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Wojciech Trempała, Andrzej Papuziński[1]

Anthropocentrism and Biocentrism in Human Attitudes toward Some Selected Dilemmas of Environmental Ethics – Case of Kuyavian and Pomeranian Province Citizens

Summary: The article presents the results of own research concerning attitudes toward the four selected dilemmas of environmental ethics. The empirical data was collected by means of a questionnaire in 2014 and 2015 on a representative sample of 1000 inhabitants of the Kuyavian and Pomeranian province. The respondents were asked to address 16 statements that related to some of the issues of environmental ethics including: value of human life in the face of the threat of overpopulation and an ensuing need to reduce the population, validity of human interests in view of nature's needs, priorities in environmental protection, as well as the principle of redress that specifies the extent of compensation of human induced damage to the environment. Each of the mentioned problems was presented for assessment in the form of four statements

[1] Dr Wojciech Trempała, Wydział Nauk o Polityce i Administracji, Uniwersytet Kazimierza Wielkiego w Bydgoszczy, adres e-mail: tremwoj@ukw.edu.pl, ORCID: 0000-0001-5442-7235; dr hab. Andrzej Papuziński, profesor uczelni, Wydział Nauk o Polityce i Administracji, Uniwersytet Kazimierza Wielkiego w Bydgoszczy, adres e-mail: ap@ukw.edu.pl, ORCID: 0000-0003-4359-0939.

adapted in axiological terms to the division accepted in environmental ethics into anthropocentric and biocentric positions.

Keywords: Anthropocentrism, biocentrism, ecological awareness, environmental sociology, environmental ethics

Introduction

The environmental awareness of society constitutes the prime object of research of environmental sociology. It determines the character of environmental sociology perceived as a separate subdiscipline interwoven with broadly conceived humanist and social reflections on our relations with nature at a time of environmental crisis (Trempała, 2016). From its very onset the research conducted in this field has been marked by a significant methodological and theoretical variability that on numerous occasions transcends well-established sociological paradigms.

It is the research initiated by Riley Dunlap and Kenta Van Liere, who devised the New Ecological Paradigm Scale (Catton, Dunlap, 1978; Dunlap, Van Liere, Mertig, Jones, 2000; Dunlap, 2008), that seems of paramount importance. This Scale constitutes the most popular tool in the field of environmental sociology used to distinguish between unecological world views, i.e. those that prevailed until global ecological problems and their potential effects have been identified and pro-ecological worldviews, i.e. those that serve to indicate the trajectory of awaited social shift during a global environmental crisis. Although the results presented in the article were produced and interpreted in consistence with the so called NEP Scale tradition, they diverge from it in one significant aspect. The adopted perspective seems novel since it applies the achievements of environmental ethics during an attempt to define human attitude towards nature from anthropocentric and biocentric positions. The applied conceptual framework of the research stems from accepting the following premises.

First of all, while environmental ethics, being a normative philosophical discipline, probes the question concerning the awaited shape of ecological awareness, environmental sociology, being a descriptive discipline of social sciences, analyzes ecological awareness of researched communities and characterizes changes that occur over time. Thus, the considerations and conclusions environmental ethicists formulate are likely to provide an interesting point of reference for sociologists. And vice versa, the results of sociological research are likely to provide inspiration for environmental ethics.

Secondly, although the division of ecological attitudes by Catton and Dunlap according to HEP/NEP distinction (Catton, Dunlap, 1978) significantly overlaps with the division of beliefs and attitudes accepted in environmental ethics, namely into anthropocentric and biocentric ones, it does not reflect an internal differentiation of these positions brought about by philosophical considerations. Thus, the authors referred to the current findings in ethics concerning ecological awareness since this procedure offers a chance to make measurements and findings of environmental sociology more precise and attractive.

Thirdly, despite extensive research on ecological awareness – which displays a significantly interdisciplinary character – it is difficult to come across at least one report where operationalization of tested variables was performed directly on the basis of ethical model of attitude division into anthropocentrism and biocentrism.

The mentioned significant empirical output of environmental sociology as well as the three above presented arguments, demonstrating the need to supplant findings of environmental sociology with some considerations of environmental ethics, provide the foundation on which the main aim of this article rests. This aim is to probe into social attitudes toward anthropocentric and biocentric variants of resolving some ethical dilemmas that underpin human relations with nature.

