

UDC 159.922.2

DOI: 10.31652/2786-6033-2023-2(4)-15-20

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**A STRUCTURAL-FUNCTIONAL MODEL OF THE IMPACT OF ANTHROPOGENIC POLLUTION ON THE PERSONALITY**

Because of the combat actions on the territory of Ukraine, the risk of man-made disasters, the consequences of which will affect the entire population of the planet, has increased significantly. Constant missiles attacks, destruction of hydroelectric power plants, thermal power plants, constant threats of damage of nuclear power plants – put at risk not only the physical health of people, but also mental and psychological health. The researches of domestic scientists demonstrate the consequences of the impact of the Chernobyl nuclear disaster on the mental health of the population: L. Kryzhanivska, A. Chuprikov, E. Horban, E. Khomska, V. Krasnov and others.

This scientific article presented a structural-functional model of the impact of anthropogenic pollution on the personality. It is revealed in the interaction of the human-nature system. The core structures of the designed model were: the structure of the socio-ecosystem by H. Bachynskyi, the four-dimensional structure of personality by Rybalka-Shevtsov and the structural-functional model of the psychological mechanisms of social adaptation of youth with the musculoskeletal system disorders by I. Chukhrii, A. Shevtsov.

The central component of the specified model is socio-ecosystems, as a territorial socio-natural self-regulatory system, which dynamic balance must be ensured by human society. It is an extremely complex system consisting of subsystems: socio-economic and natural subsystems.

For its part, the socio-economic subsystem consists of lower level subsystems: the population and economy ones, the natural subsystem consists of abiotic and biotic ones. The socio-economic subsystem contains components - human population, industrial, residential, engineering, communication, economic and other anthropogenic objects.

The population can make a negative impact on nature, and the consequences of this impact are manifested in the emergence of health disorders, in particular, human mental and psychological health.

In the man and nature relationships, it is the social community of people that is of great importance. A person's entry into human society is accompanied by the development of social adaptation of the individual, or its violation – maladaptation. Social adaptation is carried out with the help of social adaptation mechanisms

It is important to note that the ascending construct in the presented model is a personality with a personal core – the Self-concept. The structure of personality itself is presented by the following way: social-psychological-individual dimension, activity dimension, nosological dimension (differentiated into characteristics of developmental disorders or post-traumatic mental state of a person), age, genetic dimension.

The suggested model presents the vectors of influence not only of the population, in particular of individual social groups and individuals, on the socio-economic subsystem of the socio-ecosystem, but

also of the results of this influence - anthropogenic pollution on the population, in particular on the individual and his social-psychological-individual, nosological (as there is high risk of physical and mental health disorders), activity, age, genetic dimensions.

**Key words:** *socio-ecosystem, population, social adaptation, mechanisms of social adaptation, personality structure, anthropogenic pollution.*

**Formulation of the problem.** The war on the territory of Ukraine has a devastating effect on its ecosystem. The consequences of military actions affect all ecological factors of the environment and significantly reduce the tolerance of living organisms to the devastating effects of constant missile attacks, the emission of pollutants, the pollution of river systems, the destruction of soils, the consequences of the explosion of the Kakhovka HPP and other destructive effects.

Considering the fact that the socio-ecosystem is a territorial socio-natural self-regulated system, the dynamic balance of which is ensured by human society, it is human civilization that is responsible for the consequences of irreversible destruction and pollution.

It is worth understanding that there is always a limit, a limit of tolerance, which is a set of environmental conditions within which an organism can exist. A significant part of adverse environmental factors are factors that limit the life of organisms during crisis periods, especially during reproduction.

**Analysis of recent research and publications.** Basic scientific provisions for designing a structural-functional model of the impact of anthropogenic pollution on a person are: the structure of the socio-ecosystem by G. Bachynskii, the four-dimensional structure of personality by Rybalka-Shevtsov and the structural-functional model of the psychological mechanisms of social adaptation of young people with musculoskeletal disorders I. Chukhrii, A. Shevtsov.

**The purpose of the article:** to design a structural and functional model of the influence of anthropogenic pollution on the individual based on the theoretical and methodological analysis.

