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THE LEVEL OF ENVIRONMENTAL KNOWLEDGE IN YOUNG PEOPLE FROM WEST POMERANIA PROVINCE

POZIOM WIEDZY EKOLOGICZNEJ MŁODZIEŻY Z WOJEWÓDZTWA ZACHODNIOPOMORSKIEGO

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Summary
Introduction. The study aimed at judging the environmental awareness in young people from West Pomerania Province and their families by assessing their actions towards protecting the environment.
Material and methods. The sample selection for the study was a non-random one as it involved a purposeful selection. The material consisted of the data obtained from the 3537 high school students. The research was carried out using diagnostic surveys.
Results. The results of the research provide a basis for undertaking further education not only children and youth but also adults.
Conclusions. Training to raise environmental awareness and environmental protection should be carried out by competent educators and take place at all levels of education. This process should be based on formal and informal activities and lead to the dissemination of an ecological culture model in which effective environmental protection conditions the society's level of knowledge.

Keywords: environmental awareness, ecological activities, youth, environmental protection

Streszczenie
Wstęp. Celem podjętych badań był osąd świadomości ekologicznej młodzieży województwa zachodniopomorskiego i ich rodzin poprzez ocenę podejmowanych przez nich działań proekologicznych chroniących środowisko naturalne.
Materiał i metody. Materiał do badań stanowiły dane uzyskane od 3537 uczniów szkół ponadgimnazjalnych z województwa zachodniopomorskiego. Badania przeprowadzono metodą sondażu diagnostycznego, techniką ankiety.
Wyniki. Przedstawione w pracy wyniki badań dają asumpt do podjęcia ustawicznej edukacji nie tylko dzieci i młodzieży ale też osób dorosłych.
Wnioski. Kształcenie w celu podniesienia świadomości ekologicznej i ochrony środowiska powinno być prowadzone przez kompetentnych edukatorów i odbywać się powinno na wszystkich szczeblach edukacji. Proces ten powinien być oparty na działaniach formalnych i nieformalnych oraz prowadzić do upowszechniania wzorca kultury ekologicznej, w której poziom wiedzy społeczeństwa warunkuje skuteczną ochronę środowiska naturalnego.

Tabele: 11
Ryciny: 0
Literatura: 18
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Słowa kluczowe: świadomość ekologiczna, działania ekologiczne, młodzież, ochrona środowiska

Introduction

Frequently, the media inform about the so-called "environmental alerts" related to the projects undertaken in local communities and involving the risk of dangerous pollution. At the same time, the literature cites information about the likelihood of an environmental global crisis resulting from the development of civilisation, the continuing process of urbanisation and industrialisation, through the use of modern technology of plant and animal breeding, and increase in physical, chemical or biological pollution (Plumwood, 2003, Bednarek-Gejo, Mianowany, Skoczylas, Głowacka, 2012). Due to their diversity and popularity, the same sources of communication can serve public education and raising environmental awareness of people of all ages.

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Environmental awareness is theoretical knowledge about the natural environment and the ability to perceive phenomena appearing in it. It is also a perception of relationships occurring in nature, their causes but also the consequences and effects. Readiness to take actions to protect nature proves a high level of human awareness (Bednarek-Gejo et al., 2012). Many authors emphasize the ambiguity of this term. According to Domka (Domka, 1998), environmental awareness can be low and limited knowledge, full of beliefs and imagination of man about the environment, or vice versa – broad and understood in all its recognised ideas, values and views on the environment as a place of life and human development. Today's general concept of awareness results from the perception and appreciation of the validity of the relationship between people's business activity and the process of environmental devastation and degradation (Papuziński, 2006).

