



**Budapesti Corvinus
Egyetem Szociológia
Tudományok
Doktori Iskola**

THESIS COLLECTION

Katalin Monostori

Related to the Ph.D. dissertation entitled

**Environmental consciousness in Hungary
Attitude and action in the field of selective waste collection**

Consultant:

Béla Janky Ph.D
university docent

Budapest, 2007

Institute of Sociology and Social Policy

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1. Aim of the dissertation

The main aim of the dissertation is to modulate the contradiction, which characterizes the environmental professional work in Hungary. I will point out through a concrete example of selective waste collection that environmental protection and the connected scientific work cannot disregard the sociological research results regarding the recognition of society and measures should be based upon this, since the lack of such recognition may lead to tensions on the short term and long term, as well. The main source of tensions is that new legislation and investments in the field of environmental protection do not take into consideration the real environmental consciousness of the society. The attitudes and judgements on reality are mixed up in the research results. The decisions are taken in certain fields primarily on a professional basis, without the more detailed knowledge of the social effects, or without their real social support. However the effects of the measures lay duties, tasks on the members of the society on the short and long term. Thus, society only confronts the measures through the personal influences, which probably will soon manifest as a vigorous tension source. Environmental investments realized from European Union sources and the legal amendments required for the accession explain the actuality of the topic.

I will point out by means of empirical results conducted in the subject field of selective waste collection that the population's attitude regarding environmental protection does not bear real support. Due to the historical encasement and the lack of information channels environmental protection is a field, which is popular, but not sufficiently supported in its contents. Based upon my arguments, due to the community property aspect of environmental protection, the scale of real support may also prove to be an effective index-number for measuring the macro-level social solidarity. In this was, the difference between standards generally accepted in the society and the real action shows the level of social solidarity in the field of environmental protection.

In the course of the hypothesis and arguments I relied primarily on the Hungarian environmental sociological researches¹, as well as on the scope of concepts of social solidarity -, and rational decision theory. I have independently determined the definition of macro-level sociological solidarity. During the course of the research I used the contingent valuation methodology.

¹ The definition of the system of definitions of environmental sociology is analysed in a separate supplement in my dissertation, although –based upon personal consultations- the existence of such school is questionable.

2. The methods used during the course of the research

2.1 The methodology used for testing the hypothesis of the research

In the main hypothesis of the research I had defined that the level of social solidarity in the field of environmental protection – regarding selective waste collection – is at low level in Hungary. By the notion of social solidarity I meant the natural act, when the individual acts according to the moral – which manifests as the modus of the aggregated individual expectations regarding the specific act - irrespective of the differences of the community and individual interests. The act is not an aspiration for individual utility – the avoidance of sanctions – but it is the generation of the correspondence to the social expectations and aims. Examining a specific field the solidarity is high in a society, when the difference between the social expectation and the individual acts is minimal in such a way, that the social expectation reflects the opinion of the majority of the specific group, and the omission of the act does not entail sanctions. Macro-level social solidarity means the social solidarity, when the social expectation is drawn up among a wider group as per the identity of the individual.

Based upon my definition, by the index-number of social solidarity means the presumed majority action, which corresponds to the majority, irrespective of the fact that possibly parts of the minority opinion subset may turn out to be in the subset of the majority opinion. In this way, those are added to this subset, who, in spite of their minority opinion, act in compliance with the majority. I demonstrate the groups studied by the following illustration:

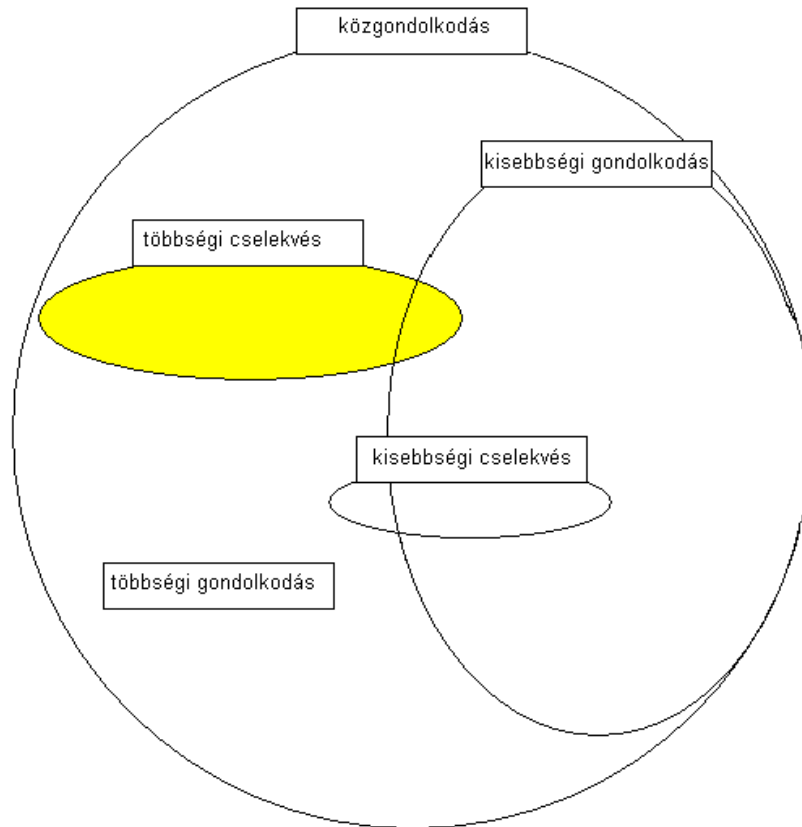


Illustration 1: Summary of the expectations and acts regarding social acts²

The studied index-number compares the dimension of the majority opinion and the majority actions.

During the course of the sub-hypothesis I looked for an answer along which dimensions we can limit the social group, which shows real interest and willingness to act for environmental protection. I drew up each potential explanatory factor based upon the review of the bibliography of rational decision theory, collective action and social solidarity, and unique logical conclusions.

2.1.1 Contingent valuation

Apart from general attitude questions the contingent valuation seemed to be the most suitable method for measuring the difference between the norm level and the individual

² Translation of labels in the picture: Közgondolkodás - Public opinion; kisebbségi gondolkodás – minority opinion; többségi cselekvés – majority action; kisebbségi cselekvés – minority action; többségi gondolkodás – majority opinion.

support. The review of the bibliography showed that as a result of the expert comparisons (based upon NOAA request) in case of the fulfilment of certain conditions the method meets the reliability criteria at the required level („can produce estimates reliable enough to be the starting point of a judicial process of damage assessment, including lost passive use values.” Federal Register 4601, January 15, 1993).

The initial form of the method had already appeared about 60 years ago. However, almost 50 years had to pass in connection with its use for it to become widely acceptable. The criteria, which guarantee the reliance of the method needed to be set up. These can be summed up as follows:

- the preference of personal interviews instead of telephone interviews and mail surveys,
- the amount of WTP (willingness to pay) may only concern future incidents – and not events that have already taken place
- use of voting formats and scenarios is compulsory
- apart from this, it is compulsory to draw the attention to the alternative filling possibility, and by this means to the decrease of the available total amount
- it should be guaranteed by means of follow-up questions that the responder has understood the choosing possibility, and the reasons lying behind his/her answers need to be disclosed.

Further questions may arise in connection with the use of the method. Fisher (1996) analyses the method from two aspects based upon the consumer’s choice theory and the public good theory. The binary model indicates that the utility of the stock is not only influenced by the price and incomes, but also by the level of the environmental goods. In case one of the components of the environmental stock vector increases in such a way that the other components remain unchanged (income, price) then the utility will be at a higher level than before. In this case, the amount spent on the amelioration of the environmental stock could indicate the extent of the researched WTP. The total extent of the WTP is composed of the aggregated amount of the individual WTP-s, since the environmental goods are public stock. It arises as a matter of dispute, which should be included in the aggregation, since the Contingent valuation method with this assumption could only measure the passive utility value.

