

# Psychological factors of environmental responsibility of student youth

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**Abstract.** The study addresses the current social problem of psychological determinants of environmentally responsible behavior. Environmental responsibility acts as a mediating link between the cognitive, values, and emotional components of ecological consciousness and the predisposition of young people to pro-ecological actions. The empirical material was collected using a questionnaire method followed by factor and cluster analysis. It was found that the motivation of environmental activity is most associated with the social and territorial identity of young people, in the least with the declared ecological values. Identity with interest groups determines the readiness to volunteer in environmental organizations. A sense of connection with large social communities increases the desire of young people for socio-political activity. Three equal in number groups of students were identified, who attribute responsibility for the natural environment to one of three factors: personal behavior, environmental organizations of various scales, as well as economic conditions, and state policy.

## 1 Introduction

The scientific community and public figures are unanimous in the opinion that the manifestations of various environmental problems recently are primarily determined by psychological factors. Even though ecological technologies are intensively developing, the overhaul of the consciousness of modern man in the field of safe nature management should be of paramount importance. Activities promoting a careful attitude towards nature should be addressed primarily to young people as the most receptive, socially active age category with intensively developing worldview positions.

Some concepts actively discussed in the scientific literature reflect the content of the personality consciousness regarding the attitude to the surrounding natural environment and ensure environmental friendliness of behavior. In ecological psychology, such concepts include categories of different scales, ranging from relatively simple phenomena such as environmental values [1,2] and attitudes [3,4] to complex integral phenomena - ecological consciousness [5-8], ecological culture [9,10].

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Among these categories, the concept of environmental responsibility occupies a particular position, since it can act as a mediating link between the emotional attitude to nature and environmental protection activity [3,11,12]. At the philosophical level, ecological responsibility is a moral imperative of human existence, which is the internal regulator of his relationship in the "man-biosphere" system, based on awareness of his duty and prompting self-government in the field of sound nature management [13]. Pedagogical practice approaches environmental responsibility as the principal goal of environmental education. They consider it a moral and legal personal quality, which, through awareness of its involvement in socio-ecological processes, contributes to the ability to predict the consequences of its behavior in the natural environment and regulate it [14,15]. According to a well-known methodologist of Russian environmental psychology V.I. Panov [16], environmental responsibility is a component of environmental consciousness. It has a practice-oriented character, ensuring the unity of consciousness and activity. It is viewed at the transcendental level when a person acts as a subject of self-development in the system "Humanity-Nature".

Accepting environmental responsibility as a prerequisite for pro-ecological behavior, we set the goal of this study to identify the relationship of cognitive, value, emotional components of ecological consciousness and predisposition to environmental actions. Research in the field of environmental psychology suggested the following components of ecological consciousness as factors of environmental responsibility: ecological perceptions reflecting the role of the natural environment in human life [3,6,17]; environmental values [18,19]; concern about the impact of environmental threats [20,21]; the identity of the individual with the socio-natural environment [22,23].

In our work, we attempt to answer two research questions:

- 1) What is the nature of the relationship between these phenomena, both among themselves and to carry out environmental activity among young people.
- 2) To what extent are the selected components of environmental responsibility expressed in students.

## **2 Materials and methods**

The method of obtaining empirical data was a questionnaire method. The questionnaire aimed at identifying conditions affecting the responsible behavior of young people with concern for the natural environment. The study involved 254 students of humanities and natural sciences of Pskov State University aged 18 to 23 years.

The respondents were addressed with 92 questions grouped into 4 assessment scales that underwent a psychometric check procedure. The 4-point Likert scale assessed the degree of agreement of the respondents with the answer options.

The generalized content of the assessment scales is represented by the following characteristics:

The scale "Ecological values and ideas about nature" reflects vital values, values of environmental safety, the aesthetic value of the natural environment, a set of ideas about nature as a complex fragile system and a source of development of science, art, and human personality.

The scale "Identity with nature and social groups" characterizes a sense of connection with social groups of various scales: identity with the immediate environment (family, study group), identity with interest groups and with the territory (leisure, religious and other associations, place of residence), identity with large social groups (humanity, the population of the country, etc.).

The scale "Concern about threats to environmental safety" includes three blocks of environmental threats. These are the environmental problems of the globe (for example, the

greenhouse effect, the decline of biological diversity), natural disasters and energy problems, pollution, and waste.

The scale "Behavior aimed at nature protection" allows identifying the respondents' ideas about the subjects that should ensure environmental protection at the level of state policy, large organizations, volunteer associations, as well as about the actions that they are personally ready to take in this direction.

The obtained data of the questionnaire were subjected to factor analysis using the method of main components (Varimax rotation). Several factors were allocated whose eigenvalues are more than one, the significance of the factor weights of variables is more than 0.4, the accumulated percentages of variance on the integral index were above 50%. Cluster analysis helped to characterize the levels of severity of these components in young people. As a result, groups of students with similar manifestations of environmental responsibility components were described.