Methodology and Research Subject Matter

The presented research was performed by means of a questionnaire in 2014 and 2015 on a representative sample of 1000 inhabitants of the Kuyavian and Pomeranian province under a broader project dedicated to researching anthropocentric and biocentric attitudes in society. In the presented part of the research the respondents were asked to address 16 statements that related to some of the issues of environmental ethics including – value of human life, the threat of overpopulation and an ensuing need to reduce the population, validity of human interests in view of nature's needs, priorities in environmental protection as well as the principle of redress that specifies the extent of compensation of human induced damage to the environment. Each of these problems was presented for assessment in the form of four statements adapted in axiological and normative terms to the division accepted in the environmental ethics into anthropocentric and biocentric positions. Table 1. presents the criteria accepted by the authors of this conceptualization.

Table 1. Applied models representing respondents' attitudes toward nature

Models of human attitude toward nature	**Hierarchy of interests**	**Moral evaluation of actions taken toward nature**
Individualistic anthropocentrism	Only humans have interests. Priority of individual interests over social ones.	These actions taken towards nature are good which support the interests of individuals, even at the expense of society at large.
Sociocentric anthropocentrism	Only humans have interests. Priority of social interest over individual ones.	These actions towards nature are good which support the welfare of the present society and future generations even at the expense of individual interests.
Individualistic biocentrism	Each living being has its interests and vital values as well as the right to foster them.	The only good human intervention in nature is the one which does not threaten the lives of any other beings.

Models of human attitude toward nature	**Hierarchy of interests**	**Moral evaluation of actions taken toward nature**
Ecocentrism (Holism)	Each being has its interests and vital values which are less significant than needs of the environment.	The only good actions taken toward nature are those which acknowledging the welfare of individuals, primarily will not threaten a harmonious functioning of the whole ecosystem.

Source: Compiled on the basis of: Naess, 1973; Norton, 1984; Taylor, 1986; Bonenberg 1992; Piątek, 1998; Tyburski, 1998; Fiut, 1999; Kortenkamp, Moore, 2001; Ciążela, 2009; Ganowicz-Bączyk, 2009.

It is worth emphasizing that the authors additionally divided the anthropocentric position into individualistic and sociocentric variants. They recognized the need to transfer the division of biocentric attitudes into individualistic and systemic perspectives also in the anthropocentric position. This was performed so as to assure a balanced presentation of measurements and content. Jerzy Szacki's axiological model of presenting oppositional categories of collectivism and individualism served here as a useful starting point. According to this view, collectivism prioritizes obligations toward society at large, while individualism conceives society as a protective measure for individual rights, where individuals are conceived as individuals and not community members (Jerzy Szacki qtd. in: Scheffs, 2016, p. 66).

The respondents expressed their opinions on the issues selecting one out of five answers characteristic for Likert Scale Survey questions. In case of anthropocentric statements positive answers scored the lowest values (respectively 1 for "Definitely Agree" and 2 for "Rather Agree"), whereas negative answers scored the highest values (respectively 4 for "Rather Disagree" and 5 for "Definitely Disagree"). While evaluating biocentric statements a reverse devaluation system was applied. Throughout the survey each answer reflecting lack of opinion or indecisiveness of a respondent ("I Have No Opinion")

scored 3 points. Thereby, the indices of intensity of evaluated attitudes presented averaged values of respondents' answers. The lower they were, the more clearly they reflected anthropocentric and anti-biocentric models of respondents' attitudes devised by the authors. The higher they were, the more decisively they typified the views of the respondents in terms of individualistic biocentrism, ecocentrism and anti-anthropocentrism (Table 2).

Table 2. Typology accepted by the authors presenting intensity of respondents' convictions concerning the natural world

Type of conviction	**Score**
Strong individualistic biocentrism / holism	from 4.5 to 5.0
Moderate individualistic biocentrism / holism	from 3.5 to 4.49
Ecological ambivalence / indifference	from 2.5 to 3.49
Moderate individulaistic / sociocentric antropocentrism	from 1.5 to 2.49
Strong individualistic / sociocentric anthropocentrism	from 1 to 1.49

Source: Own research.

The empirical data was gathered with a view to establishing answers to the following research questions:

1. How are the respondents' convictions shaped concerning the value of human life, human interests, priority environmental objectives, as well as the principle of redress in the context of nature's needs? Is it the anthropocentric or biocentric perspective that is dominant?
2. How are the respondents' convictions shaped concerning the value of human life, human interests, priority environmental objectives, as well as the principle of redress in the context of nature's needs? Is it the individualistic or systemic/collective perspective that is dominant?
3. Are the respondents' convictions concerning the value of human life, human interests, priority environmental objectives, as well as the principle of redress in the context of nature's needs differentiated in respect of sex, age, education, place of residence, political views and proecological commitments? If so, to what extent?