Kerekes (2003) mentions three distorting impacts in his summary: In case of strategic distortion, the responder wants to achieve the decrease of the amount payable; in case of information distortion he/she has to assess a phenomenon, a service of which he/she disposes of little information. The starting point (initial value) distortion indicates the influencing impact of the extent of the bidding values.

Seip and Strand (1992) draw the attention to the problem that in case of contingent valuation the amount established as WTP is higher than the amount the responders are really willing to pay. Due to this Diamond and Hausman (1993) survey the amount of the WTP is critically assessed, since if the strategy of the individual is non-payment, then the strategic response cannot be the determination of the amount of the WTP. According to their hypothesis it is imaginable that the responder thinks that he/she may influence the outcome of the issue with his/her response. Therefore the question should be posed to people in such a way that they may be aware of the consequence of their response. The applicability of the method was justified by the research conducted by North - Griffin (1994). The results of the willingness of villagers to pay for the water-drain indicated that there are no statistical differences between the number of the households prognosticated and those, which have actually joined.

Amongst the open and closed responding possibilities the scientific literature prefers the closed format, which is also supported by Bohm (1994). Since in case of an open question in certain cases amounts, which are unfoundedly high and far from reality also turn out. Hanemann (1994) draws the attention that in case of an open question the responder cannot be aware of the limits of the WTP, while in case of a closed question the maximum amount of the WTP is fixed. Regarding the use of closed questions and voting format, the problem of the distorting impact of the initial value arises. This initial point distortion may be eliminated by the use of the payment card method of diverse prices.

Another question arising is the choice between the WTP (willingness to pay) and the WTA (willingness to accept). From an economic approach the WTA means the amount the person would accept in order to have the environmental stock unchanged. It can be

rationally explained owing to psychological reasons that the amount of the WTA is higher than that of the WTP. In contrary to the 1980's results of Randall and Stoll, according to which the difference is due to the price elasticity of the incomes, results of Hanemann (1991) indicate, that the explanation is not the price elasticity of the incomes, but rather the ratio of the two elasticities: (η/σ) , where η is the income elasticity, σ is the replacement elasticity between the environmental stock and the market stock, to which it is compared. Mitchell and Carson (1989) highlighted, that there is a difference between the evaluation of the private goods and the public goods considering that the owner in case private goods and in case of certain public goods is aware of the rights related to the stock, which also includes the right to change (even for money). This fact does not stand in the case of public goods. This is why the WTP is a better index-number since in case of the WTA we have to mention an amount in return for a stock, which is not even ours. Similar reasoning exists in the researches regarding the quality of water and air. The WTP may be the best used to measure the amount that the responders would be willing to pay for the completion of measures for repairing or against deterioration or maintaining a certain level.

Another problem, which exists in the case of WTP is the embedding effect. In Smith's (1992) interpretation the effect manifest as such, that in certain studies the results examined in one way or the other are not significant as regards the embedding. The problem of embedding effect was drawn up by Kahnemann and Knetsch (1992) according to which the assessment of the public stock depends whether it is evaluated individually or as a part of a wider category (inclusive category). In case of the assessment of various public goods, the order of the WTP can be predicted based upon the order of the moral satisfaction. The reason for this is that in the Contingent valuation method the extent of the WTP index-number is in close connection with the moral satisfaction, and less close with the economic value of the stock. According to Diamond's and Hausman's (1993) interpretation, the results are inconsistent since the more is valued less. According to Fisher (1996) the proper definition of the goods is the most important. In his example he points out that for certain goods the responders reply to the question simply regarding the existence value, the utility and not the quantity value.

