A COMPARATIVE STUDY OF ATTITUDES TOWARDS ENVIRONMENTAL ISSUES IN THE DIGITAL ENVIRONMENT AND REALITY

Margarita Shapovalova[1], Svetlana Nikulina[1], Natalia Voloskova[2], Elena Enns[1]

•

[1]Pyatigorsk State University, RUSSIA
[2]North Caucasus Federal University, RUSSIA
rey71@mail.ru

Abstract

The article presents a comparative analysis of attitudes towards environmental issues in real life and in the digital environment. The authors attempted to evaluate 10,000 statements regarding environmental issues by VK users not only from the point of view of content analysis, but also from the point of view of the psychological characteristics of this digital trace of individuality. On the other hand, when analyzing attitudes towards environmental issues in real life, we applied traditional methods of psychological personality diagnostics, which were taken by 80 VK users. To compare the results obtained, we used data from the diagnostics of emotional attitudes - positive, negative and neutral. The results obtained in this study allow us to evaluate and compare attitudes towards environmental issues in real life and the digital environment, which contributes to understanding and identifying ways to solve problems of the ecosystem as a whole.

Keywords: digital trace of individuality, environmental issues, digital environment, VK users, emotional attitude

I. Introduction

Currently, one of the most burning topics in public discussion is the topic of ecology. In some aspects, these problems sometimes act as triggers to draw attention to the risks and real threats to the entire ecosystem. However, there are also "excesses" in assessing problems. An example is the problem of global warming, which environmentalists talk about as a fact that has happened more than once in the history of the earth, and is practically not related to environmental pollution.

Psychologists are particularly interested in the attitude of society (both real and digital) to environmental issues. The relevance of studying attitudes to environmental aspects of life is that it is necessary to know and control the degree of an individual's emotional reaction to pressing issues related to changes in the living environment of a modern person. Starting with the problems of the thinning of the ozone layer and ending with people's dissatisfaction with the proximity of settlements to landfills or the fact that neighbors have too many pets and do not take care of them. The modern educational and upbringing system provides many courses to improve environmental literacy. However, in real life, and even more so in digital reality, society actively and emotionally reacts to problems on the one hand, and, on the other hand, shows its attitude to the world around it. At the same time, people's reactions can indicate both a healthy and constructive attitude, and a destructive and harmful attitude to the environment. In this paper, we examined the psychological characteristics of attitudes to environmental problems, both in the real world and in the digital environment.

II. Methods

The study was conducted in September 2024 at the Pyatigorsk State University. In our study, we used two different approaches, since it is impossible to apply the same diagnostic methods to the real world and the digital environment.

So, to assess the attitude towards environmental issues in the digital environment, we received an unload of 10,000 statements by VK users on this topic. We processed these statements on the Polyanalyst platform [1], which provides the technical ability to identify the tone of statements, determine keywords, terms and establish connections between them [2; 3]. Such a technique allows us to characterize the digital trace of individuality, to characterize it in the digital environment. [4] This opportunity was provided to us by the developer of the Polyanalyst platform - Data - Diving Academy , the University Consortium of Big Data Researchers at Tomsk State University.

To diagnose attitudes towards environmental issues in the real world, we used valid diagnostic methods – the Method of Diagnosing Motivation for Interacting with Nature "Alternative"; the Scale of Environmental Concern and the Method of "Differential Emotions Scale"[5]. VK users took this diagnostic. We used statistical data analysis to process the data obtained.

In the third stage of our research, we conducted a comparative analysis of the obtained data.