The recommended pro-environmental actions include, e.g. saving thermal energy, reduction of greenhouse gases, reduction of exhaust emissions and water consumption. Any action aimed at reducing the pollution emitted into the environment also contributes to the improvement of public health. Already in 1974, the Minister of Health of Canada Marc Lalonde said that in about 20% it is the surrounding environment that affects people's health (Lalonde, 1974). Systematic actions taken in everyday life for the benefit of the environmental protection may indicate people's high environmental awareness. Therefore, the following study aimed to judge the environmental awareness of young people from West Pomerania Province and their families by assessing their actions to protect the environment.

Material and methods

The method of sampling individuals in the study population was a non-random one; it was a purposeful selection (arbitrary) sample of respondents - high school students who participated in the so called "Green schools" programme. The purpose of this selection was to create a representative closed sample which would allow for approximate description of the whole population (Babbie, 2009).

The study material consisted of the data obtained from 3537 high school students from West Pomerania Province (Table 1). The age of the young people ranged from 15 to 20 years old (M = 16.95) (Table 2). Young men amounted to 53.3%, whereas women to 47.7% of the respondents. The respondents came from a wide variety of towns and cities regarding their population size - of West Pomerania Province (Table 3). They were divided into small towns (up to 11 thousand residents), towns (11 -19 thousand), cities (20 - 50 thousand) and big cities (over 50 thousand of residents).

The study was conducted using diagnostic surveys. The tool was an original questionnaire. The respondents were informed about the aim of the study before filling in the forms (Pilch, Bauman, 2001).

Table 1. Size of the study population broken by the size of the town/city

No.	Town/city	Population size	%
1	small town	847	23.95
2	town	1036	29.29
3	city	817	23.10
4	big city	837	23.66
	TOTAL:	3537	100

Source: own study.

Table 2. Age of the study youth from different towns/cities

Town/City	*N*	*M*	*SD*	*v*	*min*	*max*
small town	847	17.03	0.97	5.70	15	20
town	1036	16.85	0.97	5.76	15	19
city	817	16.99	1.07	6.28	15	20
big city	837	16.95	1.03	6.07	15	20
Total	3537	16.95	1.01	5.95	15	20

n – population size v – coefficient of variation
M – arithmetic mean min – lowest sample value
SD – standard deviation max – highest sample value
Source: own study.

Table 3. Place of residence of the respondents

Population size/ town or city	Small town	Town	City	Big city
n	847	1036	817	837
%	23.95	29.29	23.10	23.66

Source: own study.

The collected data were analysed statistically by chi-square test. It was investigated whether there exist a statistically significant dependence presented in Tables 4 to 11 with the statistical significance assumed at 0.05.

Results

The study showed the level of young people's of environmental actions, which may have some long-term impact on the natural surroundings. More than 57% of the young people feel that they consume too much electricity, while 42.6% of the respondents believed that their families saved energy.

Respondents have identified the sources of energy used to heat their homes. Most of them have central heating (45.1%). Coal or pea coal was used to heat 15.6% of the houses, while the gas – 8.7%, electric heating – 5.3% and oil – 0.6%. Many of the houses were heated by coal or wood (24.7%). In these cases, it was waste that was often burnt in the furnaces.

The study also determined the level of awareness concerning the need to save paper in society. Young people frequently declared that they did not pay attention to the amount of paper they used on a daily basis (42.4%). Over 35% said they used paper rather economically during daily activities. In contrast, only 5.9% really saved paper. However, sixteen percent of the surveyed persons were aware of consuming too much paper.

The studied youth commute to school by various means of transport. Approximately 45% take a bus or tram. Thirty-one percent said that the travel time took more than 20 minutes. More than 15% of the youth were given a lift by parents. 4.6% of the students spend more than 20 minutes commuting to school every day. The vast majority of the respondents (39.9%) did not use any of these means of transport; they got to school on foot or by bicycle.

The undertaken study problems also concerned the method of waste sorting. The respondents (77.8%) claimed that they have bins for sorting paper, plastic and other waste in their households. 42.1% of them also throw waste into the appropriate banks outside their homes. Unfortunately, up to 22.2% do not have such bins in the house and do not sort waste.

