Dynamics of students' eco-consciousness under conditions of an unstable epidemiological situation

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Abstract. This article deals with the problem of studying the ecological consciousness of students at the stage of the growing pandemic. The authors analyze the main theoretical approaches to the structural organization of eco-consciousness in foreign and domestic psychology. The need for the formation of public eco-consciousness and environmentally oriented values among the modern youth is substantiated. An empirical study of the eco-consciousness structure of students with different degrees of involvement in natural objects, processes and phenomena in an unstable epidemiological situation is presented. High indicators of anthropocentric and archaic types of eco-consciousness are revealed. The attained results can be used by university teachers and practical psychologists to create psychological and pedagogical means of organizing the professional and educational environment at University. It will allow to manage the process of developing the environmental competence of students of different specialties.

1 Introduction

Human impact on nature for several centuries has led to global environmental problems. Exposure to the virus as a biological object in just a few months has caused global economic, social, political and psychological problems in modern society.

The global processes of life transformation caused by the pandemic have resulted in significant changes in the mentality. Regardless of environmental values, even the time constraints and social distancing have led not only to a change in the patterns and the rhythm of life, but also to a change in the way of thinking and understanding the significance of the natural factor. People have realized that a natural object can limit, regulate, and even cause helplessness. The worldwide spread of the coronavirus (COVID-19) demands us to suppress our human evolutionarily programmed social impulses: to see our friends, to gather in groups, or to touch each other.

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In the pre-COVID period, one of the solutions to the problem of the ecological crisis was the environmentalization of public consciousness in the direction of changing the anthropocentric worldview to ecocentric values, the formation of environmental responsibility and competence, the development of eco-oriented behavior among children and young people [1, 2, 3].

The significance of the study of the nature-man relationship problem was not in doubt even in the pre-COVID period. In the context of the world community transformation, economic collapse and growth of unemployment in the world, the issues of studying the eco-consciousness of young people have special social relevance and scientific interest.

In modern foreign psychology, the term "eco-consciousness" is considered through the relationship with such constructs as "environmental concern", "environmental sensitivity", "environmental values" and is defined as a complex multidimensional phenomenon that reflects "the fundamental way of attitude to nature" and "the tendency to eco-oriented behavior". P. White identified the following characteristics of environmental consciousness:

- deep awareness of involvement in non-human nature;
- identification of the individual self with non-human nature;
- value of oneself as a part of nature;
- deep feelings about the destruction of the natural environment and the desire to intellectually and emotionally cope with this fact;
- desire for self-realization, focused on meaningful communication with non-human others;
- realization that our global crises are the result of the dominance of industrial and consumer modernity;
- unconscious need to connect with non-human nature, which is actualized by the inevitability of negative consequences [4].

Summarizing the understanding of the main theoretical approaches to the structural organization of eco-consciousness in foreign psychology, M. Sánchez identifies the following main components: affective (general environmental values, worldview, beliefs, and concerns); dispositional (personal attitudes); pro-ecological behavior (active aspect) and cognitive component as a system of knowledge and ideas about environmental processes and problems. Sánchez proposes an operationalization of environmental consciousness that combines the alignment of pro-environmental values and perception of the state of the environment (affective dimension) with the level of information (cognitive dimension), attitudes to action (dispositional dimension), and participation in pro-environmental behaviors (active dimension).

There is a two-way relationship between these different aspects. For example, inclusion in a particular pro-environmental behavior may be reinforced or mitigated by certain attitudes, such as a sense of individual responsibility, which in turn may encourage or discourage increased pro-environmental engagement in other behaviors [5].

A causal relationship exists between all aspects of ecological consciousness. At the same time, in accordance with a number of approaches in social psychology, the affective component in the model of ecological consciousness is the leading one, since it has a direct influence on the formation of pro-ecological attitudes and is a factor in the formation of eco-oriented behavior.

The relationship between the affective aspect and the active aspect (i.e., pro-environmental behavior) is mediated by the behavioral and cognitive components. The affective component of ecological consciousness is measured using the New Ecological Paradigm (NEP) scale, which largely assesses the level of formation of an ecological worldview or belief [6].

In most sources, ecological consciousness is characterized as a form of public consciousness that has a three-component structure (cognitive, emotive, behavioral components) and has a number of attributive features (subject and forms of reflection, socio-cultural functions, carrier subjects, value basis, intentionality, continuity, hierarchy of content, constitutive ability, etc.).The process of forming eco-consciousness is largely determined by the national and cultural characteristics of the attitude to nature [7].