Gans (1993) points out that the measuring of the WTP does not satisfy the conditions of rationality. Having regard to the aspects of “methods transfer” the individual WTP is either totally orderly or it is incomplete, it is reflexive, transitive and therefore it does not meet the conditions of rationality. This is the adaptation of Arrow’s impossibility theory.

As a result of further economic analysis in case of non-use value three values arise, which have an impact on the value: existence value, bequest value and option value. The existence value has already been mentioned above, although some people question its existence. According to Milgrom (1993) it is impossible to measure it, though it is worth calculating it theoretically. The option value is not completely a non-use value; it rather becomes useful in case of the uncertainty consequences, which can be observed in case of use values. In case of bequest value we consider that it is a value for A individual, when the specific good is also consumed by B.

According to Kahneman and Knetsch (1992) the most serious deficiency of the method is that the estimated value of the public good is justifiably incalculable, since on one-hand the value of the WTP is much higher, when the payment arises in a long-term commitment, rather than, when someone has to esteem it based upon a one-time payment. On the other hand the WTP regarding the public stock greatly differs depending on whether its estimation is done regarding itself or in an all-inclusive category (inclusive category). Thirdly, the value of the WTP in the case of public stocks is no other than the purchase of the moral satisfaction, from which the value of the stock is esteemed.

Peter A. Diamond (1994) raises several problems regarding the validity of the methodology: The surprisingly high WTP amounts give rise to incredulity as to whether the responder has really understood the question. It is frequently experienced that the responder wants to match up to the questioner. He agrees with the idea of Kahneman and Ritov (1993), in which it remains questionable whether attitudes can be transformed into money scales. In his opinion the responses are greatly influenced by Andreoni’s (1989) “warm glow” effect (they buy a warm feeling by means of expressing their support for a good cause.) The presumption of the responders, that they can influence

the realisation – is also a great influencing factor. Since in these cases the responder does not decide upon his/her preferences, but rather upon a general scale of values.

Schkade and Payne (1993) have made analysis by the method of “loud thinking”. The research indicated that the personal and the public preference evaluation are merged in the amount of the WTP. Apart from this, the individuals determined the amount of the WTP in light of the expected cost of the programme.

According to Diamond the influencing effect of the number of questions is another huge scope of problems. Since in normal cases the number of questions or the order of questions cannot influence the response. In case of contingent valuation the amount of the WTP in case of the Grand Canyon (Tolley 1983) showed a value which was 5 times higher when it was posed as a single question, rather when it had been measured as part of three questions. And this means that the preference is consistent with the income and replacement effect. Samples - Hollyer (1990) showed that the order of questioning also influences the specific value. This characteristic gives rise to two hypotheses: according to one version it is not true that two questions are more reliable than one. According to the other interpretation, the “warm glow” effect is justified, since we strive for the satisfaction of this pleasant sensation while answering the first question and this is why the WTP of the stock esteemed in the second place decreases. Apart from this, the Contingent valuation indicates different values if the value of certain stocks is esteemed by itself or together with other stocks. The income effect may be one of the reasons for this, however the amount planned for the specific stock is so low, that its income effect does not explain this effect. Another interpretation is the replacement effect between the two stocks, however this is contradicted by Diamond’s 1993’s research, in which the WTP of 2 or 3 stocks esteemed together was lower than if it either of the stocks had been esteemed individually by the responders. This indicates that neither the income, nor the replacement effect explains the embedding effect in practice. The practical results only give place for the “warm glow” effect. A similar problem arose, when Desvousget (1993) evaluated the perdition of birds by the responders. The result was that the amount of the WTP was similar irrespective of the number of birds. Therefore, one of the greatest problem of Contingent valuation is inconsistency since based upon the above results it does not meet the conditions of concavity of the preference systems.

