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**VIEWS AND BEHAVIOUR OF YOUNG PEOPLE  
RELATED TO PROTECTION OF ENVIRONMENT  
BASED ON THE EXAMPLE OF A SELECTED GROUP  
OF STUDENTS – OWN STUDY**

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**POGLĄDY I ZACHOWANIA MŁODZIEŻY  
ZWIĄZANE Z OCHRONĄ ŚRODOWISKA NA  
PRZYKŁADZIE WYBRANEJ GRUPY STUDENTÓW  
– BADANIA WŁASNE**

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**Summary:** According to numerous studies conducted over many years, Poles' environmental awareness is at a low level. The author substantiates the claim with a discussion of studies conducted between the 1990s and 2018 using reference materials (study reports) and literature related to environmental conservation. This part of the paper is the background on which the author presents the partial results of research conducted on a selected group of students into their pro-environmental beliefs and behaviour. The research adopted the method of a diagnostic poll using an original survey. The aim of the article is to show the views concerning environmental protection held by students of management as well as their related behaviour in selected areas. The results indicate a discrepancy between students' declarations and their environmental behaviour. Moreover, the results show that students' beliefs and behaviour are consistent with country-wide trends related to beliefs and behaviour towards environmental conservation. The results stress the need to undertake informative and educational projects especially aimed at young adults who are entering the job market.

**Keywords:** ecological awareness, pro-ecological attitudes and behaviour of students.

**Streszczenie:** Jak wskazują wyniki badań prowadzonych na przestrzeni wielu lat, świadomość ekologiczna Polaków jest niska. By zobrazować ten stan, w artykule zaprezentowano dane z badań ogólnopolskich prowadzonych od lat 90. do 2018 r. z wykorzystaniem źródeł wtórnych (raporty z badań) oraz literatury poświęconej problematyce ochrony środowiska. W artykule przedstawiono część wyników badania zrealizowanego w wybranej grupie studentów, poświęconego poglądom i zachowaniom związanym z ochroną środowiska. Badanie wykonano metodą sondażu diagnostycznego z wykorzystaniem autorskiego kwestionariusza

ankiety. Cele artykułu to zobrazowanie poglądów na ochronę środowiska, wśród wybranej grupy studentów z kierunku zarządzanie oraz przedstawienie praktykowanego przez nich zachowania ekologicznego w wybranych obszarach. Wyniki wskazują na rozbieżność między deklaracjami badanych a ich zachowaniem ekologicznym. Poglądy i zachowania badanych studentów wpisują się w ogólnopolski nurt poglądów i zachowań wobec ochrony środowiska. Prezentowane wyniki wzmacniają przekaz o konieczności działań informacyjnych i edukacyjnych, zwłaszcza wobec młodego pokolenia, które wchodzi na rynek pracy.

**Słowa kluczowe:** świadomość ekologiczna, postawy i zachowania proekologiczne studentów.

## 1. Introduction

During the 1990s there was a peak in the scientific interest and research into the environmental awareness of Poles. Research commissioned by The Institute for Sustainable Development (ISD) conducted by the Public Opinion Research Centre (CBOS) showed that concern about the condition of the natural environment among Poles was significant in that decade, however it started to decrease around 2000. This was caused, according to some researchers, by an actual improvement in the quality of the air caused by deindustrialisation (closing down a few seriously polluting industrial plants) which occurred during the transformation of the Polish economy, as well as the modernisation of other plants (e.g. installing filters reducing harmful emissions) (Szostek, 2012, pp. 249-250).

The lowest level of interest in environmental issues in Poland was reported in 2006. During the following years, from 2006 to 2008, Poles were becoming more and more concerned about environmental conservation. However, between 2008 and 2011, Poles became slightly less worried about the environment (Strumińska-Kutra, 2012, p. 30). It fluctuated around this level until 2014, according to research made for the Ministry of the Environment by a consortium of companies (DANAE sp. z o.o. and Realizacja sp. z o.o.) (*Trackingowe badanie...*, 2018). In 2018, the ratio of those who are aware of the necessity to promote environmental protection doubled since 2014 and amounted to 18%. The respondents who were to rate 14 problem areas in Poland, ranked environment in the 7th place (*Trackingowe badanie...*, 2018). The above data show that the environmental awareness of Poles is still developing and remains on a rather low level.

The relatively low environmental awareness of Poles in comparison to other European countries is demonstrated by periodical research (1990, 1999, 2008) conducted by European Values Study (EVS) (Szostek, 2012, p. 259).

