Research Programme on Environmental Attitudes, Values and Behaviour in Ireland

Environmental Attitudes and Behaviours: Ireland in Comparative European Perspective

Third Report of National Survey Data

Mary Kelly, Fiachra Kennedy, Pauline Faughnan and Hilary Tovey

Social Science Research Centre, University College Dublin
Department of Sociology, University College Dublin
Department of Sociology, Trinity College Dublin

To: Environmental Protection Agency
Environmental RTDI Programme 2000 – 2006

Grant no: 2001-MS/SE1-M1

February 2004

Research Programme on Environmental Attitudes, Values and Behaviour in Ireland

Environmental Attitudes and Behaviours: Ireland in Comparative European Perspective

Third Report of National Survey Data

Mary Kelly, Fiachra Kennedy, Pauline Faughnan and Hilary Tovey

Social Science Research Centre, University College Dublin

Department of Sociology, University College Dublin

Department of Sociology, Trinity College Dublin

To: Environmental Protection Agency

Environmental RTDI Programme 2000 – 2006

Grant no: 2001-MS/SE1-M1

February 2004

Environmental Attitudes and Behaviours: Ireland in Comparative European Perspective

Third Report from the Research Programme on Environmental Attitudes, Values and Behaviour in Ireland

February 2004

Lead Organisation: University College Dublin

Research Team:

Dr Mary Kelly, Department of Sociology, University College Dublin (Project Co-ordinator)

Dr Pauline Faughnan, Social Science Research Centre, University College Dublin

Hilary Tovey, Department of Sociology, Trinity College Dublin

Dr Colette Dowling, Associate, Social Science Research Centre, University College Dublin

Researchers:

Dr Brian Motherway

Dr Fiona Gill

Fiachra Kennedy

Noelle Cotter

Administration:

Philippa Caithness, Social Science Research Centre, University College Dublin

Accommodation:

Institute for the Study of Social Change, University College Dublin, Belfield, Dublin 4

Funded by:

Environmental Protection Agency under the National Development Plan

Environmental RDTI Programme 2000-2006

Grant no: 2001-MS/SE1-M1

Web site: www.ucd.ie/environ/home.htm

Table of Contents

List of Tables

List of Figures

Acknowledgement

This report has been prepared as part of the Environmental Research Technological Development and Innovation Programme under the Productive Sector Operational Programme 2000-2006. The Programme is financed by the Irish Government under the National Development Plan. It is administered on behalf of the Department of the Environment and Local Government by the Environmental Protection Agency, which has the statutory function of co-ordinating and promoting environmental research.

Disclaimer

Executive Summary

Introduction

This is the third report to emanate from the *Research Programme on Environmental Attitudes, Values and Behaviour in Ireland*. In the first report, *Trends in Irish Environmental Attitudes between 1993 and 2002*, the extent to which Irish people's environmental attitudes and behaviours changed over the period 1993-2002 is explored. In the second report, *Cultural Sources of Support on which Environmental Attitudes and Behaviours Draw*, three theoretical explanations as to why differences exist in Irish people's environmental attitudes and behaviours are examined in some detail. In this third report, the aim is to examine how the environmental values, attitudes and behaviours of Irish people differ from those of their European neighbours. In all of these reports the data set drawn upon was the survey research generated through the International Social Survey Programme.

Analyses of a range of questions regarding the environment addressed by the survey are reported on here. These included three attitudinal questions: attitudes to environmental dangers; whether there was a willingness to pay increased environmental costs; and the extent to which a sense of environmental efficacy existed. Also explored were three pro-environmental behaviours, including sorting waste; limiting car driving; and mobilising politically to protect the environment. In order to investigate whether commitment to particular sets of cultural values helped in explaining differences in environmental attitudes and practices across Europe, two broader value perspectives were explored: modernist/anti-modernist and materialist/post-materialist.

Data from 17 European countries were considered. Having analysed these data in considerable detail it was found that attitudes and behaviour in relation to the environment differed significantly across these countries. However a tendency towards strong regional European patterns could also be observed. A decision was thus taken to group the data by these regions. It was found that the populations that tended to show most commitment to pro-environmental attitudes and behaviour were those in the Scandinavian countries, including, Norway, Sweden, Finland and Denmark, along with the Netherlands, as well as the populations of a 'Germanic' group of counties, which included Germany, Austria and Switzerland. These countries were followed in terms of levels of commitment by two central European, post-socialist and economically developed countries, the Czech Republic and Slovenia. At the other end of the environmentally committed and mobilised continuum lay two countries from the east European periphery, Bulgaria and Latvia. Between these two extremes lay the Republic of Ireland, Northern Ireland and Britain, as well as Spain and Portugal. While these general regional tendencies helped to organise, analyse and report on the data, differences between countries on particular issues were also noted.

Attitudes to the Environment

The extent to which a range of environmental problems, including air, water and farming pollution, global warming, GM in crops and nuclear power, were seen as 'extremely dangerous' through to 'not dangerous at all' was explored. Here it was found that those countries which tended to be most environmentally active also tended to least frequently feel that environmental problems were extremely dangerous. Thus the public in Scandinavian countries and the Netherlands were concerned about these dangers, but stated that they were extremely so less frequently than respondents in all other countries. On the contrary, the populations of Spain and Portugal much more frequently expressed extreme concerns. Ireland, Britain and Northern Ireland were close to the European average in their level of concern. This pattern of extreme concern being less typical of more environmentally mobilised countries may be explained by the fact that these latter countries are also those characterised by robust environmental policies and state regulations. This possibly contributes to a sense among the public that, although these problems are of concern, a greater attempt is being made to redress them and thus extreme concern is not warranted.

Regarding a willingness to pay increased costs to protect the environment, most European countries were less than enthusiastic, except for the Netherlands, Switzerland, and to a lesser degree, Slovenia. Ireland and Britain were more similar in their lukewarm response to the Scandinavian countries of Denmark, Norway and Sweden, as well as Austria, The otherwise pro-environmental Germany was less enthusiastic, as was Spain. At the far end of the unenthusiastic scale lay Northern Ireland, Portugal, Bulgaria and Latvia.

Regarding a sense of environmental efficacy or a belief that their pro-environmental actions would make a difference, the average response of populations in all the Scandinavian countries, the Netherlands and the 'Germanic' countries was that they felt they could indeed make a difference. The average response in Ireland and Britain, although lower than in the above countries, also indicated a positive sense of agency, as did the Czech Republic, Slovenia and Spain. Northern Ireland was less positive, again along with Portugal, Bulgaria and Latvia.

Pro-environmental Behaviours

As well as examining environmental attitudes, the research explored respondents' reports of undertaking the pro-environmental practices of recycling and car driving. Respondents were asked 'How often do you make a special effort to sort glass or tins or plastic or newspapers and so on for recycling?' The 'Germanic' countries were found to be particularly conscientious, followed by the Scandinavian countries and the Netherlands. The Czech Republic and Slovenia, as well as Spain and Britain followed. Ireland and Portugal had relatively low scores, a quarter stating that they always recycled, while a fifth, despite having recycling facilities available to them, stated that they never did so. Those not recycling increased to a third of

the Northern Ireland respondents. Bulgaria and Latvia showed least strong recycling behaviour.

Very similar patterns could be noted regarding cutting back on car driving for environmental reasons. Two thirds of those in the Republic of Ireland and Northern Ireland, as well as in Spain and Portugal reported that they never cut back on driving, the proportions being even higher in Bulgaria and Latvia. The percentages were much lower in other countries, Switzerland being particularly low at 15 percent.

A further set of environmental behaviours which were investigated included the extent to which respondents in each of the 17 countries had been mobilised to attempt to influence or change environmental policies or practices over the past five years by membership of environmental groups, by signing a petition about an environmental issue, giving money to support an environmental group or taking part in a protest or demonstration regarding an environmental issue. Here relatively large differences between European countries were found. People in Switzerland (18 percent) and in the Netherlands (16 percent) stood out with regard to high levels of membership of environmental groups, followed by respondents in other Scandinavian and 'Germanic' countries and Britain. Ireland, both the Republic and the North, held a relatively low but intermediate position (3 percent), as did the Czech Republic. Respondents in Spain, Portugal, Bulgaria and Latvia reported membership least frequently. The pattern was similar in terms of giving money to environmental groups with the Netherlands (45 percent) and Switzerland (38 percent) heading the list, followed by other 'Germanic' and Scandinavian countries, and Britain (24 percent). Ireland (18 percent) and Northern Ireland (16 percent) followed. Again the least mobilised in this respect were the Czech Republic, Slovenia and Spain, with Portugal, Bulgaria and Latvia considerably further behind. With regard to petition signing, again the most mobilised countries tended to be the 'Germanic' countries, Scandinavian countries (but not Norway), and the Netherlands. This tended to be a relatively frequent activity in Britain with almost a third having signed an environmental petition over in the last five years. A quarter of the Southern Irish respondents had done so and a sixth of Northern Irish respondents.

Cultural Values

In order to explore differences in values across the 17 countries, which might be related to increased environmental concerns and practices, the research explored two perspectives. One was a modernist/anti-modernist perspective. It examined the extent to which a set of attitudes critical of science and economic growth, along with a sense that modern life harms the environment, existed among respondents. It was found that the Scandinavian countries and the Netherlands tended most frequently to the modernist side of the scale (i.e., to be positive regarding science, economic growth and modern life and feel that they may not necessarily harm the environment), along with Germany and the Czech Republic. Ireland and Britain were found to hold mid position, with Northern Ireland showing more evidence of anti-modernist tendencies. This was also the case for Switzerland, Spain and Bulgaria.

The second perspective explored was that of materialism/post-materialism. Here the argument is that post World War II affluence and the absence of war has had a profound effect on public attitudes. In particular, the argument runs, there has been increased support for post-materialist attitudes, including greater support for freedom of speech and citizen participation in decision making, with a concomitant decrease in public support for materialist values including maintaining social and political order and promoting economic stability. Regarding the growth of environmentalism, it is argued that post-materialists 'place more emphasis on protecting the environment and are far more likely to be active members of environmental organisations than are materialists' (Inglehart 1990:56). However, previous survey research has indicated that in most countries a majority tends to hold mixed values, with only minorities holding pure materialist or post-materialists values. This was also the case in the research reported here. Looking at the percentages of respondents who held post-materialist values, the highest percentage was in Germany (23 percent), followed by Switzerland (16 percent) and Austria (14 percent). At a similar level to the latter two countries were the Scandinavian countries and the Netherlands. Again the Republic of Ireland (10 percent) and Britain (9 percent) held intermediate positions, along with Spain, the Czech Republic and Slovenia. Northern Ireland evidenced only a very small proportion of post-materialists (4 percent), as did Portugal and Latvia.

Inversely, in terms of holding materialist values, defined in terms of maintaining order in the nation and economic stability, Northern Ireland (34 percent), Bulgaria (41 percent) and Latvia (31percent), along with the Southern European countries of Spain (38 percent) and the Czech Republic (33 percent) topped the list. Somewhat less materialist, with about a quarter being so, were Ireland and Britain, Norway, the Netherlands, Slovenia and Austria. Materialists occurred least frequently in three of the four Scandinavian countries, Denmark, Sweden, Finland, and two of the three 'Germanic' countries, Germany and Switzerland.

Cultural Values and Pro-environmental Attitudes and Behaviours

To explore the relationship between these two sets of values and attitudes to environmental dangers, willingness to pay extra costs and a sense of environmental efficacy, while also controlling for a number of demographic variables, a regression analysis was undertaken. Within this model it was found that, for many countries, there was a statistically significant relationship between holding anti-modernist views and both a heightened concern regarding environmental dangers and a willingness to take on the costs of avoiding or ameliorating these dangers. This relationship was stronger than that between holding post-materialist values and these attitudes. This anxiety about modern life also frequently informed respondents' environmental behaviour, and they were more willing than their modernist counterparts to sort household waste for recycling and to cut back on driving. However this relationship between anti-modernist attitudes and pro-environmental behaviour was not statistically significant in the Republic of Ireland.

Regarding politically mobilising on behalf of the environment, it might be expected that those who prioritised freedom of speech and citizen participation in decision making (i.e., held post-materialist values) would also be those who were more frequently mobilised. It was found that the holding of post-materialist values was indeed significantly related both to a sense of environmental efficacy, and particularly to protesting, petition signing, giving money to environmental groups and membership of these groups in many continental European countries. However the pattern was not so clear in Ireland where post-materialism was not significantly related to a sense of environmental efficacy (nor was it in Northern Ireland or in Britain), nor to any of the political mobilisation questions. Here the only significant relationships were between anti-modernism and protesting and petition signing.

This regression analysis also included an examination of the role of a number of demographic factors, and highlighted the consistent European pattern of an association between higher education and pro-environmental attitudes and behaviour, as well as an association between higher education and a willingness to mobilise politically on behalf of the environment.

Conclusion

If we see European environmental attitudes and behaviour as split between the strong pro-environmentalist states of Scandinavia, the 'Germanic countries' and the Netherlands on the one hand and the Southern European and ex-socialist eastern periphery on the other, the Republic of Ireland held an intermediate position between these two sets of countries. Indeed on almost all the indices used – pro-environmental attitudes, political mobilisation, post-materialism and anti-modernisation – this was the case. However, there was a disjunction among the public in Ireland between these relatively favourable attitudes, levels of environmental mobilisation and cultural values on the one hand and actual pro-environmental behaviour on the other. With regard to recycling and car usage the population in the Republic of Ireland was not delivering on the promise that these mid range pro-environmental attitudes and supportive cultural values might lead one to expect given the data from other countries. The survey research reported on here was not designed to explore why this was the case. It is possible that Irish people's unwillingness to leave their cars at home has to do with a lack of acceptable alternative public transport. Moreover, their willingness to recycle at least sometimes might have been enhanced by the more adequate provision of user-friendly recycling facilities. It may also be the case that the rapid socio-cultural changes in Ireland over the past decade have led to changes in attitudes and values, but that there is a lag in following these through to actual behaviour. Whatever the reason, it appears that the cultural resources are there to support more pro-environmental behaviour. What is needed is the imagination to tap into them.

1. Introduction

This is the third report to emanate from the *Research Programme on Environmental Attitudes, Values and Behaviour in Ireland*. In our first report, *Trends in Irish Environmental Attitudes between 1993 and 2002*, we examined how Irish people's environmental attitudes and behaviours have changed over the period 1993-2002. In our second report, *Cultural Sources of Support on which Environmental Attitudes and Behaviours Draw*, we examined three theoretical explanations of differences in Irish people's environmental attitudes and behaviours. In this third report, our aim is to examine how the environmental values, attitudes and behaviours of Irish people differ from those of their European neighbours. With regard to attitudes to the environment, we consider the levels of concern people in 17 European countries have for the environment, their willingness to take on extra costs in order to protect the environment, as well as their sense of efficacy in dealing with environmental problems. In terms of behaviour, we describe respondents' self-reported use of recycling facilities and cutting back on car usage in order to protect the environment. We also consider their self-reported actions aimed at influencing policy, either indirectly through signing petitions or donating money, or more directly through membership of an environmental group or taking part in a protest or demonstration.

A second aim of this report is to understand differences between people within each of the European countries examined. In order to do so we consider two theoretical explanations of environmental attitudes and behaviours. The theoretical perspectives that are explored here are the New Environmental Paradigm (NEP) as proposed and developed by Dunlap and Van Liere (1978), and Inglehart's (1977, 1990, and 1997) post-materialist thesis. Both theories purport to identify a set of values that influence people's views of the environment and their willingness to act in a pro-environmental manner. Within our comparative framework, we also examine if these theoretical perspectives contribute to our understanding of environmental attitudes and behaviours in Europe.