**Outline of the main material.** The devastating ecological consequences of military actions can directly affect the mental health of the population of Ukraine. For a more detailed review, we suggest considering the following categories: mental trauma, war, psychological trauma.

War is a traumatic event for military personnel and civilians who are in the war zone.

Mental trauma is an internal condition characterized by a violation of adaptation due to an imbalance of the individual's mental capabilities (O. Stepanov).

Psychological trauma is a deep individual reaction to a tragic event, which causes excessive psychological stress and subsequent negative experience, which cannot be overcome unassisted and which causes permanent changes in a person's condition and behavior (L. Tsarenko) [4].

It is worth noting that the trauma experienced during the war always has a polyfunctional nature, that is, there is a combination of psychological (or mental) trauma with the physical injury (in cases of wounds), accompanied by physical pain and loss of functions, with mental trauma (trauma imprinted in history of human development and breaks through the "layers" of the mental apparatus and causes powerful regressive and defensive reactions). The specified multifunctionality of trauma includes the trauma of combat actions, which is complex in nature and consequences.

Psychologists identified the main types of events that can cause mental and psychological trauma to an individual: war and forced displacement as a result of it, acts of terrorism, man-made disasters with many victims, natural disasters, death of beloved one, sexual or physical violence, serious illness and others. That is, taking into account the main causes of mental trauma, we can again assume that war is a sufficiently polytraumatic phenomenon, since all the outlined signs are included in the consideration of the consequences of combat actions [4].

For a detailed consideration of the impact of military actions, in particular, anthropogenic pollution on the personality, we designed the Structural and functional model of the impact of anthropogenic pollution on the personality (Figure 1.). That is, in the proposed model, we reveal the nature of the impact on the personality (i.e., psychological changes) of the consequences of the disruption of the interaction between man and nature, which is a component of the global problem of the planet's ecosystem.

The core structures of the projected model were: the structure of the socio-ecosystem by G. Bachynskiy [2], the four-dimensional structure of personality by Rybalka-Shevtsov and the structural-functional model of the psychological mechanisms of social adaptation of youth with the musculoskeletal system disorders by I. Chukhriy, A. Shevtsov [8].