In his study, V. Kerry Smith (1996) examines whether the results of the Contingent valuation should be significantly different from each other in case the responses to be evaluated differ significantly. The importance of the research is demonstrated by the fact that responders often cannot make a difference between important and fashionable stories. (Cummings, Brookshire and Schulze in their 1986 study demonstrate that an ordinary responder was willing to pay an amount around 25 \$ for anything.) The results generally show that the people want to support good things, which is reinforced by the embedding effect. The tests indicated that the decisions had two influencing factors: the characteristics of the question and the character of the responder. This however had not justified the discriminative effect of the method. The results in Smith's (1992) research indicated the Contingent valuation method has a discriminative effect whilst evaluating the different values of the environment. During the evaluation it had played an important role, that for the same action, incident there were two kinds of options, and the responders were aware of the problem to be evaluated, and that they were personally affected by the problem. The two amounts of WTP were compared by means of median, average interquartiles. In this case the demographic and attitude aspects turned up as explanatory factors. This research contradicts the results of Kahneman and Ritov (1994), according to which the WTP does not show its discrimination ability regarding the estimation of the importance of the alternatives, thus the alternatives are replacements to each other for the responders (good cause). The determination of the contribution limit does not necessitate more detailed information regarding the alternatives or the payment conditions. The only important thing is to have the possibility to do something good.

Summing up it can be said, that by means of practical proposals developed based upon the raising of problems and counterarguments the Contingent valuation methodology gives more precise results even in those cases, when the research is not completely conditional or is not directly destined for the evaluation of the public stock. Of course reservations can be formulated henceforward concerning the evaluation of public stock in the first place. Apart from this however we can build upon the information acquired this way with more certainty, than upon the traditional methods processing general, norm obeying responses. The arising contradictions are caused by the fact, that in certain cases the attitude scale of the responders need to be transformed into money,

which lacking practical and empirical feedback, study process can result in contradictory results. The recognition of the individual real opinion, the real social willingness to pay remains a key circumstance, and the responses elaborated based upon the general scale of values should not be accepted without any incredulity. Everyday examples can be presented in the field of environmental and nature protection: the importance of the protection of the environment reaches an outstanding number at the responders, however instead of the actual action, the search for excuses and free riding is typical. Therefore in case of future services and projects, that are not distant from the practical, everyday life, the method – with the fulfilment of certain conditions – can be used with greater security than the traditional questioning methods based on general, norm obeying responses.

2.2 The course of the research

The operation field of the main hypothesis required preliminary knowledge, the majority of which was not available. Therefore the research conducted in 2006 was preceded by several preliminary studies. The Ministry of Environment and Water had conducted a representative quantitative survey with 1500 persons in 2004, in order to get to know the information level and attitude of the population. The testing of the preconditions of the hypothesis was possible within the framework of the latter research. I had directed the research personally as an employee of the ministry.

Since no research similar to the one planned, covering a wide subject matter has been conducted in the previous years, the preparation of the questionnaire was preceded by a revealing qualitative research composed of conversations with six focus groups in Budapest, Székesfehérvár, and with villagers of Northern Hungary in Miskolc. The aim of the research was to survey the distorting or alternative motives concealed in the background, to get to know the knowledge of the contents of each field (environmental protection, nature protection, water conservancy).

The 2004 questionnaire was prepared based upon the experiences and information of the focus groups, which apart from the main research topics for my research had also tested, whether environmental protection is suitable for measuring social solidarity. Although the questionnaire aims at the obtaining information and connections which are necessary and of importance for the ministry, as a result of the synchronization it served

as an excellent pilot questionnaire for the determination of the final questions of the research. The main conclusions of the research indicated that in the field of environmental and nature protection the processing of waste is of outstanding importance to most of the people. It was clearly outlined in the assessment of social responsibility for certain environmental problems, which are the areas that are considered to be the responsibility of the individual: the most typical area was the selective waste collection.

Not only the question of individual responsibility had become proven in the case of selective packaging-waste collection, but the proper knowledge within the members of the society had also been confirmed. 76% of the population marked the recycling as the motive of selective waste collection.