Research commissioned by ISD between 1992 and 2008 also showed an interesting relation, i.e. young adults (between the age of 18-24) and elderly people (above the age of 65) do not pay such close attention to environmental conservation as other age groups (Strumińska-Kutra, 2012, p. 32; Bołtromiuk and Burger, 2008,

pp. 12-11). This situation prompted the researchers to turn their attention to young adults, as they are the most prone to changing attitudes (Aronson and Wilson, 1997, p. 319). Moreover, they will determine the way future generations will respect the principles of environmental protection. Research conducted among students (e.g. Moryń-Kucharczyk, 2016; Teneta-Skwiercz, 2018) into their environmental awareness indicates the necessity to develop it and launch appropriate informational and educational projects. This area is well developed at some higher education institutions (e.g. in some degree courses at the university where the present research was made), yet there are universities where environmental issues are still neglected.

The aim of this paper is to present views on environmental protection of a group of students from the Military University of Technology in Warsaw in the Management degree course and their environmentally friendly behaviour in selected areas. The diagnostic survey included questions about the consistency between their declared views on environmental protection and their actual behaviour. The analysis of the problem is also based on reference materials such as study reports concerning the state of Poles' environmental awareness and literature of the subject (books and monographs, journals and Internet sources). The theoretical section of the paper includes a discussion of issues arising from research into environmental awareness.

## **2. Selected issues concerning developing and recognising environmental awareness**

Environmental awareness is an idea that is both multidimensional and difficult to define. Definitions in the existing literature (e.g. Poskrobko, 2001, pp. 30-35; Kielczewski, 2001, p. 163) list the following components of environmental awareness: environmental knowledge, ideas and views about the environment as the human habitat, the place where they develop, values and behavioural norms. For instance, the definition by D. Kielczewski, identifies environmental awareness as “the attitude of an individual to the natural environment, a set of information and beliefs, as well as values, which serve as guidelines for certain behaviour related to the environment” (2001, p. 163). This definition, similarly to others, has components which determine certain types of behaviour: knowledge (cognitive dimension), emotional response (affective dimension) and actions (behavioural dimension). B. Poskrobko claims that “it is environmental attitudes that are the basic component of environmental awareness” (2001, p. 31). For a researcher, the behavioural aspect of an attitude is the most difficult to identify because only an actual action can be consistent or not with previously made declarations. Researchers try to overcome this difficulty by means of a variety of indicators, which is arguably far from perfect.

A. Franzen and R. Meyer suggested a dependence between the rise in the GDP *per capita* and the increase in pro-environmental behaviour in a given population, which in the case of Poland was rejected by M. Szostek (2012, pp. 246-247).

The analysis of European Values Study (EVS) also conducted among Polish citizens juxtaposed with the Polish GDP between 1990 and 2008 did not indicate that an increase in Polish GDP can be correlated with the increase in the willingness to donate a share of Poles' revenues to deal with environmental pollution (Szostek, 2011, pp. 247-248). It seems that the problem is more complex and contingent on a variety of factors typical for a particular population. In the case of Poland, the factors include social, political and economic changes which occurred after 1989 and are connected with growing unemployment, social stratification, and salary fluctuations among others.

Another measure of environmental awareness is the scale of the New Environmental Paradigm (NEP) proposed by R. Dunlap and K. Van Liere. The scale consists of 15 statements concerning the natural environment:

1. "We are approaching the limit of the number of people the earth can support.
2. Humans have the right to modify the natural environment to suit their needs.
3. When humans interfere with nature it often produces disastrous consequences.
4. Human ingenuity will insure that we do NOT make the earth unlivable.
5. Humans are severely abusing the environment.
6. The earth has plenty of natural resources if we just learn how to develop them.
7. Plants and animals have as much right as humans to exist.
8. The balance of nature is strong enough to cope with the impacts of modern industrial nations.
9. Despite our special abilities, humans are still subject to the laws of nature.
10. The so-called "ecological crisis" facing humankind has been greatly exaggerated.
11. The earth is like a spaceship with very limited room and resources.
12. Humans were meant to rule over the rest of nature.
13. The balance of nature is very delicate and easily upset.
14. Humans will eventually learn enough about how nature works to be able to control it.
15. If things continue on their present course, we will soon experience a major ecological catastrophe" (Dunlap, Van Liere, Mertig, and Jones, 2000, p. 433).