The innovative character of this research – with respect to operationalization of variables and the applied criteria of data analysis – called for great caution in formulating research assumptions. However, on the basis of a number of facts established so far and research results concerning ecological awareness, the authors made a decision to test the three following hypotheses:

1. Among all the attitudes included in the research, the anthropocentric-individualistic attitude is to gain the lowest level of acceptance among the respondents.

Justification: This assumption was accepted subject to the empirical research analysis concerning ecological awareness of the Polish society. It indicated that ca. 75% of the respondents agreed that plans for further development of our country should include social, economic and environmental issues in equal measure (Bortłomiuk, 2009, p. 10) and environmental protection may impact positively Poland's economic growth (PBS, 2013, p. 41).

2. Among the respondents a biocentric perspective is to prevail slightly over an anthropocentric one.

Justification: This hypothesis is based on almost identical premises as the first hypothesis. Growing importance of environmental threats to society and knowledge concerning human impact on the environment in all likelihood should translate into selecting these answers which most explicitly include the needs of nature in human code of conduct.

3. Political views, place of residence, age, sex and educational background establish a set of variables that are to differentiate most significantly the respondents' attitudes toward the environmental issues presented in the survey.

Justification: The assumptions made by the authors concerning social and demographic variables that are to differentiate most significantly ecological attitudes of the respondents were formulated on the basis of analyses made by English and Polish researchers concerning environmental awareness (Dunlap, Catton, 1979; McMillan, Hoban, Clifford, Brant, 1997; Dunlap, Van Liere, Mertig, Jones, 2000; Burger, 2005;

Aminrad, Zakaria, Hadi, 2011). Their results demonstrated that adolescents, young adults, city dwellers, women and individuals with higher education display ecological awareness more often in comparison to other groups.

Value of Human Life and Environmental Protection

The respondents' attitude to the superior value of human life in comparison with non-human beings proved to be relatively consistent. Anthropocentric positions proved more in line with the preferences of the respondents than both of the biocentric positions.

Table 3. Averaged results and percentage distribution of respondents' answers concerning value of human life in the context of environmental protection

Statement	Position	M	DY	RY	UND	RN	DN
Human life may be sacrificed in the name of environmental protection only when the security of the whole society and future generations depends on it.	Sociocentric anthropocentrism	2.75	10.4	32.9	34.4	15.4	6.9
Human life cannot be sacrificed in the name of environmental protection even if the security of the whole society and future generations depends on it.	Individualistic anthropocentrism	2.82	14.1	23.2	35.1	21.3	6.3
Population growth should be reduced to an absolute minimum that equals or is larger than the number necessary to preserve *homo sapiens* always when the survival of the currently living species of animals and plants depends on it.	Ecocentrism	2.80	7	21	34.9	19.5	17.6

Statement	Position	M	DY	RY	UND	RN	DN
The size of human population should be reduced to an absolute minimum larger than the number necessary to preserve *homo sapiens* always when the survival of life on Earth depends on it.	Individualistic biocentrism	2.85	6.2	9.1	42.6	17.9	14.2

Abbreviations in the tables stand for: DY – decidedly yes, RY – rather yes, UND – no opinion, RN – rather not, DN – decidedly no.

Source: Own research.

The anthropocentric–sociocentric position gained the largest acceptance among the respondents. In total, it was supported by 43.3% of them. The supporters were more often rural dwellers (51.8% vs. 37.4%) than city dwellers (r_s = 0.15; p < 0.01). The position was highly accepted by individuals aged 55–64 (16–18 years – 34.7%; 19–24 years: 37.93%; 25–34 years: 37%; 35–44 years: 45.78%; 45–54 years: 40.76%; 55–64 years: 64.55%; 65 years and more: 36.36%).

Moreover, sociocentric anthropocentrism was more in tune with the convictions of those individuals who declared their right-wing political affiliations (decidedly left-wing: 3.39%; moderately left-wing: 6.16%; apolitical: 10.23%; moderately right wing: 11.9%; decidedly right-wing: 17.64%; r_s = 0.1, p < 0.01). It should be emphasized that this tendency is decidedly more apparent only when the respondents strongly agreed or strongly disagreed with the statement.

In view of the discussed issue the anthropocentric-individualistic position was the second most frequently supported perspective (37.3%). Moreover, it gained in this group most votes that expressed full acceptance (Table 3).

