

Attitudes towards minority groups in the European Union

**A special analysis of the Eurobarometer 2000 opinion poll
on behalf of the European Monitoring Centre on Racism and Xenophobia**

Technical Report

by

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1 Problems with cultural differences and the representative nature of the sample

In addition to the problems of interpretation and the intrinsic danger of re-establishing 'racialised boundaries' problems arise relating to the correct interpretation stemming from the cultural differences between and within Member States. To a certain degree evidence of representative samples is also missing. Such difficulties may reduce the validity of general statements based on the figures and models published in the report.

Even if the questionnaire was translated precisely into all the Union languages, the fact still remains that the different languages are linked to different schemes of interpreting the concepts of discrimination. For want of a thorough analysis of those contexts, it is somewhat risky to believe in the complete "truth" of the results.

SORA made every effort to examine which questions are comparable among the EU countries. In the basic report, certain survey questions were marked as incomparable for some countries. Here the authors describe the manner in which the analysis was made to find out which questions may be compared among the EU countries.

In total, 16,078 people were interviewed in 15 EU Member States over the period 5 April - 23 May 2000 (with two separate samples drawn in Germany, East and West as well as in Great Britain and Northern Ireland). As the response rates in some countries were very low and INRA was contracted to conduct 1,000 interviews by country, they had to expand the number of people contacted for interviews. In the Netherlands, for example, they had to contact 3,930 people in order to complete 975 interviews, while in France 1,243 were sufficient for 1,002 completed questionnaires (see Table 1). In Denmark 35% responded. In Greece, Ireland, Italy and in Finland the response rate was around 45% and for Sweden and the UK half of the selected respondents participated. In five countries however (Germany, Spain, France, Luxembourg and Austria) the response rates are above 70%. France is the only Member State with a response rate above 80%.

Table 1 gives an overview of the contacts, refusals, interruptions and the resulting response rates in the EU member states. It is obvious that sampling conditions differ greatly between the countries.

Table 1: Number of interviews, response rates (in percent) and weights

country	attempted contacts	invalid addresses	effective contacts	refusals	inter-rupted	com-pleted	refusal rate	overall response rate	lowest weight*	highest weight*
Netherlands	3986	56	3930	2950	5	975	75%	25%	0,27	7,29
Denmark	2974	106	2838	1824	14	1000	64%	35%	0,54	2,75
Finland	5239	2924	2315	1294	11	1010	56%	44%	0,29	2,89
Greece	2450	125	2247	1241	2	1004	55%	45%	0,18	2,31
Ireland	4637	1230	2197	1146	51	1000	52%	46%	0,4	3,64
Italy	2907	621	2122	1011	111	1000	48%	47%	0,27	2,58
Belgium	2807	412	2127	1020	43	1064	48%	50%	0,66	1,5
Sweden	2305	296	1978	977	1	1000	49%	51%	0,17	4,84
UK**	2488	309	2100	934	66	1100	44%	52%	0,29	3,78
Portugal	1598	28	1556	529	27	1000	34%	64%	0,2	4,07
Luxembourg	1032	142	863	251	7	605	29%	70%	0,19	2,48
Germany	3361	0	2909	860	0	2049	30%	70%	0,21	2,94
Austria	1630	11	1359	223	131	1005	16%	74%	0,26	2,99
Spain	3476	2103	1336	293	36	1007	22%	75%	0,32	3,18
France	2036	788	1243	231	10	1002	19%	81%	0,36	2,91

* weights calculated from “w4” (a weighing variable that INRA suggested to be used for country-by-country analyses), standardised to country’s sample size; Luxembourg is the only country where “w4” and “w11” (a weighting variable that INRA suggested to be used for EU-level analyses) do not result in the same weights

** GB (without extra sample for Northern Ireland)

Sample frames. Reported sample frames differ greatly in quality. The share of ‘invalid addresses’ varies from 0% of contacts attempted in Germany to as high as 61% in Spain or 56% in Finland. More basic research within the Eurobarometer should be conducted into bias due to sample frames.

Response rates. The authors also suggest paying more attention to response rates. 62% of all interviews in Spain were successfully completed within the course of the first visit; in the Netherlands it was reported that the percentage of ‘immediate refusals at the first contact’ was 69%. Overall response rates (i.e response rates within up to three visits to an address) varied from 25% in the Netherlands to 81% in France. Efforts should thus focus on standardizing sampling procedures and increasing response rates, as well as on the impact of low response rates and correction procedures.

As we cannot be completely sure that non-respondents’ attitudes are the same as those of respondents, the results for countries with low response rates should be interpreted with caution. Although, according to INRA, the response rate situation was similar in 1997, comparisons over time for a single country may still be incorrect, because we cannot assume that the bias due to non-respondents is constant.

Sample correction. Weighting is used to correct non-representative characteristics of the sample. It is a procedure designed to correct for a small set of variables such as age, gender and region, in those instances where detailed sample-specific information is available. INRA provided a set of weighting variables and

suggested using the variable “w4” for country-by-country analyses and “w11” for EU-level analyses. Weights vary in magnitude from country to country; the lowest sample corrections are reported for Belgium (weights ranging between 0,66 and 1,5); rather large corrections can be observed in the Netherlands (ranging between 0,27 and 7,29) or Sweden, where the lowest weight was applied (0,17). This means that a person’s characteristics are over-represented sixfold within the sample. The structure of weights implies that more research should be conducted into the most important ‘explaining variables’ and the variables we wish to explain.