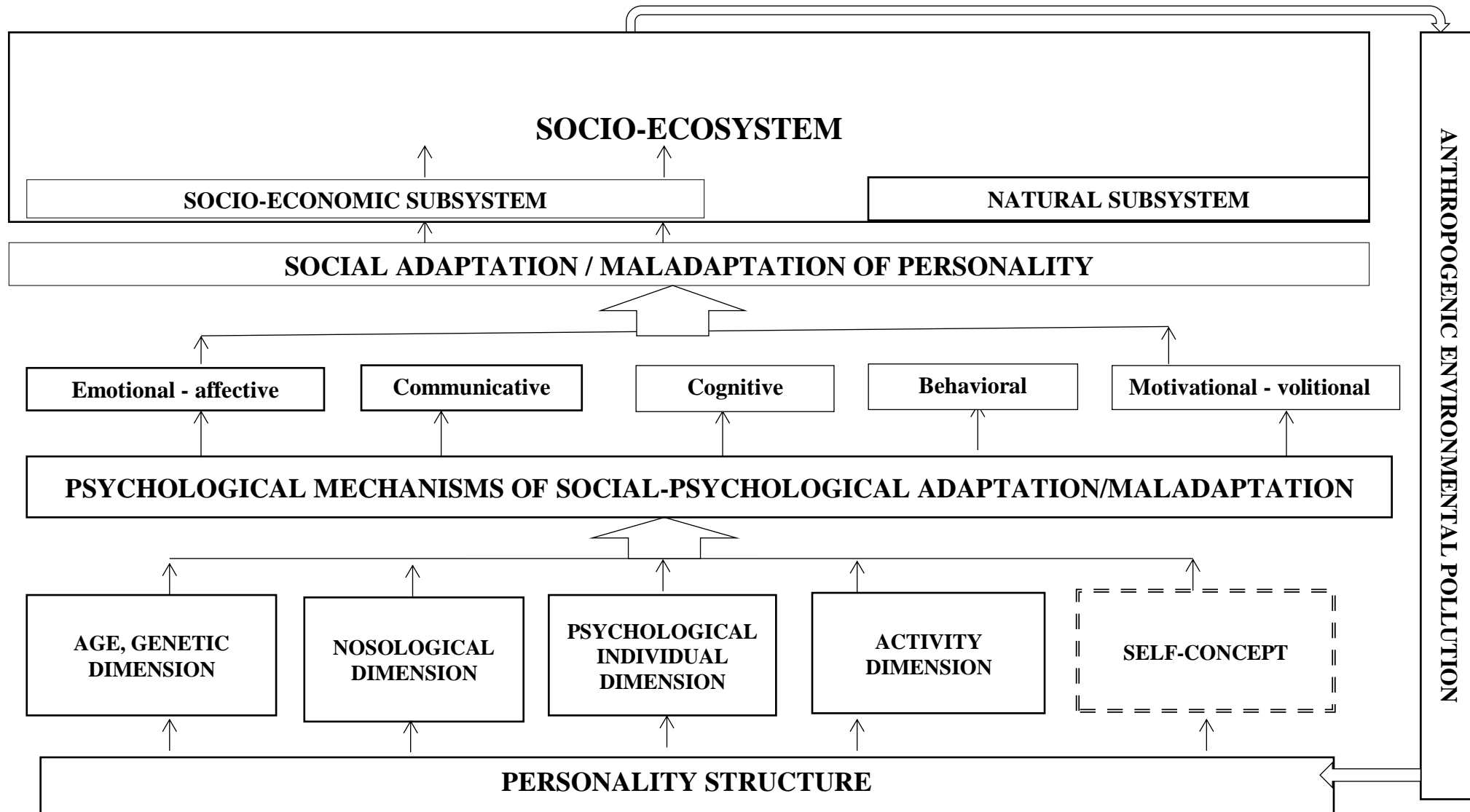


Fig. 1. Structural and functional model of the influence of anthropogenic pollution on the personality

The central component of the specified model are socio-ecosystems, as a territorial socio-natural self-regulatory system, the dynamic balance of which must be ensured by human society. This is an extremely complex system consisting of subsystems: socio-economic and natural subsystems [2].

For its part, the socio-economic subsystem consists of lower level subsystems: the population and economy, the natural subsystem consists of abiotic and biotic ones. The named subsystems contain components: socio-economic – human population, industrial, residential, engineering, communication, economic and other anthropogenic objects; natural – geography of the earth surface, rocks, vegetation, animal world, surface and underground waters, atmospheric air [2].

It is important to realize that all these components are interconnected and complex dynamic systems. And the self-regulation of socio-ecosystems is carried out as a result of their social component, namely the population [2].

It happens with the help of having its own controlling center that manages the development of the socio-ecosystem (good or bad). It is the opposite to natural systems, which are polycentric rather than monocentric as the socio-ecosystem.

The nature and man relationships are of great importance in the global ecosystem. These relationships gained significant momentum with the development of scientific and technical progress, in particular machine production. Humanity has turned into a powerful geological force that exerts influence on most natural processes. The result of it turns to physical, chemical, biological pollution, and the radioactive pollution, which deserves special attention.

Domestic scientists researched the problem of the impact of the Chernobyl nuclear disaster on the mental health of the population: clinical and psychological characteristics of non-psychotic disorders (L. Kryzhanivska, A. Chuprikov, E. Gorban), mental health disorders (E. Khomska, V. Krasnov ). Children were particularly affected, the effect of small doses of radiation on the physical development of children was researched (N. Sinchuk, Z. Paramonov, V. Shatylo, V. Pavlyuk) [1; 5; 6].

Domestic scientists also worked on the scientific and practical problems: psychological assistance to the population affected by disasters (S. Yakovenko), psychological correction of psycho-emotional states of victims of the consequences of the Chernobyl disaster (V. Lysenko) and others [3; 7].

The population can make a negative impact on nature, and the consequences of this impact are manifested in the emergence of health disorders, in particular, human mental and psychological health. In the relationship between human and nature, it is the social community of people that is of great importance. A person's entry into human society is accompanied by the development of social adaptation of the individual, or its violation – maladaptation.

