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**PSYCHOLOGICAL AND SOCIAL DETERMINANTS
OF ENVIRONMENTAL BEHAVIOUR:
AN INTERNATIONAL COMPARISON**

SUMMARY FINAL REPORT

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I. OBJECTIVES

Aims of the research project were :

- To find out the determinants of pro-environmental behaviours, and to specify their weight and influence in European societies;
- To discuss the policy implications of such behaviours on the basis of a comparison of the data that have been collected in five European countries.

II- METHODOLOGY

A sample of 740 individuals, from five different countries, either teachers (natural and human sciences) or engineers (marketing or research) filled in a questionnaire aimed at defining their attitudes and their behaviour related to environmental issues, and their position on various possible determinants of pro-environmental attitudes and behaviours. This large sample can also be divided according to gender, to place of residence (rural, urban), and age.

The questionnaire was prepared jointly by the five teams co-operating on the research project. It was composed of various scales, dealing with pro-environmental attitudes and behaviour, and also with causal attribution of the environmental degradation, assessment of the efficiency of possible remedies, risk evaluation, the place of the environment among basic individual values, and objective as well as subjective knowledge related to the environment.

A pre-survey was done in the five countries. At the same time, an analysis of environmental issues given exposure by the media was performed in the five countries, so as to look for differences in the topics approached and in the space given to environmental problems. These preliminary results enabled the finalisation the questionnaire and to have a similar survey, in each country, one month before the questionnaire survey itself.

In order to have five similar versions of the questionnaire, although they are in five different languages, the English version was used as the reference. This English version was translated into the four other languages and a cross-translation made of the questionnaire into English. The comparison between the original version and the four cross-translation was done by the English team and their remarks taken into account accordingly by each of the other teams.

Statistical analyses were used for the data processing, leading to general results, to comparisons of the sub-samples, and to a complex picture of the interrelated factors determining pro-environmental attitudes and behaviours. The results included conclusions common to all the samples and sub-samples and observations limited to some sub-samples, as well as information on differences between national sub-samples. The description underlined the comparability of the national samples and the quality of the media and questionnaire development.

Well defined samples were purposely chosen, identical in each country, so as to enable comparison of data across countries. Moreover, and although many aspects of the sampling were controlled (age, gender, occupation), it would have been impossible to control the place of residence and the family structure as well. As was expected the resulting samples did not conform, in every aspect, to the known characteristics of the populations. It included too many people living in cities and too many who have no children. This meant that each country's sample must not be considered as representative of the country's population. In other words, higher priority was given to the possibility of comparing similar samples across countries than to the representativeness of the sample in relation to the whole population of each country.

Descriptive and comparative results should not, therefore, be seen as generalizable to each of the countries as a whole, without more research. Such research would indeed be made easier in the future by using the questionnaire which was devised in this project.

Another note of caution is justified by the nature of the data: individuals were asked to give a self-report of their attitudes, values, knowledge, behaviour, etc related to the environment. Although all the questionnaires were strictly anonymous and the anonymity was stressed in the instructions, the information gathered was the perception each of our subjects had of their attitudes and behaviour.

A last word on the samples: Having two different occupational sub-samples in each country, with two occupations belonging to roughly the same level of education (engineers, teachers) provided the opportunity to compare two different cultural groups and thus show the role of these cultures in attitudes, knowledge, and behaviour. For instance, the fact that there was more coherence between the IBM subjects, who belong to a single organisation with a stronger emphasis on not polluting the environment; than between the teachers who belong to the various national educational systems shows the importance of the cultural environment.

III- MAIN RESULTS

III.1 - Results common across the five countries and the different sub-samples

a) Questions were asked on specific aspects of the environment. Looking at the coherence between these specific issues, the research project grouped together the pro-environmental behaviour data under four headings: work, home, use of car and political action in favour of the environment. Strong relationships were observed for the whole sample, between home, work, and car use questions. Political action, on the other hand, stands independently. Although the correspondence analysis used a different grouping of the variables, pro-environmental behaviours showed salient loading on a factor of their own.

It seems, therefore, that one may speak of a “general pro-environmental behaviour” having weak links with the political treatment of the problem. Moreover, political behaviour tends to go with pro-environmental information. This has clear policy implications: changing behaviour in one domain or context can result in behavioural change in another domain or context.

b) All the aspects of global environmental change approached in the questionnaire (climatic variations, greenhouse effects, ozone hole) are given little attention. This was true of the samples in all five countries, true for both the engineers and the teachers, even the sub-sample of natural sciences teachers. The issue is widely seen as internationally relevant.

c) Several statistical analyses of the data were performed, using correspondence analysis, regression analysis, anova and chi square methods. All the results showed that the following parameters play some role in determining pro-environmental behaviour:

- risk assessment, i.e. the assessment of danger associated with environmental degradation

- subjective knowledge, i.e. the evaluation by each of our subjects of the competence they feel they have in the field of environmental issues. It is worth mentioning that the questionnaire also had a scale measuring objective knowledge with questions on various environmental items, and a choice of answers. The correlation between subjective and objective knowledge was weaker than one would have expected. Moreover, it was different in the five national sub-samples, the German subjects having the clearest idea of their knowledge and the French underestimating what they actually know. Moreover, actual knowledge is not predictive of behaviour when subjective knowledge is related to behaviour, which suggests that the confidence people have, in different countries, in their environment-related information should be taken into consideration when trying to influence behaviours.