Not only the aim, the technology of selective packaging-waste collection is also known within the population. They have mentioned the material, which may be collected selectively in spontaneous answers and in great proportions. The questions have also indicated that despite their knowledge, the number of those, who collect the specific waste selectively, does not reach the expected value. is.

As a reason for the failure in action, the respondents had brought forward external circumstances as arguments almost exclusively: there is no container nearby (34%), the garbage man takes it away together anyway (28%), more dustbins would be necessary for it (15%). Therefore, the use of the contingent valuation method became reasonable.

The results of the research indicate that environmental protection is suitable for measuring social solidarity, since it has areas regarding which the expectations of individual actions had appeared at the norm level without sanctions, and this forms the majority of the opinion of the society. Based upon the framework of the notions, the willingness to act and to pay of selective waste collection seemed to be the most suitable operational field. The social actions, which are currently not sanctioned, shall become an action sanctioned by norms during the years, and this way later on they grant the possibility for us to analyse the realisation of the influence of sanctions -collective action. This action is emotionally indifferent, and guarantees the subsequent international comparisons as well.

The assessment of each environmental problem within the same gender, and thus the willingness to act indicates the difference between the genders in the field of mobilization. The influence role of communication on the state of the environment can

be determinant regarding the expected action. It is the assessment of the individuals regarding the majority of the population that others do not take part in the expected conduct. They consider the level of norms, the strength of sanctions to be low, and they see this as a reason for the lack of cooperation. The knowledge regarding the resources and of public funds and their distribution being one of the elements of the visibility of public affairs is at low level. The rituals emphasizing the importance of environmental protection are well known.

It became outlined during the course of the focus group researches and national representative researches, that selective waste collection is the most suitable area for testing the hypothesis, the application of the contingent valuation methodology. Therefore in the next step the finalisation and operation of the hypothesis, and following that the evaluation of the results took place based upon the surveying of the national representative personal questionnaire of March 2006.

3. Summary of the research results

I have formulated 1 main hypothesis and 13 sub hypothesis during the research. I summarize the results as follows. I have marked each conclusion by numbers:

3.1 The level of social solidarity in the field of environmental protection

Main hypothesis: The level of social solidarity in the field of environmental protection is low in Hungary, which can be explained by the general widespread of factors impeding collective action realised in other fields.

The empirical research has verified the hypothesis that selective waste collection comes with a much lower willingness to act and pay, then it could be expected on the basis of attitude-questions. While 87% of the population finds that selective waste collection should be the standard, only 72% considers selective waste collection to be obligatory on it.

Still, actual support is even lower. Introduction of selective waste collection induces extra costs, which must be paid by its users. Only 23% of all households are willing to pay this amount, estimated to be HUF 700 according to preliminary calculations. On the basis of the answers we can deduct that only 15% of the households realize selective waste collection today, if we define selective waste collection with the separate collection of at least 3 packaging waste fractions. In order to avoid distortion of willingness to act by external factors, e.g. lack of possibility for selective collection, we have tested presumed activity, too. The proportion of those ready to collect at least 3 waste fractions separately in the future is around 27% within the population as a whole.

We have verified the main hypothesis of the research, namely that there is a tension between the attitude of the population and its actual willingness to act and pay. I used this concrete example to show that environmental legislation and investment often lack public support, since we can only refer to public support

of a project if the end-users accept and support every aspect of it including its costs and use. This is not the case for the introduction of systems facilitating selective waste collection.

Further hypothesis

We have created three dependent variables with the help of the questions presented above for the further analysis, the testing of the sub-hypothesis. We have separated the current practice regarding selective waste collection (1. realized action) and the willingness to act signalled in case of the introduction of the system of selective treatment of waste (2. conditional-presumed action). We have created a simple index in the case of the realized and presumed action, which expresses the number of the waste collected/ that should be collected, and this way we can avoid the clarification of the notion of selective waste collection. Unfortunately we could not take into consideration the frequency of the occurrence of the specific type of waste in the household of the responders. Of course, it should be taken into consideration how many sort of waste is being treated selectively by someone; this only means environmental consciousness in a limited sense. The willingness to pay (3.) was measured by the amount of the payable sum.