Missing values. The proportion of missing values varies greatly between countries. As persons with missing values seem to display certain response patterns, the results in countries with high proportions of missing values might have a systematic bias. In this analysis, we have tried to reduce these systematic effects by imputing values. Further research on missing values could help to reduce the problem per se instead of merely containing the consequences within reasonable limits. Improving the scale might also help.

Cultural bias. Several questions had to be dropped owing to non comparability between the countries. More methodological research and experience are needed in order to come up with standards governing the conditions under which bias is considered too strong to permit comparisons to be drawn.

2 Methodological tool box

In addition to linear counts and frequencies, SORA applies more data analysis methods, including several multivariate models.

A brief overview of the statistical methods applied is given here¹:

- Exploratory factor analysis allows the number of items to be reduced to a small number of attitudinal dimensions. The dimensions of attitudes towards minorities were not extracted country by country but at the EU-level.
- Confirmatory factor analysis helps to screen the comparability of dimensions (found through exploratory analysis) between the EU Member States. The method compares the latent structure of attitudes in all countries. This analysis was done using the software package LISREL.
- Descriptive analysis of attitudes towards minorities. The particular items of the subdimensions, which were found through exploratory factor analysis, are compared between countries and over time.
- Regression analysis is used to explain attitudes towards minorities by drawing on the socio-economic background of the respondents, their values, attitudes and beliefs.
- Cluster analysis identifies groups of persons with similar attitudes towards minority groups. These groups' socio-economic characteristics are described.

The results of these analyses and their interpretation are presented without technical details in the basic report.

However, the comparison between Great Britain and Northern Ireland, West and East Germany has not been included in the basic report, but in a special report: The methods used were linear counts and crosstabs. Statistical tests revealed significant differences.

¹ The authors used the software package SPSS for all statistical calculations, except confirmatory factor analysis, for which the software package LISREL was used

3 Dimensions of attitudes towards minorities

Exploratory factor analysis is a statistical technique that allows to reduce the number of questions to a few subdimensions of attitudes. This method identifies coherent attitudinal dimensions out of a large number of questions or items.

On conducting an exploratory factor analysis at the level of the fifteen EU Member States, the authors identified seven dimensions of attitudes towards minorities.

In the exploratory factor analysis, a principal factors analysis with oblique rotation was used, i.e. the factors are assumed to be correlated. This method does not permit a summation of the variances explained by single factors. (The proportion of variances explained indicates the importance of a factor (dimension)).

Moreover, running the exploratory factor analysis for each country separately, the variance explained differs between countries. The factors accounting for most of the variance are 'blaming minorities' and 'multicultural optimism'. One of these two factors is the most important in nearly all countries. The two factors are correlated with 0,57 (Bravais-Pearson correlation coefficient), therefore, it is not reasonable to specify one of them as being the most important.

The seven dimensions identified and the questions pertaining to each dimension (with their exact question numbers) are given here:

3.1 'Blaming minorities'

- In schools where there are too many children from these minority groups, the quality of education suffers. (Q7.1)
- People from these minority groups abuse the system of social welfare. (Q7.3)
- The presence of people from these minority groups is a cause of insecurity. (Q7.10)
- People from these minority groups are given preferential treatment by the authorities. (Q7.11)
- The presence of people from these minority groups increases unemployment in (COUNTRY). (Q7.15)
- They (immigrants) are more often involved in criminality than the average. (Q12.2)

3.2 'Support for policies improving social coexistence'

What ought to be done to improve the relationship between people of different races, religions and cultures?

- Outlaw discrimination against minority groups (Q9.3)
- Encourage the creation of organisations that bring people from different races, religions and cultures together (Q9.5)
- Promote equality of opportunity in all areas of social life (Q9.6)
- Promote understanding of different cultures and lifestyles in (COUNTRY) (Q9.7)
- Give a greater role to organisations which have already gained experience in the fight against racism (Q9.8)

- Encourage the participation of people from these minority groups in the political life of (COUNTRY) **(Q9.9)**
- Encourage trade unions and churches to do more against racism **(Q9.10)**

3.3 'Restrictive acceptance of immigrants'

(with restrictions, without restrictions, no acceptance)

- People from Muslim countries who wish to work in the EU **(Q54, Eurobarometer numbering)**
- People coming from eastern Europe who want to work in the West **(Q55, Eurobarometer numbering)**
- People fleeing from countries where there is a serious internal conflict **(Q56, Eurobarometer numbering)**
- People suffering from human rights violations in their country who are seeking political asylum **(Q57, Eurobarometer numbering)**
- Citizens of other countries of the European Union who wish to settle in (COUNTRY) **(Q58, Eurobarometer numbering)**

3.4 'Disturbance'

- Do you personally find the presence of people of another nationality disturbing in your daily life? **(Q46, Eurobarometer numbering)**
- Do you personally find the presence of people of another race disturbing in your daily life? **(Q47, Eurobarometer numbering)**
- Do you personally find the presence of people of another religion disturbing in your daily life? **(Q48, Eurobarometer numbering)**

3.5 'Multicultural optimism'

