

Coping with a Threat to Quality of Life: The Case of the *Prestige* Disaster

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Abstract

The *Prestige* disaster occurred off the Galician coast (North-West Spain), after the sinking of *Prestige* oil tanker in November 2002. The breaking up and sinking of the ship in heavy seas resulted in the discharge of thousands of tonnes of toxic and heavy oil. The oil was washed up not only on the Galician coast, but also along the north coast of Spain, and the west of France. A year later, the consequences of this accident on the quality of life of Galician people are only beginning to become apparent. The present study evaluates the inhabitants' and volunteers' perceptions and evaluations of the social impact of the disaster and its effect on the population. This paper also provides a diagnosis of the changing relationship between a damaged environment and a human community, both immediately and a year after the catastrophe. A total of 1491 and 1504 interviews were undertaken in Galicia in two phases of the research amongst people over 18 years old. This paper reports on the changes in the attitudes of the population in several respects: the degree to which they were affected by the catastrophe, their understanding of what happened, their attribution of responsibility and the assessment of the consequences, and finally, their feelings and assessment of satisfaction and credibility of the political institutions, organisations, and the media.

Keywords: *Prestige*, disaster, trust, risk perception, loglinear analysis.

INTRODUCTION AND BACKGROUND

On 13 November 2002, a Bahamian registered oil tanker, the '*Prestige*', containing 77,000 tonnes of crude oil was severely damaged in a storm 250 kms off the Galician coast in North-West Spain. The ship split in two, sank and spilt thousands of tonnes of heavy and toxic oil, much of which was blown landwards arriving on the Galician beaches as well as the coasts of northern Spain and France. Having sunk, the tanker continued to discharge large quantities of oil for months afterwards. The sinking of the '*Prestige*' is generally acknowledged to have been the most serious ecological disaster to have affected Europe. While the environmental damage was immediate, the social and psychological impacts on the population are still being felt one year later and in some cases are now only becoming manifest.

The oil spill had a significant effect, not only from an ecological and human point of view, but also on the economy of the region. Galicia is highly dependant on the sea because fishing and fishing-related activities are a vital part of the GDP of the region. Furthermore, the coast is also important for tourism. Government figures indicate that tourism in Galicia had recovered by Easter 2003 to 80% of the level of the previous year; however, some organizations maintain their distrust in respect of this figure. The fact that the number of visitors and tourists decreased, the more general impact on the perception of the area as a potential holiday destination (the main percentage of visitors come from other parts of Spain) as well as the impact of the oil spill on the catching and selling of seafood, all contributed to the concerns of the inhabitants of Galicia. The scale of its ecological impact was demonstrated by Carlota Viada, Director of the Conservation Department at SEO/BirdLife, who made a conservative estimate that the 23,000 birds collected in Spain, France and Portugal only comprise 10-20% of the birds affected by the *Prestige* disaster (RSPB, 2003).

Galicia has been the victim of previous oil tanker accidents (e.g., *Urquiola*, *Aegean Sea*, *Casón*, among others), but the social and political response was considerably more muted on this occasion. One key aspect of the social response comes from both the scarcity of information, and the unreliability of available information. From the time the tanker was in trouble and approached the Galician coast looking for refuge, until it finally sunk in the ocean, neither the national nor regional government nor the ship owners or insurers provided information on the risk to the population and/or the ecosystem. The immediate response of both the national and the regional Governments from the outset was focussed entirely on playing down the level of the risk involved, denying the possibility of any oil spill, and underestimating the importance of the magnitude of the tragedy. It was announced that everything was under control, and the public should have no cause for concern. This strategy was maintained even in the face of evidence to the contrary, supplied for example by the mass media. This resulted in a loss of credibility in the government as well as other official institutions. The only scientific information available to the local population about the nature of the contamination coming from *Prestige* oil tanker or its associated health effects on citizens came from non-governmental organizations such as ecological groups, the mass-media, and several French and Portuguese research institutions. The Spanish National Scientific Research Centre (CSIC) as well as some Universities also produced reports contradicting the Government's analysis of the potential risk and impact of the capsizing of the oil tanker. All these reports were ignored or openly criticized.

As time went by, it became clear to the general public that the information provided by both the national and regional governments was unreliable, and that there were real ecological and economic threats to the local community.