Similarly to the sociocentric anthropocentrism the individualistic anthropocentrism was most in line with the views of those who have right-wing political views (decidedly yes: 16.15% rather yes: 22.56%), and least in line with the views of those respondents who displayed left-wing affinities (decidedly yes: 9.68%, rather yes: 17.9%; r_s = – 0.12, p<0.01). While the sociocentric perspective was more approved by village dwellers, the anthropocentric–individualistic position

was more approved by city dwellers (village: 28.74%; city: 43.17%; $r_s = -0.11$, $p < 0.01$). Among the age groups it was most often supported by individuals aged 55–64 (51.26%) and adolescents (42.85%) and least often supported by middle-age respondents (25–34 years: 29.1%; 35–44: 27.7%). Both in case of sociocentric anthropocentrism and individualistic anthropocentrism no statistically significant differences concerning sex and educational background of the respondents were found.

Among the two biocentric positions it was the ecocentric one that gained a higher level of acceptance among the respondents (28%). This position was primarily supported by village dwellers (city: 24.62%; village: 32.94%), people having left-wing political views (decidedly left: 40.66%; moderately left: 32.23%; apolitical: 29.52%; moderately right-wing: 23.4%; decidedly left-wing: 20.58%), the respondents in the age group from 35 to 54 years (35–44 years: 36.73%; 45–54 years: 34.39%), whereas the opposition was most strongly voiced by city dwellers (city: 47%; village: 22.35%), the respondents declaring decidedly right-wing political views (47.8%), adolescents (16–18 years: 53.06%) and young adults (19–24 years: 50%). Place of residence ($r_s = -0.21$, $p < 0.01$), political views ($r_s = -0.13$, $p < 0.01$) and age ($r_s = 0.09$, $p < 0.01$) proved to be the variables that correlated significantly with the holistic view, yet on a relatively low level. However, such correlations were not found in relations to sex and education of the respondents and they proved insignificant.

In view of the discussed issue individualistic biocentrism gained the lowest acceptance among the respondents out of all four positions included (15.3%). Most likely this situation stemmed from the radicalism of this position emphasizing the necessity to sacrifice human population as a consequence of autotelic value of all other beings. Individuals with left-wing political affiliations prevailed among those who decided to support this position (decidedly left-wing: 45.75%; moderately left-wing: 28.43%; apolitical: 27.18%; moderately right: 19.43%; decidedly right: 17.65%; $r_s = -0.16$, $p < 0.01$). City dwellers (25.75%) and village dwellers (24.63%) voiced their acceptance almost in equal measure, yet they differed significantly with respect to the distribution of other answers. As much as 54% of the

respondents living in villages were not able to specify their attitude toward the biocentric-individualistic position, and 21.37% expressed their opposition. However, 34.75% of the city dwellers were not able to specify their position, and 39.5% of the respondents expressed their opposition. As far as this perspective is concerned, sex, age and educational background constituted the variables that did not differentiate the respondents in view of this perspective.

Human Interests and Nature's Needs

Among the four methods of solving problems arising between human interests and nature's needs it was the individualistic biocentrism that enjoyed the greatest support of the respondents (Table 4).

Table 4. Averaged results and percentage distribution of respondents' answers concerning some methods of solving conflicts arising between human interest and nature's needs

Statement	Position	M	DY	RY	NoO	RN	DN
On no account can life of wild animals and wild, uncultivated plants be sacrificed as long as it does not serve to protect the existence of an individual, where there is a direct threat posed by these animals or plants.	Individualistic biocentrism	3.51	18.2	39.7	21.8	16.7	4.6
Human interest can be sacrificed in the name of nature's needs as long as this sacrifice serves the welfare of the whole society and future generations (the entire human race).	Sociocentric anthropocentrism	2,62	14,8	34,5	28,8	16,9	5
Wild species and plants and local ecosystems can be sacrificed in the name an individual or society as long as this sacrifice does not result in permanent damage to the Earth's ecosystem.	Ecocentrism	2.88	7.9	29	22.2	25.2	15.7

Statement	Position	M	DY	RY	NoO	RN	DN
On no account can human interest be sacrificed for the sake of nature even if this sacrifice serves the welfare of the entire society and future generations (entire human race).	Individualistic anthropocentrism	2.98	10.7	22.6	32.5	25.7	8.5

Source: Own research.

Ca. 58% of the respondents declared that life of wild animals and wild plants can be sacrificed only when they pose a direct threat to human life. Those who supported this view received secondary and higher education (primary and basic vocational training: 51.94%; secondary: 63.5%; 1st cycle higher education: 60%; 2nd cycle higher education: 69.17%), more often men (63.24%) than women (52.17%) and individuals aged 55 or more (16–18 years: 51.03%; 19–24 years: 55.2%; 25–34 years: 51.5%; 35–44 years: 57.22%; 45–54 years: 56.7%; 55–64 years: 68.36%; 65+: 61.69%). Education ($r_s = 0.12$, $p<0.01$), sex ($r_s = 0.11$, $p < 0.01$) and age ($r_s = 0.10$, $p<0.01$) were the variables that correlated in a statistically significant way with the individualistic biocentrism perspective. The authors established a lack of such significance in relation to the place of residence or political views of the respondents.