- People from these minority groups are enriching the cultural life of (COUNTRY). **(Q7.6)**
- Where schools make the necessary efforts, the education of all children can be enriched by the presence of children from minority groups. **(Q7.9)**
- It is a good thing for any society to be made up of people from different races, religions and cultures. **(Q10.1)**
- (COUNTRY'S) diversity in terms of race, religion and culture adds to its strengths. **(Q10.3)**
- They (immigrants) enrich the cultural life of (COUNTRY). **(Q12.3)**

3.6 'Conditions of repatriation'

- Legally established immigrants from outside the European Union should be sent back to their country of origin if they are unemployed. **(Q11.4)**
- Legally established immigrants from outside the European Union should all be sent back to their country of origin. **(Q11.5)**
- All immigrants whether legal or illegal, from outside the EU and their children, even those who were born in (COUNTRY) should be sent back to their country of origin. **(Q11.10)**

3.7 'Cultural assimilation'

- In order to become fully accepted members of (COUNTRY) society, people belonging to these minority groups must give up their own culture. (Q10.4)
- In order to become fully accepted members of (COUNTRY) society, people belonging to these minority groups must give up such parts of their religion and culture which may be in conflict with (COUNTRY) law. (Q10.5)

4 Missing values – non-response

After identifying the seven subdimensions (factors) of attitudes towards minority groups, we dealt with the problem of missing values, i.e. non-response to a single item.

A number of several problems caused by incomplete data can be addressed using missing value analysis. Cases with missing values that are systematically different from cases without missing values can obscure the results. Furthermore, a large volume of missing data reduces the precision of the statistics calculated because it provides less information. Another concern is that many statistical procedures are based on complete cases, and missing values can complicate the theory required.

4.1 Number of missing values in the EU countries

In a first step, the number of missing answers is calculated for each person in order to obtain some of about the amount of missing values.

Even this simple measure points to differences between the EU countries.

On average, a respondent failed to answer 3 questions (out of the 31 questions that constitute the seven dimensions).

Sweden, Denmark, Finland, France and Belgium are the five countries with the lowest mean number of missing values (less than 2), and only in Sweden, Belgium and Finland, more than 50% of the respondents have no missing values in the relevant items (median) – see Table 2.

Countries with a high number of missing values are Austria, Great Britain, Ireland and Northern Ireland.

In each country except Luxembourg elderly females (65 years and older) show significantly more missing responses than other people. That corresponds to the fact that according to employment status retired persons and housewives show the largest number of missing answers.

Table 2: Mean number of missing values, by country

country	mean
Sweden	1,66
Denmark	1,70
Finland	1,87
France	1,89
Belgium	1,95
Netherlands	2,11
Greece	2,24
Luxembourg	2,26
Italy	2,67
Spain	2,73
Germany West	3,41
Germany East	3,51
Portugal	3,63
Northern Ireland	3,88
Great Britain	3,91
Ireland	3,99
Austria	4,24
total (unweighted EU 15)	2,77

unweighted numbers

4.2 Pattern of missing values

The percentage of missing values varies greatly between items and countries. As an inclination of those items which have highest number of missing values within each dimension, this percentage is listed in the following tables.

Country comparison of items with a high percentage of missing values have to be undertaken with care.

Table 3: Percentage of missing values within the items of the dimension 'blaming minorities'

	B	DK	D	GR	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU
education suffers	9	7	15	12	11	6	18	11	6	11	17	12	8	7	14	12
abusing the social system	9	12	18	18	16	8	22	16	14	17	22	22	13	14	18	16
cause of insecurity	9	7	20	3	11	8	14	16	13	11	17	14	8	10	20	15
preferential treatment	12	11	20	11	15	13	18	18	18	14	21	18	13	9	17	16
increase of unemployment	10	12	15	3	14	9	18	14	13	13	20	16	9	11	19	14
involvement in criminality	8	9	14	3	12	6	26	7	12	13	14	13	13	11	22	12

The highest number of missing values is associated with the items ‘abusing the social system’ and ‘preferential treatment by the authorities’ (Table 3). Countries with high rates of missing values in this dimension are Austria, Portugal, Germany and the United Kingdom.

Table 4: Percentage of missing values within the items of the dimension ‘restrictive acceptance of immigrants’

	B	DK	D	GR	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU
people from Muslim countries	4	4	6	3	8	4	14	6	4	5	17	13	3	6	11	7
people from Eastern Europe	4	4	5	4	7	5	12	6	3	6	17	12	3	6	11	7
fleeing (internal conflict)	4	3	5	4	7	3	10	5	3	4	15	11	4	5	11	6
seeking political asylum	5	4	5	4	8	4	12	7	4	3	16	12	5	6	11	7
other EU citizens	4	3	6	3	8	4	10	5	3	4	18	10	3	5	12	7

None of the items in Table 4 has a high percentage of missing values at the EU level. Countries with the highest percentage of missing values in this dimension are Austria, Portugal, Ireland and the United Kingdom.

Table 5: Percentage of missing values within the items of the dimension ‘disturbance’

	B	DK	D	GR	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU
nationality	2	1	6	2	2	4	6	3	1	2	13	1	2	1	5	4
race	3	1	8	2	1	6	5	4	2	2	7	1	2	1	5	5
religion	3	2	8	2	3	5	4	4	3	2	6	1	2	2	5	4

None of the items in the dimension “disturbance” (Table 5) shows a high percentage of missing values at the EU level. The question if someone feels disturbed by the presence of people from another nationality has an exceptionally high percentage of missing values in Austria.