The values, attitudes and behaviour of the adult European population are examined using a large-scale representative sample survey. The questionnaire used is a comparative international survey developed by the *International Social Survey Programme* (ISSP): the ISSP module was designed in the context of international theoretical, empirical and methodological literature on environmentalism.[1] Drawing upon the ISSP data set, the evidence in Chapters 2 and 3 below examine the extent to which Irish people's attitudes and behaviours towards the environment are similar or different to those of people in 16 other European countries[2]. In Chapter 4, we

[1] In Ireland, the ISSP Environment module was carried as part of the *Irish Social and Political Attitudes Survey* (ISPAS), and was fielded at the end of 2001 and beginning of 2002. The questionnaire used is available as an appendix in our first report.

[2] The 17 countries that we consider include all of the European countries that carried the ISSP Environment module 2000 and for which data was available. The countries range from the west of EEurope (Ireland, Northern Ireland and Britain) to the east of Europe (Latvia and Bulgaria), from the North (Denmark, Norway, Sweden, Finland) down through the centre (the Netherlands, Germany, Austria, Switzerland, Czech Republic and Slovenia) to the south (Portugal and Spain).

consider the extent to which the New Environmental Paradigm and post-materialism can be identified in Ireland and in the other European countries, while in Chapter 5, we examine how well these two theoretical frameworks help us understand respondents' differing attitudes to the environment, and why some behave in a more environmentally friendly way than others.

Having analysed the European dataset in considerable detail it was found that attitudes and behaviour in relation to the environment differed significantly across the 17 European countries for which comparative data was available. However a tendency towards strong regional patterns could also be observed. Taking account of this, and in order to make the data more easily accessible to the reader, a decision was taken to group the country data, both as presented in tables and in the commentary, into a number of distinct regions. As our primary focus is on Ireland, results for the Republic of Ireland and Northern Ireland are placed at the top of each table followed by Britain. The remainder of the 14 countries are ordered according to the general pattern of regional differences found in the data regarding pro-environmental attitudes and behaviour. Thus the most pro-environment countries, which include the Scandinavian countries and the Netherlands, are grouped together, followed by the three 'Germanic' countries, Germany, Austria and Switzerland. These are followed by their close central European neighbours, the post-socialist, economically developed Czech Republic and Slovenia; then the less environmentally mobilised Southern European countries of Spain and Portugal, and finally the post-socialist, eastern peripheral European countries of Bulgaria and Latvia. Since the data we are using is individual level data, we compare the typical response of the various countries and then examine the explanatory power of the two theoretical frameworks using individuals' responses.

2. Environmental Attitudes

Attitudes towards the environment vary across the countries that we consider. Attitudes differ from values in that they refer to a specific person, object, idea or action, while values tend to be more general, or to refer to the criteria that people use to evaluate people and events and justify actions (Schwartz, 1992). Bagozzi et al (2002:170) define an attitude as a 'tendency to respond evaluatively to persons, physical objects, ideas or actions in favourable or unfavourable ways'. In examining people's attitudes to the environment, we consider diverse sets of attitudes: (1) people's perceptions of the dangers posed to the environment by a variety of threats; (2) people's willingness to take on extra costs to protect the environment; and (3) people's feelings of environmental efficacy.

2.1 Perceptions of Environmental Dangers

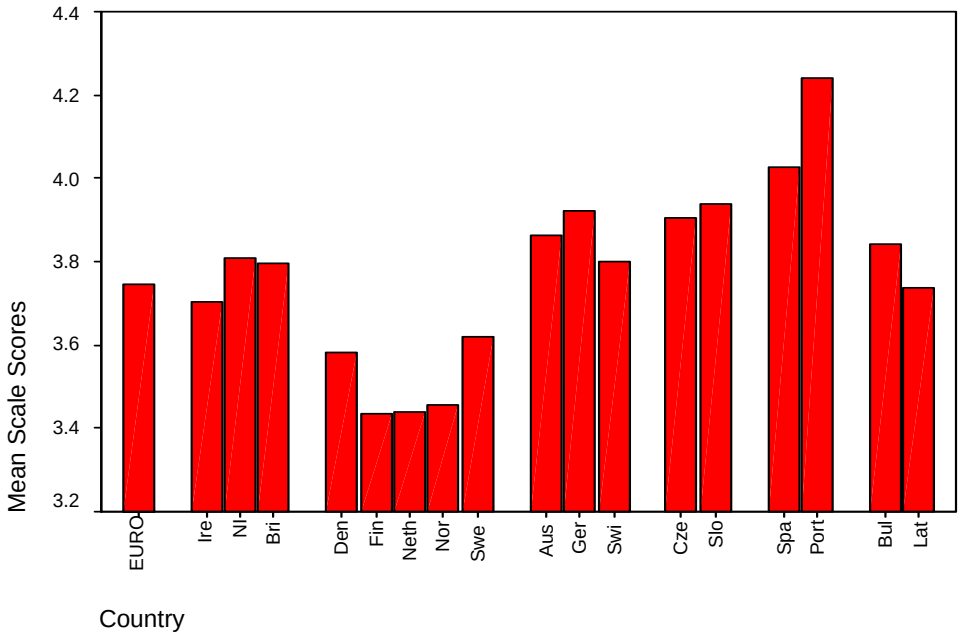
In the ISSP Environment module, respondents were asked how dangerous seven different items were for the environment. The seven items capture a wide variety of environmental threats: air pollution caused by cars and industry, pesticides and chemicals used in farming, pollution of rivers, streams and lakes, rising world temperatures caused by the 'greenhouse effect', modifying the genes of certain crops and nuclear power stations. The survey findings indicate that air pollution caused by industry is the one that concerns most people in Europe generally. (Details of responses, by country, are provided in Appendix 1, Tables A2-A6). Almost seven out of ten Europeans consider this form of pollution to be either extremely dangerous or somewhat dangerous for the environment. With regard to other threats to the environment, six out of ten Europeans perceive water pollution, nuclear power stations and rise in the world's temperatures as being either extremely dangerous or somewhat dangerous for the environment. It should be noted that the item referring to nuclear power stations was not asked in Britain, Sweden, Norway and Slovenia. GM crops is the only issue which less than fifty percent of people believe to be extremely or somewhat dangerous for the environment.

To explore possibilities of summarising the extensive data regarding perceptions of environmental dangers across the 17 countries, factor analysis of the responses to the five dangers was carried out. This analysis indicated that there is a strong tendency for respondents who feel threatened by one of these dangers to express a similar level of threat from the other environmental dangers specified, creating a robust 'perception of danger' scale (see Appendix 1, Table A1a). This perception of danger scale was utilised to analyse and summarise the data for each country on perceptions of environmental dangers. Figure 1 presents the results in bar-chart form of this analysis.

The analysis takes respondents' self-positioning on a five-point scale as to whether they perceive each of the dangers to be 'extremely dangerous' through to 'not dangerous at all'. The mid-point on the scale is equal to three, with values greater than this indicating strengthening concerns. It is evident

from Figure 1 that, in all 17 countries, people are concerned about the dangers faced by the environment, and in some countries, particularly Portugal and Spain, there is a sense that these are extremely dangerous. This is much less the case in Scandinavian countries and the Netherlands. Respondents in Ireland, North and South, and in Britain, hold an intermediate position. The fact that countries such as those in Scandinavia less frequently express extreme concern regarding environmental issues, while at the same time (as we shall see below) are more environmentally mobilised, can be interpreted as the 'normalisation' of environmental concerns in countries which have relatively robust environmental policies, or what are sometimes labelled as ecological modernisation policies (see Motherway and Kelly, forthcoming).

Figure 1 Perception of Environmental Dangers (Mean Values by Country)



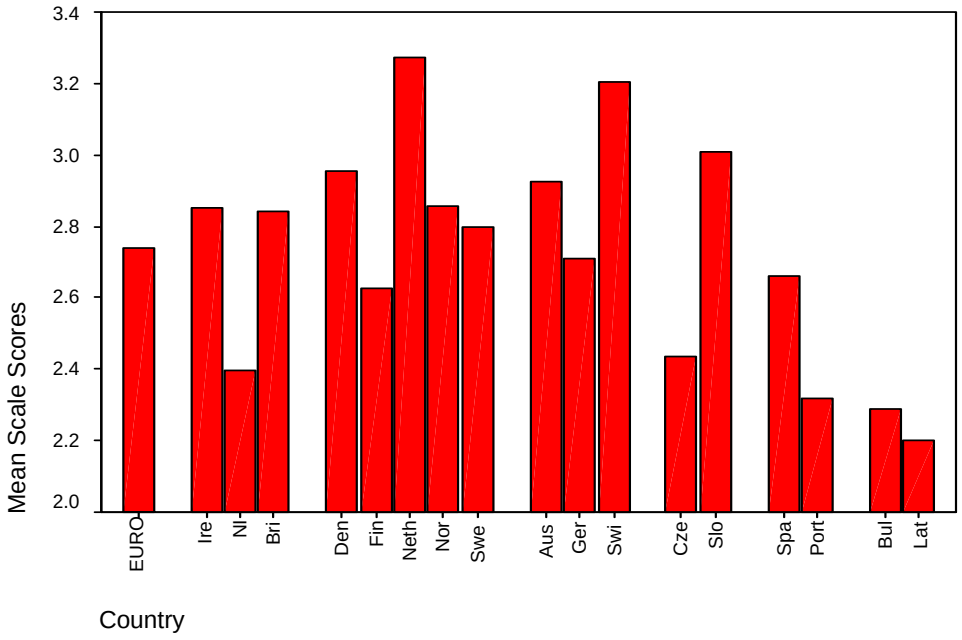
2.2 Willingness to take on costs of protecting the environment

Protecting the environment may require people to take on extra costs. Here we consider the stated willingness of respondents to take on higher prices, higher taxes or cuts in their standard of living in order to protect the environment. The survey findings indicate that, and keeping in mind Witherspoon's (1996) conclusion that in most countries environmental concern is substantially higher than environmental action, almost a third of European respondents state that they are willing to accept cuts in their standard of living to protect the environment. However, there is a notable difference in how these costs should be paid (see Appendix 1, Tables A7-A9). Amongst Europeans, 38 percent are willing to pay higher prices as compared with 24 percent who are willing to pay higher taxes. These two items differentiate between an individual's choice to pay higher prices and what is imposed on all in terms of taxes. The evidence suggests that Europeans

prefer to have the choice open to them as to whether or not they should have to take on the costs of protecting the environment.

Again, in order to explore the possibility of summarising this data, factor analysis of responses to these three questions was undertaken. This indicated that a strong tendency exists for those who are willing to pay higher prices to also be willing to pay higher taxes and to accept cuts in their standard of living, thus creating a robust scale of 'willingness to take on environmental costs' (see Appendix 1, Table A1b). Figure 2 presents in bar-chart form the average or typical response on this scale of willingness to take on extra costs in order to protect the environment. This analysis takes respondents' self-positioning on a five-point scale as to whether they are 'very willing' through to 'very unwilling' to take on these costs. The mid-point on the scale is equal to three, with values greater than this indicating increased willingness. Given a mid-point of three, in most European countries people are less than enthusiastic about taking on extra costs to protect the environment. In most countries, the typical response is less than three: towards the 'unwilling' end of the scale. Only in the Netherlands, Switzerland and Slovenia is the mean score greater than three. The regional pattern indicates a greater willingness in Scandinavian countries, but not Finland, and in the 'Germanic' countries, although Germany itself is relatively low, and a particular unwillingness in Northern Ireland, Portugal and the post-socialist eastern periphery of Bulgaria and Latvia. The Republic of Ireland and Britain hold an intermediate position, slightly above the European average.

Figure 2 Willingness to Take on Costs of Protecting the Environment (Mean Values by Country)

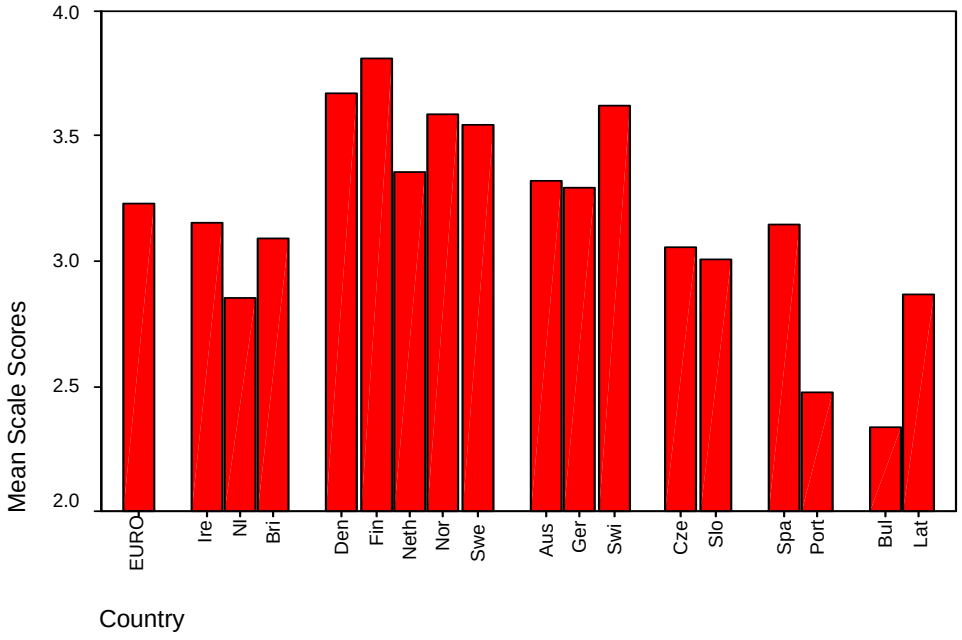


2.3 Environmental Efficacy

The final set of attitudes that we examine tap a general sense that respondents have about the ability of their actions to have an impact on an environmental problem, that is, 'environmental efficacy'. Two items were used to probe this dimension. The survey data indicated that across the seventeen countries, there is a general sense of efficacy with regard to the environment. Only a third of respondents agree that it is too difficult for them to do much about the environment. Moreover a similar minority agree that there is no point in them acting to protect the environment if others do not do so as well (see Appendix 1, Tables A10-A11).

Again, Figure 3 presents in bar-chart form the average or typical response of respondents on our environmental efficacy scale (for the results of the relevant factor analysis, see Appendix 1, Table A1c). This analysis takes respondents' self-positioning on a five-point scale as to whether they feel their actions to protect the environment have an impact or not. Figure 3 indicates that, given a mid-point of three, in most countries there is a sense of environmental efficacy. This is particularly strong in Scandinavia, in 'Germanic' countries and in the Netherlands. Again, the Republic of Ireland and Britain hold intermediate positions. People in Northern Ireland, Portugal, Bulgaria and Latvia most frequently feel disempowered.

Figure 3 Environmental Efficacy (Mean Values by Country)



3. Environmental Behaviours

Of course, we are not simply interested in exploring what people think about various aspects of the environment, we are also concerned with understanding what they do - their behaviours (that is, the reported actions of individual respondents). The first set of actions that we consider include whether or not respondents report sorting household waste for recycling and cutting back on car usage in order to protect the environment. The second set of behaviour items refer to the reported actions of respondents that are targeted at policy makers. There is a wide span of activities considered, from indirect action such as petition signing and giving money to environmental groups, to more direct forms of action including joining a group whose main aim is to preserve or protect the environment as well as participating in protests or demonstrations about an environmental issue.