This was later confirmed with the breaking up and sinking of the tanker while it was being towed away from the coast, a decision which was widely criticized by experts because it could only extend the damage to a wider area; this indeed happened. At this stage social action was initiated by the community both in terms of taking practical action to mitigate the effects of environmental damage, but also political action in the form of public protest against government complacency. Several citizens' organizations as well as members of local private companies and a few co-ordinators from different non-governmental organizations assumed the management of the crisis along the entire stretch of the Galician coast. The most striking example of collective action was the presence of thousands of people who volunteered to clean up the coast by hand (i.e., with the most basic and inadequate tools and without appropriate safety protection) and who received neither institutional nor financial support.

Social pressure and protest, with the collaboration of the mass media, not only forced the Government to take an interest in organising volunteers (albeit three months later), but also to approve an emergency plan to create new infrastructures and develop projects for the benefit of the social and economic development of Galicia such as high speed rail improvements, motorways, etc. Furthermore, most fishermen in the areas were subsidised by the government. Both measures were partially effective in muting the protests, as was confirmed by the local elections held shortly afterwards. Whereas there was a strong political reaction in most Galician cities (where the governmental party lost political control of all councils, with only one exception), such a reaction did not happen in the effected rural areas where all the councils were retained.

When we speak about a toxic contamination event there are three stages through which a risk situation passes: a) non issue, b) public issue, and c) political issue (Reich, 1991; McGee, 1999). Reich defined *non-issue* as the phase prior to the public identification of the contamination agent. In the *public issue* phase the situation moves from being a disaster at an individual level to a disaster at a group level; victims try to organize and expand the scope of collective action. The disaster moves from being a public issue to a *political issue* when it gets into the political domain, involving other governmental or non-governmental organizations, political parties, social movements, and the mass media. The *Prestige* case moved very quickly into this third phase. More importantly, a year later, it still remains there.

OBJECTIVES

Following studies by Pol (2002) on social impact evaluation, San Juan (2001) on the psychology of emergencies, and Uzzell, Pol and Badanas (2002) on environmental evaluation, it was felt appropriate to evaluate the social impact of the *Prestige* disaster on the population immediately after it happened and a year later. We were also interested in examining the differential perceptions and evaluations of the inhabitants and the volunteers to the developing environmental and political situation. A distinction was made between responses from inhabitants and those from volunteers, on the basis that volunteers differ from inhabitants in many respects (i.e., higher commitment, better information about the situation, more objective view, not economically affected). Volunteers' opinions could only be gathered in the first wave of interviews, because the cleaning work had finished long before the second wave of interviews was carried out.

The study seeks to assess the changes in attitudes experienced by the population in respect of:

1. The degree to which the inhabitants and volunteers were affected by the catastrophe
2. The inhabitants' and volunteers' understanding of what happened
3. The inhabitants' and volunteers' attribution of responsibility
4. The inhabitants' and volunteers' assessment of consequences of the disaster
5. The inhabitants' and volunteers' assessment of the credibility and degree of satisfaction with political institutions, organisations, and the media.

METHOD

Sample and instruments. A random sample of 1491 respondents (51.2% males and 48.8% females) was surveyed in December 2002, one month after the disaster. Of these, 1246 were inhabitants in the effected areas, and 245 were volunteers from other parts of Spain. The second wave of interviews, carried out in December 2003 and January 2004, comprised another random sample of 1504 subjects (49.5% males and 50.5% females), all of whom were inhabitants in the effected areas. For both studies, the reliability was equal to 99.7% and the sample error was less than 4%. The criteria for sampling were that respondents should normally be resident in the Autonomous Community of Galicia and aged over 18 years old. We used a social impact evaluation protocol specially designed for this study which included information on: a) socio-demographical variables; b) perception and understanding of the impact and duration of the threat; c) the evaluation of received information; d) trust and credibility of the regional and national government, media and other organizations; e) attribution of causes and responsibilities; f) perception of consequences; g) degree of satisfaction with response given to the disaster by different public and private organizations;

h) evaluation of the efficiency of response and remediation actions by the regional and national government, and others; i) impact on health; and k) implications for changes in behaviour. The questions were of both a closed and open response format; some of the closed format questions required categorical responses (e.g., attribution of responsibility) while others relied on the completion of Likert-type rating scales (e.g., estimations of the differential impact of the disaster). All interviewers were fully trained prior to conducting the face-to-face interviews.

RESULTS

Degree affected, understanding of the problem and attribution of responsibility.