Ca. 50% of the respondents supported sociocentric anthropocentrism acknowledging the possibility of scarifying individual interests in the name of nature needs, as long as it served the welfare of the whole society today and in the future. None of the socio-demographic variables correlated in a statistically significant way with the discussed perspective, yet the percentage distribution of answers allowed for perceiving some marked differences between particular groups of respondents. It was the anthropocentric-sociocentric position that proved more popular in case of the discussed dilemma among those respondents who received at least master's degree (64.16%) than those who received at least primary education (41.8%). This view also found more resonance with people who had decidedly

left-wing views (59.32%) in comparison with those who had decidedly right-wing views (44.11%).

The ecocentric position received most varied opinions. It was supported by 36.9%, and questioned by 40.9% of the respondents. In this case the level of acceptance grew with age (16:18 years: 20.4%; 19–24 years: 27.58%; 25–34 years: 29%; 35–44 years: 41.57%; 45–54 years: 36.95%; 55–64 years: 44.31%; 65 years and more: 46.76% r_s = 0.2, p<0.01), was more explicit among the people with right-wing views (decidedly left: 30.5%; moderate left: 31.28%; apolitical; 32.17% moderately right: 44.5%; decidedly right: 46.33%; *r*s= 0.18, p<0.01) as well as among the respondents with lower formal education (primary and basic vocational training: 39.87%; secondary: 32.8%; master studies: 33%; r_s = –0.1, p<0.01). The authors did not establish statistically significant correlations between sex, place of residence and the attitude of the respondents toward holism.

In total 33.3% of the respondents supported the anthropocentric-individualistic position which proclaims that individual interest cannot be scarified even if it serves the welfare of the whole humanity and future generations. It proved to have the lowest level of acceptance out of all the positions presented in this part of the research. It was established that this perspective found greater support among people having right-wing views (r_s= –0.14, p<0.01) than among people having left-wing views (decidedly left: 23.7%; moderately left: 24.17; apolitical: 35.96%; moderately right: 38.09%; decidedly right 36%) and most widely accepted by people aged 55–64 (16–18 years: 30.61%; 19–24 years: 32.75%; 25–34 years: 28.5%; 35–44 years: 28.91%; 45–54 years: 31.21%; 55–64 years: 44.93%; 65 years and more: 35.71%; r_s = –0.11, p<0.01). Political views and age were the only variables that correlated significantly with the individualistic version of anthropocentrism.

Priorities in Environmental Protection

The answers given to the statements that presented in anthropocentric and biocentric terms the most important priorities in envi-

ronmental protection led to the conclusion that activities aiming at nature enhancement should in equal extent serve the safety and welfare of the society, including present and future generations, all creatures inhabiting the Earth and the whole ecosystem. All the perspectives gained a high level of approval among the respondents (Table 5). Significant differences between particular groups – in the majority of analyzed cases – appeared only in relation to proportional differences between decidedly positive (I decidedly agree) and rather positive (I rather agree) answers.

Table 5. Averaged results and percentage distribution of respondents' answers concerning priorities in environmental protection

Statement	Position	M	DY	RY	UND	RN	DN
Safety and welfare of the global environment constitute the primary objective of environmental protection.	Ecocentrism	3.96	30.9	46	13.9	6.7	2.5
Safety and the welfare of humanity now and in the future constitute the primary objective of environmental protection.	Sociocentric anthropocentrism	2.07	34.8	40	10.5	12.8	1.9
Safety and welfare of all creatures inhabiting the Earth constitute the primary objective of environmental protection.	Individualistic biocentrism	3.98	36.1	37.7	15.1	7.9	2.6
Safety and benefit of each human being treated separately constitute the primary objective of environmental protection.	Individualistic anthropocentrism	2.59	16.5	35.9	23.8	19.6	4.2

Source: Own research.

