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# General Social Survey and Sustainable Development. Methodological and Empirical Aspects

# General Social Survey i rozwój zrównoważony. Aspekty metodologiczne i empiryczne

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## Abstract

Many large national research projects lack variables that would make it possible to monitor environmental attitudes on a regular basis. The General Social Survey (GSS), an American research program, can serve as an example of a good solution in this regard. The GSS surveys have used several variables at intervals of just a few years to measure environmental attitudes across time. The main aim of this article is to analyse these variables and show how they can be employed in other studies. Secondly, the article aims at presenting attitudes towards environment protection in contemporary American society on the basis of the 2014 GSS data. Variables describing the individuals' position in the social structure, such as income and occupational prestige score, turn out to have no influence on their environmental attitudes. By contrast, education and most of all age, are the most important characteristics that affect how strongly respondents feel about the need to protect the natural environment.

**Key words:** natural environment, attitudes, General Social Survey, indicator

## Streszczenie

W wielu dużych ogólnokrajowych projektach badawczych brakuje zmiennych, dzięki którym można byłoby w sposób ciągły monitorować postawy wobec ochrony środowiska naturalnego. Przykładem dobrego rozwiązania w tym zakresie jest amerykański program badawczy General Social Survey, w którym od lat, w sposób ciągły i w odstępach zaledwie kilkuletnich wykorzystuje się w badaniach kilka zmiennych mierzących tego typu postawy. Jednym z głównych celów artykułu jest analiza tych zmiennych i pokazanie perspektyw ich wykorzystania w innych badaniach. Drugim celem jest ukazanie postaw wobec ochrony środowiska naturalnego we współczesnym społeczeństwie amerykańskim, na podstawie danych GSS z 2014 roku. Zmienne opisujące położenie jednostek w strukturze społecznej, takie jak np. dochody i prestiż zawodu nie mają wpływu na tego rodzaju postaw. Wykształcenie, a przede wszystkim wiek – to najważniejsze cechy mające wpływ na siłę przekonań o potrzebie ochrony środowiska naturalnego.

**Słowa kluczowe:** środowisko naturalne, postawy, General Social Survey, wskaźnik

## Introduction

It is commonly known that the social component is one of the three pillars of sustainable development. Among various aspects that it encompasses, social attitudes towards environment protection seem to be one of the most important. This issue has long been present in social sciences research, with many empirical studies carried out within individual countries, but also of an international and comparative character. There exist, however, only few research projects that make it possible to monitor attitudes towards the environment in the long term and that make use of the same research methodology, thus allowing to reliably track trends in this important area across time. It is particularly important that such

long-term research should make use of the same measurement tools and should be carried out on relatively large research samples that are selected in the same way.

One of the research projects that meets these criteria is the International Social Survey Program (ISSP). It is a long-term international research program carried out annually in participating countries, and aimed at regular measurement of variables covering a broad scope of social life. The ISSP surveys are repeated every few years, which enables the observation of changes in the measured phenomena. One of the ISSP modules is the ISSP Environment, which was implemented three times – in 1993, 2000, and in 2010. The ISSP questionnaire surveys are carried out on random samples, and make use of both interview techniques and survey techniques.

Due to the range of topics it covers and its geographical scope, the ISSP Environment seems to be the most valuable research project in this field. However, its most serious shortcoming is that successive surveys are conducted at too long intervals (every 10 years and in the future this is not likely to change), whereas in order to monitor environmental attitudes more accurately, it is necessary to measure them every 2 or 3 years. So what are we left with in this situation? The answer could lie in large national research programs that meet the requirements described above and are conducted at shorter intervals. The American research program General Social Survey (GSS) is a good case in point here.

The GSS gathers data on contemporary American society in order to monitor and explain trends in attitudes, behaviours and attributes. The program has been conducted since 1972. The GSS contains a standard core of demographic and behavioural questions, as well as topics of special importance for the functioning of modern society. Among the topics covered are: civil liberties, crime and violence, tolerance, morality, national spending priorities, social mobility, and many others. The GSS is one of the best sources of data on the attitudes and trends in the United States. It allows researchers to examine the structure and functioning of society as a whole, as well as the role played by subgroups and to compare the United States with other nations. Its aim is to provide easy access to high quality data that can be used by researchers, students, policy makers, and others.