Table 6: Percentage of missing values within the items of the dimension ‘multicultural optimism’

	B	DK	D	GR	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU
enrichment of cultural life	11	12	16	11	17	10	27	15	11	9	21	20	7	8	19	15
enrichment of education	13	12	21	18	18	9	23	16	12	13	22	19	13	11	20	17
difference is good for society	9	8	16	12	12	8	14	12	8	6	20	17	9	6	13	12
diversity adds to its strengths	13	15	17	10	23	13	25	20	17	14	21	21	13	13	19	17
enrichment of cultural life	9	12	15	9	16	10	23	18	11	11	15	20	9	7	18	15

Highest rates of missing values are associated with the items ‘enrichment of education’, and ‘diversity adds to a society’s strength’ (Table 6). Countries with high percentage of missing values in this dimension are Austria, Portugal, Ireland and the United Kingdom.

Table 7: Percentage of missing values within the items of the dimension ‘conditional repatriation’

	B	DK	D	GR	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU
send back if unemployed (legal)	9	8	18	11	12	12	21	11	12	9	18	16	9	9	21	14
send back all (legal)	8	6	19	13	10	8	20	9	9	8	17	17	6	8	20	13
send back all (legal and illegal)	10	7	21	15	11	12	22	13	12	10	20	18	11	9	21	16

All items have similar percentages of missing values at the EU level. Once again the United Kingdom, Ireland, Austria and Portugal have the highest percentages.

Table 8: Percentage of missing values within the items of the dimension ‘cultural assimilation’

	B	DK	D	GR	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU
give up all their culture	10	6	18	12	10	10	20	9	9	9	17	20	7	5	18	13
give up parts of culture (conflict with law)	7	3	16	9	12	7	22	10	8	7	19	19	7	4	17	12

High percentages of missing values are to be found in Austria, Portugal, Ireland, the United Kingdom and Germany.

4.3 Trends in answers

The question arises whether the answers given by people with a high number of missing answers differed from those of people with a low number of missing values.

Table 9: Agreement to policies – people with different numbers of missing values

policies improving social coexistence	no missings	1 missing	2 missings	3 to 5 missings	6 to 10 missings	more than 10
outlaw discrimination	37	38	31	29	23	14
encourage creation of organisations	35	34	31	28	20	11
promote equality of opportunity	43	44	37	33	28	18
promote understanding	44	44	41	37	29	16
greater role to organisations with experience in fighting racism	27	25	26	21	15	9
encourage participation in political life	29	26	26	18	12	8
encourage trade unions and churches to do more against racism	27	26	24	20	15	10

‘What do you think ought to be done to improve the relationship between people of different races, religions and cultures in (COUNTRY)?’

Percentage of people agreeing with the statement ...

EU-level

As shown in Table 9, agreement with anti-racism policies decreases with an increasing number of missing values, although almost no difference is to be observed between people with no missing values and those

with one missing value. E. g. 37% of people who have no missing values (answered all questions) and 38% of people with one missing value agree that discrimination against minority groups ought to be prosecuted as to improve the relationship between people of different races, religions and cultures. On the contrary only 14% of people with more than 10 missing values (one third of questions not answered) agree with the same statement.

A relationship also exists between the number of missing values and acceptance of different groups of immigrants (people from Muslim countries who seek work, people from Eastern European countries who seek work, refugees, people seeking asylum, other EU citizens) with or without restriction. A higher number of missing values corresponds to a higher percentage of people who prefer that immigrants not being accepted at all. But the other way round, it corresponds to a lower number of people who prefer acceptance without restriction.

Similar relationships can be observed for other items.

Three differences are to be observed:

- non-responses differ between the countries
- non-responses differ according to age and sex in all countries
- attitudes (if answers are valid) differ between people with low and high numbers of missing values

These differences imply that you cannot simply delete cases with missing values from further analyses, but you have to impute hypothetical valid values for those missing.

4.4 Imputation

In order to avoid the problems due to missing values, the missing values are replaced by valid ones. This procedure is called imputation. Of the many possibilities of imputing missing values, the 'expectation maximisation method' (EM-method)² was chosen. This procedure takes into account patterns of missing data. As the missing values in the Eurobarometer are not randomly distributed in the answers (as shown before, one can find answering trends), the EM-method is the appropriate tool.

The EM-method was applied country by country, in order to obtain more precise estimates, i.e. country-specific patterns of missing values were taken into account.

All further calculations and analyses will be done with the imputed values, except descriptive statistics where percentages of missing values are shown.

Using imputed values avoids disadvantages in calculations due to missing values. As imputations take into account answering patterns, we can trust in the results not to be biased.

4.5 Comparing imputed and not imputed data

For some selected items with a high percentage of missing values, the authors compare original and imputed data. Imputation has different effects in various countries.

² The Expectation Maximisation is a procedure to impute missing values that allow stochastic error terms to be added to imputations, the size of which depend on the quality of the imputation. It involves a series of iterations where each iteration has more complete data and the iterations continue until subsequent iterations produce virtually the same solution.

We compare the ratios of agreement to disagreement before and after the imputation. If the ratio changes, we have a shift to more agreement (or more disagreement) due to imputation.