I have justified the assertion in our main hypothesis – according to which, the level of social solidarity in the field of environmental protection is low in Hungary - by the general widespread of factors (free riding, low efficiency controlling, lack of sanctions, redistribution invisible for the population) impeding collective action realised in other fields. In the present research it was possible to verify the effects made on the nature conscious conduct and the undertaking of costs by the attitudes related to the community trust and sanctions.

3.2 The influence of community trust

Hungarian public is extremely sceptical about realization of common social activity. The majority (61%) considers that people would act in line with national and community interests only in serious trouble. For environmental

issues, this ratio is even more pessimistic. Two-third of the population considers itself to be working for the environment, but without success, since others remain idle. The general lack of trust has an impact on both realized and presumed activity. However, significant correlation has shown only for the realized activity. Regarding environmental social attitudes, more optimistic opinions result in higher realized and presumed activity and a higher willingness to pay; i.e. once the procedure starts other will join in. As a result of a slow process, the proportion of environmentally conscious population is expected to reach a critical mass, which allows for creating a massive wave of selective waste collecting. This shows a tendency similar to a product launch on the market.

3.3 The influence of sanctions

Positive, but slight connection can be demonstrated between the realized and presumed action, the willingness to pay and the level of sanctions. That is, greater environmental consciousness and in connection with this, higher willingness to pay is the characteristic of those responders, according to whom more severe sanctions ought to be imposed than the current ones. This, contrary to our hypothesis, had not led to the result, we had expected. It seems that the environmental consciousness of those, who set less value for the current system of sanctions, the environmental consciousness is higher.

3.4 The role of information in the area of willingness to act and willingness to pay

While testing the factors influencing environmental consciousness, we have found the strongest connection with regard to the level of information; not only the realized activity and presumed activity, but even willingness to pay showed a strong correlation value. This allows us to deduct that the low level of information within society results in low level of environmental consciousness. However, this is not the only explanation, since even those possessing the information fail to act according to it.

3.5 The influence of media consumption

In researching access to information, we have tested habits of watching television and reading newspaper. Since electronic news consumption is widespread, correlation between the main components of news consumption (newspapers, TV and radio news broadcasts) and environmental consciousness is significant, but show low correlation. By highlighting the newspaper reading habit, we find that people rejecting to read the papers have a significantly lower level of environmental consciousness. Attitudes are hardly influenced by regularity, but strongly influenced by openness. Among the different types of programs, broadcasts of public interest show the strongest connection. The ratio of realized activity is high especially among the population segment less receptive towards pure entertainment and tabloid issues. In the light of the data, we can fear that the segment of the population rejecting to pay attention to public life and to politics will increasingly distance itself from programs and news forums carrying environmental information. These programs can not be substituted by programs designed according to the rules of entertainment.

3.6 The influence of lifestyle habits

If news can't reach an audience wide enough, then what remains is the chance for the persuasive power of personal experience. We can discover only weak connections with lifestyle factors (cultural and group activities, outdoor activities, indoor leisure activities), which is similar to the weak connections with media consumption. The strongest connections are shown in cultural consumption habits, while outdoor activities, where humans have a direct contact with nature, are connected to willingness to pay. What comes as a surprise is that this connection is not stronger than the one in case of home-indoor activities.

3.7 The influence of personal experience and facing the problem

Similar surprise is the experience of facing the problem itself, which fails to have an impact on environmental preferences. Satisfaction with the environment (cleanness of residential area, air quality, water purity, environmental conditions) fails to correlate with willingness to act or to pay. The presence of illegal waste dumps in the environment (28% of those polled!) has only a slight impact on environmental consciousness. The average rates significantly differ for realized and presumed activity, and those polled, who have more waste in their environment, have a slightly higher potential to act.