The experience of the GSS serves other large research program; for example, the ALLBUS (Die Allgemeine Bevölkerungsumfrage der Sozialwissenschaften), which has been conducted since 1980 to examine trends and consequences of social changes in Germany, or the PGSS (Polish General Social Survey) conducted since 1992. Both the ALLBUS and PGSS are based on the GSS, but unfortunately neither of them contains a single variable that could serve as an index (indicator) to examine environmental attitudes. Thus, a great opportunity for systematic monitoring of environmental attitudes in Central Europe has been missed, and there are no apparent prospects that the situation will improve in this respect. So, let us go back to the source that we have at our disposal, i.e. the GSS.

The aims of the article are twofold: methodological and empirical. In order to achieve the former ones, it is necessary to answer the following questions: What indicators of environmental attitudes does the GSS offer?; What are the properties of these indicators and to what extent are they suitable for systematic monitoring of environmental attitudes?. On the other hand, for the empirical aims to be fulfilled, it is necessary to answer the question: What has Americans' attitude to environment protection been in recent years and what does it depend on?

## Indicators of attitudes towards the environment

The 2014 GSS offers 3 variables that can serve as indicators of social attitudes towards environmental protection: NATENVIR used since 1973 (except for 2010), NATENRGY used since 2010, and WRLDGOV used in 1996, 2004, and in 2014.

The NATENVIR and NATENRGY variables are measured by the following survey question: We are faced with many problems in this country, none of which can be solved easily or inexpensively. I'm going to name some of these problems, and for each one I'd like you to tell me whether you think we're spending too much money on it, too little money, or about the right amount. Are we spending too much, too little, or about the right amount on (1) Improving and protecting the environment? (2) Developing alternative energy sources?[1] On the other hand, the WRLDGOV variable is measured by the question: Now we would like to ask a few questions about relations between America and other countries. How much do you agree or disagree with the following statement: For certain problems, like environmental pollution, international bodies should have the right to enforce solutions?

The GSS also contains the INTENVIR variable (used since 2008), measured by the question: Are you very interested, moderately interested, or not at all interested in issues about environmental pollution? This variable, however, does not seem to be suitable as an indicator of attitudes towards the environment, because it is very general and examines

[1] The 2014 GSS survey includes also the NATENVIY variable (which serves to assess attitudes to how much is spent on the environment), but this variable is not available in one sub-sample in which NATENVIR is used. As an indicator, NATENVIY can be used as an alternative to NATENVIR – it is up to the researcher to decide. In my opinion, NATENVIR is a better choice, as it is more specific and more understandable to the respondent. In addition, NATENVIR has been used longer (since 1973, while NATENVIY only since 1984), a fact that is important for long-term analyses.

only the respondent's declaration about the level of interest in environmental pollution. So it does not even measure the level of knowledge (the cognitive component of attitudes).

The number of variables related to attitudes towards the environment, as well as other variables connected with this issue varied in the past, depending on the year of a survey.[2]

Let us take a closer look at 3 indicators that seem to be the most promising in the GSS. The NATENVIR variable is unquestionably the most interesting one. It has been consistently used almost since the program started (except for the *environment* year 2010, when it was replaced with a set of questions from the ISSP). Secondly, it refers to the most important component of attitude (i.e. the affective and cognitive component), which is additionally expressed in economic terms, thus concerning all citizens. Spending money on protecting and improving the natural environment is not something abstract, a mere declaration of intent, but it has a very practical dimension associated with taking action. Considering its content, the variable is broad (protection and improvement of the environment); not only does it measure attitudes towards protecting the environment from degradation, but also towards restoring what has been degraded and may be restored. Therefore, the NATENVIR variable is simple, easy to understand, and it refers to relatively well-defined issues that can be translated into practice. The fact that is has been present in the GSS surveys for so long, is a good guarantee that it will be used in studies of this kind in the future, as well. Even if it is just one variable, its consistent use allows for regular measurements of attitudes towards environmental protection, which is extremely important for research into the social component of sustainable development. It is to be regretted that other nationwide programs (for example, the ALLBUS or PGSS, mentioned earlier) in which hundreds of different variables are employed, lack at least one that would refer to environmental attitudes.