III. Results

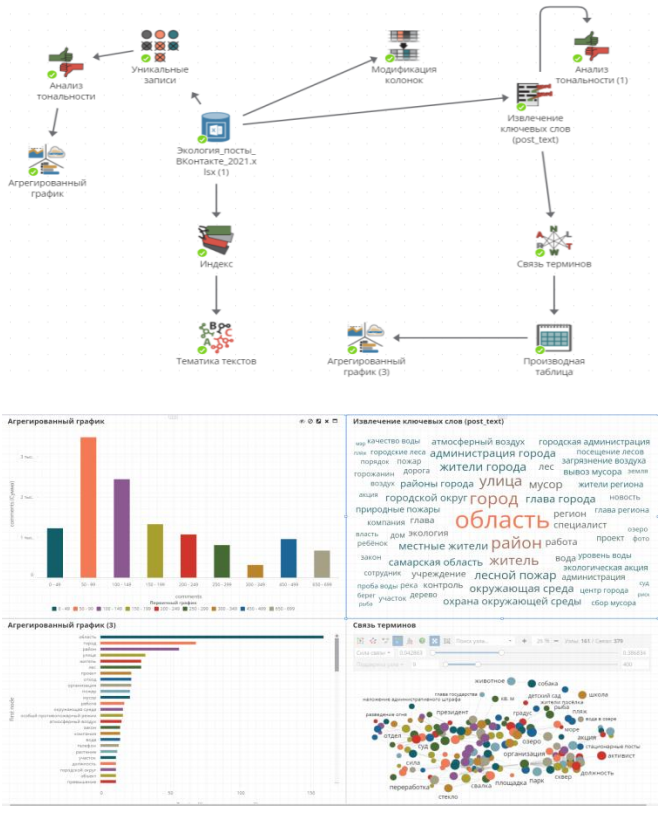

Figure 1: *Project and dashboard for analyzing environmental statements in VK*

Fig. 1 shows the results of the analysis of 10,000 statements by VK users. Working on the Polyanalyst platform and using the functionality of various nodes, we identified a number of features that can be interpreted from a psychological point of view. Thus, analyzing the data of the "Keyword Extraction" node, we define the following as the main keywords: "region", "mayor", "city", "district"; and secondary keywords - "garbage", "environmental protection", "forest fires", etc. This fact indicates that VK users, speaking out about environmental problems, more often define the priority for government representatives in responsibility for solving problems. These data are confirmed by the data of the "Aggregated Graph" node.

By defining the features of the connection of terms in the corresponding node, and relying on the indicators of the number of connections and the strength of connections, we identified the following priority connections - waste-landfill-site-plastic; atmospheric air-pollution-maximum permissible concentration; citizen-fine-waste incineration; recycling-processing-glass. These chains define the main topics in the discussion, they can be considered as the main triggers.

Particular attention should be paid to the data of the "Sentiment Analysis" node. For our study, it is necessary to determine the emotional background - positive or negative - of the statements of network users. The tonality of the statements was determined automatically and it turned out that there are 1.8 times more negative statements than positive ones.

In the second stage of our research, we present an analysis of a block of methods that were completed by 69 real respondents – VK users.

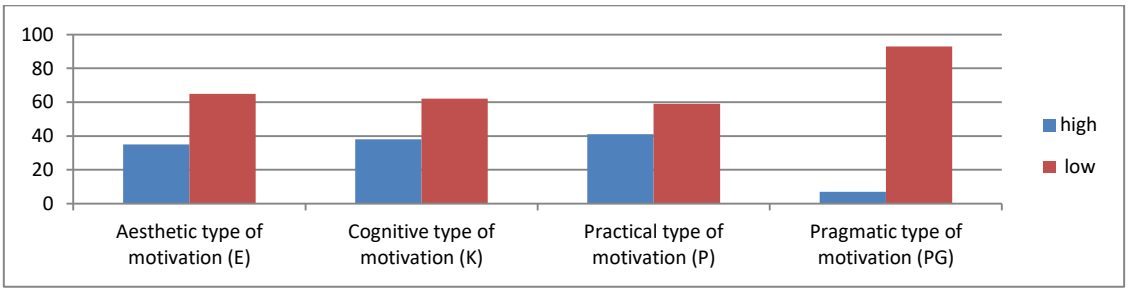

Figure 2: *Results of the Methodology for Diagnosing Motivation for Interaction with Nature "Alternative" (%)*

According to the data presented in Fig. 2, we see that the overwhelming majority of respondents showed a low level of motivation for their attitude towards the environment and its problems, which indicates that respondents are not inclined to be interested in nature, enjoy it, and try to solve environmental pollution problems. The overwhelming majority of respondents are more concerned with themselves and their concerns. In comparison with the results of the analysis of statements, we can trace the coincidence of attitudes towards the environment. VK users tend to consider the administration and officials to be the main ones responsible for the state of the environment. The users themselves are not inclined to admire or learn about the environment around us.

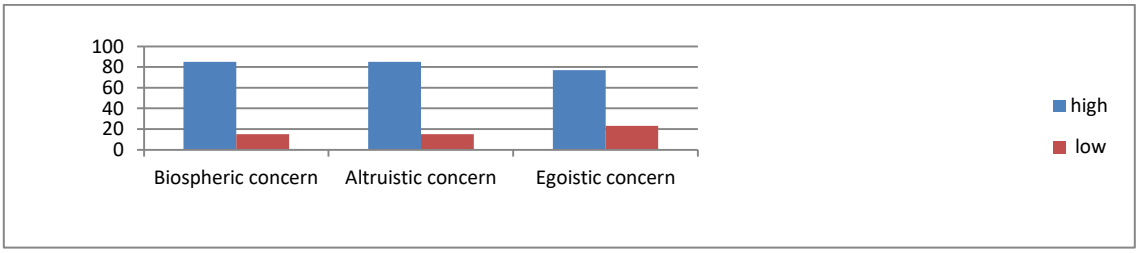

Figure 3: *Results for the Environmental Concern Scale Methodology (%)*

Fig. 3 shows the results of the "Scale of Environmental Concern" Methodology. It is obvious that high scores were obtained for all scales , which indicates concern about the fate of animals, birds and the ecosystem as a whole, as well as concern about the impact of environmental problems on children, people who live in the same region with me. A lower level is observed for the "Egoistic Concern" indicator - everything that concerns the consequences of environmental problems for one's own health, one's own lifestyle and future. Such scores indicate a high level of involvement in understanding the consequences of environmental problems in real life. In the digital environment, we can state an identical attitude and concern.