Further, young people tend to be paying more attention to the materials used for packaging of the bought products. Over 34% of the respondents declare following the manufacturer's recommendations. Unfortunately, the greater group of the studied youth (65.8%) do not pay attention to that.

When shopping, the young respondents' family members (82.9%) pack products into the bags brought by them from home. Unfortunately, seventeen percent of families do not do that.

Fortunately, the young people who spend free time in the forest or other places for leisure or recreation usually take with them the rubbish they produced (96.9% of the respondents). Over 20% of them also pay attention to the rubbish left by others and take care of it. Unfortunately, some respondents (3.1%) declared that they do not clean up after having spent their time in such places and leave rubbish behind.

The statistical analysis showed no relationship between the places of residence of the respondents and the selected environmentally friendly behaviours. No correlation between the place of residence and the electricity consumption in the respondents' households (Table 4) was established as well. The differences in the energy consumption resulting from the place of residence are small and not statistically significant. Moreover, there was found no correlation between the place of residence and the method of heating (Table 5). Further, there was no relationship between the place of residence and the amount of paper used in carrying out daily activities by the respondents (Table 6). Also, no correlation between the place of residence and the means of transport used to commute to school by the tested youth was shown (Table 7). However, it was observed that most respondents commute to school by public transport for more than 20 minutes in large and very large cities, which looks different in smaller towns, where a more popular way of getting to school is going by bike or on foot. There was no relationship between the place of residence and the segregation of waste by the respondents and their families (Table 8), as well as between the place of residence and the awareness about waste disposal after the purchased products were consumed (Table 9). Notwithstanding the place of residence, most people do not follow the manufacturer's recommendations for dealing with waste left after using the products. A vast majority of respondents did not pay attention to the recyclability of the packaging. Differences in responses resulting from the place of residence are little and statistically insignificant. The vast majority of respondents use their shopping bags and no relationship between these behaviours and the place of residence of the respondents was shown (Table 10). Finally, there was no correlation between place of residence and cleaning up after oneself or others in a recreational area in the forest (Table 11).

Table 4. Relationship between the place of residence and energy consumption in respondents' households

Place of residence	Energy consumption		TOTAL
	High energy consumption	Very low energy consumption	
small town	518 61.16%	329 38.84%	847
town	571 55.12%	465 44.88%	1036
city	434 53.12%	383 46.88%	817
big city	507 60.57%	330 39.43%	837
TOTAL	2030 57.39%	1507 42.61%	3537

* - relationship of p£0,05 Chi square= 16,663* p = 0,000829
Source: own study.

Table 5. Relationship between the place of residence and the heating method used in the respondents' houses

Place of residence	Heating method						TOTAL
	Coal or wood with waste burnt	Coal or pea coal	Gas	Oil	Electric heating	Central heating	
small town	212 25.03%	114 13.46%	69 8.15%	7 0.83%	48 5.67%	397 46.87%	847
town	236 22.78%	160 15.44%	95 9.17%	6 0.58%	65 6.27%	473 45.66%	1035
city	207 25.34%	156 19.09%	85 10.40%	2 0.24%	30 3.67%	337 41.25%	817
big city	220 26.28%	122 14.58%	58 6.93%	5 0.60%	43 5.14%	389 46.48%	837
TOTAL	875 24.74%	552 15.61%	307 8.68%	20 0.57%	186 5.26%	1596 45.12%	3536

* - relationship of p£0,05 Chi square= 30,786* p = 0,009381
Source: own study.

Table 6. Analysis of the relationship between the place of residence and the amount of consumed paper

Place of residence	Paper consumption awareness				TOTAL
	High consumption	Not paying attention	Rather economical	Very economical	
small town	142 16.77%	346 40.85%	326 38.49%	33 3.90%	847
town	187 18.05%	442 42.66%	352 33.98%	55 5.31%	1036
city	99 12.12%	365 44.68%	301 36.84%	52 6.36%	817
big city	142 16.97%	348 41.58%	277 33.09%	70 8.36%	837
TOTAL	570 16.12%	1501 42.44%	1256 35.51%	210 5.94%	3537

* - relationship of p£0,05 Chi square= 32,499* p = 0,000163
Source: own study.