The NATENRGY variable is much more detailed and it refers to investing in alternative energy sources to protect natural resources. Present in the GSS surveys only since 2010, it has been used in all studies since then. Consequently, it can be assumed that it constitutes a new and stable research proposal.

Another variable, WRLDGOV, describes a hypothetical situation. The respondent should express an opinion on whether for certain problems, like environmental pollution, international bodies should have the right to enforce solutions. It seems that when formulating this question, the researchers wanted to see to what extent Americans are ready (together with citizens of other countries) to give up some of their sovereignty concerning important environmental issues (such as pollution) in favour of international institutions. This variable is also more detailed than NATENVIR and has more political overtones. However, it has been used only occasionally and it seems that it was designed for surveys conducted at approx. 10-year-intervals. This makes it useful in a given survey year and for measuring long-term cycles, but it does not meet the requirement for variables needed for regular and frequent monitoring.

To conclude, the GSS contains 2 important variables that are well suited for frequent monitoring of attitudes towards environmental protection. These are: NATENVIR, which is well-established and more general, and NATENRGY, a relatively new and more detailed variable.

## Attitudes towards the natural environment

The 2014 GSS research sample consists of over 2,000 observations. However, since the GSS program carries out surveys on subgroups, not all questions are asked to all selected respondents. Consequently, the subset of respondents who were asked questions relating to environmental variables was smaller and included 1,123 people. Considering the large population of the US, it is a small sample but it was obtained with advanced selection methodology that has been improved over the decades.[3]

The sample included 47.6% of men and 52.4% of women (table 1). 75.7% of the respondents were white, 14.5% black and 9.5% had a different skin colour (table 2). The average age of respondents was 49 years (table 3).

Table 1. Sample structure by sex

| | Frequency | Percent |
|---|---|---|
| Male | 534 | 47.6 |
| Female | 589 | 52.4 |
| Total | 1123 | 100.0 |

As regards the variables describing social status, the respondents' average length of education was 14 years, their average occupational prestige score amounted to 48.5 points (on a scale from 0 to 90), while the monthly income typically ranged between $3000 and $3500 (table 3).

[2] For those interested in details, I recommend visiting the project website at http://gss.norc.org, and especially https://gssdataexplorer.norc.org/variables/vfilter, where after typing the word *environment*, you can find detailed documents showing how the *environmental* variables have been used in the GSS research in different years. It should be noted that many of these variables were used in the years 1993, 2000 and 2010, i.e. when the ISSP Environment module was conducted, and so in fact they belong to a different research project, which – as has already been mentioned – is not implemented frequently enough.

[3] Details on sample selection and other elements of the GSS methodology are available at http://gss.norc.org in: Get Documentation section (Appendix A and Appendix Q).

Table 2. Sample structure by race

| | Frequency | Percent |
|---|---|---|
| White | 850 | 75.7 |
| Black | 166 | 14.8 |
| Other | 107 | 9.5 |
| Total | 1123 | 100.0 |

Table 3. Sample structure by age, education and occupational prestige score

| | N | Mean | Std. Deviation |
|---|---|---|---|
| Age | 1119 | 48.99 | 17.086 |
| Years of education | 1123 | 13.92 | 2.960 |
| Occupational prestige score | 1081 | 48.48 | 25.843 |

As mentioned earlier, one of the most important indicators of attitudes towards environmental protection was the answer to the question whether too little, too much, or about the right amount of money is spent on improving and protecting the environment in the US (table 4). The vast majority of Americans (60.6%) believe that too little is spent on the environment. Only 9.4% hold the opposite opinion (i.e. they believe that the expenditure on environment is too high). 30% of the US population consider the amount of money spent on the environment to be the right one. By way of comparison, the respondents' answers were distributed similarly in 2004 and 1994 (in 2004 it was 63.3%, 7% and 29.7%, respectively, and in 1994 – 60.8%, 30.4% and 8.7%). The high percentage (nearly 2/3rd) of people concerned about environmental issues, has continued over the last years.

Table 4. Spending money on improving and protecting environment

| | Frequency | Percent |
|---|---|---|
| Too little | 680 | 60.6 |
| About right | 337 | 30.0 |
| Too much | 106 | 9.4 |
| Total | 1123 | 100.0 |

A very similar distribution of responses was obtained when another indicator was used – opinions about the amount of money spent on developing alternative energy sources (table 5). Also in this case, almost 60% (58.1%, to be precise) of Americans think that too little is spent on alternative energy sources in their country, while those who disagree with this opinion constitute only 10.8%. 31.2% are happy with the status quo. Making comparisons for this variable would not be very fruitful, because it has been present in the GSS surveys only since 2010 (as already mentioned).