### 3 Results and discussion

Factor analysis made it possible to reveal the structural and substantive characteristics of students' environmental responsibility and to identify complexes of indicators that reflect the relationship of students' attitude to the natural environment and trends in their ecological behavior. As a result of the analysis of empirical data, five factors were obtained.

Factor 1 "Environmental values, concerns about pollution, economic and political environmental regulation" (13.4% variance) includes variables: pollution and waste (0.732); the impact of economic structures and public policies on the protection of nature (0.599); environmental values (0.541); the value of the natural environment as opposed to the values of civilization (0.513).

Environmental values take a significant place in the structure of this factor, which include vital values (life, health), awareness of responsibility for the well-being of future generations, the importance of an environmentally safe environment. At the same time, there is a dichotomy between the understanding of nature as the universal human habitat and the values that determine the consumer attitude to nature. These include, for example, the pursuit of material enrichment and the use of natural resources for technological purposes. Thus, young people realize that the needs of modern civilized society harm the preservation of the natural environment and lead to its irreversible changes. Concern about pollution of all habitats takes a special place among other ecological problems in this factor. Probably mass media's active attention to the issue facilitates this concern in students.

At the same time, with normative values, this factor did not include a single indicator that would reflect the pro-ecological behavior of young people at the individual level. The main contribution to the organization of nature conservation events is associated with macro factors - state policy, officials, the media, the administration of industrial enterprises. This situation reflects some contradiction when the awareness of the importance of nature protection does not yet reach the level of personal involvement in environmental measures.

Factor 2 "Activity of public environmental organizations" (12.3% variance) includes variables: the aesthetic value of nature as opposed to its industrial use (0.746); the impact of environmental organizations, scientists, and volunteers on nature (0.680); identity with interest groups and territory (0.612); identity with the immediate environment (-0.487).

In the composition of this factor, in our opinion, the most interesting is the negative relationship between two types of identity, which allows us to distinguish two forms of personality orientation. One of them reflects the concentration of the individual on the life of the family and study groups, which are the immediate sphere of youth activity, the other - indicates the expansion of the interests of students, their orientation to groups of like-minded people, and connection with the territory of residence. This orientation determines

confidence in the efficient activities of scientific communities, regional and international public organizations in environmental protection. One can assume that such an attitude will create youth readiness for volunteer activities. This factor also emphasizes the aesthetic value of the natural environment, which is opposed to its pragmatic use.

Factor 3 "Perceptions of nature as a fragile system and concern for global environmental problems" (11.5% of the variance) includes variables: nature as a complex system and a source of development of science, art, and human personality (0.738); environmental problems of the globe (0.671).

The factor reflects a complex of diverse ideas about nature. On the one hand, according to respondents, nature gives impetus to the development of science and art, is a source of recreation, inspiration, and the formation of a man's personality. On the other hand, students believe that nature is a sensitive system, the imbalance in which poses a danger to humanity. These perceptions lead to a high level of concern about global environmental problems. However, this concern does not lead to behavioral activity for nature conservation. The respondents probably perceive the planetary scale of environmental issues (climate warming, destruction of the ozone layer, etc.) as something abstract that does not directly affect their lives.

Factor 4 "Individual pro-environmental behavior" (11.4% variance) includes variables: daily pro-environmental behavior and its promotion among loved ones (-0.571) and concern about natural disasters and the energy problem (0.695).

The negative relationship between indicators of individual environmental behavior and concerns about environmental threats in the form of natural disasters and lack of resources constitute the contents of Factor 4. At the same time, this relationship may indicate that everyday environmentally friendly behavior helps to reduce the level of anxiety from environmental insecurity.

Factor 5 "Students' own social and political activity on nature protection" (10.3% of variance) includes variables: students' socio-political activity on nature protection (0.779) and identity with large social groups (0.693).

Factor 5 is similar to factor 2, as it also reflects the relationship between indicators of identity and social activity. However, in factor 2 identity with small groups is related to participation in broad environmental organizations. Identity in factor 5 is associated with increased political activity, media activity, and involvement in ecological movements with large groups (humanity, population of a territory). Variables in factor 5 also indicate readiness for environmental protection as a volunteer.

The undertaken cluster analysis characterized the level of selected factors among students. Noteworthy that the subjects were divided into three main groups equal in number (32.3% of students each) depending on which methods of protecting nature they consider the most effective. Representatives of the first cluster can be designated as "Aware of individual responsibility" since the most pronounced indicator of this group is readiness for daily nature-saving behavior. At the same time, their faith in the impact of regional organizations and international movements on the environmental situation is not that strong. At an average level, this group of students demonstrates their ecological values, anxiety about global ecological issues, assessing the influence of economic and political factors.

