



SPATIO-TEMPORAL ORGANISATION OF CIVIL SERVANTS' WORK IN THE CONDITIONS OF COVID-19

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Abstract. *The relevance of this study is determined by the need to organise the effective work of public authorities in the conditions of numerous quarantine restrictions caused by the spread of the coronavirus pandemic in Ukraine and the introduction of remote control of the activities of public authorities in the country. In this context, the purpose of this study was to identify effective practical developments on the organisation of remote work of state authorities of Ukraine during the implementation of measures to prevent the spread of COVID-19 pandemic on the territory of the country. The leading approach in this study was the method of systematic analysis of the activities of public authorities in Ukraine during the introduction of restrictive measures due to the spread of COVID-19 in Ukraine in general and in the context of the organisation of remote management of the activities of these organisations in particular. The obtained results of the study clearly illustrate the degree of importance of the problems arising in connection with the forced transition of public authorities to remote work and the need to introduce current changes to the system of organising their activities in the current conditions to obtain the required results. The results of this study and the final conclusions formulated on their basis may have substantial practical significance for employees of public administration structures who are forced to face the need to introduce considerable changes in their daily activities due to the restrictions associated with the organisation of remote work of these bodies during the coronavirus pandemic, as well as for researchers of practical opportunities for improving the activities of state apparatus structures who are forced to switch to remote work.*

Keywords: *remote work; state authorities of Ukraine; COVID-19 coronavirus; pandemic; remote control.*

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1. Introduction

In accordance with Article 29 of the Law of Ukraine "On Protection of the Population from Infectious Diseases" (Law of Ukraine..., 2000), to prevent the spread of the acute respiratory disease COVID-19 caused by the SARS-CoV-2 coronavirus on the territory of Ukraine (hereinafter referred to as "COVID-19"), and considering the decision of the State Commission on Anthropogenic and Environmental Safety and Emergency Situations of March 10, 2020, on March 11, the Cabinet of Ministers of Ukraine established a quarantine on the entire territory of Ukraine from March 12, 2020. Taking this into account, it became necessary to preserve the stability and quality of the functioning of state bodies (Hidalgo et al., 2021). To introduce the practice of remote work, changes were introduced to the Standard Rules of Internal Service Regulations (Order of the National Agency..., 2020). Consequently, civil servants were given the opportunity to perform tasks on the post outside the administrative building of the state body (Lele et al., 2021).

Conducting a structural analysis of the practice of organising remote work in state bodies and determining the main aspects that affect the procedure of organising remote work, positive and negative impact on civil servants and the state body, as well as the readiness of the public administration system to introduce new working conditions to ensure stable, uninterrupted work of state bodies in quarantine conditions, is of substantial practical importance from the standpoint of developing theoretical and practical experience in organising the activities of public authorities in general and during the introduction of quarantine restrictions, which cause the need to switch to remote work, in particular (Allam, 2020). The main task of research in such a situation is to collect information about the state of implementation of the remote work in state bodies and provide primary insights to stakeholders – heads of state bodies, structural divisions, their employees, personnel management services, state bodies, and other parties. The conclusions and recommendations obtained from the results of this study are proposed to be used in the preparation of the necessary measures for the organisation of work in remote mode and further research.

To date, the entire world community continues to fight against the spread of the COVID-19 coronavirus infection. In almost all countries of the world, not excluding Ukraine, quarantine restrictions were introduced in 2020, one of which is the forced transition to remote activity. Almost two billion people in different parts of the world today live in conditions of social self-isolation (Martinez et al., 2021). These are unprecedented figures in the history of humankind. However, the experience of everyday stress that a person experiences in such a situation is also unprecedented. The rigid requirement of self-isolation and other restrictions designed to prevent the further spread of coronavirus infection have substantially changed the usual way of life of most citizens, affecting needs at different levels: from insignificant to vital.