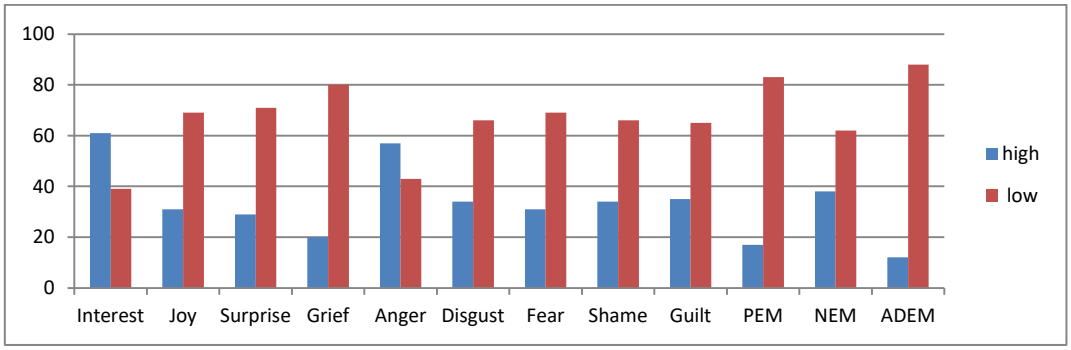

Figure 4: *Results for the "Differential Emotions Scale" method (%)*

Characterizing the data presented in Fig. 4, we determine the level of emotion that respondents showed regarding the current situation. In the block of positive emotions, "Interest" prevails, which is confirmed by the "Cognitive motivation" indicator regarding environmental problems. In the block of negative emotions, the data on the "Anger " indicator prevails, which is approximately half the results for the "Disgust" and "Fear" indicators. In general, the overall index of positive emotions is extremely low - about 19%, while the level of negative emotions is about 40%. This picture is also observed in the digital environment, where the level of positive tonality of statements is 1.8 times lower than the level of negative tonality of statements.

IV. Discussion

Modern studies of environmental problems affect various spheres of human activity and the whole society as a whole. In the work of E.A. Kharcheva the level of awareness of the population about the existence of various kinds of environmental problems is studied, and the level of environmental culture of the population of Russia and Europe is determined [6]. In the study of N.V. Kochetkov the components of the subjective attitude of young students to environmental problems are determined [7]. The scientist notes that if for the overwhelming majority of the population the determining component of the subjective attitude to environmental problems is the emotional component, then for students connected with environmental problems within the framework of their educational and cognitive activities, the components of a practical and cognitive nature act as key and decisive. In the study of O. Ogarkov the influence of environmental crises on the individual was revealed [8]. The study showed that the psychological consequences of environmental crises can be varied and include the following aspects: stress and anxiety, deterioration of physical and mental health, feelings of helplessness and fatigue, and changes in attitudes toward nature. The study shows that overcoming these negative psychological consequences of environmental crises is possible with the help of psychological, educational, personal strategies, and strategies to reduce the negative impact on the environment [8]. Social and psychological research abroad also raises the issue of the relationship and mutual influence of environmental and personal problems [9].

However, in modern research there has not yet been an attempt to study the digital trace of individuality in relation to the holistic structure of individuality in its relation to environmental issues. The authors of the article plan further research in the direction described in this study

References

[1] Petrov E. Yu., Sarkisova A. Yu. The resource of the analytical platform PolyAnalyst in social and humanitarian scientific research // Open data - 2021. Forum materials / edited by A. Yu. Sarkisova. Tomsk: Publishing house of Tomsk State University, 2021. Pp. 94–104.

[2] Markowetz A., Błaszkiewicz K., Montag C., Switala C., Schlaepfer TE Psycho-informatics: Big data shaping modern psychometrics // Medical Hypotheses. 2014. V. 82. P. 405–411

[3] Matz S., Kosinski M., Nave G., Stillwell D. Psychological targeting as an effective approach to digital mass persuasion // Proceedings of the National Academy of Sciences USA 2017. V . 114.P. 12714–12719.

[4] Marcinkowska, T. D. New methodology of digital everyday life / T. D. Marcinkowska // Questions of Psychology. - 2023. - Vol. 69, No. 2. - P. 3-13. - EDN NNHYYG.

[5] Ivanova Alexandra Andreevna, Shevel Tatyana Maksimovna, Agisova Fatiha, & Patrakova Natalia Alekseevna (2023). SCHULTZ'S ENVIRONMENTAL CONCERN SCALE: ADAPTATION AND VALIDATION. Psychology. Journal of the Higher School of Economics, 20 (4), 699-717. doi: 10.17323/1813-8918-2023-4-699-717

[6] Kharcheva E. A. (2021). Population attitude towards environmental problems. Digital Science, (5), 65-69.

[7] Kochetkov N.V. On the comparative importance of the main priorities of environmental policy for students // United Scientific Journal, No. 26 (84). - M., 2003. - P. 41-43

[8] https :// www . researchgate . net / publication /376081109_ Psychological _ consequences _ of _ environmental _ crises _ for _ the _ individual

[9] Steg L, Gifford R. Social psychology and environmental problems. In: Steg L, Buunk AP, Rothengatter T, eds. Applied Social Psychology: Understanding and Managing Social Problems . Cambridge University Press; 2008:184-205.