Table 7. Analysis of the relationship between the place of residence and the means of transport used to get to school

Place of residence	Means of transport used to get to school					TOTAL
	By bus or tram; travel time over 20 min.	By bus or tram; travel time less than 20 min.	Parents give me a lift by car; travel time over 20 min.	Parents give me a lift by car; travel time less than 20 min.	By bike or on foot	
small town	208 24.56%	113 13.34%	37 4.37%	97 11.45%	392 46.28%	847
town	244 23.55%	133 12.84%	44 4.25%	108 10.42%	507 48.94%	1036
city	322 39.41%	114 13.95%	49 6.00%	63 7.71%	269 32.93%	817
big city	324 38.71%	133 15.89%	33 3.94%	104 12.43%	243 29.03%	837
TOTAL	1098 31.04%	493 13.94%	163 4.61%	372 10.52%	1411 39.89%	3537

* - relationship of p£0,05 Chi square= 146,847* p = 0,000000
Source: own study.

Table 8. Analysis of the relationship between the place of residence and the waste sorting in respondents' households

Place of residence	Waste sorting in respondents' households			TOTAL
	Yes - I throw waste into the proper bin, also outside of the house	Yes - we have different bins for paper, plastic, bottles and others waste at home	No	
small town	395 46.64%	273 32.23%	179 21.13%	847
town	415 40.06%	385 37.16%	236 22.78%	1036
city	322 39.41%	328 40.15%	167 20.44%	817
big city	356 42.53%	278 33.21%	203 24.25%	837
TOTAL	1488 42.07%	1264 35.74%	785 22.19%	3537

* - relationship of p£0,05 Chi square= 19,366* p = 0,003588
Source: own study.

Table 9. Analysis of the relationship between the place of residence and the awareness of proper dealing with packaging waste of the purchased product.

Place of residence	Proper dealing with packaging waste of the purchased product		TOTAL
	No	Yes	
small town	571 67.41%	276 32.59%	847
town	698 67.37%	338 32.63%	1036
city	501 61.32%	316 38.68%	817
big city	557 66.55%	280 33.45%	837
TOTAL	2327 65.79%	1210 34.21%	3537

* - relationship of p£0,05 Chi square= 9,609* p = 0,022203
Source: own study.

Table 10. Analysis of the relationship between the place of residence and packing shopping into own bags

Place of residence	Packing shopping into own bags		TOTAL
	No	Yes	
small town	149 17.59%	698 82.41%	847
town	151 14.58%	885 85.42%	1036
city	147 17.99%	670 82.01%	817
big city	157 18.76%	680 81.24%	837
TOTAL	604 17.08%	2933 82.92%	3537

Chi square= 6,890 p = 0,075483
Source: own study.

Table 11. Analysis of the relationship between the place of residence and leaving the recreational area or the forest clean

Place of residence	Leaving the recreational area or the forest clean			TOTAL
	I take my rubbish and rubbish left by others	I take my rubbish	I do not take my rubbish and leave it behind	
small town	160 18.89%	665 78.51%	22 2.60%	847
town	206 19.88%	804 77.61%	26 2.51%	1036
city	181 22.15%	603 73.81%	33 4.04%	817
big city	220 26.28%	587 70.13%	30 3.58%	837
TOTAL	767 21.69%	2659 75.18%	111 3.14%	3537

* - relationship of p£0,05 Chi square= 22,690* p = 0,000907
Source: own study.