The EVS survey included six out of the above fifteen statements. Finally, a calculation of the responses produced an index value between 0 and 1. The closer the value approaches 1, the more consistent the views with NEP. The values approximating 0 indicate views consistent with the Dominant Social Paradigm (DSP), which is in opposition to NEP. Quoting the result of EVS, M. Szostek concludes that the index value for Polish respondents is relatively low and amounts to 0.4828 (Szostek, 2012, p. 251), which indicates the low level of environmental awareness of Poles. The EVS survey proves the positive correlation between NEP and the willingness to donate a share of one's profits to dealing with environmental pollution. However, this correlation is weak, i.e. "behavioural aspect of environmental awareness is loosely

related to cognitive and affective aspects, which are measured by the NEP scale” (Szostek, 2012, p. 251).

The body of research shows inconsistency between the respondents’ intentions and their actual behaviour (e.g. Bednarek-Gejo, Mianowany, Skoczylas, and Głowacka, 2012; Bołtomiuk, 2009; Strumińska-Kutra, 2012). Therefore it seems essential to find the causes of these discrepancies (Böhner and Wänke, 2004).

The incongruity between environmental awareness and the actions taken to conserve the environment is a subject of environmental psychology. Rogall (2010, pp. 72-73) offers an explanation as to why people are unwilling to change their attitude:

1. Habits previously acquired. It is easier and more convenient to stick to routines rather than change them.

2. The “pasture dilemma”. People will be unwilling to forgo something in favour of the common good, if others do not do it.

3. None or insignificant sanctions for violating regulations related to environmental protection. Rewards, or punishments (so called hard instruments) can better guarantee pro-environmental behaviour than soft instruments (Poskrobko and Poskrobko, 2012).

4. Too numerous groups. Cooperation is more likely if a group is small, then problems are shared by all equally, and then it is relatively easy to identify beneficial or harmful factors.

M. Strumińska-Kutra (2012, pp. 42-48), when explaining the divergence between affective and cognitive components and the behavioural one in context of environmental attitudes, quotes the theory of rational choice. People tend to fail to act for the common good, especially if they did it at their own cost, even if they possess environmental knowledge that allows them to realize the individual and common interest. The natural environment is a common good, accessible to everyone and this mainly makes people think that even if they do not do something to preserve the environment, somebody else will do it and they will take advantage of it (the so-called “free rider problem”). Therefore, unless people are taught the necessity to behave with moral integrity and there is social pressure to follow conservation rules, such divergences will be perceived.

Despite the discrepancy between the respondents’ declared attitudes and their actual behaviour, research into environmental awareness employs the identification of the components of environmental attitudes mainly through questions included in a survey and direct research. This kind of study and the research tool of the five-level Likert scale were used in the research presented in this paper. The validity of such a methodology in the investigation of attitudes is endorsed by G. Böhner and M. Wänke (2004), among other researchers.

### 3. Views and behaviour regarding environmental conservation – a study on a selected group of students in light of nation-wide research

The results presented below are part of research into consumer behaviour, the role of academia in developing students' environmental awareness and their willingness to popularize pro-environmental knowledge and behaviour. The research was conducted in March 2019 among students of the Military University of Technology in Warsaw who study Management (full-time programmes for Bachelor and Master's degrees). Graduates of management courses, as prospective managers, should care more for the environment and should spread knowledge in this area.

The research employed the method of a diagnostic survey involving an original survey questionnaire; 153 were collected, out of which five were discarded due to their improper completion or other major shortcomings. Finally, 148 students (i.e. 73% of all students of full-time courses of management) participated in this research.

Nation-wide research indicates that the most common reason Poles cite for undertaking pro-environmental behaviour is caring for their families' and their own health (Bołtromiuk and Burger, 2008, pp. 12-11; *Trackingowe badanie...*, 2018). According to the 2005 (Badania świadomości ekologicznej Polaków przez GfK Polonia na zlecenie Bayer Sp. z o.o., as cited in Kłós, 2015) and 2010 studies (Badania przez PBS na zlecenie Ministerstwa Środowiska; Coraz lepiej z ekologią, as cited in Kłós, 2015), more than 80% of Poles believe that individual actions may lead to improving the condition of the environment locally. Later studies show that 56% of respondents believe that the condition of the environment greatly depends on each individual's activity (*Trackingowe badanie...*, 2018).