3.1 Environmental Practice

The evidence suggests that in European homes the habit of sorting household waste for recycling is well formed (see Table 1). Across the seventeen countries, four out of ten respondents report that they always sort waste for recycling. Perhaps more importantly, only one of ten respondents report that they never do so. Thus the vast majority of Europeans who have recycling facilities available to them recycle household waste at least sometimes (these figures exclude those who reported that recycling facilities were not available to them). However, the evidence suggests that Europeans rarely cut back on car usage in order to protect the environment (these figures exclude those who reported that they do not own a car). Across the seventeen countries, less than four percent of respondents report that they always reduced driving for environmental reasons (see Table 1). However, it is interesting to note that more than half of Europeans are willing to do so at least sometimes.

In Ireland, while respondents may exhibit pro-environmental attitudes, when it comes to behaviour, fewer report that they act in a manner that protects the environment. The percentage of Irish respondents who report that they ‘always’ sort household waste is less that the percentage of Europeans as a whole that do so. Moreover, a fifth of Irish respondents report that they never sort household waste for recycling (remember, this is a fifth of those who have recycling facilities available to them). Similarly, the percentage of respondents reporting that they ‘always’ cut back on car usage for environmental reasons is also less than the percentage of Europeans who do so. Moreover, almost 70 percent of Irish respondents report that they have never reduced their car usage. However, the Irish are not alone in these low levels of pro-environmental behaviour. The percentages of respondents in Northern Ireland and Britain who ‘always’ recycle and who ‘always’ cut back on car use are also lower than the percentages of Europeans who do so. The only exception amongst these three countries is the percentage of respondents in Britain who cut back on car usage; this is similar to the percentage of Europeans who do so.

Table 1 Sort Household Waste for Recycling and Cut Back on Car Usage for Environmental Reasons

	Sort Household Waste for Recycling (%)			Cut Back Driving for Environmental Reasons (%)			
	Always[a]	Never[a]	NA[b]	Always[a]	Never[a]	NA[c]	Min N
Europe	43.2	11.2	10.3	3.4	45.2	25.4	19162
Rep. of Ireland	27.1	20.4	8.9	1.5	68.5	24.5	1223
Northern Ireland	12.7	32.2	3.3	2.3	60.8	21.7	735
Britain	31.5	17.3	5.1	4.1	47.2	19.4	959
Denmark	47.7	2.0	0.4	4.0	34.9	0.6	882
Finland	52.1	2.0	0.0	2.5	37.1	25.9	1056
Netherlands	50.5	3.1	0.9	3.7	32.0	19.8	1604
Norway	35.3	2.8	2.1	4.1	40.2	11.4	1444
Sweden	51.1	1.9	2.9	1.7	45.3	13.1	1057
Austria	79.0	0.5	0.6	4.4	37.5	21.5	1010
Germany	74.8	1.3	0.7	2.4	28.1	22.3	1492
Switzerland	67.1	0.9	0.9	8.9	15.3	17.0	992
Czech Republic	31.8	8.7	8.9	5.8	43.8	31.3	1221
Slovenia	30.1	8.7	34.6	2.5	53.3	21.9	1077
Spain	40.0	13.8	9.7	2.5	68.7	37.0	954
Portugal	26.2	17.9	16.7	3.3	59.8	39.6	990
Bulgaria	5.4	65.5	41.4	0.5	76.6	59.8	1010
Latvia	2.8	67.2	52.8	0.4	81.0	51.0	51.0

Note: [a] Percentages calculated excluding NAs; [b] Recycling facilities not available; [c] Respondent does not own a car.

The evidence of pro-environmental behaviour in Ireland is similar to that in Slovenia but not quite as low as the percentages reported in Bulgaria and Latvia. In the latter two countries, while people regard the threats to the environment as very dangerous, they have weak feelings of environmental efficacy. It is not all that surprising, therefore, that the percentages reporting they act in ways aimed at protecting the environment are very low. People in Spain and Portugal also report lower rates of pro-environmental behaviour than the European average. It is respondents in the three 'Germanic' countries that report the highest levels of practices, followed by the Netherlands and Scandinavian countries.

3.2 Social and Political Environmental Mobilisation

Finally, we consider behaviour by respondents that is targeted at policy makers. Here a wide span of activities is considered. The percentages of respondents reporting that they had participated in each of the activities over the last five years are reported in Table 2. Across the 17 countries, it is evident that the indirect actions of petition signing (20 percent) and donating money (20 percent) are more popular forms of activity than the more direct measures of joining an environmental group (6 percent) and participating in demonstrations and protests (3 percent).

Table 2 Social and Political Mobilisation on Environmental Issues

	Member of an Environmental Group (%)	Signed a Petition about an Environmental Issue in last 5 years (%)	Given Money to an Environmental Group in the last 5 years (%)	Taken part in a Protest or Demonstration about an Environmental Issue in the last 5 years (%)	Min N
Europe	6.1	20.0	19.8	3.4	18125
Rep. Of Ireland	3.3	23.4	18.4	4.3	1220
Northern Ireland	3.0	18.4	15.8	2.3	710
Britain	5.6	30.7	24.0	3.0	924
Denmark	10.8	17.4	22.3	3.3	1043
Finland	5.5	21.7	23.8	1.1	1489
Netherlands	16.3	21.9	44.8	1.4	1606
Norway	3.7	14.5	28.4	2.7	1394
Sweden	5.9	25.9	24.2	3.4	1047
Austria	9.3	30.4	29.5	4.5	1001
Germany	4.4	31.7	17.9	5.6	1458
Switzerland	18.0	40.2	37.9	5.5	984
Czech Republic	3.0	14.0	8.6	2.4	1205
Slovenia	4.2	12.3	10.9	4.7	1077
Spain	1.9	16.1	7.4	8.1	949
Portugal	2.5	3.7	1.8	1.8	981
Bulgaria	1.8	4.9	2.7	3.5	1011
Latvia	1.0	9.9	2.3	2.9	1000

There are relatively large differences between European countries in levels of environmental mobilisation. People in Switzerland (18 percent) and in the Netherlands (16 percent) stand out with regard to membership of environmental groups, followed by respondents in Denmark (11 percent) and Austria (9 percent). The remaining Scandinavian and ‘Germanic’ countries along with Britain and Slovenia (between 4 and 6 percent) follow. Ireland, both the Republic and the North (3 percent) are grouped towards the bottom along with the Czech Republic. Respondents in Spain, Portugal, Bulgaria and Latvia are least frequently members of environmental groups.

The pattern is similar in terms of giving money to environmental groups with the Netherlands (45 percent) and Switzerland (38 percent) heading the list, followed by other Scandinavian and 'Germanic' countries, and Britain (24 percent). Republic of Ireland (18 percent) and Northern Ireland (16 percent) follow. Again the least mobilised in this respect are the Czech Republic, Slovenia and Spain, with Portugal, Bulgaria and Latvia considerably further behind.

With regard to petition signing, again the most mobilised countries tend to be the 'Germanic' countries, especially Switzerland (40 percent), Scandinavian countries (but not Norway) and the Netherlands. This also tends to be a relatively frequent activity in Britain, with almost a third stating that they had signed an environmental petition in the past five years. In the Republic of Ireland a quarter had done so.

When we look at demonstrating and protesting a more diffuse pattern occurs. While in all countries it is only a very small minority who have been involved in these activities over the past five years (3 percent across Europe as a whole), it nonetheless appears to be a route taken in some countries where participation in organised environmental groups is very low. This is particularly so in Spain, and to a lesser extent in Bulgaria and Latvia, where the percentages of people who report having taken part in a protest or demonstration are greater than the percentages reporting membership of an environmental group. However, articulation of environmental concerns through public demonstrations is a route also taken, along with high levels of membership of environmental organisations, by a small minority of respondents in Switzerland; and a route used in Germany, Austria, Slovenia and the Republic of Ireland. It is somewhat less frequently used in the Scandinavian countries, the Netherlands and Britain. This pattern of less frequent participation in demonstrations and protests in otherwise environmentally mobilised countries such as the Scandinavian countries and the Netherlands would seem to confirm the interpretation that in some states where there is a high level of participation in organised 'green' groups and the state has become responsive to the concerns of these groups, this incorporation by the state may decrease the inclination among the public to take part in more vigorous forms of campaigning (see Dryzek et al (2003)).

3.3 Summary of Environmental Attitudes and Practices Across Europe

We have seen from the above discussion that the populations of Scandinavian countries, of the 'Germanic' group of countries and of the Netherlands tend to be the most committed environmentalists across a range of attitudes and behaviours. They are frequently most willing to pay increased environmental costs, feel most efficacious in making a positive difference by their environmental actions, most frequently practice pro-environmental behaviours by recycling and cutting back driving, and are the most socially and politically mobilised in terms of membership of environmental groups, supporting them monetarily, and, especially in central Europe, signing petitions regarding environmental issues. On almost all these issues the southern European countries of Spain and Portugal as well as those on the

eastern European periphery are less committed, have weaker feelings of efficacy and are less environmentally active.

The Republic of Ireland and Britain often hold intermediate positions. This is the case regarding perceptions of dangers, willingness to pay increased costs and a sense of environmental efficacy. Northern Ireland however, while its perceptions of environmental dangers is similar to the Republic and Britain, is less willing to pay increased costs, while their sense of environmental efficacy is also lower. In terms of environmentally friendly behaviour, Ireland, both North and South, is near the top of the list for never recycling (even when facilities are available), and never cutting back driving for pro-environmental reasons. Environmental practices in Britain are friendlier. When one looks at socio-political mobilisation around environmental issues, the general pattern for the Republic of Ireland, Northern Ireland and Britain is to hold intermediate positions, with Britain the most strongly mobilised in terms of membership and financial support of environmental groups, and those in the Republic more willing to take part in a protest or demonstration about an environmental issue.

4. Evidence of Cultural Values

In order to understand differences in people's environmental attitudes and behaviours we consider two theoretical models: the New Environmental Paradigm and post-materialism. These theoretical models argue that the environmental attitudes and actions of individuals are influenced by a set of underlying cultural values held by the individual respondent. Values are held to refer to broad dispositions or orientations. Schwartz (1992: 1) defines them as 'the criteria people use to select and justify actions and to evaluate people (including the self) and events'. Each of the theoretical models posits a consistency between the values of individuals regarding society and how it operates (or should operate) and their attitudes and behaviour regarding the environment. The ISSP Environmental module, as well as the literature on environmental values, attitudes and behaviour, proposes a variety of survey items or questions that can be used to identify those underlying values that are intended to explain attitudes and behaviour.

In the second report of this research programme, *Cultural Sources of Support on which Environmental Attitudes and Behaviours Draw*, we were also able to examine a third theoretical approach, Douglas's Cultural Theory or Grid-Group Theory (Douglas, 1970 and 1982; Douglas and Wildavsky, 1982; Wildavsky, 1987; Thompson, Ellis and Wildavsky, 1990). In that report we were able to utilise questions carried in not only in the ISSP environment module, but also those carried in other modules of the *Irish Social and Political Attitudes Survey* (ISPAS) which were completed at the same time as the ISSP module. However, given the comparative nature of this current report we are confined to using those items carried by the ISSP Environmental module in all the European countries. When we examined the data, we found that the items carried in the ISSP Environmental module to test Cultural Theory do not form valid and reliable measures. In our earlier work, we were able to construct valid and reliable measures for Ireland by drawing on items carried in other modules of the ISPAS. However, in this comparative report, we are limited to two theoretical perspectives, the New Environmental Paradigm and post-materialism.

4.1 New Environmental Paradigm

The first theoretical framework that we consider is what Dunlap and Van Liere (1978) refer to as the New Environmental Paradigm. This theory proposes that there is a growing public consciousness of and concern about the environment, awareness of the environmental destructiveness of economic growth, criticism of scientific and technological progress and an assertion as to the fragility of nature which is seen as in need of care and protection. Using survey evidence, Dunlap and other scholars have explored the New Environmental Paradigm from the 1970s through to the 1990s. This environmental consciousness links beliefs about a wide range of subjects including the relationship between humanity and nature, the importance given to economic growth, and the value placed on technological developments. It is a perspective that argues that human needs and values should no longer be

of greater concern than those of nature (Dalton and Rohrschneider, 1998). These new ideas, such as 'limits of growth', 'balance of nature' and more bio-centric concerns, challenge the dominant outlook that favours economic growth and scientific and technological perspectives. There is a realisation that many of the resources available on the planet are limited and people's expectations ought to adjust to reflect this reality (Dalton and Rohrschneider, 1998). The New Environmental Paradigm (NEP) thus proposes that less emphasis should be placed on economic growth and a more sceptical attitude should be taken towards science and technology. Those who view the world in this way have been found in an analysis of data from the 1993 ISSP environment module for six European countries, including Ireland, to have attitudes and behaviours that are more pro-environmental than their counterparts (Dalton and Rohrschneider, 1998:109). The question that we pose is, can such a cultural paradigm continue to be identified in Europe, and if so, does it continue to offer a cultural source of support for pro-environmental attitudes and behaviours?

The single-dimensional NEP scale that we propose contains four items (see Table 3). This scale contains three elements of the NEP: the role of science (two items), economic growth and the impact of social change or modernity on the environment (see Appendix 2, Tables B1-B4 for details of responses to the four attitudes forming this scale). Since we are interested in comparing across countries, our scale has been developed not for each individual country but for all 17 countries taken together. Together these four items form a reasonably reliable scale (that said, any conclusions should be tempered given that the scale has a Cronbach's alpha of 0.60).

Table 3 New Environmental Paradigm (Anti-Modernist) Scale Items and Principal Component Factor Loadings

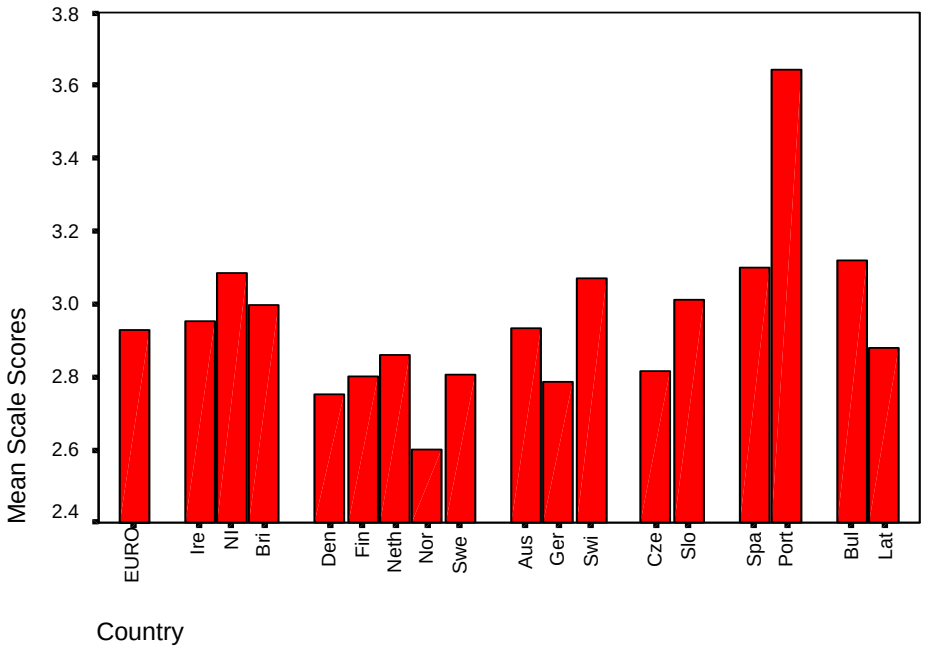
Items	Aspect of NEP	Loadings
We believe too often in science, and not enough in feelings and faith (E3_1)	Role of Science	0.58
Overall, modern science does more harm than good (E3_2)	Role of Science	0.73
Economic growth always harms the environment (E3_9)	Economic Growth	0.71
Almost everything we do in modern life harms the environment (E3_5)	Social Change	0.68
% Variance Explained		45.81

Extraction Method: Principal Component Factor Analysis; Rotation Method Variamax with Kaiser Normalization; 'Can't choose' were coded as missing data.