The analysis of the responses given by the volunteers and the inhabitants at the different times showed a marked shift in the responses given by the latter. The inhabitants' responses in 2002 were quite similar to those of the volunteers; 84% declared themselves to be quite affected or very affected by the disaster (volunteers: 90%), 75% had a good or perfect understanding of the problem (volunteers: 81%), and 83% attributed responsibility for the disaster to the regional or national governments (volunteers: 93%). One year later, only 55% of the inhabitants declared themselves to be quite or very affected, only 69% said that they had a good or perfect understanding of the problem (when the circumstances of the accident had already been thoroughly studied), and only 45% attributed responsibility for the disaster to the regional or national governments.

In order to test whether the differences between the two groups were significant, a hierarchical loglinear analysis was performed (Knoke and Burke, 1990; Powers and Xie, 2000).

Four categorical variables were included in the analysis: degree of impact (EFFECT), understanding of the problem (UNDERSTAND), attribution of responsibility (RESPONSIBILITY), and sample interviewed (POPULATION). The results showed no 4th or 3rd order significant effects for the variables included. The best fitting model (chi square=453.83; df=480; $p=.799$; see Table 1) included six 2nd order highly significant effects, and all four 1st order effects. Three of the 2nd order effects (EFFECT * POPULATION, UNDERSTAND * POPULATION and RESPONSIBILITY * POPULATION) correspond to interactions between assessments made about the disaster and the type of sample interviewed, thus showing significant differences in the responses made by volunteers, inhabitants at 2002 and inhabitants at 2003. With respect to the remaining three effects, the first of them (EFFECT * UNDERSTAND) revealed that a lower degree of impact was associated with also a lower degree of understanding, and vice versa. The second effect (EFFECT * RESPONSIBILITY) revealed that a lower degree of impact was associated with non-political responsibilities (nobody in particular, fate, the captain of the oil tanker, the harbour technicians, the ship owner), whereas a higher degree of impact was associated with responsibilities at the national and regional levels. The third significant effect (UNDERSTAND * RESPONSIBILITY) showed that a lower degree of understanding was also associated with non-political responsibilities, whereas a higher degree of understanding was associated with political responsibilities, both at national and regional levels.

In summary, it seems clear that, a year later inhabitants of the effected areas seemed much less concerned about the circumstances and consequences of the disaster. Even if the results of the cleaning performed during 2003 had lowered the degree of impact on the local population, they cannot explain the reduced degree of understanding and reduced attribution of political responsibility. A year later, and after a thorough investigation of the disaster, both the degree of understanding and the attribution of political responsibility should have been higher, not lower.

(INSERT TABLE 1 ABOUT HERE)

Assessment of the consequences, credibility and satisfaction issues.

Given the differences between the samples found above, it was expected that such differences would also be found in the assessments that subjects made about the consequences of the disaster, as well as their assessment of the credibility and degree of satisfaction with political institutions, organisations and the media. To test the significance of these differences, three multivariate analyses of variance were performed for these three sets of assessments.

With respect to the assessment of the consequences of the disaster, a significant multivariate effect for the type of sample (volunteers 2002, inhabitants 2002 and inhabitants 2003) was obtained (Wilk's lambda = .743; $F = 83.413$; $df_{hyp.} = 22$; $df_{error} = 5438$; $p < .001$). At the univariate level, significant differences were also found for each of the consequences assessed (See Table 2). An inspection of the mean scores for the three samples revealed that the assessments made by the 2003 wave of the inhabitants' sample had the lowest mean scores, whereas assessments made by volunteers in 2002 had the highest means. Additionally, paired comparison tests (not reported here) showed significant differences between the assessments made by the 2003 sample (inhabitants) and the two 2002 (inhabitants and volunteers) samples. Thus, it can be seen that, a year later the inhabitants of the effected areas tended to minimize the impact of the disaster.

(INSERT TABLE 2 ABOUT HERE)

Another significant multivariate effect (Wilk's lambda = .898; $F = 10.257$; $df_{hyp.} = 26$; $df_{error} = 4830$; $p < .001$) was found for the type of sample when assessing the credibility

of political institutions, community organisations and the media. At the univariate level though, no significant differences were found for the assessments of the credibility of local politicians (all below the mid-point of the scale), fishermen associations (all high), a private TV channel (all high) and family and friends (all high, see Table 3). A further inspection of the mean credibility scores for the three groups revealed that the highest means were invariably a feature of the 2003 population, and the lowest means were a consistent response of the 2002 volunteers; with respect to the former group, the means were always close to the mid-point of the scale. Paired comparison tests (not reported here) showed that, with the four aforementioned exceptions, there were always significant differences between, at least, both groups.