Table 10: The effect of imputation on the item “The presence of people from these minority groups is a cause of insecurity”.

	original data			imputed data	
	tend to agree	tend to disagree	non-response (don't know)	tend to agree	tend to disagree
Greece	77	19	3	80	20
Denmark	60	33	7	65	35
Belgium	56	35	9	62	38
France	51	41	8	55	45
Germany	46	34	19	58	42
Portugal*	45	41	14	51	49
Netherlands	45	44	11	51	49
Austria	44	39	17	54	46
Ireland	42	43	14	48	52
Luxembourg	40	47	13	44	56
Italy	38	46	16	46	54
Spain	34	56	11	37	63
United Kingdom	32	48	20	38	62
Finland	32	61	8	34	66
Sweden	24	66	10	26	74
EU	44	43	15	50	50

* Results are not comparable with the results from the other countries.

For the item “The presence of people from these minority groups is a cause of insecurity”, the imputation preserves the proportion of agreement to disagreement in most cases.

Table 10 shows that the missing values (“don't know”) are almost equally allocated to “agree” or “disagree” at the EU-level. The proportion of 44% to 43% turns into 50% to 50% after imputation.

In Greece, Portugal, Luxembourg, Ireland and the UK one can observe a slight shift towards more disagreement, i.e. more positive attitudes. In Austria, imputation favours more agreement, i.e. more negative attitudes.

Table 11: The effect of imputation on the item “It is a good thing for any society to be made up of people from different races, religions and cultures”

	original data			imputed data	
	tend to agree	tend to disagree	non-response (don't know)	tend to agree	tend to disagree
Sweden	77	17	6	82	18
Spain	75	13	12	86	14
Netherlands	74	20	6	78	22
France	71	21	8	76	24
Luxembourg	70	23	8	75	25
United Kingdom	67	20	13	77	23
Denmark	66	26	8	71	29
Finland	65	26	9	72	28
Italy	65	23	12	74	26
Portugal	64	20	17	76	24
Ireland	61	26	14	71	29
Belgium	56	35	9	61	39
Germany	53	31	16	61	39
Austria	52	29	20	63	37
Greece	36	52	12	38	62
EU	64	24	12	70	30

Table 11 shows the results of imputation for the item “It is a good thing for any society to be made up of people from different races, religions and cultures”. At the EU level, 12% of the respondents refuse to agree or disagree. Before the imputation 64% agree, and 24% disagree (ratio of 2.7). After imputation, 70% agree and 30% disagree (ratio of 2.3).

In this case, imputation leads to more negative attitudes at the EU level.

In France, the Netherlands and Germany there is an obvious shift towards more negative attitudes due to imputation. In Spain the imputed data show more positive attitudes.

Table 12: The effect of imputation on the item “(COUNTRY’S) diversity in terms of race, religion and culture adds to its strengths”

	original data			imputed data	
	tend to agree	tend to disagree	non-response (don't know)	tend to agree	tend to disagree
Denmark	58	28	15	67	33
France	54	33	13	61	39
Netherlands	53	33	14	64	36
United Kingdom	51	30	19	64	36
Finland	50	37	13	59	41
Portugal	50	29	21	67	33
Luxembourg	48	35	17	58	42
Spain	48	30	23	65	35
Austria	47	33	21	57	43
Sweden	46	41	13	54	46
Ireland	43	33	25	60	40
Italy	41	39	20	53	47
Germany	39	45	16	48	52
Belgium	37	50	13	44	56
Greece	22	69	10	23	77
EU	45	37	17	56	44

For the item “(Country’s) diversity adds to its strenghts”, imputation has the effect of yielding more positive attitudes at the EU-level. After imputation the ratio of agreement to disagreement is larger than in the original data. The strongest shifts towards greater agreement can be observed in Portugal, Spain, Ireland and the Netherlands.

For Austria, France and Denmark imputation leads to more disagreement with the item.

5 Comparability between countries

Even if the questionnaire was translated precisely into all the Union languages, the fact still remains that the different languages are linked to different schemes of interpreting the concepts of discrimination. SORA made every effort to examine which questions are comparable among the EU countries. In the basic report, certain survey questions were marked as incomparable for some countries. Here the authors describe the manner in which the analysis was made to find out which questions may be compared among the EU countries.

Comparability between countries was conducted by confirmatory factor analysis within a LISREL-model. The method compares the latent structure of attitudes in all countries. This method is sensitive to missing values. In addition, the model is built up using ordinal variables (possible answers are only 'tend to agree' or 'tend to disagree'). For mathematical reasons, if the variables are ordinal, only respondents with no missing values can be included in the LISREL-model. As explained in chapter 4, answering trends are to be observed in respondents with missing values. Excluding persons with missing values means systematic exclusion as distinct from random. In order to avoid that and retain all respondents in the model, missing values were replaced by imputed values.

The comparison for the seven dimensions was not calculated as one; the seven dimensions were split in three submodels (see Graph 1, Graph 2 and Graph 3):

- Policies improving social co-existence and multicultural optimism – the two positively formulated dimensions
- Repatriation and restrictive acceptance of immigrants – the two dimensions that deal with immigrants and the question who is to be accepted and who is to be sent back
- Blaming minorities, disturbance and assimilation – three negatively formulated dimensions

In a first step, each submodel was calculated at the EU level using confirmatory factor analysis³. The result is a path diagram that describes the pattern and strengths of relationships between items and dimensions.