**Table 1.** Respondents' views on the influence of their pro-environmental actions on selected areas of environmental protection ( $N = 148$ )

No.	Category	Mean value*	Ratio of responses (%)				
			1	2	3	4	5
1	Spreading environmental knowledge and awareness in the closest social environment	3.7	6.1	10.1	36.5	32.4	14.2
2	Better quality of the natural environment	3.7	3.4	12.8	15.5	40.5	27.0
3	Better quality of own health	3.9	4.1	6.1	22.3	35.8	30.4
4	Better quality of others' health	3.6	4.7	10.8	23.6	35.1	24.3
5	Financial savings	3.4	6.1	15.5	27.0	33.8	16.9

\* Response given on a five-level scale, where 1 means that a respondent believes that their own pro-environmental actions have no influence on given areas, and 5 means the influence is significant. The results in the individual category do not add up to 100% because the incorrectly completed answers were rejected.

Source: own research.

The survey addressed to students of Management included a question where students using the five-level Likert scale, were to decide on the extent of influence of their own pro-environmental actions on the areas listed in Table 1 (1 means no influence, 5 – significant influence).

The results shown in Table 1 suggest that the students believe that their pro-environmental behaviour affects their own health (30.4% of respondents chose 5 on the scale). The second choice was better quality of the natural environment (27% chose 5 on the scale), the third was better quality of others' health (24.3% chose 5 on the scale). The value of 5 was attributed less often to the following areas: spreading environmental knowledge and awareness in the closest social environment (16.2%) and financial savings (16.9%).

Summing up the results for both values 4 and 5, the hierarchy of choices seems somewhat different. The most common choice is better quality of the natural environment (67.5%), followed by better quality of own health (66.2%), better quality of others' health (56.4%), financial savings (50.7%) and spreading environmental knowledge and awareness in the closest social environment (46.5%). To conclude, half of the respondents do not believe that their behaviour can influence other people's knowledge and awareness of environmental issues. Yet it must be stressed that the respondents are optimistic about their activity in the areas listed in Table 1.

**Table 2.** Respondents' views on the influence of their pro-environmental actions on selected areas of environmental protection – comparison of own research results and selected results from nation-wide surveys

No.	Own research (2019)		<i>Trackingowe badanie</i> (2018)		Bołtromiuk, A. and Burger, T. (2008)	
	category	data* %	category	data* %	category	data* %
1	Better quality of the natural environment	27.0	Nature as a value in itself	35	Nature as a value in itself	31
2	Better quality of own health	30.4	Care for human health	64	Care of own health and family	69
3	Better quality of others' health	24.3	Care for future generations	51	Care for future generations	62
4	Financial savings	16.9	Savings, economic considerations	18	Financial savings	10
5	Spreading environmental knowledge and awareness in the closest social environment	14.2	–	–	–	–

\* Only the highest values indicated by the respondents were taken into account.

Source: own work based on (Bołtromiuk and Burger, 2008; *Trackingowe badanie...*, 2018).

The awareness of one's actual influence on some areas of reality is a significant driver of activity. The array of possible responses is slightly different from that used in the question about motives of pro-environmental behaviour in the nation-wide study of 2008 and 2018. Yet having noticed some similarities, one can assume that students' responses are not significantly diverse from the result of the studies in 2008 (Bołtomiuk and Burger, 2008, pp. 12-11) and 2018 (*Trackingowe badanie...*, 2018). The latter study (*Trackingowe badanie...*, 2018) shows that the financial motive is the least common choice (18%), while wildlife as the value in itself is more common (35%). The two most common were concern about the future generations (51%) and care about the health of people (64%) (Table 2).

On the other hand, the certainty of one's influence in specific areas does not have to generate any activity. Thus, students were also asked to what extent they undertake the pro-environmental actions listed in Table 3. Here, the five-level Likert scale was used, where 1 signifies no actual behaviour and 5 means effective actions in a certain area.

**Table 3.** The extent of pro-environmental actions undertaken by respondents (N = 148)

No.	Category	Mean value*	Ratio of responses (%)				
			1	2	3	4	5
1	Waste segregation	3.5	8.1	10.1	27.0	34.5	20.3
2	Water/energy saving	3.4	1.4	14.2	39.2	29.1	16.1
3	Disposing of unused medicine in appropriate take-back locations	1.7	60.1	17.6	9.5	2.0	8.8
4	Disposing of batteries in appropriate take-back locations	2.8	25.0	18.9	21.6	14.2	20.3
5	Being an informed consumer, i.e. buying goods in compliance with conservation principles (e.g. those made in a sustainable way, in proper quantities)	2.7	12.2	27.0	36.5	19.6	4.1
6	Re-using some products (plastic carrier bags, printer paper)	3.8	3.5	12.8	18.2	35.1	30.4

\* Response given on a five-level scale, where 1 means that a respondent does not do such actions, and v5 means that a respondent does such actions frequently. The results in the category of 3 and 5 do not add up to 100% because the incorrectly completed answers were rejected.