Table 5. Spending money on developing energy sources

| | Frequency | Percent |
|---|---|---|
| Too little | 652 | 58.1 |
| About right | 350 | 31.2 |
| Too much | 121 | 10.8 |
| Total | 1123 | 100.0 |

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19.6% of Americans are undecided or have ambivalent feelings (*neither agree nor disagree*). To compare with the first two indicators, a similar high level of acceptance amounting to approx. 60%, is observed. By contrast, there are almost twice as many people (18.4%) who express the opposite opinion. A comparison of the 2014 data with the data from 1996 and from 2004 (when this variable was used in the GSS surveys) shows that the number of respondents accepting the interference of international bodies in the country's domestic affairs when the environment is concerned, has been gradually decreasing, whereas the number of those disapproving of such interference has grown (in 1996, it was 72.7% and 11.4% respectively, and in 2004 – 62.2% and 16.8%, respectively).

Table 6. International bodies should enforce environment solutions

| | Frequency | Percent |
|---|---|---|
| Agree | 696 | 62.0 |
| Neither agree nor disagree | 220 | 19.6 |
| Disagree | 207 | 18.4 |
| Total | 1123 | 100.0 |

To sum up, it can be stated that the 3 different variables illustrate a similar situation: nearly two thirds of Americans express opinions that can be interpreted as pro-ecological attitudes. This is basically a lasting tendency that has not changed over the last 20 years, apart from the opinion on interference of international bodies to enforce environment solutions.
The indicators considered are correlated (table 7). This correlation is stronger between the opinions on spending on environmental protection and on developing alternative energy sources (0.353). On the other hand, the opinions on spending on environmental protection and on enforcing environment solutions by international bodies, as well as those on spending on developing alternative energy sources and on enforcing environment solutions by international bodies are less correlated (0.254 and 0.190, respectively).
Determining the factors that influence the strength of pro-ecological attitudes is still another issue. In order to examine the socio-demographic determinants of such attitudes measured by the 3 indicators described above, regression for categorical data was used (table 8). This is a version of multivariate regression where variables can be used at any measurement level. The choice of this regression type is connected with the fact that the main dependent variables are measured at ordinal level, making it impossible to

Table 7. Spearman's rho correlations between dependent variables

| | | Improving and protecting environment | Developing alternative energy sources | International bodies should enforce environment |
|---|---|---|---|---|
| Improving and protecting environment | Correlation | 1.000 | 0.353 | 0.254 |
| | Sig. | . | 0.000 | 0.000 |
| | N | 1123 | 1123 | 1123 |
| Developing alternative energy sources | Correlation | 0.353 | 1.000 | 0.190 |
| | Sig. | 0.000 | . | 0.000 |
| | N | 1123 | 1123 | 1123 |
| International bodies should enforce environment | Correlation | 0.254 | 0.190 | 1.000 |
| | Sig. | 0,000 | 0.000 | . |
| | N | 1123 | 1123 | 1123 |

Table 8. Regression for categorical data: model summary and ANOVA

| Multiple R | R Square | Adjusted R Square | Prediction Error | F | Sig. |
|---|---|---|---|---|---|
| 0.212 | 0.045 | 0.030 | 0.955 | 2.967 | 0.001 |

Table 9 Regression Coefficients

| | Standardized Coefficients | | df | F | Sig. |
|---|---|---|---|---|---|
| | Beta | Estimate of Std. Error | | | |
| Age | 0.107 | 0.042 | 1 | 6.444 | 0.011 |
| Sex | 0.046 | 0.032 | 1 | 2.093 | 0.148 |
| Race | 0.068 | 0.036 | 2 | 3.529 | 0.030 |
| Education | -0.122 | 0.073 | 5 | 2.799 | 0.016 |
| Occupational prestige score | 0.073 | 0.048 | 1 | 2.324 | 0.128 |
| Income | 0.065 | 0.044 | 1 | 2.177 | 0.141 |

use multiple linear regression (which requires quantitative measurement of all variables). The following independent variables were selected for the regression model: age, sex, race, education (measured in years), occupational prestige score, and income (annual income).