- causal attribution, i.e. representation of the causes of environmental degradation, was strongly linked to expected efficiency of possible remedies. And opinions about the efficiency of remedies were, logically, related to pro-environmental behaviours. Moreover, the representation of environmental degradation causes was associated with the perception of their consequences.

d) Correlations between pro-environmental attitudes and behaviour showed that there is a significant relationship between them. It is thus quite possible that attitudes do influence behaviour. However, one must also take into account the cognitive dissonance paradigm and the fact that attitudes are influenced by behaviour. For example, adopting a pro-environmental behaviour like sorting the different categories of waste could start because of social pressure and the availability of collective equipment. And attitudes are developed to justify the behaviour after it has been implemented.

e) Subjects who gave a high value to altruism also see environmental degradation causes and consequences as possible to control and they perceive environmental issues as due to individuals and having an impact on individuals more than on nature.

f) Relationships between variables that play a role in determining pro-environmental behaviours have been systematically explored. They are complex, with correlations being limited to sub-samples or to a portion of the whole sample.

III.2 - Differences between countries

Some of the differences observed between countries may be partially explained by the objective situation. For example, there are no operating nuclear plants in Portugal and in Italy (after a referendum on the topic following the Chernobyl accident), which justifies the facts that the Portuguese sample sees nuclear pollution as an international issue, and the Italian media are not very concerned with this issue. But specific cultures certainly play an important role. It is well known that “green” political groups are very active in Germany. No wonder that the country which seemed the most “environmentally conscious” in the data was Germany; the least being France, with the UK in the middle.

Differences are not limited to the importance given to environmental issues. Differences were also observed concerning the media content, values, attitudes, and behaviours, as well as the factorial structure of the different variables themselves. And among the different environmental issues, priorities were not the same in the five countries. Moreover, similar differences were observed both in the media content and in the attitude scale. This parallelism may have two different explanations. It is possible that the media deal preferentially with issues which are considered important for their readers, so that they are influenced by the readers’ opinions, rather than influencing them. Or the dominant national attitudes observed may be seen as a consequence of the nature and importance of the information received by the subjects in the five countries. In either case, the differences observed are interesting, and all the more so since the same trends were observed during the pre-survey and during the survey done one month before the questionnaire was distributed. The dominant environmental concerns are fauna protection in the UK, nuclear pollution in Germany, the preservation of monuments and architecture in Italy, sea pollution in Portugal and the natural environment in France. As each of these issues was approached in the questionnaires, it was possible to relate the media differences to the answers given by each of the national sub-samples: German subjects gave the most coherent attitudes and reported behaviours statements, whilst France was the country with the least coherent attitudes and behaviours. And the relative importance given by the media to each of these environmental problems was well reflected in the risk assessment and in the behaviour described by each of the sub-samples.

IV- SCIENTIFIC INTEREST AND POLICY RELEVANCE

A coherence was observed in the pro-environmental behaviours described by the subjects, even if they took place in a different context,- home, work, transportation. Inducing new behaviours in all these domains would be too heavy a task. As they are interrelated, it is quite probable that changing a behaviour of one kind, from a common domain, will extend to other behaviours.

There are no general rules one could apply to all the countries in order to develop pro-environmental behaviours. This proved true in the five industrialised European countries where the research was done. It is quite probable that it would be also true in a larger and more diversified sample of countries. In any case, a survey on the attitudes and pro-environmental behaviour determinants should be done before setting up an information campaign targeted at a specific country.

An information campaign aimed at developing pro-environmental behaviours should not only be focused on information as such. Perception of environmental degradation, of its causes, of the risk it involves has been shown to be determinants of behaviours. The same is true of one’s “subjective knowledge”. All these aspects should be taken into account when trying to stimulate pro-environmental behaviours.

A general information campaign would not have a general impact. Narrowcasting (instead of broadcasting) of the information should be the rule, which means it should be focused on a target audience, on a specific issue and on well defined behaviour.

The role of opinions about the efficiency of “remedies” as a determinant of the will to help implement them has been seen. Moreover, there is general agreement on attributing the responsibility for preserving the environment to international or national authorities, even to local bodies, almost never to individual initiatives. From this point of view, action should focus on behaviour with an obvious controllable context in order to change behaviour in another context, and start with a clear local or national action. This means that it would be

useful to invest in the context of behaviour rather than in its complex, structural, parts, for instance to create different litter bags to dispose of waste, rather than invest in general information on waste treatment.

The meaning and psychological significance of environmental risk and of environmental preservation is a complex issue. Developing future research on the psychological aspects of the various environmental concepts should be given priority: for instance, what does mean the protection and the sustainability of the environment for different people, and for different cultures?