In such a situation, when it comes to Ukraine, a particularly important aspect is the organisation of a qualitative transition of all institutions and public authorities to remote work, with the introduction of a set of measures to ensure the safety of employees in the conditions of the pandemic. The main tasks in this context are the

organisation of effective remote activities of structures responsible for public administration in Ukraine, combined with ensuring compliance with quarantine restrictions aimed at preserving the health of employees and preventing the further spread of the COVID-19 pandemic among them, which in general should contribute to the gradual resolution of a wide scope of issues arising in connection with the forced transition of state enterprises and organisations to remote work (Hameed et al., 2021).

2. Resources and Methods

During this study, the author used the method of system analysis of the results of an online survey conducted among civil servants during April 10-24, 2020. To conduct the survey, a special online form was developed using the online survey service Google Forms. All interested civil servants of different levels of state bodies and various categories of positions could take part in the survey. This method allows forming objective results based on the results of survey data, which subsequently enable qualitative conclusions to be drawn regarding these analysed results. Therewith, the methodology of this study allowed displaying the results of processing statistical information in the form of corresponding tables and graphical applications that can qualitatively illustrate the results of this research and the appropriate conclusions made.

The theoretical basis of this study included numerous scientific developments of Ukrainian and foreign researchers on the problems of organising remote control of the activities of public authorities during the introduction of quarantine restrictions due to the spread of COVID-19 pandemic. To create the most objective and qualitative picture of this study and subsequently draw the most exhaustive conclusions based on its results, all the materials taken for study from foreign sources and cited in this paper were translated into English. Furthermore, the practical basis of this study included the results of surveys of 665 respondents representing state bodies of different levels.

This study was conducted in three stages.

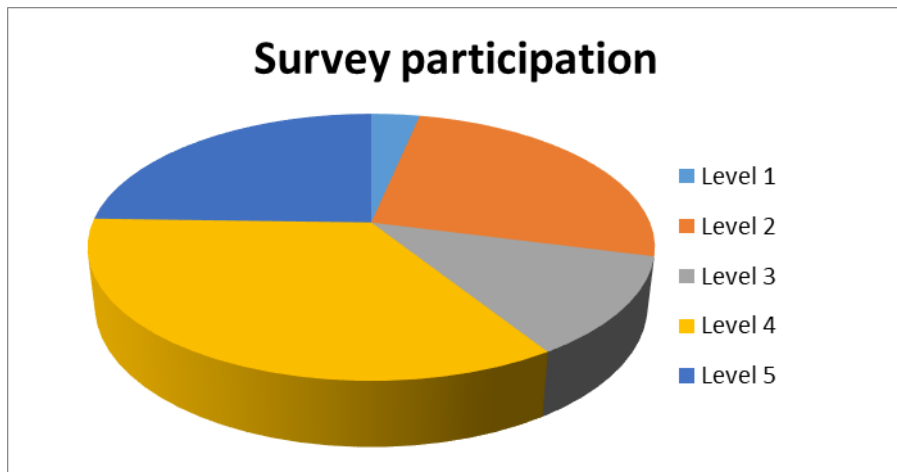
1. The first stage included an analysis of the studies of authors who investigated the issues of organising the work of enterprises and organisations in remote mode, which is the main inherent feature of the activities of state authorities in Ukraine in the conditions of the COVID-19 pandemic, available within the framework of the subject under study. The data obtained in the course of this analysis were used in the subsequent preparation of the results of this study in juxtaposition with the results obtained using other research materials.
2. At the second stage, a systematic analysis of the results of the survey of respondents was carried out to find practical answers to the questions raised in the subject matter of this study. Therewith, at this stage of the study, the results obtained were compared with the practical achievements of other researchers of the relevant issues to form the most objective and qualitative conclusions that can summarise the objective results of this study.
3. At the third stage, final conclusions were drawn based on the overall results of this study to create the most complete and objective picture of the problematics

investigated herein. The conclusions made based on the practical results of this study summarise the results of all stages of research and serve as an optimal reflection of the study of the practice of organising remote work in public authorities during the implementation of measures to prevent the spread of the COVID-19 pandemic on the territory of Ukraine.