The combination of these particular four items suggests that in this case those with strong NEP values may be seen as 'anti-modernist'. Those who hold strong NEP values on this scale are sceptical about science. They feel that people believe too often in science and not enough in 'feelings and faith', and that science does 'more harm than good'. As well as being sceptical about science, they are also unsure about the effects of the economy and modern life on the environment. They thus also feel that 'economic growth' and 'almost everything we do in modern life' harm the environment.

Before continuing, it is important to note the difference between the NEP scale used in this third report, and that used in the second report, *Cultural Sources of Support on which Environmental Attitudes and Behaviours Draw*. In the latter report, we were able to utilise items carried in other modules of the *Irish Social and Political Attitudes Survey* (ISPAS) to develop an NEP scale that was appropriate to Ireland and to explaining the Irish data. In particular, we drew on extra items that were carried in a drop-off questionnaire as part of the ISPAS, especially those items which had proved fruitful in developing an NEP scale in 1993 (Dalton and Rohrschneider, 1998) but were dropped from the 2000 ISSP Environmental module carried across all participating countries. Thus in the second report we were able to draw on items which defined nature as fragile, limited and in need of our care and attention, as well as items exploring attitudes to science and to economic growth. In this third comparative report, only attitudes to science, to economic growth and to modern life are available across all European countries. These are all items exploring particular anti-modernist attitudes. To differentiate the two NEP scales used, we entitle the scale used in this comparative report a NEP (anti-modernist) scale.

Figure 4 New Environmental Paradigm (Anti-Modernist) by Country (Mean Values by Country)



As can be seen from Figure 4, the Scandinavian countries and the Netherlands tend most frequently to the modernist rather than the anti-modernist side of the scale. This is also the case for Germany, the Czech Republic and Latvia. Ireland and Britain hold mid-positions, with Northern Ireland showing more evidence of anti-modernist perspectives. This is also the case with Switzerland, Spain, Slovenia and Bulgaria. As such, people in these countries are somewhat more concerned about the effects on the environment of science, progress and economic growth than the populations

in the other countries. One country in particular stands out in Figure 4. The mean position of Portuguese respondents is notably greater than those of respondents in the other 16 countries. However we are somewhat concerned about the validity and reliability of the Portuguese measure. Altogether there are twelve items in the ISSP's NEP battery. A number of these are phrased so that agreement will indicate an NEP outlook. Other items are phrased so that an NEP outlook will be indicated by disagreement. In the case of Portuguese respondents, more than fifty percent of respondents agreed with each of the twelve items.

4.2 Post-Materialist

The second theoretical framework that we consider draws upon the work of Inglehart. He argues that post-war affluence in much of the developed world, combined with a relative absence of war, has had a profound effect on a wide range of public attitudes. The post-war period in Western Europe provided an opportunity for increased economic and political co-operation between former protagonists. The formative years of younger generations in the western developed world have been ones of increased economic and physical security. Their ambitions and priorities for themselves and their societies are expected to be different from earlier generations, because they could take relative economic well being and physical security for granted. Inglehart argues that as a consequence of this there has been a shift away from more materialist concerns (that is, the preservation of economic gains as well as support for the established order through the maintenance of law and order) towards post-materialist values (that is, greater emphasis on individual self-expression, on protecting freedom of speech, and on participation in decision making) (Inglehart, 1977: 182; Inglehart, 1984; Inglehart and Abramson, 1994: 336; Poguntke, 1987: 77; Muller-Rommel, 1989: 115-116; Dalton, 1996: 153).

Inglehart (1990, 1997) and Dalton (1994) argue that in advanced industrial democracies a further consequence of growing support for post-material values is an increased concern for the environment. Dalton and Rohrschneider (1998: 102-103) note that from the point of view of this theoretical framework, 'the rise of environmentalism primarily reflects a change in the political orientations of the public, rather than changes in the environment'. Inglehart (1990: 56) states that one consequence of the shift from materialist priorities to post-materialist goals:

> … has been a diminishing emphasis on economic growth in these societies, together with increasing emphasis on environmental protection and preserving the quality of life – if necessary, even at the expense of economic growth… Postmaterialists place more emphasis on protecting the environment and are far more likely to be active members of environmental organizations than are Materialists.

Thus the argument of post-materialists is that the attitudes and values of those born after the Second World War have been shaped by the experience of relative affluence and peace during their formative years. Unlike previous generations, this security has enabled them to focus upon less material issues such as the environment. As people become more concerned about their

quality of life, and less concerned about advancing their material welfare, they are expected to be more concerned about the impact of industrialisation and its effect on the environment.

We will examine below whether or not the same can be said about those who hold post-materialist values in Europe. Dalton and Rohrschneider (1998:109) found in their analysis of the 1993 ISSP data, that the holding of post-materialist values was positively related to an increased concern regarding environmental dangers in only three of the six countries they studied. However, first, we examine the development of a post-materialist scale using the current data set and explore its extent in European countries.

In order to measure post-materialist orientations, the ISSP Environment module uses a forced-choice question that asks respondents to select their first and second priority for their country from among four items (E2 in the questionnaire). The four items from which a respondent must select are:

a) Maintain order in the nation;
b) Give people more say in the decisions of the government;
c) Fight rising prices; and
d) Protect freedom of speech.

Inglehart's (1990: 134-135) theoretical framework proposes that the four items will form two groups. The assumption underlying this four-item instrument is that the rank order of people's priorities reveals 'something pervasive and enduring' in their outlook (Inglehart, 1990, p.131). Those items that emphasise physical and economic security (options a and c) will form the materialist group while those focused on participatory concerns (options b and d) will form the post-materialist group. All other combinations of the four items are considered a mixed value orientation (Inglehart, 1990, p.75). It should be noted that although Inglehart initially developed a more reliable twelve-item measure (Inglehart, 1990: 74-75 and 115), the ISSP has opted for the four-item format (as have Eurobarometer). Inglehart (1990: 131) favours a more broadly based index with a wider number of items because responses to some of the items, such as 'fighting rising prices', may be sensitive to short-term forces, that is, they may be a response to a 'serious current problem' rather than an underlying value orientation.

Inglehart's post-materialism has been the subject of a variety of criticisms from social scientists. Perhaps the most serious of these is that there is little evidence of people holding post-materialist values (Lijphart, 1981 and Clarke and Dutt, 1991). Lijphart (1981: 40) argues that 'postmaterialism has so far not become the source of a new ideological dimension in many party systems'. Lijphart (1981: 41) notes that in Inglehart's surveys of 1970, 1973 and 1976, 'the average proportion of postmaterialist respondents that he found was a meagre 11.5 percent'. Here we examine what proportion of Europeans hold post-materialist values at the beginning of the new millennium.

Looking at the percentage of respondents who hold post-materialist values (see Table 4), in regional terms, the highest percentages are in the central European countries of Germany (23 percent), Switzerland (16 percent) and

Austria (14 percent), along with the Scandinavian countries of Sweden (15 percent), Denmark (12 percent), and Finland (12 percent), as well as the Netherlands (14 percent). Again, the Republic of Ireland (10 percent) and Britain (9 percent) hold an intermediate position, along with Spain (11 percent), the Czech Republic and Slovenia (both 10 percent). Northern Ireland is different, with only 4 percent holding post-materialist values along with Portugal and Bulgaria (both 4 percent) and Latvia (5 percent).

Table 4 Differences between Materialists and Post-Materialists in Europe. (%)

Country	Materialist	Post-Materialist
Rep. of Ireland	24.6	9.6
Northern Ireland	33.9	4.1
Britain	19.8	9.2
Denmark	10.3	12.2
Finland	17.1	11.1
Netherlands	24.0	13.5
Norway	28.4	8.5
Sweden	12.3	15.1
Austria	22.9	14.3
Germany	15.5	22.9
Switzerland	15.7	16.4
Czech Republic	32.5	9.7
Slovenia	25.3	9.6
Spain	37.6	12.4
Portugal	37.1	4.3
Bulgaria	40.7	4.1
Latvia	31.3	4.7
EUROPE	24.8	11.2

Inversely, in terms of holding materialist values, this pattern also holds, with respondents in the eastern periphery countries of Bulgaria and Latvia, along with the southern European countries of Portugal and Spain, the Czech Republic and Northern Ireland most frequently holding these values. Somewhat less materialist are Ireland and Britain, Norway, the Netherlands, Slovenia and Austria. Materialists occur least frequently in three of the four Scandinavian countries of Finland, Sweden and Denmark and two of the three central European countries of Germany and Switzerland. In general, a similar distribution of materialist and postmaterialist perspectives was found by Dalton and Rohrschneider (1998: 107) in their analysis of the 1993 data for Germany, the Netherlands, Ireland, Britain and Spain.

4.3 Summary

Thus we find a tendency for regional patterns to hold both with regard to post-materialism and the anti-modernist New Environmental Paradigm. Scandinavian countries (except Norway), the Netherlands and 'Germanic' countries most frequently tend to exhibit post-materialist values, 11-23 percent doing so, while a further 10-23 percent hold materialist values. They also tend to show the most modernist cultural tendencies (except Switzerland).

The Republic of Ireland and Britain, along with the Czech Republic and Slovenia, hold intermediate post-materialist positions, 9-10 percent doing so, while 21-33 percent hold materialist sentiments. This grouping also tends to be intermediate in its modernist perspective, with the Czech Republic being particularly so.

Most frequently holding a materialist perspective are Northern Ireland, Portugal, Bulgaria and Latvia. Only 4-5 percent in these countries hold post-materialist views, while 31-41 percent hold materialist views. Some of these countries also tend to be high in levels of commitment to an anti-modernist perspective, this is especially so for Northern Ireland, Portugal and Bulgaria. The question to which we now turn is: to what extent are these cultural value systems related to environmental attitudes and behaviour?

5. The Relationship between Cultural Values and Environmental Attitudes and Behaviours in Europe

As noted in the introduction, the purpose of this report is to place Irish environmental values, attitudes and behaviours in a comparative perspective. Up until now, we have focused our attention on differences between the typical responses of individuals across 17 countries. The purpose of this chapter is to explore whether there is a relationship between holding the two broad cultural perspectives of anti-modernism and post-materialism and supporting pro-environmental attitudes and practices within the 17 states studied. Furthermore, through this regression analysis we also examine the role of a number of socio-demographic variables, including gender, age, education and whether the individual is employed in the public sector or the private sector. The regression analysis used to explore the role of anti-modernism, postmaterialism and demographic factors in relation to environmental attitudes and behaviour is Ordinary Least Squares Regression Analysis. This takes into account the effect of any one independent variable on the dependent variables, holding all other independent variables constant.

5.1 Environmental Attitudes

The first set of variables that we consider are respondents' attitudes to the environment. We begin with people's perceptions of the dangers posed to the environment from a variety of sources. Then we consider how willing they are to take on extra costs in order to protect the environment and how optimistic they are about the effect of their actions to protect the environment.

As noted earlier, the typical response in each of the 17 countries is one that regards the threats posed to the environment as dangerous. While the degree of the perceived danger varies, it is nevertheless clear that many Europeans are concerned. The evidence presented in Table 5 below shows that commitment to the anti-modernist NEP has a significant positive effect on respondents' perceptions of threats to the environment in all seventeen countries. This means that in each country those who are more concerned about the impact of science, modern life and economic growth on the environment are more troubled regarding dangers to the environment than those holding a more modernist perspective. The strongest relationship between the NEP (anti-modernist) values and respondents' perceptions of danger is amongst the Portuguese. However, for reasons outlined earlier we are somewhat concerned about the reliability and validity of the scale for Portugal. If we ignore Portugal, then the relationship between NEP (anti-modernist) and perceptions of dangers for the environment is strongest in the central European countries of Slovenia, Germany, Austria and Switzerland, as well as Britain. The effect of NEP (anti-modernist) values on perceptions of danger is weakest in the Northerne European countries of Finland and Norway as well as in Denmark and the Netherlands.

However, when we turn to look at the relationship between post-materialism and perceptions of environmental danger, the pattern is not quite as clear or

Table 5 NEP (Anti-Modernist) and Post-Materialism Support for Environmental Attitudes

	Perceptions of Danger	Willingness to Take on Costs	Environmental Efficacy
New Environmental Paradigm (Anti-Modernist)			
Rep. Of Ireland	0.20**	0.15**	-0.14
Northern Ireland	0.21**	0.05**	-0.20
Britain	0.27**	0.15**	-0.21
Denmark	0.14**	0.14**	-0.06
Finland	0.11**	0.10**	-0.02
Netherlands	0.14**	0.27**	-0.17
Norway	0.15**	0.17**	-0.11
Sweden	0.19**	0.11**	-0.10
Austria	0.28**	0.17**	-0.13
Germany	0.28**	0.12**	-0.14
Switzerland	0.27**	0.24**	-0.08
Czech Republic	0.23**	0.05**	-0.20
Slovenia	0.29**	0.19**	-0.24
Spain	0.23**	0.11**	-0.11
Portugal	0.43**	0.04**	-0.35
Bulgaria	0.19**	0.06**	-0.27
Latvia	0.16**	0.01	-0.20
Post-Materialist			
Rep. Of Ireland	-0.01	0.02	0.01
Northern Ireland	0.02	0.04**	0.01
Britain	0.01	0.03**	0.01
Denmark	0.02*	0.04**	0.04**
Finland	0.01	0.03**	0.02
Netherlands	0.01	0.03**	0.03**
Norway	0.02**	0.05**	0.01
Sweden	0.01	0.04**	0.04**
Austria	0.02	0.02*	0.02*
Germany	0.03**	0.05**	0.03**
Switzerland	0.02*	0.04**	0.04**
Czech Republic	0.03*	0.00	0.01
Slovenia	0.03**	0.02**	0.03**
Spain	0.01	0.02*	0.02
Portugal	0.00	0.03**	0.02**
Bulgaria	-0.00	0.00	0.01
Latvia	0.01	0.03**	0.01
Demographics			
Female	0.09**	-0.00	0.04**
Age	-0.04**	0.03**	-0.08
Education	0.04**	0.17**	0.10**
Private Sector-Self Employed	-0.05**	-0.03**	-0.05
Adj. R^2	0.18	0.13	0.21
F-Ratio	63.42	42.45	79.21
N	10632	10767	11363

* statistically significant at $p < 0.05$; ** statistically significant at $p < 0.01$

Regression method used: Ordinary Least Squares Regression Analysis

definitive. In only six of the seventeen countries are those with post-materialist values more concerned about environmental dangers than those who do not hold such values. The relationship between post-materialism and respondents' perceptions of environmental dangers is significant in only a handful of central European and Scandinavian countries. While the relationship is positive (that is, those who are identified as having post-materialist values are more likely to perceive greater danger for the environment than those who are not identified as having post-materialist values) it is also very weak.