Source: own research.

From the results shown in Table 3, it can be concluded that the respondents display modes of behaviour which result in concrete financial savings. Summing up the choices of values 4 and 5, one can indicate that the most common behaviour is re-using some products (65.5%). Next is waste segregation (54.8%), and further energy/water saving (45.3%). Such behaviour seems to be rooted in imposing a charge for plastic carrier bags in shops, extra payment for not segregating household waste, and meters which allow control of water and energy use. On the other hand, a significant number of respondents (345%, including 4 and 5 on the scale) declare disposing



of batteries in special take-back points, which does not bring any profits. Such behaviour is most probably caused by the wide media coverage of this issue and easy access to take-back points. In contrast, respondents rarely dispose of medicines in an appropriate way (10.8%, values 4 and 5). The declarations made by students concerning informed consumer behaviour are not very optimistic (only 23.7%), and the results of nation-wide research in 2018 (*Trackingowe badanie...*, 2018) are even more alarming. Its authors conclude that young adults aged 20-29 show pro-environmental consumer behaviour more rarely than other age groups participating in the survey.

The results of this study confirm the respondents' financial motives for pro-environmental behaviour and is in line with other similar research (2008, 2011) showing that one of the major reasons why respondents undertake pro-environmental behaviour is economizing (Bołtromiuk and Burger, 2008, pp. 12-11; Majchrowska, 2013, p. 16). This does not, however, mean that educational and informative projects are futile. Firstly, there is a clear difference in the behaviour of the appropriate disposal of batteries and medicines (information about how to dispose of batteries is much more common). Secondly, one nation-wide study shows that people who do not segregate waste declare that they do not know how to do it.

#### 4. Conclusion

The term 'environmental awareness' is difficult to define. There have been numerous periodical studies aimed at determining its level and showing how it developed in time and under the influence of various factors. This knowledge allows to plan and undertake information – educational and/or legal – administrative actions. The investigation of environmental awareness faces certain difficulties. Firstly, the difficulty in defining environmental awareness leads to problems with the operationalization of this idea. Further obstacles lie in the choice of research tools. Employing a survey poses a risk that the result may indicate a discrepancy between the respondents' declarations and their actual behaviour. In this study, the students' responses point to the financial motives of pro-environmental behaviour and, simultaneously, when asked about the area which is mostly affected by environmental behaviour, they place financial savings at the lowest level of the hierarchy.

This inconsistency between the declarations and the actual behaviour in environmental contexts is in line with nation-wide studies and highlights the message that it is crucial to pursue such instruments which will allow to overcome the mentioned discrepancies. Hard instruments, i.e. financial and legal consequences, seem to be effective, but one cannot forget soft instruments, such as informing and educating (Poskrobko and Poskrobko, 2012). The efficiency of information is supported by a body of research. Students dispose of batteries in take-back points despite not having financial profits from it. They do it more often than taking medicines to a take-back point to be utilized. Thus, informed consumption seems

to be another neglected educational area. Nation-wide studies results also indicate this area as requiring education (Bołtromiuk, 2008, pp. 3-5; *Trackingowe badanie...*, 2018).

The results of own research presented in this paper are diagnostic and are representative only for the selected group of students (73% of full-time students of management participated in the survey). Cross-referencing the study with nation-wide research allowed the author to show how students' results compare with the wider social context. At the same time, the study of students' beliefs and behaviour shows the importance of environmental education and the related modules on sustainable development at Management degree courses.

The university where the study was conducted did not provide for environmental education or the related modules in the Management course curriculum. This is encouraged by the Ordinance of the Minister of Science and Higher Education of 2007, where environmental education is not listed as mandatory modules for Economics and Management studies (Michalska, 2016; *Rozporządzenie Ministra...*, 2007). According to the Minister of Science and Higher Education Decree on National Qualifications Framework (NQF) of 2011 (*Rozporządzenie Ministra...*, 2011), universities enjoy the right to autonomously establish degree courses and design their curricula. Thus, it is the curricula designers' awareness which will determine whether environmental modules will be put in the right place among other modules.

Poles' low environmental awareness calls for providing environmental education in its wide sense. Academia plays a special role in it, as it prepares young people to fulfil their professional and social roles, which should include conserving the natural environment.

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