These results reveal the agreement between groups when the credibility was already high (fishermen associations, T5 TV, and family/friends) or neutral (local politicians) in 2002. Differences only appeared when the source of credibility was clearly low. In these cases, the 2003 respondents tended to keep their assessments as neutral as possible.

(INSERT TABLE 3 ABOUT HERE)

Finally, another significant multivariate effect (Wilk's lambda = .776; $F = 29.747$; $df_{hyp.} = 22$; $df_{error} = 4848$; $p < .001$) was found for the three samples interviewed when assessing their degree of satisfaction with political institutions and other organisations. The differences were also significant at the univariate level for all the items assessed (see Table 4). However, paired comparisons tests (not reported here) revealed that the pattern of the differences was not the same for all assessments. When satisfaction was related to political institutions, the pattern was as expected (with the exception of local politicians): the highest mean scores for 2003 inhabitants, and lowest mean scores for 2002 volunteers. But when assessing satisfaction levels with other organisations (fishermen associations, ecologist associations, volunteers, local companies, and

neighbours), the highest mean scores corresponded to 2002 volunteers and, in most cases, the lowest mean scores corresponded to 2003 inhabitants. In almost all cases, 2002 volunteers and 2003 inhabitants were at opposite poles in these assessments.

Again, we can see a tendency of 2003 inhabitants to try and “smooth” their assessments, thus locating far from both the highest and lowest scored items for the 2002 wave of interviews. It should be noted that univariate effects for single dependent variables were tested after checking that there was a multivariate effect (i.e., for all dependent variables simultaneously). Although we found some high correlations (e.g. between assessments for regional and national politicians), these were not sufficiently high as to imply the risk of multicollinearity.

(INSERT TABLE 4 ABOUT HERE)

DISCUSSION AND CONCLUSION

It is not always possible to organise a collective response to a disaster. While some actions are evidence of an organizational response to environmental contamination (cf. McGee, 1999; Abbot Wade, 1991; Brown and Mikkelsen, 1990; Bullard, 1990; Edelstein, 1988; Erikson, 1990; Levine, 1982), others exemplify the difficulties of organizing social opposition (Brown and Mikkelsen, 1990; Couch and Kroll-Smith, 1994; Wisaeth, 1994; McGee, 1999). In the case of the *Prestige* disaster, the social response was organized quickly and spontaneously. The role played by volunteers was decisive, not only in terms of coping with the consequences of the disaster, but also in obtaining a response from both institutions and the government.

Another important aspect in the environmental management of a crisis is the citizens' credibility and trust. This is an essential requirement in order to carry out the effective

management of hazardous waste sites (Williams, Brown and Greenberg, 1999).

According to Williams, Brown and Greenberg, if there is no trust, it will be very difficult for Governments to persuade citizens in a convincing way that places are safe and can be used again, in this case for providing the authority to encourage and permit fishing again. In the *Prestige* case, the lack of trust and credibility, together with the low levels of perceived *effectiveness* and satisfaction, posed a high load on governmental institutions. Trust and public credibility is a dynamic construct (Greenberg, Spiro and McIntyre, 1991) and most studies suggest that its determinants are very complex. It has been demonstrated that trust or credibility in government is a function of public perceptions of knowledge and expertise, the degree of information disclosure, information receipt, openness and honesty, and media sensitization (Peters, Covello and McCallum, 1997; Williams, Brown and Greenberg, 1999). Assessments made by both volunteers and inhabitants in respect of public institutions in 2002 were consistently low, largely because the degree of information, knowledge and expertise they provided was assessed as being deficient.

The duration of threat has also been found to be an important factor in the response of the community (Evans and Cohen, 1987; Otway and von Winterfeld; 1982; Slovic, 1987). Studies by Levi, Kocher and Aboud (2001) also reveal that the risk impact on inhabitants' lives depends on the duration of the effects of the danger. In the same way, it has been suggested that the longer-lasting the negative consequences for the victims the more serious the subsequent adverse effects, leading to a reduction in individual, social or community well-being (Baum, Fleming and Davidson, 1983; Edelman, 1988). Levi, Kocher and Aboud, (2001) argued that, from a community point of view, long term disasters can have a double impact - that which arises from the disaster itself, and the social problems generated subsequently. In the case of *Prestige* disaster, the inhabitants and the volunteers were quite pessimistic about the duration of threat, and this suggests that the negative impact could be reinforced and aggravated over time

rather than reduced. The incidence of health problems and the changes in daily habits are also indicators of the social and individual impact of the disaster, mainly for the inhabitants.