Discussion

Although the system of financing environmental protection in Poland is expanded, there are more and more needs of environmental protection. The Regional Operational Programmes (ROP) are the regional programmes tailored to the specific needs of the regions and local communities. The funds amounting to EUR 1.9 billion from the European Regional Development Fund have been earmarked for environmental measures under the ROP for the years 2007 – 2013. A sustainable development is social progress, in which the awareness is deepened, society's wealth is increased, and the quality of life is improved in a way that does not lead to the deterioration of the environment and also stimulates action in its favour (Cichy, Tuszyńska, 2007). Environmental degradation is a result of the so-called "uncontrolled development of civilization" (Parlak, 2005). Therefore, the deteriorating state of the environment demands, as the author emphasises, the need for widely understood environmental education of all social and professional groups.

Environmental education should be one of the most essential priorities in the education of modern society. In addition to formal education conducted in schools or through a variety of training programmes for adults, an important role in this regard is played by non-formal education that people undergo in each community and phase of their lives (Buchcic, 2009). Everyday experiences, the impact of family education, work environment and mass media shape the character especially of young people, their system of norms and values, which are so important nowadays, being the social skills that are a necessary element in the educational knowledge process. Due to the demands of the modern labour market, people are not afraid to take on new challenges, become assertive and able to work in a team, such skills should be looked for from an early age (Paczyńska-

Jędrycka, Łubkowska, 2015). The study undertaken among people engaged in outdoor educational activities demonstrated that these are effective in the education of an active approach to life and contribute to eliminating passivity in social life (Łubkowska, Paczyńska-Jędrycka, Jońca, 2014). Outdoor education is understood as a science about man, society, health, natural heritage and environmental development enhanced during outdoor activities. Many definitions in the literature strongly emphasise the approach to learning based on experience and adventure (Christie, 2012). Undoubtedly, this type of education can be successfully used to raise environmental awareness of young people.

The results of this study show a level of environmental knowledge and other resources including the social skills of young people and their families. The results confirm the hypothesis that knowledge in this field and, consequently, the youth's social skills are insufficient. It is confirmed by the examples resulting from the study which indicate that, e.g. more than half of the students do not pay attention to the amount of consumed electricity and paper while performing daily activities. About 25% of the respondents' households are heated by furnaces, where frequently waste is burnt, which should not happen. Nearly 20% of the surveyed families did not segregate the garbage. Moreover, the young people do not usually act according to the manufacturers' instructions while handling the waste after the purchased products. It even happens that they leave rubbish in place of leisure, e.g. in the forest. The results of the study by Grzybowska-Brzezińska (Grzybowska-Brzezińska, 2011) showed the environmental awareness of adult consumers through the use of the method of diagnostic survey and a questionnaire. The study aimed to determine the actions taken by the respondents in their everyday lives to protect the environment. It turned out that only 5% of the respondents sort garbage at home by placing it in appropriate containers. Fifteen percent throw garbage to the bins located in their residential area taking care of its different assortments and as many as 80% admitted that they do not practice such activities due to various circumstances, including the lack of such waste banks at the place of residence and in its vicinity. Half of the respondents used traditional plastic bags when doing shopping. Fewer respondents used biodegradable bags or bags made of fabric. Finally, this study has shown that people living in rural areas often use traditional plastic bags.

The study conducted by Jarosz et al. (Jarosz, Brol, Jarzębska, Nowińska, Przewoźnik, 2005) on the pro-environmental attitudes in young people showed that the majority of the respondents agree that every person could contribute to the environment improvement and thus strive to improve the public health. The most common activities undertaken by the respondents for the environment was sorting the rubbish out, caring about the cleanliness of the occupied places, taking care of greenery and not causing air pollution.

Conclusions

The results of the research can become a starting point for undertaking further education not only of children and youth but also adults. Education aiming at raising environmental awareness and environmental protection should be carried out by competent educators and take place at all levels of education (Górecki, Nieszporek, Ostruszka, Skolarczyk, Wójcik, 2007). This process should be based on formal and informal activities (Terlecka, 2014) and lead to the dissemination of environmental culture patterns in which the level of public awareness determines an effective protection of the environment (Hołbił, 2010).

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