In a second step, the equality of the pattern (factor structure) was tested. Each country was compared with the EU model.

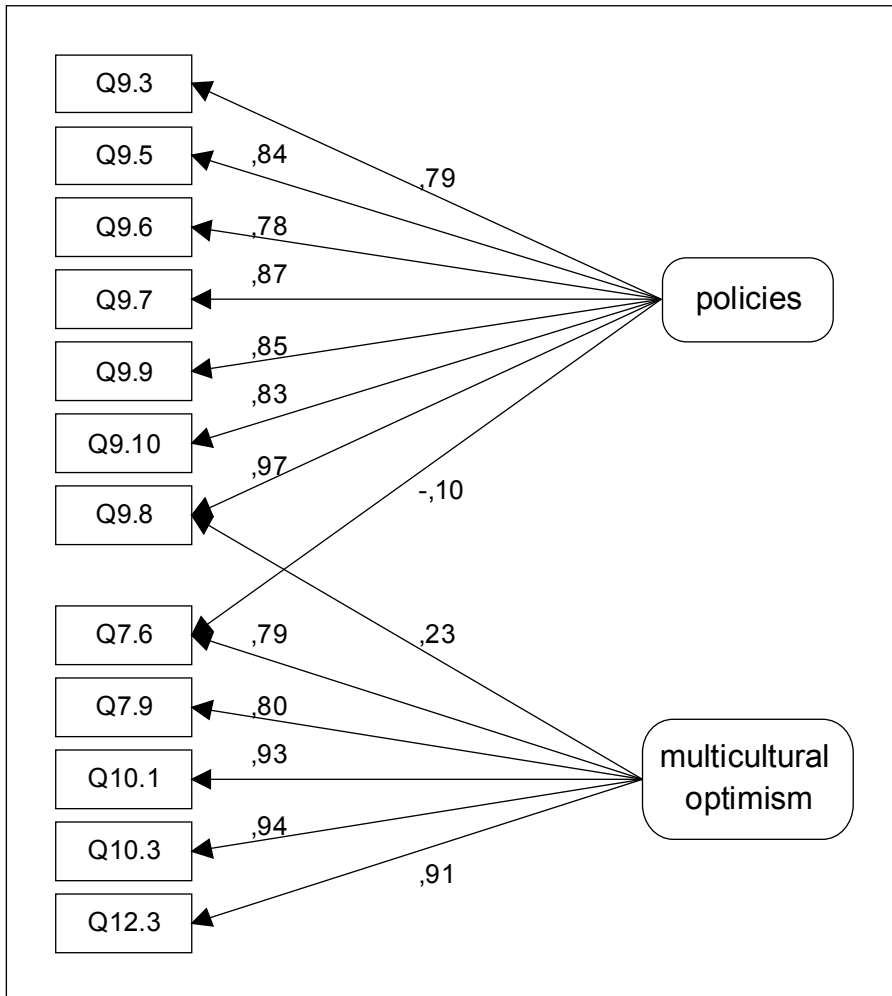
The last step was to compare not only the pattern but also the strengths of relationships (factor loadings). If the difference of the loadings in the EU model and the loadings in a country's model exceeded a certain threshold, the corresponding item was deemed not comparable.

The following graphs show the three basic submodels at the EU level with standardised coefficients.

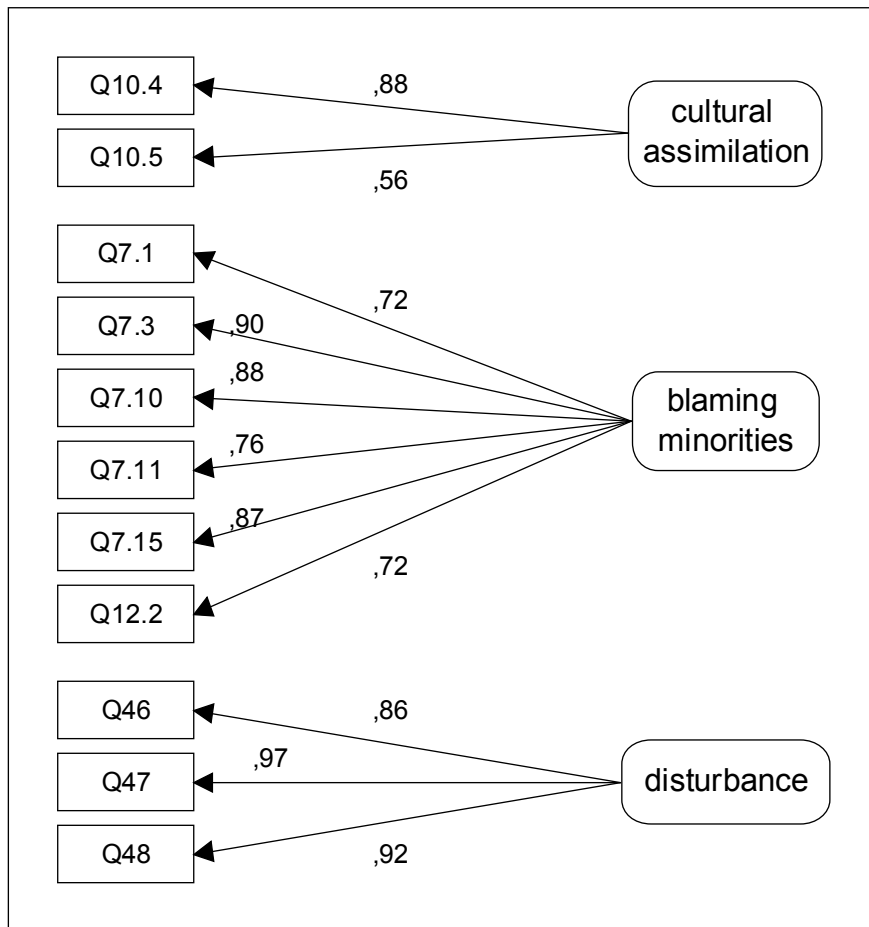
³ In the confirmatory factor analysis, a polychoric correlation matrix and an asymptotic covariance matrix were computed in respect of each country and model for further calculations. The WLS-method was used for the confirmatory factor analysis.