Regarding demographic variables, the evidence presented in Table 5 also tells us that, amongst Europeans generally, women, the young, those who have completed third level education and those who work in the public or non-profit sectors are more likely than their counterparts to be concerned about the dangers faced by the environment, even after the role of anti-modernist and post materialist cultural perspectives have been accounted for.

Amongst the Irish, there is a significant positive relationship between the NEP (anti-modernist) and perceptions of danger, but the relationship between post-materialist values and perceptions of danger is not statistically significant. Thus, in Ireland, those who are concerned about the impact of science, modern life and economic growth on the environment perceive greater danger for the environment from a number of threats than those with weak NEP (anti-modernist) values. However, whether or not we identify respondents as having post-materialist values does not help us to understand differences in why some Irish people believe the environment is under grave threat while others perceive less danger.

The second set of variables we consider are respondents' willingness to take on extra costs in order to protect the environment. In this, as we have seen already, Europeans generally are unenthusiastic (see Figure 2 above). In most countries, the typical response is less than the mid-point, that is, lies towards the 'unwilling' end of the scale. Only in the Netherlands, Switzerland and Slovenia is the mean score on this scale greater than the mid-point.

The evidence presented in Table 5 shows that here again commitment to the NEP (anti-modernist) has a significant positive effect on respondents' willingness to take on the extra costs of protecting the environment in all but one of the 17 countries. This means that in each country, except Latvia, those who are concerned about the impact of science, modern life and economic growth is having on the environment, are more willing to take on extra costs to protect the environment than those with weak NEP (more modernist) values. The strongest relationship between these anti-modernist NEP values and respondents' willingness to take on extra costs to protect the environment is amongst the Dutch and the Swiss. The weakest relationship to a willingness to take on extra costs is in the former communist Czech Republic and Bulgaria as well as in Northern Ireland and Portugal.

Post-materialism also contributes to our understanding of people's willingness to take on these extra costs as it has a significant positive, but weak, association in 14 of the 17 countries. However, in all but Latvia, there is a

stronger association between holding anti-modernist views and a willingness to pay extra costs, than there is between holding post-materialist values and a willingness to take on environmental costs. One of the strongest associations is amongst Germans, the country in which the largest percentage of post-materialists have been identified, but even there the relationship is weak and indeed much less than that of our NEP (anti-modernist) measure in Germany.

Regarding demographic variables, the evidence presented in Table 5 also tells us that amongst Europeans generally, and having controlled for anti-modernist and post-materialist values, older people, those who have completed third level education and those who work in the public or non-profit sectors are more willing than their counterparts to take on these extra costs of protecting the environment.

Amongst the Irish, North and South, there is a significant positive relationship between the anti-modernist NEP and willingness to take on extra costs. In Ireland, those who are concerned about the impact of science, modern life and economic growth on the environment are more willing than those with weak NEP (modernist) values to take on these extra costs. Again though, the relationship between post-materialist values and willingness to take on extra costs is not statistically significant.

The final environmental attitude that we examine refers to a general sense that respondents have about the ability of their actions to have an impact on an environmental problem, that is, 'environmental efficacy'. As noted earlier, across the seventeen countries, there is a general sense of efficacy with regard to the environment.

Table 5 shows that it is respondents' post-materialist values rather than their NEP (anti-modernist) values that contribute to our understanding of differences in respondents' feelings of environmental efficacy. In eight of the seventeen countries that we consider, our measures of post-materialism have significant positive, if weak, associations. Those who emphasise individual self-expression, participation in decision-making and freedom, are more likely than their counterparts to feel that their actions to protect the environment will have the desired effect. The relationship between post-materialist values and such feelings is strongest in the Scandinavia countries of Sweden and Denmark, and in Switzerland. While the other countries in which post-materialism has a significant effect on feelings of environmental efficacy are mainly central European (Germany, Austria, the Netherlands, Slovenia), post-materialism also has a significant impact in Portugal. In none of the 17 countries do our measures of NEP (anti-modernist) values have a significant effect on respondents' feelings of environmental efficacy. Regarding demographic variables, feelings of environmental efficacy are stronger amongst women and those who have completed third level education than their counterparts.

In the Republic of Ireland, neither measure of these cultural values contributes to our understanding of differences in people's feelings of environmental efficacy. That said, it should be noted that in *Cultural Sources of Support on which Environmental Attitudes and Behaviours Draw*, the second report in this

series, when we focused only on Irish respondents, four factors, including the NEP measure, contributed to our understanding of differences in environmental efficacy. In that report, a stronger measure of NEP values was used (based on items that are not available to us in the comparative data set). Our analysis also revealed that Cultural Theory contributed to our understanding of differences in people's feelings of efficacy with regard to the environment. Those respondents who are critical of authority, rely on their own resources in decision-making and have a positive sense of personal and political efficacy, are optimistic about the effect that their actions to protect the environment will have. Finally, we also found that Irish respondents with higher levels of education and income have stronger feelings of environmental efficacy than their counterparts, a finding which also holds for Europeans generally.

5.2 Environmental Behaviour: Sorting Waste and Car Usage

The focus of this section is on understanding differences in Europeans' environmental behaviours. In order to do so we look at whether or not respondents report that they themselves sort household waste for recycling, or cut back on using their cars for environmental reasons. Also examined is whether these practices are related to the holding of anti-modernist or post-materialist perspectives.

The evidence reported above suggests that in European homes the habit of sorting household waste for recycling is well formed. Across the seventeen countries, only one of ten respondents reports that they never sort waste for recycling while four out of ten respondents report that they always do so. However, amongst the Irish there is much room for improvement when it comes to sorting household waste for recycling. Only 27 percent of respondents in the Republic of Ireland report that they always sort household waste for recycling, and an even lower percentage (13 percent) in the North. Indeed a fifth and a third, respectively, report that they never do so, even when recycling facilities are available.

The evidence presented in Table 6 indicates that the anti-modernist NEP scale has a significant positive association with respondents' willingness to sort household waste for recycling in ten of the seventeen countries. Thus in each of these ten countries, those who are concerned about the impact of science, modern life and economic growth is having on the environment, are more willing to at least sometimes sort household waste than those for whom such values are weak. The strongest association between these values and respondents' willingness to sort household waste at least sometimes is amongst central Europeans, Scandinavians and the Dutch. However, post-materialism contributes little to our understanding of people's willingness to sort household waste. The only place where it is found to have a significant positive association is in Northern Ireland.

With reference to demographic variables, amongst Europeans, women, older people, those who have completed third level education and those who work

Table 6 NEP (Anti-Modernist) and Post-Materialist Support for Pro-Environmental Behaviour: Recycling and Car Usage

	Sort Household Waste for Recycling (at least sometimes)	Cut Back on Driving for Environmental Reasons (at least sometimes)
New Environmental Paradigm (Anti-Modernist)		
Rep. Of Ireland	-0.08	0.04
Northern Ireland	-0.37	0.11*
Britain	-0.09	0.34**
Denmark	0.82**	0.53**
Finland	0.81**	0.50**
Netherlands	0.61**	0.56**
Norway	0.61**	0.44**
Sweden	0.83**	0.31**
Austria	1.17**	0.47**
Germany	0.75**	0.61**
Switzerland	1.21**	0.89**
Czech Republic	0.21*	0.39**
Slovenia	0.19*	0.23**
Spain	0.13	-0.03
Portugal	-0.04	0.16**
Bulgaria	-0.67	-0.15
Latvia	-0.81	-0.21
Post-Materialist		
Rep. Of Ireland	-0.38	0.15
Northern Ireland	2.07*	0.77
Britain	0.55	0.20
Denmark	5.34	0.67**
Finland	5.29	0.33
Netherlands	0.75	0.49**
Norway	0.47	0.30
Sweden	-0.14	0.31
Austria	4.15	0.41
Germany	5.52	0.56**
Switzerland	3.89	0.12
Czech Republic	-0.24	0.24
Slovenia	0.42	0.08
Spain	1.17	1.13**
Portugal	0.48	-0.38
Bulgaria	0.56	-0.62
Latvia	0.96	1.00
Demographics		
Female	0.29**	0.24**
Age	0.17**	0.13**
Education	0.34**	0.18**
Private Sector-Self Employed	-0.20*	-0.34**
Constant	1.23**	-1.22**
-2 Log likelihood	4739.52	11746.69
Cox and Snell R^2	0.15	0.13
Nagelkerke R^2	0.33	0.18
χ^2	1721.58	1362.14
N	10534	9546

* statistically significant at $p < 0.05$; ** statistically significant at $p < 0.01$

in the public or non-profit sectors are more willing than their counterparts to at least sometimes sort household waste for recycling.

Amongst those in the Republic of Ireland, there is a neither a significant positive relationship between the NEP (anti-modernist) and willingness to recycle, nor between post-materialism and sorting household waste. However, in Northern Ireland, those who are identified as holding post-materialist values are more willing than their counterparts to sort household waste at least sometimes.

While many Europeans are willing to sort household waste, the evidence suggests that they rarely cut back on car usage in order to protect the environment. Across the seventeen countries, less than four percent of respondents report that they always cut back on driving for environmental reasons. The most willing to do so are the Swiss where almost ten percent of those who own a car report that they always do so and only 15 percent never do so. The Irish fare poorly, with 69 percent of them reporting that they never reduce their car usage for environmental reasons.

Table 6 shows that the NEP (anti-modernist) scale has a significant positive association with respondents' willingness to cut back on car usage (at least sometimes) in order to protect the environment, in thirteen of the seventeen countries. Thus in each of these countries, those who are concerned about the effects of science, modern life and economic growth on the environment are more willing to cut back on car usage than those with weak NEP (modernist) values. The strongest effects in this respect are to be found in Germany and Switzerland followed by the Netherlands, Austria and the Scandinavian countries, excluding Sweden. It also has a significant but weaker effect in all other countries, except Spain and the Republic of Ireland. Post-materialism however contributes little to our understanding of people's car usage and it has a significant positive relationship in only four countries: Germany, the Netherlands, Spain and Denmark.

When we look at the demographic factors associated with cutting back on driving, the evidence presented in Table 6 also tells us that, amongst Europeans, women, older people, those who have completed third level education and those who work in the public or non-profit sectors are more willing than their counterparts to limit car use at least sometimes.

Amongst those in the Irish Republic, there is a significant positive relationship neither between the NEP (anti-modernist) scale and reduced car usage, nor between post-materialism and willingness to cut back on driving. However, in Northern Ireland, those who have strong NEP (anti-modernist) values are more willing than their counterparts at least sometimes to reduce private transport in order to protect the environment. That said, the relationship between NEP (anti-modernist) values and environmental behaviour of this kind amongst respondents in Northern Ireland is the weakest of the thirteen statistically significant relationships observed.

5.3 Environmental Behaviour: Social and Political Mobilisation

Finally, we consider respondents' behaviour that is targeted at policy makers. As has been noted, four types of activities are considered: indirect actions, that is, petition signing and giving money to environmental groups, and more direct forms of action, such as joining a group whose main aim is to preserve or protect the environment, and participating in protests or demonstrations. As discussed earlier, it is evident that, amongst Europeans, indirect actions are more popular forms of activities than the more direct measures. In the last five years, one in five Europeans has signed a petition about an environmental issue and a similar percentage has given money to an environmental group. However, when it comes to direct forms of action, only small percentages report that they are members of an environmental group or have taken part in a protest or demonstration about an environmental issue in the last five years.

Up until now, when we examined the relationship between the two sets of cultural values on people's environmental attitudes and behaviours, anti-modernist values evidenced a stronger relationship than those of post-materialism. However, given the nature of the behaviour being examined here, promoting the environment as a social and political issue, one would expect that those values which emphasis individual expression and participation in decision-making (i.e., post-materialism) would have the stronger impact. The evidence presented in Table 7 confirms this expectation. Post-materialism has a stronger association with people's willingness to participate in both direct and indirect actions to promote the environment as a social and political issue than has anti-modernism. When we compare the influence of both sets of values on each of the four activities, for countries where both estimated coefficients are significant, it is evident that the coefficient for our post-materialist measure is greater than that for our NEP (anti-modernist) measure.

In the Republic of Ireland, however, within this model, these is no significant relationship between post-materialism and support for social and political mobilisation on environmental issues. Holding anti-modernist attitudes do show a significant positive relationship with a willingness to take part in protests as well as willingness to sign a petition. Thus those who are concerned about the effects of science, modern life and economic growth on the environment are more willing to partake in both of these methods of promoting the environment as a social and political issue than their counterparts. Amongst respondents north of the border, NEP (anti-modernist) values do not have a significant positive relationship with any of the four forms of promoting the environment as an issue. However, post-materialism does have a significant positive association with respondents' willingness to partake in indirect forms of activity. In Northern Ireland, those respondents who emphasise individual expression and participation in decision-making are more likely than their counterparts to sign a petition or donate money.

Table 7 NEP (Anti-Modernist) and Post-Materialist Support for Social and Political Mobilisation on Environmental Issues

	Member	Protest	Petition	Money
New Environmental Paradigm				
Rep. Of Ireland	-0.05	0.56**	0.25**	0.04
Northern Ireland	-0.19	0.19	0.06	-0.07
Britain	0.11	0.39**	0.29**	0.09*
Denmark	0.30**	0.26*	0.01	0.04
Finland	0.06	-0.00	0.19**	0.18**
Netherlands	0.44**	-0.04	0.14**	0.41**
Norway	-0.12	0.34**	-0.05	0.14**
Sweden	-0.02	0.42**	0.20**	0.07
Austria	0.19**	NA	0.31**	0.13**
Germany	0.02	0.40**	0.32**	-0.00
Switzerland	0.48**	0.55**	0.42**	0.31**
Czech Republic	-0.25	0.41**	-0.06	-0.21
Slovenia	-0.04	0.46**	-0.13	-0.18
Spain	-0.54	0.73**	0.10	-0.37
Portugal	-0.37	0.16	-0.33	-0.70
Bulgaria	-0.28	0.47**	-0.36	-0.65
Latvia	-0.43	0.37**	-0.17	-0.83
Post-Materialist				
Rep. of Ireland	0.55	-0.90	0.60	0.62
Northern Ireland	-2.70	-3.17	1.47**	1.37**
Britain	0.38	-0.04	1.01**	0.81**
Denmark	0.52	1.15*	0.56*	0.44
Finland	-0.05	0.97	0.79**	0.14
Netherlands	1.03**	1.26*	0.57**	0.94**
Norway	0.06	1.10**	0.73**	0.70**
Sweden	1.25**	0.44	0.60**	0.67**
Austria	0.69*	NA	0.75**	0.92**
Germany	0.56	1.38**	0.72**	0.52**
Switzerland	0.71**	1.05**	1.18**	0.93**
Czech Republic	0.75	0.14	0.54	0.16
Slovenia	-0.12	1.55**	0.78**	0.26
Spain	1.96*	1.15**	1.09**	1.42**
Portugal	-0.42	1.19	0.37	1.62**
Bulgaria	1.19	1.15	0.86	-0.13
Latvia	1.21	1.85**	0.71	0.52
Demographics				
Female	-0.13	-0.15	0.11*	0.06
Age	0.02	-0.00	-0.09**	0.01
Education	0.65**	0.54**	0.60**	0.63**
Private Sector-Self Employed	-0.21**	-0.02	-0.23**	-0.05
Constant	-3.00**	-4.56	-1.39**	-1.54
-2 Log likelihood	5408.24	3179.65	11302.82	11097.96
Cox and Snell R^2	0.05	0.02	0.09	0.12
Nagelkerke R^2	0.13	0.08	0.13	0.18
χ^2	610.35	253.82	1051.58	1457.20
N	11469	10699	11425	11425

statistically significant at $p < 0.05$; ** statistically significant at $p < 0.01$

The evidence presented in Table 7 also tells us that amongst Europeans: women are more likely to sign petitions than men; that younger people are more likely to sign petitions than older people; that those who have completed third level education are more likely to be members of an environmental group, to protest, to sign petitions and to donate money than their counterparts. Furthermore, those who work in the public or non-profit sectors are more willing than their counterparts to be a member of an environmental group and to sign a petition about an environmental issue.