The prospects for overcoming the environmental crisis are primarily associated with the need to form a public ecological consciousness, environmentally oriented values and behavior among children and young people.

Most of the available eco-studies dedicated to the research of structural and semantic features of consciousness of students receiving environmental, agricultural, veterinary and medical education, indicate the development of environmental values, norms of moral attitude to nature, environmental responsibility and other components of the ecocentric type of environmental consciousness. A comparative analysis of students of humanities, mathematics, and other fields of study (who are not involved in natural objects, processes, and phenomena) reveals a tendency to an anthropocentric type of development, a decrease of the cognitive component and the level of environmental responsibility and awareness. It proves that learning environment and eco-education encourage the formation of environmental priorities and a responsible attitude to nature, an eco-oriented value system, and the environmental competence of future specialists [8].

The main purpose of this research is to identify the key features and dynamics of the students' eco-consciousness in an unstable epidemiological situation.

2 Materials and methods

The study engaged 38 Kemerovo State University students specializing in psychology and economics. They were not involved in the process of natural objects, processes and phenomena. In addition, 36 students of Kemerovo State Medical University participated in the study. Diagnostics was carried out during the period of April-May 2020 under conditions of distance learning.

"Environmental Consciousness Questionnaire" developed by researchers of Psychological Institute of the Russian Academy of Education was used to study the structure of students' eco-consciousness. This questionnaire makes it possible to diagnose the evidence of various components of eco-consciousness, indicators of environmental motivation and responsibility. Moreover it helps to measure various components of eco-consciousness (emotional, activity, motivational, cognitive). Diagnostics of the level of environmental responsibility and the possibilities of its delegation are also included in the structure of the methodology [9]. The Mann-Whitney U test (also known as the Wilcoxon rank-sum test) was used to estimate the differences between the sample groups based on the values of all scales.

The study found that a comparison of differences in the average indicators on all scales in the three groups of students did not give results. Table 1 shows the average group indicators of the intensity of the motivational-value, cognitive, activity-practical and emotional-volitional components of the eco-consciousness of students with different degrees of involvement in natural objects, processes and phenomena.

Table 1. Average group indicators of the intensity of motivational-value, cognitive, activity-practical and emotional-volitional components of students' eco-consciousness.

Eco-consciousness components	**Indicators**
Positive impact of nature on humans (N+)	22.76
Negative impact of nature on humans (N-)	31.67
Positive human impact on nature (H+)	32.59
Negative human impact on nature (H-)	55.39
Anthropocentric consciousness	85.76
Nature-centric consciousness	61.67
Ecocentric consciousness	65.32
Archaic consciousness	81.45
Natural environment (NE)	2.68
Human-made environment (SE)	2.43
Social Environment (TE)	1.96
Environmental motivation	17.15
Unity with nature	17.71
Aesthetic sensations (U1)	6.7
Body Sensations (U2)	5.37
Activity (U3)	5.68
Personal level (R1)	3.21
Close habitat (R2)	2.015
Regional level (R3)	2.55
State level (R4)	1.8
International level (R5)	2.42
Environmental awareness	1.3
Environmental responsibility	11.99

3 Results and discussion

Figure 1 shows the average group indicators of the intensity of different types of eco-consciousness of students with various degrees of involvement in natural objects, processes and phenomena.

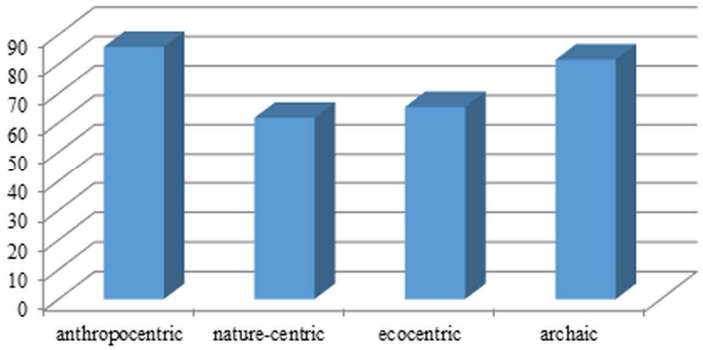

Fig. 1. Intensity of different types of eco-consciousness of students with various degrees of involvement in natural objects, processes and phenomena.

The analysis of quantitative and percentage indicators suggests that the majority of students belong to the anthropocentric and archaic type of consciousness with an evident attitude "negative impact of man on nature". At the same time, students are aware of the high degree of negative human impact on nature. The anthropocentric type of eco-consciousness is characterized by a low degree of proximity and significance of nature, consumer attitudes and selfish motives to natural objects and processes.