Graph 1: Model 'policies improving social coexistence' and 'multicultural optimism', EU-level

Standardised solution

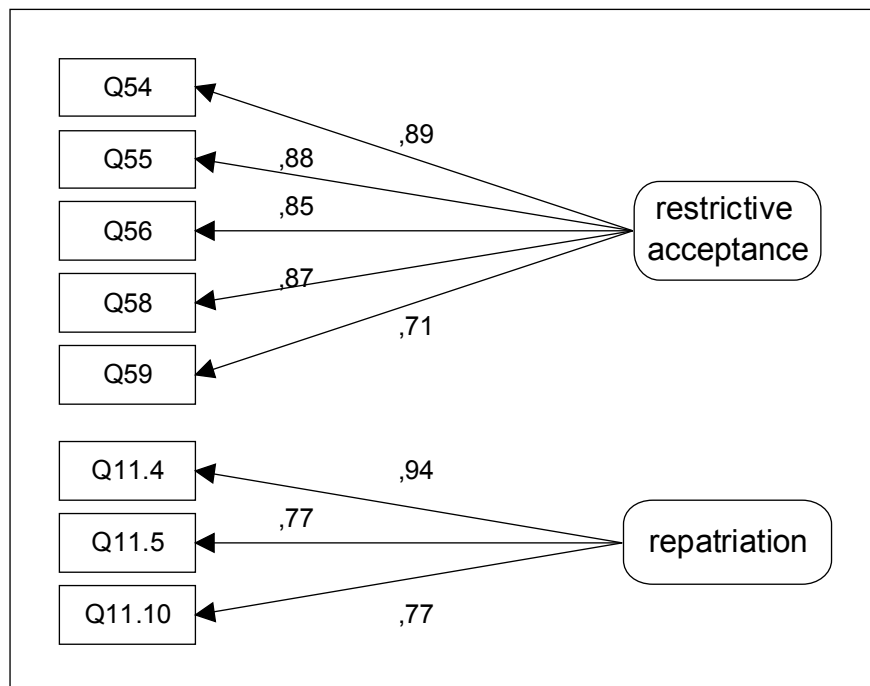


Graph 2: Model ,cultural assimilation', ,blaming miorities' and ,disturbance', EU-level



Standardised solution

Graph 3: Model ,restRICTIVE acceptance' and ,conditional repatriation', EU-level



Standardised solution

'Multicultural optimism' and 'disturbance' are the two dimensions where all items and all countries can be compared.

Table 13: not comparable items within the dimension 'policies improving social coexistence'

	A1	A2	A3	A4	A5	A6	A7
Belgium							
Denmark							
West Germany							
Greece	X						
Italy				X			
Spain					X		
France							
Ireland				X			
Luxembourg							
Netherlands	X						
Portugal							
UK							
East Germany							
Finland	X			X	X		
Sweden				X			
Austria							

A1... Outlaw discrimination against minority groups

A2... Encourage the creation of organisations that bring people from different races, religions or cultures together

A3... Promote equality of opportunity in all areas of social life

A4... Promote understanding of different cultures and lifestyles in (OUR COUNTRY)

A5... Give a greater role to organisations which have already gained experience in the fight against racism

A6... Encourage participation of people from these minority groups in the political life of (OUR COUNTRY)

A7... Encourage trade unions and churches to do more against racism

In four countries (Finland, Sweden, Italy and Ireland) the item 'promote understanding of different cultures and lifestyles in (OUR COUNTRY)' is not comparable to the other EU-countries.

In three countries (Finland, Netherlands and Greece), the item 'outlaw discrimination against minority groups' is not comparable to the other EU-countries.

In Finland and Spain, the item 'give a greater role to organisations which have already gained experience in the fight against racism' is not comparable to the other EU-countries.

Four of the items are comparable over all countries. Only these four were used to compute the sum index of the dimension.

Table 14: Comparability of items within the dimensions ‘conditional repatriation’ (R) and ‘restrictive acceptance of immigrants’ (I)

	R1	R2	R3	I1	I2	I3	I4	I5
Belgium								
Denmark								
West Germany								
Greece	X							
Italy								
Spain	X	X	X					
France								
Ireland								
Luxembourg								
Netherlands					X		X	
Portugal								
UK								
East Germany								
Finland								
Sweden								
Austria								

R1...Legally established immigrants from outside the European Union should be sent back to their country of origin if they are unemployed.