6. Conclusion

In this report, we addressed two questions. Are the environmental values, attitudes and behaviours of Irish people different from those of their European neighbours? And why are there differences between people within each of the countries? In order to answer these questions we used data from the *International Social Survey Programme* (ISSP) comparative international environment module. In addressing the first question, we compared the typical responses of people in Ireland and 16 other European countries. We examined their attitudes to the environment by considering the levels of concern people have for the environment, their willingness to take on extra costs in order to protect it, as well as their sense of efficacy in dealing with environmental problems. With regard to behaviour, we described respondents' self-reported use of recycling facilities and cutting back on car usage in order to protect the environment, as well as their self-reported actions aimed at influencing policy, either directly or indirectly. In order to understand differences between people's environmental attitudes and behaviours we outlined two theoretical frameworks regarding broad sets of cultural values. We then compared the typical position of respondents in each of the 17 counties regarding these values. The two frameworks that we considered were the New Environmental Paradigm (Dunlap and Van Liere, 1978) and post-materialism (Inglehart, 1977, 1990, and 1997). Both of these theories purport to identify a set of cultural values that are related to the views that people have of the environment and their willingness to act in a pro-environmental manner. We examined if these cultural values do indeed contribute to our understanding of environmental attitudes and behaviours in Europe.

The evidence that we have outlined in this report suggests that attitudes and behaviour in relation to the environment differ across European countries. That said, we have also noted that strong regional patterns can be observed. The populations of Scandinavian countries, of the 'Germanic' group of countries and of the Netherlands are the most committed environmentalists across a range of attitudes and behaviours. The evidence suggests that people in these countries are, relative to other European countries, generally more willing to pay increased environmental costs, feel efficacious regarding making a positive difference by their environmental actions, and much more frequently practice pro-environmental behaviours by recycling and cutting back on driving. They are also more socially and politically mobilised in terms of membership of environmental groups, supporting them monetarily, and, especially in central Europe, signing petitions regarding environmental issues. On almost all these issues the southern European countries of Spain and Portugal as well as those on the eastern European periphery are less committed, have weaker feelings of efficacy and are less environmentally active.

When we examined people's environmental attitudes, we found that people in the Republic of Ireland, as in Britain, hold an intermediate position relative to the other European countries. The same can be said with regard to socio-political mobilisation around environmental issues. Thus the populations of these two countries tend to be less pro- environmental in their attitudes and

socio-political mobilisation than ‘Germanic’, Scandinavian countries and the Netherlands, but more so than the Southern European countries of Spain and Portugal, and the Eastern peripheral European countries of Bulgaria and Latvia. However, when it comes to practices such as sorting household waste for recycling and cutting back on car usage for environmental reasons, the Republic of Ireland and Northern Ireland do not fare well. Both countries are very near the top of the list when we consider the percentage reporting that they never sort household waste (even when facilities are available) or never cut back on car usage. Only Bulgaria and Latvia tended to be even further behind. Contextual factors that may well influence the reduction in car driving including, of course, the availability of public transport, and distances from work, schools and shops. Future analysis should include an examination of the influence of these factors.

When we examined evidence for the existence of broader cultural values, we also identified differences between countries and similarities within regions. The peoples who are most likely to draw on post-materialist values are those living in Denmark, Sweden and Germany. They also tend to show the most modernist cultural tendencies. On the other hand, the peoples who are most likely to draw on materialist values are those living in Northern Ireland, Portugal, Bulgaria and Latvia. Some of these countries also tend to be high in levels of commitment to an anti-modernist perspective. This is especially so for Northern Ireland, Portugal and Bulgaria. Again, the Republic of Ireland, along with Britain, the Czech Republic and Slovenia, hold intermediate post-materialist positions and also tend to be intermediate in their modernist perspectives.

We then examined whether or not the two sets of broader cultural values helped us to understand these differences. The evidence suggests that anti-modernists, defined as those who are concerned about the effect of science and economic growth, or even just modern life, are more likely than their counterparts to be concerned about the environment and to be willing to take on extra costs to protect it. Their anxiety about contemporary society informs not only their attitudes towards the environment but also some of their practices, thus confirming Ulrich Beck’s risk society thesis. In particular, those who are concerned about the impact of science and economic growth are more willing than their counterparts to sort household waste for recycling and to cut back on driving. In a number of countries, people with such values are also more inclined to be political mobilised, especially in terms of protesting or demonstrating over an environmental issue. However, when it comes to influences on these forms of social and political mobilisation, people tend in particular to draw on a different set of cultural values, post-materialism. Here those who are concerned about individual self-expression, increased participation in decision making and freedom are more willing than others to act by protesting, signing petitions or donating money to environmental causes.

The analysis of the role of cultural values also included an examination of the role of demographic factors. This highlighted the consistent pattern across Europe as a whole of an association between higher education and pro-environmental attitudes and behaviour, as well as contributing to a willingness to mobilise politically on behalf of the environment.

If we see European environmental attitudes and behaviour as split between the strong pro-environmentalist states of Scandinavia, the 'Germanic countries' and the Netherlands on the one hand and the Southern European and ex-socialist eastern periphery on the other, Ireland holds an intermediate position between these two sets of countries. Indeed on almost all the indices we use – pro-environmental attitudes, mobilisation, post-materialism and anti-modernisation – this is the case. However, there is a disjunction between these favourable attitudes, levels of environmental mobilisation and cultural values on the one hand and actual pro-environmental behaviour on the other. With regard to recycling and car usage we are not delivering on the promise these pro-environmental attitudes and supportive cultural values might lead us to expect given the data from other countries. The survey research reported on here was not designed to explore why this is the case. It is possible that people's unwillingness to leave their cars at home has to do with a lack of alternative and acceptable public transport. Moreover, their willingness to recycle at least sometimes could be enhanced by the provision of user-friendly recycling facilities, such as kerb-side collection (rather than individual households travelling to dispose of recycled materials). It may also be the case that the rapid socio-cultural changes in Ireland over the past decade have led to changes in attitudes and values but there is a lag in following these through to behaviour. Whatever the reason, it appears that the cultural resources are there to support more pro-environmental behaviour. What is needed is the imagination to tap into them.

Further analysis of this rich comparative data set would undoubtedly bear fruit. In particular, adding some contextual political and economic variables describing the 17 counties would enable exploration of the extent to which they may contribute to explaining differences in environmental attitudes and practices across Europe. Thus differences in environmental policy regimes across the 17 countries might be explored, and how these policy regimes relate to perceptions of environmental dangers, the payment of increased environmental costs, and a sense of environmental efficacy could be examined. Here it would also appear to be of importance to explore the processes whereby different states formulate and implement environmental policies, in particular the extent to which they consult with environmental and local community groups and the consequences of these forms of consultation for environmental mobilisation by the public. Also of importance would be an exploration of differences in spatial and transport policies, as well as indices of environmental quality, and how they relate to attitudes to car usage, road building, pollution and waste disposal. Along with these environmental indices, some economic indices might be explored, including indices of economic growth, national income and unemployment. This would enable the exploration of how such economic factors, as well as policy factors, interact with those cultural values, environmental attitudes and behaviour which have been the focus of this report.

Appendices 1 and 2

Appendix 1

Tables A.1a-A.1c: Scales of Environmental Attitudes

Table A 1a: Perception of Danger Scale Items and Principal Component Factor Loadings

Items: How dangerous do you think:	Loadings
Air pollution caused by cars is on the environment (E8a)	0.71
Air pollution caused by industry (E9a)	0.79
Pesticides and chemicals used in farming (E9b)	0.75
Pollution of COUNTRY's rivers, lakes and streams (E9c)	0.77
A rise in the world's temperature caused by the 'greenhouse effect' (global warming) (E10a)	0.74
% Variance Explained	56.49
Scale Reliability (Cronbach's Alpha)	0.81

Extraction Method: Principal Component Factor Analysis;[1] Rotation Method Variamax with Kaiser Normalization; 'Can't choose' were coded as missing data.

Table A 1b: Willingness to take on Costs Scale and Principal Component Factor Loadings

Items	Loadings
To pay much higher prices in order to protect the environment (E5_1)	0.89
To pay much higher taxes in order to protect the environment (E5_2)	0.88
To accept cuts in your standard of living in order to protect the environment (E5_3)	0.82
% Variance Explained	74.65
Scale Reliability (Cronbach's Alpha)	0.83

Extraction Method: Principal Component Factor Analysis;[1] Rotation Method Variamax with Kaiser Normalization.

Table A 1c: Environmental Efficacy Scale Items and Principal Component Factor Loadings

Items	Loadings
It is just too difficult for someone like me to do much about the environment (E6_1)	0.85
There is no point in doing what I can for the environment unless others do the same (E6_4)	0.85
% Variance Explained	71.51
Scale Reliability (Cronbach's Alpha)	0.60

Extraction Method: Principal Component Factor Analysis;[1] Rotation Method Variamax with Kaiser Normalization

[1] Principal Component Factor Analysis allows us to examine the dimensionality of the items that have been proposed as forming a scale. The purpose of this type of analysis is firstly, to identify the number of factors that best represent the items used in the analysis and, secondly, to interpret the factors that are revealed. The basic idea behind factor analysis is to reduce a number of items to a smaller number of underlying groups of items called factors. These factors can be indicators of separate 'constructs' or 'values', or of different aspects of a single heterogeneous 'construct' or 'value'. Factor analysis works by grouping together those items that correlate, or covary, with each other. The basic idea is that those items that correlated relatively highly with one another on a particular factor are assumed to reflect the same construct and those that correlate together in a relatively low manner are assumed to reflect other constructs. A single construct is assumed to have been revealed when a single factor is produced on which all of the items included in the analysis correlate strongly with one another (Kim and Muller, 1994a and 1994b).

Tables A.2 – A.6: Perception of Environmental Danger by Country

Table A.2: E8a*. How dangerous do you think air pollution caused by cars is on the environment?

Country		Extremely Dangerous	Very Dangerous	Somewhat Dangerous	Not Very Dangerous	Not Dangerous at all	Total
Rep. of Ireland	N	167	435	499	84	10	1195
	%	14.0	36.4	41.8	7.0	0.8	100.0
Northern Ireland	N	151	203	270	85	6	715
	%	21.1	28.4	37.8	11.9	0.8	100.0
Britain	N	234	298	384	38	1	955
	%	24.5	31.2	40.2	4.0	0.1	100.0
Denmark	N	137	305	458	115	1	1016
	%	13.5	30.0	45.1	11.3	0.1	100.0
Finland	N	84	384	762	240	8	1478
	%	5.7	26.0	51.6	16.2	0.5	100.0
Netherlands	N	93	397	860	194	16	1560
	%	6.0	25.4	55.1	12.4	1.0	100.0
Norway	N	134	484	685	120	11	1434
	%	9.3	33.8	47.8	8.4	0.8	100.0
Sweden	N	118	418	423	89	5	1053
	%	11.2	39.7	40.2	8.5	0.5	100.0
Austria	N	133	362	458	38	4	995
	%	13.4	36.4	46.0	3.8	0.4	100.0
Germany	N	182	571	620	79	12	1464
	%	12.4	39.0	42.3	5.4	0.8	100.0
Switzerland	N	126	417	368	47	2	960
	%	13.1	43.4	38.3	4.9	0.2	100.0
Czech Republic	N	212	670	274	63	5	1224
	%	17.3	54.7	22.4	5.1	0.4	100.0
Slovenia	N	205	425	402	35	3	1070
	%	19.2	39.7	37.6	3.3	0.3	100.0
Spain	N	169	511	246	15	1	942
	%	17.9	54.2	26.1	1.6	0.1	100.0
Portugal	N	347	490	143	12	1	993
	%	34.9	49.3	14.4	1.2	0.1	100.0
Bulgaria	N	154	312	404	59	6	935
	%	16.5	33.4	43.2	6.3	0.6	100.0
Latvia	N	160	275	445	80	4	964
	%	16.6	28.5	46.2	8.3	0.4	100.0
Europe	N	2806	6957	7701	1393	96	18953
	%	14.8	36.7	40.6	7.3	0.5	100.0

*E8a = Question Number. See Motherway et al (2003) for questionnaire.

Table A.3: E9a. How dangerous do you think air pollution caused by industry is?

Country		Extremely Dangerous	Very Dangerous	Somewhat Dangerous	Not Very Dangerous	Not Dangerous at all	Total
Rep. of Ireland	N	220	495	426	53	2	1196
	%	18.4	41.4	35.6	4.4	0.2	100.0
Northern Ireland	N	190	276	227	22		715
	%	26.6	38.6	31.7	3.1		100.0
Britain	N	276	324	327	26	1	954
	%	28.9	34.0	34.3	2.7	0.1	100.0
Denmark	N	225	344	382	62	2	1015
	%	22.2	33.9	37.6	6.1	0.2	100.0
Finland	N	226	563	594	85	3	1471
	%	15.4	38.3	40.4	5.8	0.2	100.0
Netherlands	N	228	733	551	43	4	1559
	%	14.6	47.0	35.3	2.8	0.3	100.0
Norway	N	236	550	578	63	4	1431
	%	16.5	38.4	40.4	4.4	0.3	100.0
Sweden	N	185	452	361	45	2	1045
	%	17.7	43.3	34.5	4.3	0.2	100.0
Austria	N	273	493	212	13		991
	%	27.5	49.7	21.4	1.3		100.0
Germany	N	410	787	254	15	1	1467
	%	27.9	53.6	17.3	1.0	0.1	100.0
Switzerland	N	236	484	252	20		992
	%	23.8	48.8	25.4	2.0		100.0
Czech Republic	N	254	672	256	31	5	1218
	%	20.9	55.2	21.0	2.5	0.4	100.0
Slovenia	N	305	482	264	15		1066
	%	28.6	45.2	24.8	1.4		100.0
Spain	N	237	544	149	7		937
	%	25.3	58.1	15.9	0.7		100.0
Portugal	N	450	404	126	8		988
	%	45.5	40.9	12.8	0.8		100.0
Bulgaria	N	230	361	308	30	1	930
	%	24.7	38.8	33.1	3.2	0.1	100.0
Latvia	N	232	470	277	11	1	991
	%	23.4	47.4	28.0	1.1	0.1	100.0
Europe	N	4413	8434	5544	549	26	18966
	%	23.3	44.5	29.2	2.9	0.1	100.0

Table A.4: E9b. How dangerous do you think pesticides and chemicals used in farming are?