Social adaptation of an individual is a process of active adaptation to the social environment where a person is in, it has a continuous character, it is most evident during interaction with the social environment and during working activities. Complication of the individual's behavior in the social environment as a result of incorrectly formed ideas about oneself leads to the formation of social and psychological maladaptation.

At the current stage of global scientific research, the problem of social adaptation is described in many scientific achievements, in particular, its features are highlighted in the works of G.Yu. Aizenk, A. Bandura, K. Levin, L. Phillips and others, the structure and component composition were described by G.O. Bal, J. Piaget, and others.

Social adaptation is carried out with the help of mechanisms of social adaptation, which are grouped in the following way:

Cognitive mechanism (social-psychological-individual and activity dimensions):

adaptive strategies - forms of behavior aimed at analyzing the difficulties that arise and possible ways to overcome them, learning and gaining adaptive individual experience, increasing self-esteem and self-control, realizing one's own value as an personality, believing in one's own resources for overcoming difficult situations, developing skills and strategies solving psychological problems related to social adaptation, knowing one's activity in the context of the psychosocial activity of others;

maladaptive strategies – passive forms of behavior with refusal to overcome obstacles, despair in one's own strength and intellectual potential, deliberate underestimation of the situation, negative personal experience.

Behavioral mechanism (activity dimension):

adaptive strategies - behavior of an individual during which he cooperates with experienced people, seeks support in the nearest social environment or offers it to others in overcoming difficulties, compromise and cooperation, acceptance of "struggle";

maladaptive strategies - behavior that includes avoiding unpleasant situations, passivity, solitude,

isolation, the desire to avoid active interpersonal contacts, refusal to solve problems, rivalry, avoidance.

Emotional-affective mechanism (social-psychological-individual and activity dimensions):

adaptive strategies – an emotional state with active protest in relation to difficulties and confidence in the existence of a solution to any, even difficult, situation;

maladaptive strategies - behavior with a depressed emotional state, a state of hopelessness, susceptibility, experiencing anger and guilt toward oneself and others, lack of positive experiences.

Communicative mechanism (social-psychological-individual dimension):

adaptive strategies – strategies, forms and methods of communication leading to social adaptation;

maladaptive communicative strategies – inadequate and conflictual forms of communication that lead to social maladaptation and interpersonal and group conflicts.

Motivational - volitional mechanism (social-psychological-individual and activity dimensions):

adaptive strategies – internal motivational strategies and controlling - volitional qualities that lead to social adaptation;

maladaptive strategies – maladaptive motivations, in particular motivational strategies to avoid failure and external locus of control [8].

It is important to note that the ascending construct in the presented model is a personality with a personal core - the Self-concept.

The structure of the personality is presented in the following way:

The social-psychological-individual dimension consists of the following basic personality substructures: 1.1. Ability to communicate. 1.2. Orientation. 1.3. Character. 1.4. Self-awareness. 1.5. Experience. 1.6. Intellectual processes. 1.7. Psychophysiological personality qualities.

Activity dimension: 2.1. Need-motivational component. 2.2. Informational and cognitive component. 2.3. Goal-setting component. 2.4. Operational-resultative component. 2.5. Emotional and sensory component of activity.

The nosological dimension of the conventional personal space is differentiated into the characteristics of developmental disorders or the post-traumatic mental state of a person.

Age, genetic dimension, which determines the temporal quality of the four-dimensional personal hyperspace and characterizes the level of development of personality qualities, aptitudes, abilities, and mental properties [8].

The proposed model presents not only the vectors of influence of the population, in particular of individual social groups and individuals, on the socio-economic subsystem of the socio-ecosystem, but also of the results of this influence - anthropogenic pollution on the population, in particular on the individual and his social-psychological-individual, nosological (as there is high risk of physical and mental health disorders), activity, age, genetic dimensions.

**Conclusions and Prospects for Further Research.** A socio-ecosystem is a territorial socio-natural self-regulatory system, the dynamic balance of which must be ensured by human society. Different types of anthropogenic pollution have a sociological nature, that is, they arise as a result of human activity. For its part, anthropogenic pollution itself affects a person both in the form of physical health disorders (disruption of vital activities) and mental health disorders of a person, which is determined by a violation of the functioning of the mechanisms of social adaptation of the individual.

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Review received 08.06.2023