have higher values of volitional assessment; the group of employees

with work experience from 15 to 25 years evaluates volitional qualities much lower; and in the group of employees working more than 25 years increase again. A group of respondents from a distance work form of labour organisation is characterized by a relatively high level of assessment of volitional qualities, regardless of the record of professional activity.

Such differences, in our opinion, can be explained by the fact that in the extreme situation of the last year, associated with the spread of coronavirus and a sharp change in living conditions, for a group of workers with experience of distance work, there were significant limitations of career prospects, which affected the level of endurance in contrast to the group of employees of telework, for whom, in general, the changes had less impact.

3.4. Results of the study of indicators of the need-motivational sphere of employees

The analysis of the study results of the features of the motivational sphere of the employees' personality was carried out using the method "Motivation for success and fear of failure" (author – A. Rean) [14].

Summarizing the results, it was found that all employees are motivated to succeed, which indicates a desire in the process of setting and achieving goals to focus on the successful completion of tasks and get a positive result for the company.

At the same time, a detailed analysis revealed the peculiarities of the motivational sphere of employees depending on gender, position and record of professional activity.

Regarding the peculiarities of the manifestation of motivation for success depending on gender, a statistically significant difference ($p < 0.05$) was recorded in employees with telework and distance work forms of labour organisation.

Men with a distance work form of labour organisation have higher rates of motivation to succeed than women. While for employees with telework form of activity of both male and female, the indicators of positive motivation are almost indistinguishable. There is a more active desire of men without experience of telework to realize themselves in a new place, in new conditions, with new employees.

Further analysis of variance allowed determining the features of the motivational sphere of employees depending on the position and form of labour organisation (figure 2).

Figure 2 shows that employees in management positions show higher motivation to succeed than regular employees, both during telework and distance work.

This state of affairs, in our opinion, can be explained by the fact that managers of different levels (top, middle management) have greater access to information about the prospects and plans for the company development, project implementation, are more involved in the financial aspects of the activities of structural divisions and the organisation as a whole, which contributes to the confidence that they are more involved in the process of achieving the company's success and have a direct influence on it.

Next, the study performs the analysis of variance of the positive motivation of employees depending on professional experience during telework and distance work forms of labour organisation. Regarding it, the study established that employees during telework form of labour organisation are characterized by consistently high rates of positive motivation, i.e. they are focused on achieving constructive, positive results. While in contrast to employees with a

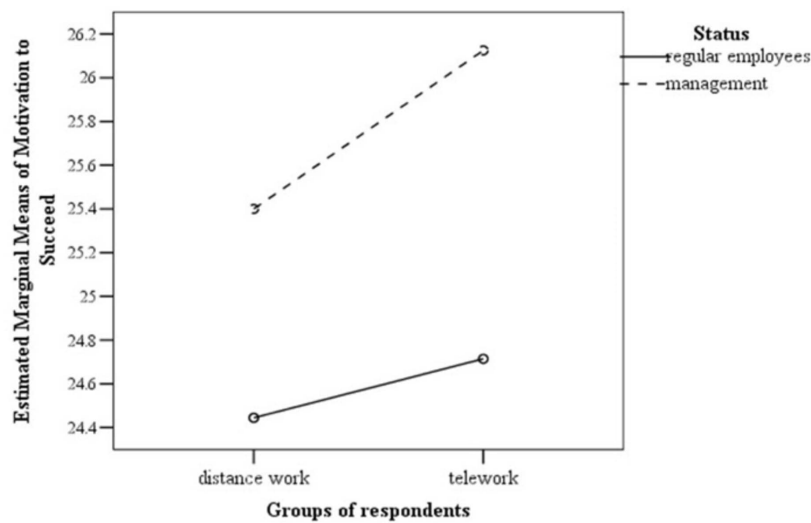


Figure 2: Features of the motivational sphere of employees depending on the position and form of labour organisation.

distance work form of organisation of activities, it shows a decrease in motivation to succeed with work experience from 15 to 25 years.

Thus, both with the general level of patience and with the peculiarities of the motivational sphere, employees with experience of 15 to 25 years have certain difficulties, which may be associated, in our opinion, with crisis experiences related to the age characteristics of this category of respondents. We can assume that external complex circumstances acted as a catalyst for internal fears. However, the positive fact is that the lower values of this group of respondents by professional experience fluctuate within the positive motivation, i.e. employees look to the future with hope.

4. Conclusions

The conducted research emphasized the importance of studying the role of personal indicators of employees in the occurrence of occupational stress. They can act as a reinforcing or inhibitory buffer, which mediates the impact of stressors that adversely affect the mental health of employees and the quality of their professional activities.

The results of the study suggest that occupational stress causes significant changes in the communicative, emotional, volitional and motivational spheres of the personality of distance work due to the forced nature of such work organization.

In particular, in the field of communication, we are talking about the limitations, if not the impossibility for distance workers of direct (F2F) contact with others, more significant for them than for those who traditionally work remotely, especially for women ($p < 0,05$). The emotional-volitional sphere shows lower indicators of tolerance as the ability to maintain, with the help of additional volitional effort, the intensity of work in the event of interference, especially among

workers with a long experience of professional activity ($p < 0.05$). As a result, the motivation of distance work employees is lower than that of those who traditionally chose to work remotely.

Accordingly, it is appropriate to provide psychological support to specialists in today's difficult pandemic conditions, especially those who are forced to work distantly.

In the future, the theoretical substantiation, development and testing of the program of such psychological support in the conditions of postgraduate education are provided.

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