The second cluster included students focused on social activity in environmental behavior. In this group, the highest level of the indicator "Activity of public environmental organizations" is observed among all groups. These students identify more with like-minded communities and with the territory of residence and are ready to participate in the work of public associations. The third cluster is composed of students who show passivity in the field of nature conservation. Although they have a fairly high level of environmental values and concern about world ecological problems, they demonstrate a weak desire to

participate in pro-environmental activities as a part of environmental organizations and individuals. At the same time, these students attribute responsibility in the protection of nature to economic factors and public policy. A small number of respondents (3.1%) entered the fourth cluster with a very high level of pro-environmental activity in its various forms and increased anxiety about the impact of environmental threats.

## 4 Conclusions

The undertaken study of environmental responsibility revealed the following trends characteristic of students of Pskov State University:

1. The development of environmental values is not directly related to the increase in personal responsibility in ecological activities. Environmental values and perceptions of nature as a fragile system requiring protection remain declarative and do not lead to action.

2. To the greatest extent, readiness for environmental activity has correlations with various forms of identity. Moreover, the higher the identity of students with large social communities, the higher their desire for socio-political activity. Students who actively participate in social groups united by common interests show readiness for volunteer activities as a part of public environmental associations.

3. Active day-to-day conservation activities reduce global environmental concerns.

4. The opinion of students regarding who is primarily responsible for the natural environment was divided equally, taking into account three factors: each person personally in his daily life, environmental organizations of various scales, political and economic decisions at the state level.

In general, students' awareness of environmental problems and ways to overcome them prevails over their involvement in environmental issues. However, the findings can be accepted only by taking into account some limitations. They require clarification of the results of the study on large samples of respondents covering different age, professional, regional groups.

## References

1. P. W. Schultz, V. V. Gouveia, L. D. Cameron, G. Tankha, P. Schmuck, M. Franěk, *Journal of Cross-Cultural Psychology*, **36(4)**, 457 (2005)
2. J. I. De Groot, L. Steg, *Environment and Behavior*, **40**, 330 (2008)
3. F. G. Kaiser, M. Ranney, T. Hartig, P.A. Bowler, *European psychologist*, **4(2)**, 59 (1999)
4. M. Wright, B. Klyn, *Journal of Empirical Generalisations in Marketing Science*, **4**, 42 (1998)
5. V. I. Panov, *Ecological psychology: Experience in constructing methodology* (2004)
6. V. A. Yasvin, *Psychology of attitude to nature* (2000)
7. S. D. Deryabo, *Ecological psychology: diagnostics of ecological consciousness* (1999)
8. I. A. Shmeleva, *Psychological Journal*, **32(5)**, 5 (2011)
9. S. A. Bortnikova, *Bulletin of the International Academy of Sciences (Russian section)*, **2**, 113 (2011)
10. E. G. Vinogradova, *Economic and Social Research*, **4(28)**, 70 (2020)
11. X. Zhang, N. Ye, *Proceedings of international symposium on green management and local governments responsibility*, 51 (2017)
12. A. Paco, R. G. Rodrigues, *International Journal of consumer studies*, **40(4)**, 466 (2016)

13. E. V. Ryabova, *Humanities, Social-economic and Social Sciences*, **5**, 269 (2012)
14. O. V. Petunin, A. A. Mzhelskaya, *Innovations in Education*, **5**, 58 (2005)
15. V. L. Krainik, Zh. Zh. Sergazina, *World of Science, Culture, Education*, **3(70)**, 203 (2018)
16. V. I. Panov E. V. Lidskaya, *Vestnik MSU named after M.A. Sholokhov. Socioecological technologies*, **1**, 38 (2012)
17. S. Jovanovic, O. Miljkovic, O. L. Zivkovic, D. Sabic, D. Gataric, M. Dzinovic, *Journal of environmental protection and ecology*, **18(3)**, 1223 (2017)
18. S. Jovanovic, L. Živković, A. Sladjana, G. Dragica, *Procedia - Social and Behavioral Sciences*, **171**, 317 (2015)
19. G. Liobikiene, R. Juknys, *Journal of cleaner production*, **112(4)**, 3413 (2016)
20. P. Janmaimool, S. Chudech, *Sustainability*, **12(4)**, 1610 (2020)
21. A. Ferrer-i-Carbonell, J. M. Gowdy, *Rensselaer Working Papers in Economics*, **0503**, 67 (2005)
22. S. Claiton, B.D. Irkhin, S.K. Nartova-Bochaver, *Psychology. Journal of the Higher School of Economics*, **16(1)**, 85 (2019)
23. E. A. Sorokoumova, E. I. Cherdymova, *Psychological Science and Education*, **26(1)**, 102 (2021)