3. Results and Discussion

The survey involved 665 respondents who are employees of state structures at various levels, namely: 34.4% – state bodies whose jurisdiction extends to the territory of the Autonomous Republic of Crimea, one or more oblasts, the cities of Kyiv and Sevastopol (level 4); 25.7% – ministries, central executive authorities with a special status established by law, apparatuses (secretariats) of higher specialised courts, the Supreme Council of Justice, the High Qualification Commission of Judges of Ukraine (level 2); 24.5% – state bodies whose jurisdiction extends to the territory of one or more districts, municipal districts, cities of regional importance (level 5); 12% – other state bodies whose jurisdiction extends to the entire territory of Ukraine (level 3); 3.3% – the apparatus of the Verkhovna Rada of Ukraine, the Secretariat of the Cabinet of Ministers of Ukraine, a permanent subsidiary body formed by the President of Ukraine, apparatuses (secretariats) of the National Security and Defence Council of Ukraine, the Accounting Chamber, the Constitutional Court of Ukraine, the Supreme Court, the Office of the Prosecutor General (level 1). Figure 1 demonstrates a graphical representation of the percentage of respondents who took part in this survey.

Figure 1: Distribution of respondents by the level of the state body



According to the results of the survey, it was determined that as of April 2020:

37.6% – work in a regular mode, perform their official duties within the administrative building of the state body;

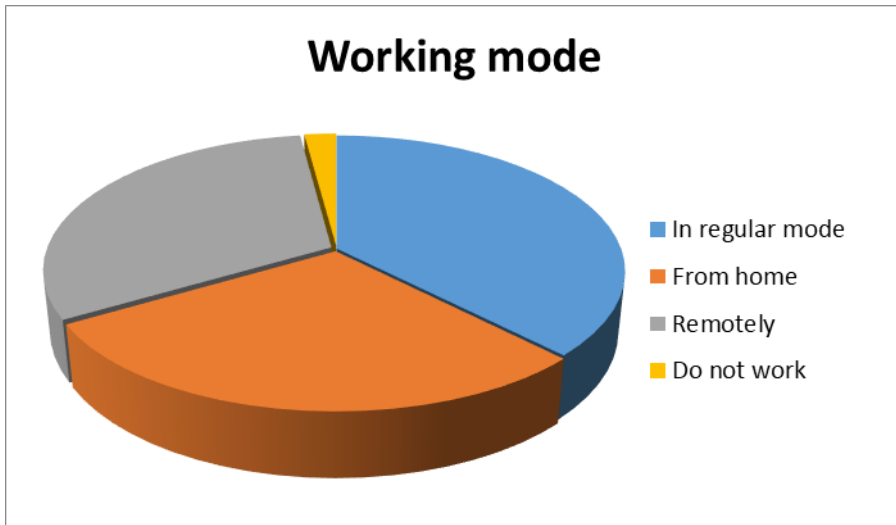
31.3% – switched to remote mode and work from home;

29% – work from home and visit the workplace in accordance with the duty schedule;

2.1% – do not work, are on sick leave/on long-term leave.

The data is presented in Figure 2.

Figure 2: The working hours of civil servants in Ukraine as of April 2020



There is an evident dynamic growth in the percentage of civil servants who switched to remote work with the growth of the level of the state body. Accordingly, the higher the level of the state body, the more civil servants have switched to remote work. The data is presented in Table 1.

Table 1: The mode of work of civil servants in state bodies of various levels

| Mode of work | Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
|-----------------------------------------------------------------------------|---------|---------|---------|---------|---------|
| In regular mode | 18.2% | 17.5% | 30% | 44.5% | 55.2% |
| Remotely | 40.9% | 29.8% | 28.8% | 26.6% | 30.1% |
| Remotely, and the workplace is visited in accordance with the duty schedule | 40.9% | 51.5% | 37.5% | 27.1% | 11.7% |
| Do not work | 0% | 1.2% | 3.8% | 1.7% | 3.1% |

In addition, the study identified the specific features of the application of various methods of organising work in state bodies of various levels. The data is presented in Table 2.