The ecocentric position proved closest to the respondents' preferences and was supported by 76.9% of them. Not only education (r_s = 0,21, p < 0.01) and place of residence (r_s = 0.17, p < 0.01) but also political views (r_s = – 0.14, p < 0.01), sex (r_s = 0.13, p<0.01) and age (r_s = –0.9, p<0.01) differentiated the respondents' opinions

in a statistically significant way. The overall level of acceptance of this position increased with respondents' education (primary and basic vocational training: 69.41%; secondary: 83%; higher: 85.83%), and was most strongly demonstrated among men (men: 81.44%; women: 72.05%), city dwellers (city – decidedly yes: 39.62%; rather yes: 39.29%; village – decidedly yes: 18.18%; rather yes: 55.77%) and among the respondents with left-wing political views (decidedly left: 84.75%; moderately left: 84.84%; apolitical: 81.29%; moderately right: 74.61%; decidedly right: 54.42%). With the exclusion of senior citizens, ecocentrism won greater support among older age groups, particularly among people aged 45–54 (16–18 years: 75.52%; 19–24 years: 73.28%; 25–34 years: 69%; 35–44 years: 79.52%; 45–54 years: 89.18%; 55–64 years: 79.12%; 65 and more: 72.73%).

The anthropocentric-sociocentric position was accepted by the total of 74.8% of the respondents. It gained popularity particularly among city dwellers (rs = –0.17, $p < 0.01$). As much as 44.5% of the respondents decidedly supported the anthropocentric-sociocentric position, while 20.63% of village dwellers expressed the same opinion. Moreover, decidedly positive attitude toward this perspective grew proportionally with the respondents' education (primary and basic vocational training: 27.5%; secondary: 38.26%; 1st cycle higher: 44%; 2nd cycle higher: 50.83%; r_s = –0,17, $p < 0,01$).

Among the age groups (r_s = – 0.11, $p < 0.01$), in total (adding decidedly and rather approving answers), sociocentric anthropocentrism gained the highest acceptance from the respondents aged 55–64 (90.5%), adolescents studying at secondary schools (85.71%) and people aged 45–54 (80.25%). The lower acceptance was expressed by senior citizens (72.07%) and the age group ranging from 35 to 44 years (71.08%), whereas the lowest by people aged 25–34 (60%).

The authors also pinpointed statistically significant correlations between the anthropocentric-sociocentric position and sex (r_s = –0.12, $p < 0.01$) and political views of the respondents (r_s = –0.1, $p < 0.01$). This position was supported by men more often (decidedly yes: 40.23%; rather yes: 38.1%)) as well as individuals with decidedly right-wing political views (decidedly yes: 47.05%; rather yes: 29.41%), and more rarely by women (decidedly yes: 28.98%; rather

yes: 42.02%) and the respondents with left-wing political views (decidedly yes: 16.94%; rather yes: 42.37%).

It has already been mentioned that not only both systemic perspectives aligned closely with the respondents' convictions but also biocentric-individualistic position (73.8%). It correlated significantly with the place of residence ($r_s = 0.24$, $p < 0{,}01$), education ($r_s = 0.21$, $p < 0.01$), political views ($r_s = -0.1$, $p < 0.01$) and sex of the respondents ($r_s = 0.11$, $p < 0.01$). Similarly to sociocentric anthropocentrism and ecocentrism, the level of acceptance of the biocentric position was higher among city dwellers (city – decidedly yes: 47.9%; rather yes: 30.86% village – decidedly yes: 20.39%; rather yes: 47.66%) and people with higher education (primary education and basic vocational training: 66.26%; secondary: 82,8%; 1st cycle higher; 78%, 2nd cycle higher: 87.5%), more predominantly among men (77.95) than women (70.6%). In line with the trend demonstrated beforehand, this perspective was characteristic for individuals with decidedly left-wing affiliations (81.36%) than with right-wing affiliations (65.45%).

The anthropocentric-individualistic perspective which maintained that security and benefit of every human being taken individually is the primary objective of environmental protection enjoyed the lowest acceptance among the respondents (52.4%). In this case it was only the age of the respondents that correlated significantly. However, the level of this correlation was at a very low level ($r_s = -0.09$, $p < 0.01$). Most often individualistic anthropocentrism was preferred by people aged 16–24 and 55–64 (16–18 years: 53.06%; 19–24 years: 65.51%; 25–34 years: 40%; 35–44 years: 46.98%; 45–54 years: 49.68%; 55–64 years: 63.29%; 65 and more: 55.84%).

The Principle of Redress

In view of the questions concerning the aim and scope of compensating human induced damage in the natural environment, respectively the ecocentric and biocentric- individualistic positions were most closely aligned with the respondents' preferences (Table 6).

As much as 73.5% of the respondents, primarily city dwellers (city: 79.25; village: 67.59%; $r_s = 0.17$, $p < 0.01$) and men (men: 77%; women: 69.8%; $r_s = 0.09$, $p < 0.01$) declared that it was required that human-induced damage to the environment be compensated at least to the extent that would safeguard continuity and high quality of life of all animal and plant species, as well as natural ecosystems that exist now on Earth. The support of the ecocentric position grew in this case proportionally with the respondents' education primary and basic vocational training: 66.92%; secondary: 78.27%; 1st cycle higher: 84%; 2nd cycle higher: 85%; $r_s = 0.16$, $p < 0.01$). Moreover, in this case age and political views did not differentiate the respondents in a statistically significant way.