Country		Extremely Dangerous	Very Dangerous	Somewhat Dangerous	Not Very Dangerous	Not Dangerous at all	Total
Rep. of Ireland	N	182	449	486	73	9	1199
	%	15.2	37.4	40.5	6.1	0.8	100.0
Northern Ireland	N	169	282	235	30	2	718
	%	23.5	39.3	32.7	4.2	0.3	100.0
Britain	N	217	258	396	70	4	945
	%	23.0	27.3	41.9	7.4	0.4	100.0
Denmark	N	277	327	312	91	3	1010
	%	27.4	32.4	30.9	9.0	0.3	100.0
Finland	N	173	446	622	217	9	1467
	%	11.8	30.4	42.4	14.8	0.6	100.0
Netherlands	N	121	542	765	102	8	1538
	%	7.9	35.2	49.7	6.6	0.5	100.0
Norway	N	158	452	648	145	8	1411
	%	11.2	32.0	45.9	10.3	0.6	100.0
Sweden	N	177	403	394	60	3	1037
	%	17.1	38.9	38.0	5.8	0.3	100.0
Austria	N	239	437	270	42	5	993
	%	24.1	44.0	27.2	4.2	0.5	100.0
Germany	N	302	709	358	78	17	1464
	%	20.6	48.4	24.5	5.3	1.2	100.0
Switzerland	N	171	427	322	57	9	986
	%	17.3	43.3	32.7	5.8	0.9	100.0
Czech Republic	N	240	543	329	72	10	1194
	%	20.1	45.5	27.6	6.0	0.8	100.0
Slovenia	N	300	438	300	19	3	1060
	%	28.3	41.3	28.3	1.8	0.3	100.0
Spain	N	181	469	250	22	7	929
	%	19.5	50.5	26.9	2.4	0.8	100.0
Portugal	N	324	451	178	23	4	980
	%	33.1	46.0	18.2	2.3	0.4	100.0
Bulgaria	N	202	307	368	36	4	917
	%	22.0	33.5	40.1	3.9	0.4	100.0
Latvia	N	248	380	309	45	3	985
	%	25.2	38.6	31.4	4.6	0.3	100.0
Europe	N	3681	7320	6542	1182	108	18833
	%	19.5	38.9	34.7	6.3	0.6	100.0

Table A.5: E9c. How dangerous do you think pollution of COUNTRY's rivers, lakes and streams?

Country		Extremely Dangerous	Very Dangerous	Somewhat Dangerous	Not Very Dangerous	Not Dangerous at all	Total
Rep. of Ireland	N	275	507	371	48	3	1204
	%	22.8	42.1	30.8	4.0	0.2	100.0
Northern Ireland	N	160	215	222	82	5	684
	%	23.4	31.4	32.5	12.0	0.7	100.0
Britain	N	294	314	306	37	3	954
	%	30.8	32.9	32.1	3.9	0.3	100.0
Denmark	N	166	283	400	163	7	1019
	%	16.3	27.8	39.3	16.0	0.7	100.0
Finland	N	246	497	582	143	6	1474
	%	16.7	33.7	39.5	9.7	0.4	100.0
Netherlands	N	85	504	768	166	12	1535
	%	5.5	32.8	50.0	10.8	0.8	100.0
Norway	N	166	390	661	180	13	1410
	%	11.8	27.7	46.9	12.8	0.9	100.0
Sweden	N	168	424	384	70	2	1048
	%	16.0	40.5	36.6	6.7	0.2	100.0
Austria	N	217	399	268	96	9	989
	%	21.9	40.3	27.1	9.7	0.9	100.0
Germany	N	385	700	316	63		1464
	%	26.3	47.8	21.6	4.3		100.0
Switzerland	N	183	383	319	92	10	987
	%	18.5	38.8	32.3	9.3	1.0	100.0
Czech Republic	N	274	675	212	44	10	1215
	%	22.6	55.6	17.4	3.6	0.8	100.0
Slovenia	N	298	461	261	36	2	1058
	%	28.2	43.6	24.7	3.4	0.2	100.0
Spain	N	250	560	126	8	2	946
	%	26.4	59.2	13.3	0.8	0.2	100.0
Portugal	N	414	446	117	9	2	988
	%	41.9	45.1	11.8	0.9	0.2	100.0
Bulgaria	N	288	364	256	33		941
	%	30.6	38.7	27.2	3.5		100.0
Latvia	N	216	352	327	84	2	981
	%	22.0	35.9	33.3	8.6	0.2	100.0
Europe	N	4085	7474	5896	1354	88	18897
	%	21.6	39.6	31.2	7.2	0.5	100.0

Table A.6: E10a. How dangerous do you think a rise in the world's temperature caused by the 'greenhouse effect' (global warming)?

Country		Extremely Dangerous	Very Dangerous	Somewhat Dangerous	Not Very Dangerous	Not Dangerous at all	Total
Rep. of Ireland	N	222	398	439	83	5	1147
	%	19.4	34.7	38.3	7.2	0.4	100.0
Northern Ireland	N	191	238	193	47	1	670
	%	28.5	35.5	28.8	7.0	0.1	100.0
Britain	N	227	263	351	64	4	909
	%	25.0	28.9	38.6	7.0	0.4	100.0
Denmark	N	169	256	327	170	22	944
	%	17.9	27.1	34.6	18.0	2.3	100.0
Finland	N	194	373	523	276	31	1397
	%	13.9	26.7	37.4	19.8	2.2	100.0
Netherlands	N	138	524	641	162	22	1487
	%	9.3	35.2	43.1	10.9	1.5	100.0
Norway	N	169	372	548	216	19	1324
	%	12.8	28.1	41.4	16.3	1.4	100.0
Sweden	N	145	304	390	118	18	975
	%	14.9	31.2	40.0	12.1	1.8	100.0
Austria	N	253	448	174	32	6	913
	%	27.7	49.1	19.1	3.5	0.7	100.0
Germany	N	479	621	260	38	2	1400
	%	34.2	44.4	18.6	2.7	0.1	100.0
Switzerland	N	275	396	240	34	3	948
	%	29.0	41.8	25.3	3.6	0.3	100.0
Czech Republic	N	306	527	236	50	7	1126
	%	27.2	46.8	21.0	4.4	0.6	100.0
Slovenia	N	261	372	257	48	9	947
	%	27.6	39.3	27.1	5.1	1.0	100.0
Spain	N	231	459	143	11	2	846
	%	27.3	54.3	16.9	1.3	0.2	100.0
Portugal	N	374	428	100	9	1	912
	%	41.0	46.9	11.0	1.0	0.1	100.0
Bulgaria	N	192	314	220	31		757
	%	25.4	41.5	29.1	4.1		100.0
Latvia	N	201	281	308	83	8	881
	%	22.8	31.9	35.0	9.4	0.9	100.0
Europe	N	4027	6574	5350	1472	160	17583
	%	22.9	37.4	30.4	8.4	0.9	100.0

Tables A.7 – A.9: Willingness to Take on Costs by Country

Table A.7: E5_1. Willingness to pay much higher prices in order to protect the environment

Country		Very Willing	Fairly Willing	Neither Willing nor Unwilling	Fairly Unwilling	Very Unwilling	Total
Rep. of Ireland	N	78	552	172	244	135	1181
	%	6.6	46.7	14.6	20.7	11.4	100.0
Northern Ireland	N	39	177	199	121	181	717
	%	5.4	24.7	27.8	16.9	25.2	100.0
Britain	N	60	354	281	169	77	941
	%	6.4	37.6	29.9	18.0	8.2	100.0
Denmark	N	75	375	332	172	71	1025
	%	7.3	36.6	32.4	16.8	6.9	100.0
Finland	N	23	304	383	515	192	1417
	%	1.6	21.5	27.0	36.3	13.5	100.0
Netherlands	N	123	839	360	179	72	1573
	%	7.8	53.3	22.9	11.4	4.6	100.0
Norway	N	102	468	426	252	154	1402
	%	7.3	33.4	30.4	18.0	11.0	100.0
Sweden	N	49	280	256	296	128	1009
	%	4.9	27.8	25.4	29.3	12.7	100.0
Austria	N	67	367	228	246	75	983
	%	6.8	37.3	23.2	25.0	7.6	100.0
Germany	N	51	405	453	322	207	1438
	%	3.5	28.2	31.5	22.4	14.4	100.0
Switzerland	N	112	405	199	168	62	946
	%	11.8	42.8	21.0	17.8	6.6	100.0
Czech Republic	N	37	326	270	359	204	1196
	%	3.1	27.3	22.6	30.0	17.1	100.0
Slovenia	N	73	376	314	136	97	996
	%	7.3	37.8	31.5	13.7	9.7	100.0
Spain	N	36	260	217	258	139	910
	%	4.0	28.6	23.8	28.4	15.3	100.0
Portugal	N	34	171	234	238	249	926
	%	3.7	18.5	25.3	25.7	26.9	100.0
Bulgaria	N	68	148	173	267	261	917
	%	7.4	16.1	18.9	29.1	28.5	100.0
Latvia	N	30	178	210	335	217	970
	%	3.1	18.4	21.6	34.5	22.4	100.0
Europe	N	1057	5985	4707	4277	2521	18547
	%	5.7	32.3	25.4	23.1	13.6	100.0

Table A.8: E5_2. Willingness to pay much higher taxes in order to protect the environment

Country		Very Willing	Fairly Willing	Neither Willing nor Unwilling	Fairly Unwilling	Very Unwilling	Total
Rep. of Ireland	N	49	351	166	363	238	1167
	%	4.2	30.1	14.2	31.1	20.4	100.0
Northern Ireland	N	20	128	143	147	274	712
	%	2.8	18.0	20.1	20.6	38.5	100.0
Britain	N	49	254	248	211	178	940
	%	5.2	27.0	26.4	22.4	18.9	100.0
Denmark	N	47	235	296	274	188	1040
	%	4.5	22.6	28.5	26.3	18.1	100.0
Finland	N	16	155	295	564	392	1422
	%	1.1	10.9	20.7	39.7	27.6	100.0
Netherlands	N	57	516	391		251	1215
	%	4.7	42.5	32.2		20.7	100.0
Norway	N	53	270	340	399	355	1417
	%	3.7	19.1	24.0	28.2	25.1	100.0
Sweden	N	29	167	238	324	248	1006
	%	2.9	16.6	23.7	32.2	24.7	100.0
Austria	N	30	156	221	377	183	967
	%	3.1	16.1	22.9	39.0	18.9	100.0
Germany	N	20	239	355	436	373	1423
	%	1.4	16.8	24.9	30.6	26.2	100.0
Switzerland	N	53	269	223	261	154	960
	%	5.5	28.0	23.2	27.2	16.0	100.0
Czech Republic	N	16	188	216	451	313	1184
	%	1.4	15.9	18.2	38.1	26.4	100.0
Slovenia	N	48	277	314	195	172	1006
	%	4.8	27.5	31.2	19.4	17.1	100.0
Spain	N	16	185	186	337	183	907
	%	1.8	20.4	20.5	37.2	20.2	100.0
Portugal	N	13	145	208	259	301	926
	%	1.4	15.7	22.5	28.0	32.5	100.0
Bulgaria	N	48	107	163	340	279	937
	%	5.1	11.4	17.4	36.3	29.8	100.0
Latvia	N	18	148	205	333	260	964
	%	1.9	15.4	21.3	34.5	27.0	100.0
Europe	N	582	3790	4208	5271	4342	18193
	%	3.2	20.8	23.1	29.0	23.9	100.0

Table A.9: E5_3. Willingness to accept cuts in your standard of living in order to protect the environment

Country		Very Willing	Fairly Willing	Neither Willing nor Unwilling	Fairly Unwilling	Very Unwilling	Total
Rep. of Ireland	N	51	366	197	330	237	1181
	%	4.3	31.0	16.7	27.9	20.1	100.0
Northern Ireland	N	18	116	143	185	255	717
	%	2.5	16.2	19.9	25.8	35.6	100.0
Britain	N	32	218	226	261	213	950
	%	3.4	22.9	23.8	27.5	22.4	100.0
Denmark	N	50	286	340	243	105	1024
	%	4.9	27.9	33.2	23.7	10.3	100.0
Finland	N	61	545	394	308	124	1432
	%	4.3	38.1	27.5	21.5	8.7	100.0
Netherlands	N	72	544	397	356	186	1555
	%	4.6	35.0	25.5	22.9	12.0	100.0
Norway	N	78	450	400	311	175	1414
	%	5.5	31.8	28.3	22.0	12.4	100.0
Sweden	N	97	359	283	178	100	1017
	%	9.5	35.3	27.8	17.5	9.8	100.0
Austria	N	68	421	201	192	85	967
	%	7.0	43.5	20.8	19.9	8.8	100.0
Germany	N	42	491	404	305	186	1428
	%	2.9	34.4	28.3	21.4	13.0	100.0
Switzerland	N	112	435	215	139	55	956
	%	11.7	45.5	22.5	14.5	5.8	100.0
Czech Republic	N	31	220	220	385	338	1194
	%	2.6	18.4	18.4	32.2	28.3	100.0
Slovenia	N	53	280	353	165	133	984
	%	5.4	28.5	35.9	16.8	13.5	100.0
Spain	N	19	262	221	263	144	909
	%	2.1	28.8	24.3	28.9	15.8	100.0
Portugal	N	17	138	206	244	316	921
	%	1.8	15.0	22.4	26.5	34.3	100.0
Bulgaria	N	37	76	176	337	309	935
	%	4.0	8.1	18.8	36.0	33.0	100.0
Latvia	N	13	43	156	338	420	970
	%	1.3	4.4	16.1	34.8	43.3	100.0
Europe	N	851	5250	4532	4540	3381	18554
	%	4.6	28.3	24.4	24.5	18.2	100.0

Tables A.10 and A.11: Environmental Efficacy by Country

Table A.10: E6_1. It is just too difficult for someone like me to do much about the environment

Country		Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Total
Rep. of Ireland	N	35	367	86	636	75	1199
	%	2.9	30.6	7.2	53.0	6.3	100.0
Northern Ireland	N	44	274	119	262	24	723
	%	6.1	37.9	16.5	36.2	3.3	100.0
Britain	N	54	242	159	426	52	933
	%	5.8	25.9	17.0	45.7	5.6	100.0
Denmark	N	58	175	99	354	357	1043
	%	5.6	16.8	9.5	33.9	34.2	100.0
Finland	N	52	130	167	794	305	1448
	%	3.6	9.0	11.5	54.8	21.1	100.0
Netherlands	N	55	300	339	759	111	1564
	%	3.5	19.2	21.7	48.5	7.1	100.0
Norway	N	38	238	146	755	241	1418
	%	2.7	16.8	10.3	53.2	17.0	100.0
Sweden	N	33	200	198	432	160	1023
	%	3.2	19.6	19.4	42.2	15.6	100.0
Austria	N	71	227	121	429	147	995
	%	7.1	22.8	12.2	43.1	14.8	100.0
Germany	N	90	379	216	559	209	1453
	%	6.2	26.1	14.9	38.5	14.4	100.0
Switzerland	N	41	147	127	391	264	970
	%	4.2	15.2	13.1	40.3	27.2	100.0
Czech Republic	N	173	388	209	321	124	1215
	%	14.2	31.9	17.2	26.4	10.2	100.0
Slovenia	N	101	328	144	388	100	1061
	%	9.5	30.9	13.6	36.6	9.4	100.0
Spain	N	68	226	83	392	158	927
	%	7.3	24.4	9.0	42.3	17.0	100.0
Portugal	N	203	413	139	183	38	976
	%	20.8	42.3	14.2	18.8	3.9	100.0
Bulgaria	N	422	310	100	72	57	961
	%	43.9	32.3	10.4	7.5	5.9	100.0
Latvia	N	153	393	176	223	41	986
	%	15.5	39.9	17.8	22.6	4.2	100.0
Europe	N	1691	4737	2628	7376	2463	18895
	%	8.9	25.1	13.9	39.0	13.0	100.0