Table 2: Comparison of methods of organising remote work in government agencies at various levels

| Method | Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
|--------------------------------------------------------------------------------------------------------------|---------|---------|---------|---------|---------|
| Conducting online meetings with heads of structural divisions/employees of a state body | 36.4% | 33.3% | 35% | 31.4% | 23.3% |
| Translation of working group meetings online | 18.2% | 27.5% | 25% | 14.8% | 8.6% |
| Exchange of electronic documents between employees | 81.8% | 88.3% | 65% | 69.9% | 52.1% |
| Collaboration on documents online | 50% | 56.7% | 36.3% | 35.8% | 25.2% |
| Implementation of planning and control of tasks of structural divisions online | 54.5% | 50.9% | 27.5% | 36.7% | 25.2% |
| Implementation of daily tasks online by the head of the department | 54.5% | 46.8% | 31.3% | 36.7% | 19% |
| Individual telephone communication | 68.2% | 79.5% | 62.5% | 62.9% | 47.2% |
| Exchange of messages through the use of telecommunications communication methods | 86.4% | 77.8% | 62.5% | 62.4% | 43.6% |
| Correspondence (sending official correspondence) through the use of telecommunications communication methods | 68.2% | 74.3% | 57.5% | 61.1% | 44.8% |
| Nothing is being implemented | 4.5% | 3.5% | 11.3% | 14.4% | 27.6% |

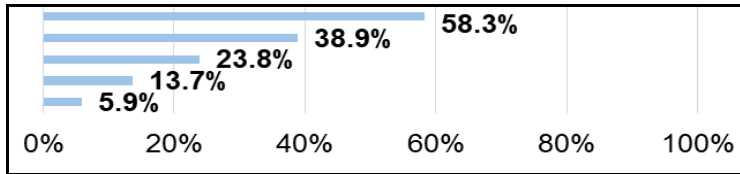
Education on the organisation of work in remote mode in state bodies was performed as follows:

- 58.3% – oral instructions were provided.
- 38.9% – official written instructions were provided.
- 23.8% – no instructions were provided.
- 13.7% – online training was conducted.

5.9% – in-person training sessions were held.

The data is presented in Figure 3.

Figure 3: Forms of education on the organisation of remote work



Statistical differences ($p \leq 0.05$) in the use of telecommunications facilities in the context of gender were established as follows:

- for communication within the structural division, men are more likely to use Telegram ($U = 27227$), CiscoWebex ($U = 30048.5$) and GoogleDocs ($U = 27895.5$);
- for communication with employees of other structural divisions of the state body, men are more likely to use Telegram ($U = 27318$), WhatsApp ($U = 28507.5$) and CiscoWebex ($U = 30438$);
- for communication with employees of other structural divisions of the state body, women are more likely to use Viber ($U = 27844$) and Facebook ($U = 29278.5$).
- It was found ($p \leq 0.05$) that employees of "B" category more often than employees of "C" category use the following means of telecommunications for communication:
 - for organising and interacting within the framework of its structural division, electronic working ($U = 49273$) and personal (47649) mail, Viber ($U = 48440$), WhatsApp ($U = 50694$), Zoom ($U = 48587$), CiscoWebex ($U = 51929$), electronic document management system ($U = 48167$), phone ($U = 50484$);
 - for organising and interacting with other structural divisions of a state body: electronic working ($U = 49549$) and personal ($U = 48282$) mail, Telegram ($U = 51380$), Viber ($U = 44775$), WhatsApp ($U = 47855$), Zoom ($U = 50480.5$), CiscoWebex ($U = 51408$), electronic document management system ($U = 49028$), phone ($U = 50078$).

By age, it was found ($p \leq 0.05$) that the older the employee, the more they are inclined to use Viber ($H = 9.546$) and the younger the employee, the more they are inclined to use such telecommunications tools as Telegram ($H = 9.726$), WhatsApp ($H = 10.562$),

Slack (H = 10.531), Trello (H = 16.909), Zoom (H = 9.403), Meet (H = 10.549), and GoogleDocs (H = 13.105).