We have to acknowledge that people develop their own beliefs system about the nature of the threat after a disaster as part of the coping process (Vyner, 1988; Kroll-Smith and Couch, 1993; Rochford and Blocker, 1991). Beliefs are socially constructed (Berger and Luckmann, 1966) and are influenced by the interaction of individual, social, cultural, political and economical factors in addition to the characteristics of the disaster event or contamination itself. In this study, we focussed on beliefs about the duration of contamination, the effects on health, or the scope of the disaster, but we also explored the attributions that people made concerning the actions and effectiveness of the Government and other institutions to manage the crisis. One consequence of the subsequent management of the disaster was that in addition to a social fracture, there was a perception of distrust and lack of institutional credibility. Such outcomes are not limited to an individual response, but emerge as part of a subjective and socially constructed process, or from a combination of both (Peters and Slovic, 1996; Williams Brown and Greenberg, 1999). In the case of the *Prestige* disaster, further highly salient socio-economic and political factors may have been mediating this process.

Technological disasters are different from natural disasters in various ways that are salient to both risk perception, the management of the disasters and the response by the public to the disaster management. Technological disasters can be easier to predict. Technological disasters similar to the sinking of the *Prestige* have happened in the past and therefore they could have been anticipated. In such situations, the damage to both the ecosystem and the inhabitants could have been avoided or, at least, minimized. The recovery from social and psychological trauma, once the damage is done, only serves to add to other stressors like dealing with insurance companies, lawyers, contractors, and

politicians to obtain economic or legal compensation (Blaustein, 1991; Levi, Kocher and Aboud, 2001).

The effective management of the chronic consequences of disasters such as the *Prestige* requires the development and implementation not only of support services but also economic and technological, as well as psychological and social strategies. The importance of this integrative approach is supported by previous research (e.g., Bolin 1988), where psychosocial recovery is related to a positive perception of government assistance and support. On the contrary, a negative perception of institutional support only sustains the detrimental and damaging psychosocial impact. The effect of a crisis as the result of a disaster, according to San Juan (2001), depends on three factors: a) the nature of the disaster and its psychological meaning; b) the state of vulnerability and resources in relation to the individual, group and community; and c) the kind of help that the individual, group or community can receive. All these factors were very negative in the management of the *Prestige* crisis.

How can we explain the apparent complacency of the population in response to the disaster? Initially it appears difficult to account for such a shift in public opinion, especially as most of the subsequent damage was not easily healed. One might draw on a number of psychological theories to account for this response (Uzzell, 2000). For example, minimising the perceived impact may be a coping strategy to deal with serious detrimental effects to the environment. Likewise, denial and failure to act occur when a person perceives that a threat is uncontrollable. This, in turn, may lead to the reduction of fear and anxiety levels and lessen the negative feelings consequent upon the lack of perceived control over the situation (Perloff and Fetzer, 1986). Some environmental stressors such as noise or pollution may be personally manageable because the stressor is potentially within the bounds of a person's immediate control and personal powers. However, some environmental problems, in particular environmental

catastrophes, may be perceived to be outside the individual's or even the community's immediate control and socio-political powers.

Second, most fishermen receive a subsidy from the government because they receive a low and irregular income from fishing which is normally, even leaving aside the present disaster, highly risky. This part of the Galician coast is known as Costa da Morte - the 'Death Coast', because of its dangers to shipping. Subsidies from the government meet the needs of most fishermen and in some cases may even provide them with a wage in excess of what they could earn if they were reliant on a reasonable income solely from the sea. The kind of fishing that is practised in this area (i.e., very profitable and difficult to obtain seafood) is of a depredatory nature in which the beneficial fruits of the environment take priority over its preservation. When visual clues of pollution (e.g., oil slicks) are no longer visible even though they may still be present, for example, on the seabed, and signs of life are seen again on the rocks and beaches, it is easier to forget what happened.

Finally, one might explain this shift in the inhabitants' opinion by reference to the socio-political and cultural setting. These are rural, small and closed societies. They are also very conservative. Being critical of or challenging authority does not come naturally and is not easy to sustain over a long period of time. Once the protest had been made and placatory messages of support had been sent from the government there was a feeling that everything should be left in the hands of the authorities; once this stage had been reached other social and economic pressures start to have an effect on people's attitudes.