Table A.11: E6_4. There is no point in doing what I can for the environment unless others do the same

Country		Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Total
Rep. of Ireland	N	55	507	67	538	45	1212
	%	4.5	41.8	5.5	44.4	3.7	100.0
Northern Ireland	N	69	308	109	199	36	721
	%	9.6	42.7	15.1	27.6	5.0	100.0
Britain	N	75	350	111	368	45	949
	%	7.9	36.9	11.7	38.8	4.7	100.0
Denmark	N	124	192	76	257	400	1049
	%	11.8	18.3	7.2	24.5	38.1	100.0
Finland	N	45	168	158	772	299	1442
	%	3.1	11.7	11.0	53.5	20.7	100.0
Netherlands	N	59	348	299	724	136	1566
	%	3.8	22.2	19.1	46.2	8.7	100.0
Norway	N	48	315	135	735	180	1413
	%	3.4	22.3	9.6	52.0	12.7	100.0
Sweden	N	43	181	147	448	212	1031
	%	4.2	17.6	14.3	43.5	20.6	100.0
Austria	N	100	241	116	324	201	982
	%	10.2	24.5	11.8	33.0	20.5	100.0
Germany	N	160	330	172	528	265	1455
	%	11.0	22.7	11.8	36.3	18.2	100.0
Switzerland	N	93	185	90	343	256	967
	%	9.6	19.1	9.3	35.5	26.5	100.0
Czech Republic	N	171	271	157	328	293	1220
	%	14.0	22.2	12.9	26.9	24.0	100.0
Slovenia	N	139	356	97	360	107	1059
	%	13.1	33.6	9.2	34.0	10.1	100.0
Spain	N	109	353	79	293	90	924
	%	11.8	38.2	8.5	31.7	9.7	100.0
Portugal	N	192	400	128	179	68	967
	%	19.9	41.4	13.2	18.5	7.0	100.0
Bulgaria	N	201	303	162	129	131	926
	%	21.7	32.7	17.5	13.9	14.1	100.0
Latvia	N	92	224	182	422	57	977
	%	9.4	22.9	18.6	43.2	5.8	100.0
Europe	N	1775	5032	2285	6947	2821	18860
	%	9.4	26.7	12.1	36.8	15.0	100.0

Appendix 2

Tables B.1 – B.4: Responses to Questions used in the New Environmental Paradigm Scale by Country

Table B.1: E3_1. We believe too often in science, and not enough in feelings and faith

Country		Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Total
Rep. of Ireland	N	75	558	235	255	20	1143
	%	6.6	48.8	20.6	22.3	1.7	100.0
Northern Ireland	N	152	259	180	93	17	701
	%	21.7	36.9	25.7	13.3	2.4	100.0
Britain	N	98	394	255	158	27	932
	%	10.5	42.3	27.4	17.0	2.9	100.0
Denmark	N	168	377	152	195	96	988
	%	17.0	38.2	15.4	19.7	9.7	100.0
Finland	N	113	498	360	304	96	1371
	%	8.2	36.3	26.3	22.2	7.0	100.0
Netherlands	N	113	619	468	300	44	1544
	%	7.3	40.1	30.3	19.4	2.8	100.0
Norway	N	85	526	344	334	80	1369
	%	6.2	38.4	25.1	24.4	5.8	100.0
Sweden	N	57	364	300	210	58	989
	%	5.8	36.8	30.3	21.2	5.9	100.0
Austria	N	113	348	216	203	96	976
	%	11.6	35.7	22.1	20.8	9.8	100.0
Germany	N	92	484	325	345	125	1371
	%	6.7	35.3	23.7	25.2	9.1	100.0
Switzerland	N	179	397	180	160	55	971
	%	18.4	40.9	18.5	16.5	5.7	100.0
Czech Republic	N	164	345	337	240	76	1162
	%	14.1	29.7	29.0	20.7	6.5	100.0
Slovenia	N	79	349	279	197	61	965
	%	8.2	36.2	28.9	20.4	6.3	100.0
Spain	N	130	452	176	122	17	897
	%	14.5	50.4	19.6	13.6	1.9	100.0
Portugal	N	86	496	173	136	36	927
	%	9.3	53.5	18.7	14.7	3.9	100.0
Bulgaria	N	92	266	253	101	61	773
	%	11.9	34.4	32.7	13.1	7.9	100.0
Latvia	N	92	326	229	236	42	925
	%	9.9	35.2	24.8	25.5	4.5	100.0
Europe	N	1888	7058	4462	3589	1007	18004
	%	10.5	39.2	24.8	19.9	5.6	100.0

Table B.2: E3_2. Overall, modern science does more harm than good

Country		Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Total
Rep. of Ireland	N	28	224	195	653	58	1158
	%	2.4	19.3	16.8	56.4	5.0	100.0
Northern Ireland	N	46	131	178	275	46	676
	%	6.8	19.4	26.3	40.7	6.8	100.0
Britain	N	40	169	242	394	83	928
	%	4.3	18.2	26.1	42.5	8.9	100.0
Denmark	N	40	139	140	297	367	983
	%	4.1	14.1	14.2	30.2	37.3	100.0
Finland	N	27	78	229	677	356	1367
	%	2.0	5.7	16.8	49.5	26.0	100.0
Netherlands	N	20	148	446	770	163	1547
	%	1.3	9.6	28.8	49.8	10.5	100.0
Norway	N	27	111	258	666	305	1367
	%	2.0	8.1	18.9	48.7	22.3	100.0
Sweden	N	21	83	273	366	213	956
	%	2.2	8.7	28.6	38.3	22.3	100.0
Austria	N	61	157	183	373	139	913
	%	6.7	17.2	20.0	40.9	15.2	100.0
Germany	N	34	174	236	589	384	1417
	%	2.4	12.3	16.7	41.6	27.1	100.0
Switzerland	N	49	171	250	337	155	962
	%	5.1	17.8	26.0	35.0	16.1	100.0
Czech Republic	N	72	189	248	408	269	1186
	%	6.1	15.9	20.9	34.4	22.7	100.0
Slovenia	N	59	226	228	381	100	994
	%	5.9	22.7	22.9	38.3	10.1	100.0
Spain	N	30	162	175	366	148	881
	%	3.4	18.4	19.9	41.5	16.8	100.0
Portugal	N	165	323	192	151	76	907
	%	18.2	35.6	21.2	16.6	8.4	100.0
Bulgaria	N	28	163	201	212	203	807
	%	3.5	20.2	24.9	26.3	25.2	100.0
Latvia	N	48	153	192	421	108	922
	%	5.2	16.6	20.8	45.7	11.7	100.0
Europe	N	795	2801	3866	7336	3173	17971
	%	4.4	15.6	21.5	40.8	17.7	100.0

Table B.3: E3_9. Economic growth always harms the environment

Country		Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Total
Rep. of Ireland	N	51	571	184	368	18	1192
	%	4.3	47.9	15.4	30.9	1.5	100.0
Northern Ireland	N	57	330	164	154	9	714
	%	8.0	46.2	23.0	21.6	1.3	100.0
Britain	N	80	404	200	247	14	945
	%	8.5	42.8	21.2	26.1	1.5	100.0
Denmark	N	122	382	133	258	121	1016
	%	12.0	37.6	13.1	25.4	11.9	100.0
Finland	N	138	610	237	417	47	1449
	%	9.5	42.1	16.4	28.8	3.2	100.0
Netherlands	N	59	462	431	542	66	1560
	%	3.8	29.6	27.6	34.7	4.2	100.0
Norway	N	51	375	268	603	109	1406
	%	3.6	26.7	19.1	42.9	7.8	100.0
Sweden	N	80	445	227	223	27	1002
	%	8.0	44.4	22.7	22.3	2.7	100.0
Austria	N	106	329	161	294	57	947
	%	11.2	34.7	17.0	31.0	6.0	100.0
Germany	N	154	544	222	436	83	1439
	%	10.7	37.8	15.4	30.3	5.8	100.0
Switzerland	N	121	378	148	256	63	966
	%	12.5	39.1	15.3	26.5	6.5	100.0
Czech Republic	N	147	316	271	329	146	1209
	%	12.2	26.1	22.4	27.2	12.1	100.0
Slovenia	N	113	361	199	327	37	1037
	%	10.9	34.8	19.2	31.5	3.6	100.0
Spain	N	145	496	131	128	15	915
	%	15.8	54.2	14.3	14.0	1.6	100.0
Portugal	N	246	490	137	83	9	965
	%	25.5	50.8	14.2	8.6	0.9	100.0
Bulgaria	N	142	329	208	111	66	856
	%	16.6	38.4	24.3	13.0	7.7	100.0
Latvia	N	92	310	175	253	81	911
	%	10.1	34.0	19.2	27.8	8.9	100.0
Europe	N	1904	7132	3496	5029	968	18529
	%	10.3	38.5	18.9	27.1	5.2	100.0

Table B.4: E3_5. Almost everything we do in modern life harms the environment

Country		Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Total
Rep. of Ireland	N	16	244	255	598	32	1145
	%	1.4	21.3	22.3	52.2	2.8	100.0
Northern Ireland	N	16	86	243	276	18	639
	%	2.5	13.5	38.0	43.2	2.8	100.0
Britain	N	21	144	313	408	18	904
	%	2.3	15.9	34.6	45.1	2.0	100.0
Denmark	N	62	196	158	304	252	972
	%	6.4	20.2	16.3	31.3	25.9	100.0
Finland	N	89	350	313	468	135	1355
	%	6.6	25.8	23.1	34.5	10.0	100.0
Netherlands	N	47	372	475	560	56	1510
	%	3.1	24.6	31.5	37.1	3.7	100.0
Norway	N	21	179	307	732	127	1366
	%	1.5	13.1	22.5	53.6	9.3	100.0
Sweden	N	20	135	292	395	88	930
	%	2.2	14.5	31.4	42.5	9.5	100.0
Austria	N	61	198	190	357	107	913
	%	6.7	21.7	20.8	39.1	11.7	100.0
Germany	N	76	332	309	517	139	1373
	%	5.5	24.2	22.5	37.7	10.1	100.0
Switzerland	N	87	288	200	274	92	941
	%	9.2	30.6	21.3	29.1	9.8	100.0
Czech Republic	N	61	209	286	418	207	1181
	%	5.2	17.7	24.2	35.4	17.5	100.0
Slovenia	N	71	307	238	341	41	998
	%	7.1	30.8	23.8	34.2	4.1	100.0
Spain	N	33	193	172	347	78	823
	%	4.0	23.5	20.9	42.2	9.5	100.0
Portugal	N	207	371	199	121	12	910
	%	22.7	40.8	21.9	13.3	1.3	100.0
Bulgaria	N	118	284	201	99	101	803
	%	14.7	35.4	25.0	12.3	12.6	100.0
Latvia	N	50	164	233	380	70	897
	%	5.6	18.3	26.0	42.4	7.8	100.0
Europe	N	1056	4052	4384	6595	1573	17660
	%	6.0	22.9	24.8	37.3	8.9	100.0

References

Bagozzi, R.P., Z. Gurhan-Canli and J.R. Priester (2002) *The Social Psychology of Consumer Behaviour,* Buckingham: Open University Press.

Beck, U. (1992) *Risk Society: Towards a New Modernity*, London: Sage.

Clarke, H.D. and N.Dutt (1991) 'Measuring value change in western industrialised societies', *American Political Science Review*, Vol.85, pp905-920.

Dalton, R.J. (1994) *The Green Rainbow: Environmental Interest Groups in Western Europe,* New Haven: Yale University Press.

Dalton, R.J. (1996) *Citizen Politics*, 2nd Edition, Chatham: Chatham House Publications.

Dalton, R.J. and R. Rohrschneider (1998) 'The Greening of Europe', in R. Jowell et al (eds.), *British – and European – Social Attitudes, the 15th BSA Report,* Aldershot: Ashgate.

Douglas, M. (1970) *Natural Symbols: Explorations in Cosmology*, London: Barrie and Rockliff.

Douglas, M. (1982) 'Cultural Bias', in M. Douglas, *In the Active Voice*, London: Routledge.

Douglas, M. and A. Wildavsky (1982) *Risk and Culture. An Essay on the Selection of Technical and Environmental Dangers*, Berkeley: University of California Press.

Dryzek, J. Downes, D. Hunold, C. Schlosberg, D. (2003) *Green States and Social Movements,* Oxford: Oxford University Press.

Dunlap, R. and K. Van Liere (1978) 'The New Environmental Paradigm', *Journal of Environmental Education*, Vol.9, pp10-19.

Inglehart, R. (1977) *The Silent Revolution: Changing Values and Political Styles,* Princeton: Princeton University Press.

Inglehart, R. (1984) 'The changing structure of political cleavages in western society', in R.J. Dalton, S.C. Flanagan and P.A. Beck (eds.), *Electoral Change in Advanced Industrial Democracies: Realignment or Dealignment?,* Princeton: Princeton University Press.

Inglehart, R. (1990) *Cultural Shift in Advanced Industrial Society*, Princeton: Princeton University Press.

Inglehart, R. (1997) *Modernization and Post-Modernization*, Princeton: Princeton University Press.

Inglehart, R. and P.A. Abramson (1994) 'Economic security and value change', *American Political Science Review*, Vol.88, pp336-354.

Kim, J.-O. and C. W. Muller (1994a) 'Introduction to factor analysis: what it does and how you do it', in M. S. Lewis-Beck (ed.) *Factor Analysis and Related Techniques, International Handbook of Quantitative Applications in the Social Sciences,* Vol.5, London: Sage

Kim, J.-O. and C. W. Muller (1994b) 'Factor analysis: statistical methods and practical issues', in M. S. Lewis-Beck (ed.) *Factor Analysis and Related Techniques, International Handbook of Quantitative Applications in the Social Sciences,* Vol.5, London: Sage

Lijphart, A. (1981) 'Political parties: ideologies and programs', in D. Butler, H. Penniman and A. Ranney (eds.) *Democracy at the Polls: A Comparative Study of Competitive National Elections,* Washington DC: American Enterprise Institute.

Motherway, B., M. Kelly, P. Faughnan and H. Tovey (2003) *Trends in Irish Environmental Attitudes between 1993 and 2002.* First Report of National Survey Data by the Research Programme on Environmental Attitudes, Values and Behaviour in Ireland. Dublin: Social Science Research Centre, University College Dublin

Muller-Rommel, F (1989) 'The German Greens in the 1980s: short-term cyclical protest or indicator of transformation?', *Political Studies*, Vol.37, pp114-122.

Poguntke, T. (1987) 'New politics and party systems: the emergence of a new type of party'*, West European Politics*, Vol.10, pp76-88.

Schwartz, S.H. (1992) 'Universals in the content and structure of values: theoretical advances and empirical tests in 20 countries', in M.P. Zanna (ed.) *Advances in Experimental Social Psychology*, Vol.25, San Diego: Academic Press.

Thompson, M., R. Ellis and A. Wildavsky (1990) *Cultural Theory*, Boulder: Westview Press.

Wildavsky, A. (1987) 'Choosing preferences by constructing institutions: a cultural theory of preference formation', *American Political Science Review*, Vol.81 (1), pp3-21.

Witherspoon, S. (1996) 'Democracy, the environment and public opinion in Europe', in W. Lafferty and J. Meadowcroft (eds.), *Democracy and the Environment,* Cheltenham: Edward Elgar