3.8 The influence of participation in public affairs

Previous social attitudes and young democracy can explain the lack of environmental activity. According to the hypothesis, social activity and demand for involvement in public affairs has a positive effect on environmental measures. Although the results are slightly exaggerated based on practical experience (more than one-fifth of those answering have indicated for certain their participation at the public hearing for an environmental development), the hypothesis has proved to be true for all three dependant variables.

3.9 Effect of age

The younger generation is not the target group for the trend of creating the wave. Based on the value of correlation coefficient, age has no impact on realized or presumed activity. The correlation for willingness to pay is also weak and inverse. At the same time age does matter in a measurable way. If projecting the results on a diagram, we see that the level of environmental consciousness increases steadily for all three factors until the age of 25-28, then it remains stable until the age of 60. Reaching retirement age is an important divide. All three factors, but especially willingness to pay, decrease rapidly. Therefore,

although we can talk about a generation gap, it is not the young generation, but the one aged 30-55 with the highest level of environmental consciousness.

3.10 The influential power of the household income

Household income had only a slight influence on preferences regarding selective waste collection. The subjective opinion on wealth explains better the hypothesis that higher income comes with a higher level of social solidarity.

3.11 The role of gender in environmental consciousness

Differences between men and women are insignificant. Having the same level of problem sensitivity, men have a slightly higher score of activity than women, which is contrary to our hypothesis. Finally, we must conclude that sex has no measurable impact on either willingness to act (realized or presumed) or on willingness to pay.

3.12 Solidarity towards the future generation, the role of children in environmental consciousness

At the same time, we verified our hypothesis that having children has a definitive impact on the level of environmental consciousness. Especially presumed activity is higher for families with children. In addition to the generational results, this verifies that environmental protection functions not only as the factor for solidarity with the current, but also with the future generation. Families with children show better results for all three factors. The number of children has a slighter impact on environmental consciousness, but is more closely related to the presumed activity.

3.13 The effect of micro-level social solidarity on macro-level social solidarity, the influence of the type of settlement

The hypothesis regarding solidarity towards the future of our children is verified, but without switching between micro and macro level solidarity. Results show that our hypotheses showed to be wrong at this level of attitudes, in spite of partial results. People living in the capital have showed the lowest level of trust; this is likely to be the only example of estrangement in big cities. Looking at the selective waste collection practice, we find the best results among the inhabitants of free-towns (towns of county rank). Results for presumed activity are more close, however large cities from the countryside still compare very favourably to the capital city. Only the high willingness to pay by the inhabitants of Budapest could verify the hypothesis, however the other settlement types show no differences for this factor. Therefore no clear connection could be established.

3.14 The role of religiousness

Even religiousness, which is strongly connected to the principles of solidarity, showed no correlation with environmental consciousness.

3.15 Summary

We can deduct from the results that the most important task within environmental protection is informing the population, allowing for democratic potentials and creating publicity from them. By emphasizing environmental education, the environmental consciousness should be spread among the younger generation. The biggest obstacle barring people from activity is the lack of trust towards others. Contrary to our hypothesis this can not be changed even with sanctions. This comes from the fact that environmental protection is rooted in solidarity of society, which shows in solidarity towards the future generation. This is verified by higher activity of households with children. Appointing the ombudsman of the future generation might be a good initiative.

We must not allow for the level of knowledge and expectations in the society to distance themselves from the political field. Therefore, we must formulate the need that public administration, civil organisations, inter alia the churches, should realize their environmental concepts with the active involvement of society.

Hungarian society shows special characteristics with regard to solidarity of society. Environmental protection is a good example to show that general attitudes are not sufficient for inducing action and for making real sacrifices. It shows similarity with the general level of acceptance of welfare state systems, coming at the same time with a low level of willingness to make sacrifices. Comparing results of health care system, pension system and tax awareness research with results on environmental protection shows as a potential area for further research.

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