The damage from the sinking of the *Prestige* and its subsequent oil spill was substantial – one of the worst ecological disasters to affect Europe. It is clear from our research, however, that clearly it was highly salient for the public too, affecting livelihoods and the

quality of community life. But what is particularly interesting from this research is that the public's evaluation changed quite quickly over time. We have suggested that the cause of this might be economic, that is, the population are so financially dependent upon the environment and the government that one coping strategy – both practical and psychological - is to minimise the perceived impact of the disaster as quickly as possible. The second explanation is cultural, a function of the history and traditions of the people and their relationship with authority. Clearly this is an area that warrants further investigation in the context of other kinds of disasters and in other socio-political and cultural settings.

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Table 1: Best fitting hierarchical loglinear model for the 4-way table (EFFECT * UNDERSTAND * RESPONSIBILITY * POPULATION).

Effect	df	L-R chi square change	<i>p</i>	Iteration
UNDERSTAND * POPULATION	8	31,287	,0001	5
EFFECT * POPULATION	8	314,405	,0000	4
RESPONSIBILITY * POPULATION	14	143,627	,0000	5
EFFECT * UNDERSTANDING	16	184,599	,0000	6
EFFECT * RESPONSIBILITY	28	126,020	,0000	5
UNDERSTAND * RESPONSIBILITY	28	101,894	,0000	5
Likelihood-ratio chi square = 453.82747; df = 480; <i>p</i> = .799				

Table 2: Analysis of variance for the different groups (volunteers 2002, inhabitants 2002 and inhabitants 2003). Univariate tests for the attribution of the seriousness of the consequences of the disaster.

Dependent (Consequences)	Sum of squares	Df	Mean square	F	P	Eta square	Power
Economical	592,107	2	296,053	151,945	,000	,100	1,000
Ecological	86,496	2	43,248	64,547	,000	,045	1,000
Social	446,465	2	223,232	174,819	,000	,114	1,000
Psychological	402,191	2	201,096	84,696	,000	,058	1,000
Employment	687,330	2	343,665	287,260	,000	,174	1,000
Emigration	864,344	2	432,172	275,950	,000	,168	1,000
Delinquency	340,920	2	170,460	134,326	,000	,090	1,000
Community life	208,973	2	104,486	79,253	,000	,055	1,000
Tourism	419,606	2	209,803	140,958	,000	,094	1,000
Image of Galicia in Spain	109,532	2	54,766	31,560	,000	,023	1,000
Image of Galicia in the world	112,762	2	56,381	30,748	,000	,022	1,000

Table 3: Analysis of variance for the different groups (volunteers 2002, inhabitants 2002 and inhabitants 2003). Univariate tests for credibility of different political institutions, community organisations, and the media.

Dependent (Credibility)	Sum of squares	Df	Mean square	F	P	Eta square	Power
Local politicians	7,693	2	3,847	2,397	,091	,002	,486
Regional politicians	154,107	2	77,054	56,536	,000	,045	1,000
National politicians	173,632	2	86,816	67,177	,000	,052	1,000
Fishermen associations	7,645	2	3,823	2,812	,060	,002	,554
Local press	22,487	2	11,243	8,662	,000	,007	,969
National press	62,063	2	31,032	25,430	,000	,021	1,000
Public national TV	118,306	2	59,153	37,189	,000	,030	1,000
Public regional TV	217,239	2	108,619	61,740	,000	,048	1,000
A3 TV	118,479	2	59,240	40,825	,000	,033	1,000
T5 TV	1,833	2	,916	,723	,486	,001	,173
Public radio stations	67,690	2	33,845	22,995	,000	,019	1,000
Private radio stations	27,108	2	13,554	10,580	,000	,009	,989
Friends and family	4,203	2	2,102	1,796	,166	,001	,377

Table 4: Analysis of variance for the different groups (volunteers 2002, inhabitants 2002 and inhabitants 2003). Univariate tests for satisfaction with the role played by political institutions and other organisations.

Dependent (Satisfaction with role played by...)	Sum of squares	Df	Mean square	F	P	Eta square	Power
EU	107,762	2	53,881	55,092	,000	,043	1,000
National government	135,127	2	67,563	58,711	,000	,046	1,000
Regional government	150,816	2	75,408	61,508	,000	,048	1,000
Local government	8,455	2	4,227	3,111	,045	,003	,600
Fishermen associations	51,855	2	25,927	20,636	,000	,017	1,000
Volunteers	10,274	2	5,137	11,987	,000	,010	,995
Ecologist organisations	9,091	2	4,546	3,658	,026	,003	,676
Ship owners	87,071	2	43,535	30,055	,000	,024	1,000
Local companies	121,434	2	60,717	48,316	,000	,038	1,000
neighbours	366,528	2	183,264	122,988	,000	,092	1,000