Slightly over 66% of the respondents opted for full redress of human-induced damage to the environment. Also in this case this perspective gained the highest level of acceptance among men (men: 72.73%; women: 59.22%; $r_s = 0.15$, $p < 0.01$), city dwellers (city: 69.65%; village: 61.18%; $r_s = 0.13$, $p < 0.01$) and among those who received secondary and higher education (primary and basic vocational training: 62.6%; secondary; 69.32% 1st cycle higher: 70%; 2nd cycle higher: 71.7%; $r_s = 0.1$, $p < 0.01$). Moreover, it was most often approved by people with left-wing views (decidedly left: 72.9%; moderately left: 70.62%; apolitical: 69.9%; moderately right: 59.93%; decidedly right: 58.83%; $r_s = -0.09$, $p < 0.01$). As far as age groups were concerned biocentrism was most strongly supported by people aged 54–65, and least supported by the respondents aged 25–44 (16–18 years: 73.47%; 19–24 years: 63.8%; 25–34 years: 57.5%; 35–44 years: 56.63%; 45–54 years: 68.16%; 55–64 years: 81.65%; 65 years and more: 69.49%; $r_s = 0.09$, $p < 0.01$).

Interestingly, conversely to the statements concerning priorities in the environmental protection, in the analyzed case the respondents supported more the anthropocentric-individualistic position than the anthropocentric-sociocentric one. The first perspective was supported by 67% in total. This stance proved slightly more in line with the views of the young and those aged 45–64 (16–18 years: 75.5%; 19–24 years: 68.1%; 25–34 years: 52%; 35–44 years: 62.65%; 45–54 years: 75.8%; 55–64 years: 86.07%; 65 years and

more: 61.03%; r_s = -0.13, p < 0.01), men (men: 70.8%; women: 63.56%; *r*s= – 0.9, p < 0.01) people with left-wing political views (decidedly left: 71.18%; moderately left: 71.56%; apolitical: 68.71%; moderately right: 67.06%; decidedly right: 55.88%; r_s = –0.09, p < 0.01) and among people with secondary and higher education (primary and basic vocational training: 62.73%; secondary: 72.5%; 1st cycle higher 68%; 2nd cycle higher: 72.5%; r_s = –0.09, p < 0.01), hence among those groups which supported most vehemently biocentric positions. This position did not correlate significantly with the place of residence of the respondents.

It was established that the anthropocentric-sociocentric position, according to which harm inflicted on the environment should be redressed only if the realization of the interests of the whole society and future generations depended on it, was consistent with the convictions of as little as 42.6% of the respondents. The more accepted this view was, the more right-wing were the political views of the respondents (decidedly left: 32.2%; moderately left: 40.75%; apolitical: 37.13%; moderately right: 49.6% decidedly right: 50.73%; r_s = –0.14, p < 0.01) and the lower was their education (primary and basic vocational training: 48.75%; secondary: 43.74%; 1st cycle higher; 22%; 2nd cycle higher: 19.16%; r_s = 0.15, p < 0.01). Place of residence, sex or age of the respondents did not significantly influence their position on the issue under discussion.

Table 6. Averaged results and percentage distribution of the respondents' answers concerning the principle of redress

Statement	Position	M	DY	RY	UND	RN	DN
Humans should redress nature for the inflicted damage at least to such a degree as to safeguard the continuity and high quality of life of all animal and plant species as well as natural ecosystems currently present on the Earth.	Ecocentrism	3.94	34.5	39	16.1	7.4	3

Statement	Position	M	DY	RY	UND	RN	DN
Humans should always redress nature for the inflicted damage in 100%.	Individualistic biocentrism	3.76	29.7	36.5	17.9	12.2	3.7
Humans should redress damage inflicted on nature always when the realization of individual interests that cannot be realized otherwise depends on it.	Individualistic anthropocentrism	2.27	21.3	46	19.4	10.9	2.4
Humans should redress damage inflicted on nature only when the realization of the interests of the whole society and future generations (all human race) depends on it.	Sociocentric anthropocentrism	2.90	12.6	30	21.4	26.8	9.2

Source: Own research.