The predominance of anthropocentricity (the pragmatic nature of motives and goals) as a trend in the development of social ecological consciousness of modern students has already been identified in many academic papers [10]. Researchers explain it as a result of education of modern youth on the basis of anthropocentric paradigm [11].

We are particularly interested in high indicators of the archaic type of consciousness, regardless of the specifics of training and the degree of involvement in biological objects (44.5% of university students; 42.2% of medical students). Staying for a long period of time in unusual conditions of forced isolation and restriction of social activity, young people show anthropocentric attitudes and elements of irrational intuitive archaic consciousness: a sense of fear and powerlessness over the destructive influence of nature; understanding of the dependence and secondariness of man and society on the natural forces. At the same time, even in a group of students of the specialty "Medical Care", the indicators of the ecocentric type of consciousness were significantly reduced ($p=.021$).

Thus, it should be noted that in the context of the pandemic regressive tendencies of eco-consciousness appear. They are manifested primarily in a return to the worldview and attitude to nature inherent to our ancestors (recognition of nature primacy, dependence on it, a sense of uncertainty and fear). The data obtained indicate the aggravation of this "gap" and the weakening of environmental values in the period of increasing epidemiological threat.

The value-motivational component of eco-consciousness is quite contradictory: the level of environmental motivation development is high with a low level of environmental responsibility, combined with the recognition of a high degree of negative impact of nature on humans. That is, on the one hand, students are characterized by a high level of interest in solving environmental problems and the presence of active environmental-oriented internal

motives. On the other hand, we would like to notice the inability to bear responsibility for what they have done to nature and follow moral requirements associated with the attitude to nature. The low level of environmental responsibility is also reinforced by the reduced indicators of the activity behavioral component of eco-consciousness. Despite the current contradiction, it seems optimistic that the vector of environmental responsibility is directed to the personal level (statistically significant differences with the state level (R4) p=.0036). Students delegate environmental responsibility to the personal level. As the result, a significant proportion of respondents perceive the consequences of environmental problems personally and feel their own responsibility for these problems.

Preferences of environments are practically not differentiated in the studied groups (the natural and man-made environments are equally represented in the consciousness, slightly prevailing over the society). It may indicate the lack of opposition of nature to the anthropogenic environment in the students' eco-consciousness.

The emotional and volitional component of eco-consciousness is 17.78 points. The ability to unity with nature is characterized by moderate indicators with the dominance of the aesthetic component (U1). Students demonstrate positive emotional experiences and nature admiring. Feelings associated with activity in the natural environment or with bodily sensations are less pronounced, but there are no statistically significant differences with the aesthetic component of eco-consciousness (p>.05).

The level of environmental awareness corresponds to low values, which indicates the weakness of the cognitive component of environmental consciousness (understanding of the lack of knowledge and insufficient ideas about natural objects, processes, phenomena; monotony of information sources; passivity in the search for environmental information; lack of cognitive motivation in the natural science field, etc.).

4 Conclusion

Changes in pattern of life and forced constraints not only do not allow to ignore the information about the coronavirus infection, but also cause its constant presence in thoughts and actions, determining a high degree of involvement in the perception of the natural process. Social isolation affected the subjects' worldview in general, including social structure and social interaction. The COVID-19 pandemic is not only an epidemiological crisis, but also a psychological one.

The specificity of the students' eco-consciousness under conditions of an unstable epidemiological situation is characterized by a combination of high indicators of anthropocentric and archaic types of consciousness with the leading value system "the negative impact of man on nature". High average group indicators of the archaic type of consciousness attest to regressive tendencies (fear of natural forces). Natural processes are perceived as threatening. The current natural disaster and the associated changes in public and personal life have reoriented attention to the natural environment, making people realize not only the inextricable connection, but also the dependence on natural phenomena.

A specific feature is a contradictory combination of a high level of development of the motivational and value component of eco-consciousness with a low level of development of environmental responsibility, awareness as well as activity and practical component.

Qualitative and quantitative differences in the structure of eco-consciousness, indicators of environmental motivation, competence, and responsibility were not revealed.

Research findings can be used by university teachers and practical psychologists to create psychological and pedagogical means of organizing the professional and educational environment in higher education institutes, which gives opportunity to manage the process

of developing the environmental competence of students of various specialties. The identified trends will serve as a starting point in the creation, description and empirical testing of other empirical hypotheses.

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