The dominant means of telecommunications interaction, both in the regular mode of operation and in remote work, are the telephone and e-mail (Qu et al., 2020). At the same time, the frequency of using personal email, Viber, and the electronic document management system for remote work is increasing. Notably, the percentage of using the electronic document management system (51.4%) remains quite low in remote work conditions. The percentages for the use of remote work organisation tools (Trello, Slack) and the organisation of online conferences (Skype, Zoom, Meet, CiscoWebex) are somewhat growing, but remain critically low.

The results of the analysis suggest that in the conditions of quarantine, when some civil servants work remotely, and some continue to work normally, certain difficulties and inconveniences arise in communication, interaction, and organisation of work (Catton et al., 2018). An important factor of productive interaction in the conditions of remote work is the quality of communication. For this purpose, the opinion of civil servants regarding the specific features of their communication with colleagues during remote work was studied. The data of the study are presented in Table 3.

Table 3. Features of communication of civil servants in the conditions of remote work

| No. | Statement | I completely agree or generally agree | Difficult to answer | Disagree or completely disagree | I cannot answer because I do not work remotely |
|-----|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|---------------------|---------------------------------|------------------------------------------------|
| 1 | I am in constant contact with colleagues of my structural division and the head | 77.6% | 3.8% | 5.6% | 13.1% |
| 2 | I feel isolated from the team when I work remotely | 19.3% | 13.1% | 46.3% | 21.4% |
| 3 | I always get feedback on the work I performed remotely | 61.6% | 9.8% | 8.5% | 21.1% |
| 4 | The level of working communication in our state body did not change | 54.4% | 15.6% | 14.9% | 15% |
| 5 | It is difficult to contact employees who have switched to remote work, and even more so to get the information required for work | 12.5% | 10.8% | 55.2% | 21.5% |

A large percentage of civil servants noted that they are in constant contact with colleagues (77.6%) and receive feedback on the work performed (61.6%). At the same

time, some respondents experience some isolation from the team when they work remotely.

The situation with the spread of the COVID-19 pandemic necessitates qualitative changes in the current activities of public authorities in many countries and in Ukraine in particular. To resolve this situation qualitatively at the national level, certain measures are required. These include, first of all, the development of a centralised approach to the organisation of remote work and the regulation of this issue at the legislative level. It is critical to ensure the timely establishment of subordinate legal frameworks and standards for the organisation of work in remote mode in the public service (for example, statutory regulation, approval of uniform standards and procedures, centralised methodological support and training). Automation and digitalisation in personnel management, as well as improving or ensuring the introduction of electronic document management in government agencies at all levels are essential due to quarantine restrictions and the transition of public authorities to remote activities (Dehghani et al., 2021). Such a method contributes to the creation of a centralised data management system in the personnel management system and will substantially reduce the probability of errors in the workflow system. Therewith, according to some researchers of the issues under study, it is necessary to develop and implement a working mechanism (methodological, regulatory and/or legislative framework, as well as IT tools) for establishing remote communication between government agencies and other interested persons by redirecting calls, messages, letters, other documents, etc. (Ramanathan et al., 2021). Strengthening information and education among state bodies on the measures introduced for organising remote work will ensure an improved understanding of the need to introduce these measures among employees and contribute to an overall improvement in the quality of the activities of state structures in remote mode in general.

At the level of competence of state bodies, timely adoption of local regulatory decisions of state bodies on the organisation of remote work is required within the competence of local regulatory bodies. Such a measure will contribute to improving the overall quality of the remote work of state structures and improve the overall quality of individual employees' understanding of the essence of the tasks assigned to them in the changed conditions and the need to implement specific measures to resolve them. It is also extremely important to consider the provision of methodological assistance in the organisation of remote work by the central executive authorities relating to subordinate institutions and organisations, as well as an accurate calculation of the amount of allocation of material resources necessary for a high-quality and timely transition to remote workplaces. Creating conditions for the use and development of digital space and collaboration technologies, the development of organisational social networks, as well as providing training for managers on the organisation of work and management at a distance will contribute to improving the quality of joint activities of all structural units involved in the process of remote control of their activities. It is necessary to organise training of civil servants on the use of modern means of telecommunications in their work to develop communicative activity between structural divisions of state authorities during the pandemic. It is necessary to settle the issue of creating an accessible database of contacts (telephone, e-mail) that are not personal data (for

example, through forwarding or a contact centre) and place it on the official website of the state body, as well as to establish operational communication within the state body through the use of modern telecommunications means for the quality organisation of work with systems and databases of personal data in the future. All this is essential for improving the overall quality of the work of public authorities with large amounts of information and contact data during the period of forced remote activity (Viswanath, 2021).