Conclusions and Recapitulation

The results of the analysis provided the authors with an opportunity to demonstrate that attitudes to ecology taken by the Kuyavian and Pomeranian dwellers – namely anthropocentrism and biocentrism – are of a very complex nature. They differ significantly depending on a particular ethical dilemma concerning the environment that is under consideration. Most and foremost, the assumption made by the authors at the very early stage of framing the research process proved false. According to them, individualistic anthropocentrism (hypothesis 1) would be most frequently rejected by the respondents, whereas biocentric position would be most readily accepted (hypothesis 2). The results proved to be contrary. In case of the statements concerning the value of human life – in view of depopulation postulates – anthropocentric and at the same time anti-biocentric perspective prevailed significantly.

While discussing the principle of redress of the harm induced to the environment, it turned out that individualistic anthropo-

centrism was accepted almost in equal measure with biocentric individualism and ecocentric perspectives. Moreover, individualistic anthropocentrism proved to be more closely aligned with the respondents' views than sociocentric anthropocentrism. However, the respondents considered the problem of relations between human interest and nature's needs from the position of individualistic biocentrism. Yet, also in this case, the anthropocentric perspective was not unequivocally rejected. All the remaining positions made the respondents ambivalent. The only instance when the anthropocentric-individualistic position proved less attractive than the ecocentric, biocentric-individualistic and anthropocentric-sociocentric ones, which were accepted at the same level, was when a hierarchy of priorities in environmental protection was to be established.

Among all the socio-demographic variables included in this research the most distinctive correlation was established between political views and an ecological perspective taken by the respondents. People with left-wing political views opted far more for biocentric positions, and respectively people with right-wing political views for anthropocentric positions. Yet, it was not always the case. Those with left–wing views tilted toward ecocentrism whereas those with right-wing views tilted toward sociocentric anthropocentrism in view of the statements concerning the relations between human interest and nature needs. However, individualistic anthropocentrism was most attractive for those with left-wing views concerning the principle of redress.

Interestingly, when age significantly correlated with particular positions, then irrespective of their content, the highest level of acceptance was always expressed by older age groups, particularly those aged 55–64. This fact may indicate generally the highest level of sensitivity to ecological postulates among this group, all the more many of the remedies proposed by individual eco-ethical positions do not directly contradict each other. As far as age of the respondents was considered a discernible trend appeared indicating that adolescents supported most strongly the anthropocentric-individualistic perspective.

Among the people who most often supported biocentric positions men and city dwellers prevailed. In relation to the second mentioned variable it is worth indicating that assessing the statements concerning the value of human life, village dwellers more readily supported systemic perspectives (eco-centrism and sociocentric anthropocentrism) whereas city dwellers individualistic perspectives (biocentrism and individualistic anthropocentrism). In case of the respondents' education, this variable correlated most distinctively with the biocentric-individualistic position. With the exception of the statements relating to the value of human life in the context of nature's needs, it was strongly supported primarily by people with secondary and higher education.

To sum up, the authors have concluded that although the obtained results provide many new and valuable insights, the presented analysis of anthropocentric and biocentric attitudes toward nature ought to be supplemented with clearly specified anti-ecological positions. In all likelihood such a measure will allow to grasp the complexity of the respondents' preferences demonstrated in this article, as well as to measure the level of their ecological awareness.

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Antropocentryzm i biocentryzm w postawach wobec wybranych dylematów etyki środowiskowej – przypadek mieszkańców województwa kujawsko-pomorskiego

Streszczenie: W niniejszym artykule autorzy prezentują wyniki badań własnych nad postawami wobec czterech wybranych dylematów rozpatrywanych na gruncie etyki środowiskowej. Pomiaru empirycznego dokonano przy użyciu kwestionariusza ankiety w latach 2014–2015 na 1000-osobowej, reprezentatywnej próbie mieszkańców województwa kujawsko-pomorskiego. Respondenci zostali poproszeni o ustosunkowanie się do 16 stwierdzeń, których treść odnosiła się do takich zagadnień, jak kwestia wartości życia ludzkiego w obliczu groźby przeludnienia i postulatów związanych z ograniczeniem liczby populacji ludzkiej, znaczenie interesów ludzkich w kontekście dobra przyrody, priorytetowe cele ochrony środowiska, a także zasady zadośćuczynienia określającej zakres rekompensowania szkód poczynionych przez działalność człowieka w środowisku przyrodniczym. Każdy z wymienionych czterech problemów został przedstawiony ankietowanym do oceny w formie 4 stwierdzeń dopasowanych pod względem aksjologicznym do obowiązującego w etyce środowiskowej podziału na stanowiska antropocentryczne i biocentryczne.

Słowa kluczowe: antropocentryzm, biocentryzm, świadomość ekologiczna, socjologia środowiskowa, etyka środowiskowa