The pro-environmental attitude measured by the opinion on how much money is spent on environmental protection (NATENVIR) depends on the respondent's age, race, and education (table 9). It does not depend on sex, occupational prestige score, and income. In this model, the influence of independent variables (beta value) is as follows: education has the most influence on pro-environmental attitudes; it is followed by age, and then by race. Model adjustment (adjusted R-square) equals 0.030, so the independent variables taken together explain 3% of the variance of the dependent variable. It is not much, but still the model is significant (p = 0.001).

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With the regression analysis results, we can take a closer look at the impact of the independent variables, which were included in the regression model (statistically, they are significant). It turns out that pro-ecological attitudes decrease with age and increase with the level of education (table 10). This can be seen from beta coefficients, as well as from additional comparisons of means. The average age of Americans who believe that too little money is spent on protecting the environment is 47.9, while those who believe that just right amount of money is spent and those who claim that too much is spent on the environment are aged on average 52.6 and 56.7. When it comes to education, the average length of education (measured in years) of Americans who

Table 10. Improving and protecting environment by age and years of education

| | | Age | Years of education |
|---|---|---|---|
| Too little | Mean | 47.87 | 14.05 |
| | N | 1106 | 1114 |
| | Std. Deviation | 16.364 | 2.922 |
| About right | Mean | 52.60 | 13.40 |
| | N | 573 | 574 |
| | Std. Deviation | 17.719 | 3.143 |
| Too much | Mean | 55.66 | 13.60 |
| | N | 187 | 188 |
| | Std. Deviation | 14.980 | 3.124 |
| Total | Mean | 50.10 | 13.81 |
| | N | 1866 | 1876 |
| | Std. Deviation | 16.891 | 3.025 |

Table 11. Improving and protecting environment by race

| | | Race | | | Total |
|---|---|---|---|---|---|
| | | White | Black | Other | |
| Too little | N | 831 | 186 | 98 | 1115 |
| | % | 58.7% | 63.5% | 58.3% | 59.4% |
| About right | N | 426 | 96 | 52 | 574 |
| | % | 30.1% | 32.8% | 31.0% | 30.6% |
| Too much | N | 159 | 11 | 18 | 188 |
| | % | 11.2% | 3.8% | 10.7% | 10.0% |
| Total | N | 1416 | 293 | 168 | 1877 |
| | % | 100.0% | 100.0% | 100.0% | 100.0% |

Table 12. Regression for categorical data: model summary and ANOVA

| Multiple R | R Square | Adjusted R Square | Prediction Error | F | Sig. |
|---|---|---|---|---|---|
| 0.196 | 0.038 | 0.024 | 0.962 | 2.760 | 0.002 |

Table 13. Regression Coefficients

| | Standardized Coefficients | | df | F | Sig. |
|---|---|---|---|---|---|
| | Beta | Estimate of Std. Error | | | |
| Occupational prestige score | -0.018 | 0.051 | 1 | 0.118 | 0.732 |
| Age | 0.140 | 0.070 | 1 | 3.925 | 0.048 |
| Education | -0.117 | 0.074 | 4 | 2.477 | 0.043 |
| Sex | 0.041 | 0.032 | 1 | 1.565 | 0.211 |
| Race | 0.074 | 0.028 | 2 | 6.941 | 0.001 |
| Income | 0.098 | 0.053 | 1 | 3.394 | 0.066 |

think that too little is spent on the environment is 14 years, just the right amount – 13.4, and too much – 13.6.[4]

African Americans display stronger pro-environmental attitudes than representatives of other races, with 63.5% agreeing that too little money is spent on

[4] The differences are seemingly smaller in the case of education as compared with age, but it has to be remembered that the length of scale length varies, with the scale for age at least three times longer than that for education. It also has to be remembered that even a small difference in years of education may sometimes significantly influence education level.