Holding daily online meetings and conferences will help increase the level of communication and control over the activities of all systems and services of the public administration body in general. It is also important that the personnel management services of state bodies conduct training among employees on the organisation of remote work to achieve a synergistic effect and improve their general understanding of the essence and necessity of remote work in the current conditions. Providing technical support for employees upon switching to remote work (access to the necessary software, if possible, issuing work laptops, installing an electronic document management system on a personal computer, setting up access to work e-mail, etc.), combined with expanding the range of telecommunications communication tools for interaction within the state body, are necessary to ensure the employees' timely mastering of the technical means necessary for conducting activities relating to remote control of the work of public authorities (Carter & Notter, 2021).

In addition, the timely solution of the tasks set will be facilitated by the adjustment of the mechanism for operational processing and approval of draft documents from the management and co-executors in electronic form, in combination with the definition of critical functions, the performance of which requires the mandatory stay of the employee within the administrative building permanently or in accordance with the duty schedule. Ensuring that the heads of state bodies support the transition of their employees to remote work will contribute to a better, methodical and painless implementation of such a transition.

Furthermore, in the current situation, it is necessary to introduce certain changes in the activities of state authorities at the level of structural divisions. Most importantly, this refers to the need to provide the heads of structural divisions with the organisation, planning, and monitoring of remote work (in particular, this refers to holding online meetings, implementing daily tasks online, developing mechanisms for timely control, etc.). It is also critical to ensure that managers provide methodological support to subordinate employees about working in remote mode, the implementation of an even distribution of the load on employees working in remote mode. Prompt provision and receipt of feedback on the work performed is necessary for timely and high-quality management of the activities of structural divisions of state authorities in the remote activity mode. It is also necessary to use modern means of telecommunications remote organisation of work (for example, Trello, Slack), organisation of online conferences (for example, Skype, Zoom, Meet, CiscoWebex), operational communication (for example, Viber, Trello, WhatsApp). To introduce joint work on documents online by using, for example, GoogleDocs, as well as to designate the working time limits and define the rules of electronic communication.

To improve the efficiency of organising remote work in public authorities during the implementation of measures to prevent the spread of the COVID-19 pandemic on the territory of Ukraine, it is necessary to introduce a set of measures at the level of individual employees. Most importantly, this refers to the need to develop personal responsibility for one's contribution to the overall result of the work of a structural unit/state body (Baker & Ellis, 2021). Employees of structural divisions of local government bodies need to organise their workplace at home, always be in touch during working hours, maintain and initiate communication with colleagues, plan their working hours and rest time in a timely and high-quality manner, engage in self-education, in particular, develop their digital literacy. Timely and planned implementation of the listed set of measures to structure the activities of public authorities during the quarantine restrictions will help increase the overall efficiency of their activities and create appropriate conditions for timely and high-quality resolution of all tasks facing public authorities during this period (Romette et al., 2018).

Nowadays, organisations around the world, regardless of their sphere of activity, are faced with previously unknown external challenges caused by the spread of the coronavirus pandemic. Today, an urgent and top-priority task is the improvement of the enterprise management mechanism, including the development and implementation of forms of personnel policy organisation that are adequate to the current realities (Kose et al., 2021). Under the influence of the COVID-19 pandemic, several negative trends in the development of socio-economic processes have developed, for example, changes in the market conditions of goods and services, as well as changes in the situation on the labour market have clearly manifested themselves. In turn, there have been considerable changes in the process of organising the personnel policy of enterprises. Thus, the working conditions have substantially changed not only due to the transition of some employees to remote work, but also due to changes in the working conditions of employees at operating enterprises. Furthermore, external factors led to a change in the structure of remuneration, the technology of selection of personnel, etc. (Ozina & Buzmakova, 2020).

Even though this is not the first pandemic in the history of humankind, science cannot yet predict the psychological consequences of epidemics. It is enough to recall the hysteria of the 1980s which arose in the wake of AIDS. The beginning of the Apocalypse was almost announced. The extinction of humankind was predicted by 2015. In modern conditions, people started drawing parallels and predict the worst consequences. It is already obvious that in the conditions of the pandemic, people are faced with numerous psychological issues. Among those that have the greatest negative consequences, which have occurred and will occur in the future: virtual threat and information stress; deprivation and socio-economic stress. They, like many other of the most serious global threats, are currently associated with a high degree of uncertainty, i.e., almost a complete loss of control over the situation, which leads people to anxiety and panic (Seledtsov et al., 2020).

The extremely strong informational pressure that is being exerted on people all over the world in connection with the epidemic also does not allow a person to get answers to their questions (Chatterjee, 2021). Moreover, the information has a psycho-traumatic nature, since the information space (reports, statistics, analytics, forecasts, comments,

recommendations, social advertising, etc.) is full of contradictory information about the coronavirus. Such a powerful and chaotic informational impact is certainly traumatic for the human psyche. A few years ago, American scientists proposed the term headline stress disorder (stress disorder in connection with news headlines) to refer to disorders of mental adaptation under the influence of persistent emotionally charged news information (in 2016, it was information relating to the presidential election in the United States). It is probable that a thorough analysis of the consequences of information stress in the context of a pandemic will allow filling this term with particular psychological and psychopathological content. Perhaps, mental reactions under such influence can widely vary – from anxiety and feelings of invasion of personal space to complex maladaptive reactions (Qureshi et al., 2021). Thus, cases of suicidal attempts have already been described as a reaction to the patient's perceived risk of contracting a coronavirus infection in the absence of any signs of somatic malaise. In all these cases of pathophobia, an independent component was an obsessive concern about information on the coronavirus presented in the media (Avtar et al., 2020). Similarly, the study, which included over 4 thousand respondents from various Chinese provinces, demonstrated the correlation between the frequency of viewing information about COVID-19 in social media, on the one hand, and the severity of anxiety and anxiety-depressive manifestations, on the other hand. And even though the issue of media responsibility for the growth of mental disorders in the context of a pandemic is beyond the scope of scientific psychological analysis, the current situation serves as an additional confirmation of the importance of systematic research on the significance of virtual threat stimuli in the development of mental disorders (Ramadan & Osman, 2021).

In the current situation, the calmness of society in general and the quality of solving numerous issues relating to the organisation of the normal functioning of all spheres of public life until the end of the pandemic depends on the activities of state authorities to resolve the problems that have arisen.

4. Conclusions

Based on the results of the conducted study, the following conclusions were formulated. Under the quarantine conditions, most civil servants started working remotely (60.3%, of which 31.3% switched to exclusively remote access and 29% work from home and visit the workplace according to the duty schedule). The higher the level of the state body, the greater the number of civil servants working remotely. For example, if 81.8% of civil servants work in state bodies of the first level, then only 41.8% work in state bodies of the fifth level, which is half as much. Most probably, this is explained by technical capabilities and greater flexibility in decision-making in higher-level state bodies.

The most common ways of organising remote work are the exchange of electronic documents between employees (79.1%), individual telephone communication (63.5%), messaging using telecommunications (62.6%) and correspondence (sending official correspondence) using telecommunications (60.3%). Furthermore, joint work on documents, planning and monitoring of tasks of a structural unit online, setting daily

tasks of a structural unit online are common in state bodies of higher levels. However, among the employees of the lower-level state bodies, less than 26% noted the use of such methods of work. The most common form of education on the organisation of remote work in state bodies is the provision of oral instructions (58.3%).

Among the means of telecommunications for communication within the structural unit, most civil servants use the telephone (77.6%), Viber (70.2%), email: working (66.9%) and personal (51.3%).

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