Table. 14 Developing alternative energy sources by age and years of education

| | | Age | Years of education |
|---|---|---|---|
| Too little | Mean | 48.85 | 14.16 |
| | N | 1393 | 1401 |
| | Std. Deviation | 17.070 | 2.859 |
| About right | Mean | 48.50 | 13.16 |
| | N | 783 | 783 |
| | Std. Deviation | 17.716 | 3.152 |
| Too much | Mean | 51.98 | 13.33 |
| | N | 256 | 257 |
| | Std. Deviation | 17.273 | 3.270 |
| Total | Mean | 49.07 | 13.75 |
| | N | 2432 | 2441 |
| | Std. Deviation | 17.324 | 3.037 |

Table 15. Regression for categorical data: model summary and ANOVA

| Multiple R | R Square | Adjusted R Square | Prediction Error | F | Sig. |
|---|---|---|---|---|---|
| 0.275 | 0.076 | 0.061 | 0.924 | 5.158 | 0.000 |

Table 16. Regression Coefficients

| | Standardized Coefficients | | df | F | Sig. |
|---|---|---|---|---|---|
| | Beta | Estimate of Std. Error | | | |
| Occupational prestige score | 0.045 | 0.057 | 1 | 0.644 | 0.423 |
| Age | 0.079 | 0.040 | 1 | 3.956 | 0.047 |
| Education | 0.133 | 0.129 | 5 | 1.056 | 0.384 |
| Sex | 0.082 | 0.039 | 1 | 4.556 | 0.033 |
| Race | 0.074 | 0.028 | 2 | 6.941 | 0.001 |
| Income | 0.098 | 0.053 | 1 | 3.394 | 0.066 |

protecting the environment, as compared with approx. 58-59% of Americans of other races (table 11). Only 3.8% of blacks agree that too much is spent on environment protection, as compared with approx. 11% of those belonging to other races.

The pro-environmental attitude measured by the opinion about the amount of money spent on developing alternative energy sources (NATENERG) depends solely on age and education (table 14). As with the previous indicator, the strength of pro-ecological attitudes decreases with age and increases with the level of education.

A comparison of means allows to specify the dependencies revealed in the regression analysis (table 16). The average age of Americans who believe that too little or just right amount of money is spent on developing alternative energy sources is about 49 years, while the average age of those who believe that too much is spent on developing alternative energy sources is approx. 52 years. Similarly, when education is considered, there is a difference between those who think that too little is spent on developing alternative energy sources (about 14 years of education), and the remaining two groups, namely those convinced that just the right amount of money or too much is spent on alternative sources (about 13 years of education).

These determinants show a similar strength of impact. Adjustment of the regression model is 0.024, so the independent variables account for 2.4% of the variance of the dependent variable. This model is also significant ($p = 0.002$).

The correlation model of pro-environmental attitudes measured by the consent to enforcing environment solutions by international bodies (WRLDGOV) is built in a slightly different way. In this case, the strength of pro-environmental attitude depends on age, sex and race, but it is not dependent on education, occupational prestige and income. Age, sex and race have a similar impact. The model adjustment is 0.061, so it is higher than in the previous two models. The independent variables taken together account for 6.1% of the variance of the dependent variable. This model is also is significant ($p<0.0005$).

Analyses that complement the regression model show that men are more likely than women (63.7% vs. 60.4%) to support enforcement of environment solutions by international bodies, but they are even more likely to disapprove of it (21% compared with

15.8% of women). This is connected with the fact that women are more often undecided (23.7% as compared with 15.3% of men). Some interdependency emerges, but it is difficult to indicate its direction. In this case, it is necessary to refer to the beta coefficient in the regression analysis or to compare percentage differences. No matter which method is chosen, it turns out that women are overall more likely to show pro-environmental attitudes (table 17).

Table 17. Opinion that for certain problems, like environmental pollution, international bodies should have the right to enforce solutions by sex

| | | Sex | | Total |
|---|---|---|---|---|
| | | Male | Female | |
| Agree | N | 354 | 374 | 728 |
| | % | 63.7% | 60.4% | 62.0% |
| Neither agree nor disagree | N | 85 | 147 | 232 |
| | % | 15.3% | 23.7% | 19.7% |
| Disagree | N | 117 | 98 | 215 |
| | % | 21.0% | 15.8% | 18.3% |
| Total | N | 556 | 619 | 1175 |
| | % | 100.0% | 100.0% | 100.0% |

As mentioned above, the strength of pro-environmental attitudes measured by the *interference in environmental issues* indicator changes with age. A comparison of extreme opinions (*I agree* vs. *I disagree*) reveals a significant difference in age (approx. 48 years as compared with approx. 54 years), which indicates that in general, pro-ecological attitudes decrease with age (table 18).

Table 18. Opinion that for certain problems, like environmental pollution, international bodies should have the right to enforce solutions by age

| | Mean | N | Std. Deviation |
|---|---|---|---|
| Agree | 48.30 | 724 | 17.083 |
| Neither agree nor disagree | 47.55 | 232 | 17.800 |
| Disagree | 53.65 | 214 | 16.493 |
| Total | 49.13 | 1170 | 17.243 |

White Americans and African Americans are more likely to disapprove of interference in environmental issues (19.5% and 18.1%, respectively, table 19) than representatives of other races (8.8%). On the other hand, the latter more often agree that international bodies should have the right to enforce solutions, which can be regarded as an indicator of pro-environmental attitude (67.3% as compared with 60-62% of white and black Americans).

## Conclusions

Many large national research projects that carry out regular surveys (e.g. the ALLBUS in Germany, PGSS in Poland, BSA in Britain, or TARKI in Hungary) lack variables that would make it possible to systematically monitor attitudes towards environmental protection.[5] The American GSS, in which several *environmental* variables have been used for many years and new ones are still added, is an example of a good solution; an example that should be followed. After all, environmental attitudes are no less important than, for example, political ones, which feature prominently in the social research. The GSS employs only a few *environmental* variables, but their number satisfies the minimum requirement as long as the ISSP Environment module is continued and regularly implemented. This allows for a much more detailed overview of environmental issues, though unfortunately at long intervals (the ISSP research into other social aspects is conducted more frequently). The research plan involving detailed and precise measurements made every 10 years, as well as regular monitoring, even if limited to only a few variables, but carried out every 2-3 years, seems to be a *minimum plan*. However, in order to implement it, it is essential to introduce environmental variables into as many national projects as possible. For this purpose, it seems reasonable to use the solutions offered by the GSS[6], if only to allow for comparative studies.

Until the situation changes, we are forced to rely on the ISSP Environment (a great project, but too seldom implemented) as the main source of environmental data. Can the data gathered in the GSS to regularly monitor environmental attitudes be used outside of the US? Can the research results for America be generalized onto other countries? I believe that they can, but only to a certain extent and with a considerable margin of error. People's attitudes towards the environment may be similar in countries that belong to the same civilization circle as the United States, countries of similar economic development, and facing similar environmental problems. Additional detailed analyses would be necessary to specify such countries, and their outcome is by no means certain.

What empirical conclusions can be drawn from examining the most recent GSS data? The most interesting thing is that the main variables describing the position of individuals in the social structure have no significant influence on their attitudes toward environmental protection. Income and occupational pres-

[5] These national programs cooperate with the ISSP and individual ISSP modules, including the ISSP Environment, are carried out within them. They lack, however, constant environmental variables that the GSS offers.

[6] For example, the ALLBUS and the PGSS have been modelled on the GSS since they were first implemented. It is to be regretted, though, that they lack the environmental aspect (several PGSS surveys conducted in the early 90s used the NATVIR variable, but then it was abandoned together with a whole set of similar questions).

Table 19. Opinion that for certain problems, like environmental pollution, international bodies should have the right to enforce solutions by race

| | | Race | | | Total |
|---|---|---|---|---|---|
| | | White | Black | Other | |
| Agree | N | 549 | 103 | 76 | 728 |
| | % | 61.6% | 60.2% | 67.3% | 62.0% |
| Neither agree nor disagree | N | 168 | 37 | 27 | 232 |
| | % | 18.9% | 21.6% | 23.9% | 19.7% |
| Disagree | N | 174 | 31 | 10 | 215 |
| | % | 19.5% | 18.1% | 8.8% | 18.3% |
| Total | N | 891 | 171 | 113 | 1175 |
| | % | 100.0% | 100.0% | 100.0% | 100.0% |

tige do not affect any of the three analysed indicators. The most important variables that influence how strongly respondents feel about the need to protect the environment are education, and especially age. Pro-environmental attitudes are most often observed among young and well-educated people.
What has to be remembered, however, is that the research sample was relatively small (compared to the total US population), which may lead to a considerable margin of error, despite advanced sampling methods that were used.

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