R2...Legally established immigrants from outside the European Union should be sent back to their country of origin.

R3...All immigrants, whether legal or illegal, from outside the European Union and their children, even those who were born in (OUR COUNTRY), should be sent back to their country of origin.

I1...People from Muslim countries who wish to work in the EU

I2...People coming from eastern Europe who want to work in the West

I3...People fleeing from countries where there is a serious internal conflict

I4...People suffering from human rights violations in their country who are seeking political asylum

I5...Citizens of other countries of the European Union who wish to settle in (COUNTRY)

Spain has to be excluded from all comparisons referring to the dimension ‘repatriation’. None of the items of this dimension is comparable to the other EU countries. The model results indicate that in Spain another dimension underlies the three items that express a wish for repatriation of all immigrants in a country (R1, R2 and R3).

In Greece, the item ‘Legally established immigrants from outside the European Union should be sent back to their country of origin if they are unemployed’ cannot be compared to other EU countries.

Restrictive attitudes toward immigrants distinguished by their country of origin and their reason for immigration can be compared for all EU-countries but the Netherlands. In the Netherlands, two of the five items are not comparable.

Table 15: Comparability of items within the dimensions ‘blaming minorities’ and ‘cultural assimilation’

	B1	B2	B3	B4	B5	B6	A1	A2
Belgium								
Denmark								
West Germany		X	X		X			
Greece				X				
Italy								
Spain					X			
France								
Ireland					X			
Luxembourg	X							
Netherlands								
Portugal			X		X			X
UK		X						
East Germany	X			X			X	
Finland	X						X	X
Sweden					X	X		
Austria				X				

B1...In schools where there are too many children from these minority groups, the quality of education suffers.

B2...People from these minority groups abuse the system of social welfare.

B3...The presence of people from these minority groups is a cause of insecurity.

B4...People from these minority groups are given preferential treatment by the authorities.

B5...The presence of people from these minority groups increases unemployment in (...).

B6...They are more often involved in criminality than the average.

A1... In order to become fully accepted members of (COUNTRY) society, people belonging to these minority groups must give up their own culture.

A2...In order to become fully accepted members of (COUNTRY) society, people belonging to these minority groups must give up such parts of their religion and culture which may be in conflict with (COUNTRY) law.

The two items of the dimension ‘cultural assimilation’ are comparable in all countries but Finland (both items are not comparable) and East Germany and Portugal (one item each).

Less comparability is given for the items of the dimension ‘blaming minorities’. It is worst for the item ‘The presence of people from these minority groups increases unemployment in (COUNTRY)’ where five countries have to be excluded from comparisons. Furthermore, each of the items ‘In schools where there are too many children from these minority groups, the quality of education suffers’ and ‘People from these minority groups are given preferential treatment by the authorities’ lack comparability in three countries. Moreover, the remaining three items of this dimension cannot be compared for one or two countries.

The item ‘The presence of people from these minority groups increases unemployment in (COUNTRY)’ has been omitted when computing sum indices owing to its bad comparability. On the whole, EU-level computations for the remaining items as well as the sum index of this dimension have to be interpreted with caution, as comparability is not given between all countries.

6 Sum indices

The sum indices reduce the information on every single item to one score only for each dimension. The sum index for a certain dimension is a measure of where a respondent stands and how positive or negative his or her attitudes are regarding this dimension.

In more technical terms, the sum index is an equally weighted sum of the answers of all items within the dimension, standardised to values between 0 and 1 by simple linear transformation. A higher index score indicates more negative attitudes towards minority groups. Furthermore, the sum index uses imputed values and can therefore be calculated for all respondents, even those who have missing answers.

For 'blaming minorities', the item 'The presence of people from these minority groups increases unemployment in (COUNTRY)' was excluded from the sum index owing to very bad comparability. The index is computed from the remaining items:

- In schools where there are too many children from these minority groups, the quality of education suffers.
- People from these minority groups abuse the system of social welfare.
- The presence of people from these minority groups is a cause of insecurity.
- People from these minority groups are given preferential treatment by the authorities.
- They (immigrants) are more often involved in criminality than the average.

As not all of the items are comparable for all countries, the index must be interpreted with caution.

Four items of the 'policies improving social coexistence' are comparable between all countries. They were chosen to compute an index that is comparable as well:

- ...encourage the creation of organisations that bring people from different races, religions or cultures together.
- ...promote equality of opportunity in all areas of social life.
- ...encourage participation of people from these minority groups in the political life of (OUR COUNTRY).
- ...encourage trade unions and churches to do more against racism.

The remaining three items were excluded from the index.

- ...outlaw discrimination against minority groups.
- ...give a greater role to organisations which have already gained experience in the fight against racism.
- ...promote understanding of different cultures and lifestyles in (OUR COUNTRY).

Tables describing the distribution of the sum indices (mean and standard deviation) are to be found in the basic report.

7 Regression analysis – explaining attitudes towards minority groups

The effects of a respondent's socio-economic background on his or her attitudes toward minority groups were analyzed with the help of a multivariate linear regression model. Multivariate regression models explain variations of the dependent variables by a linear combination of independent variables. In this case, the models were calculated to explain the sum indices for each dimension, country by country.

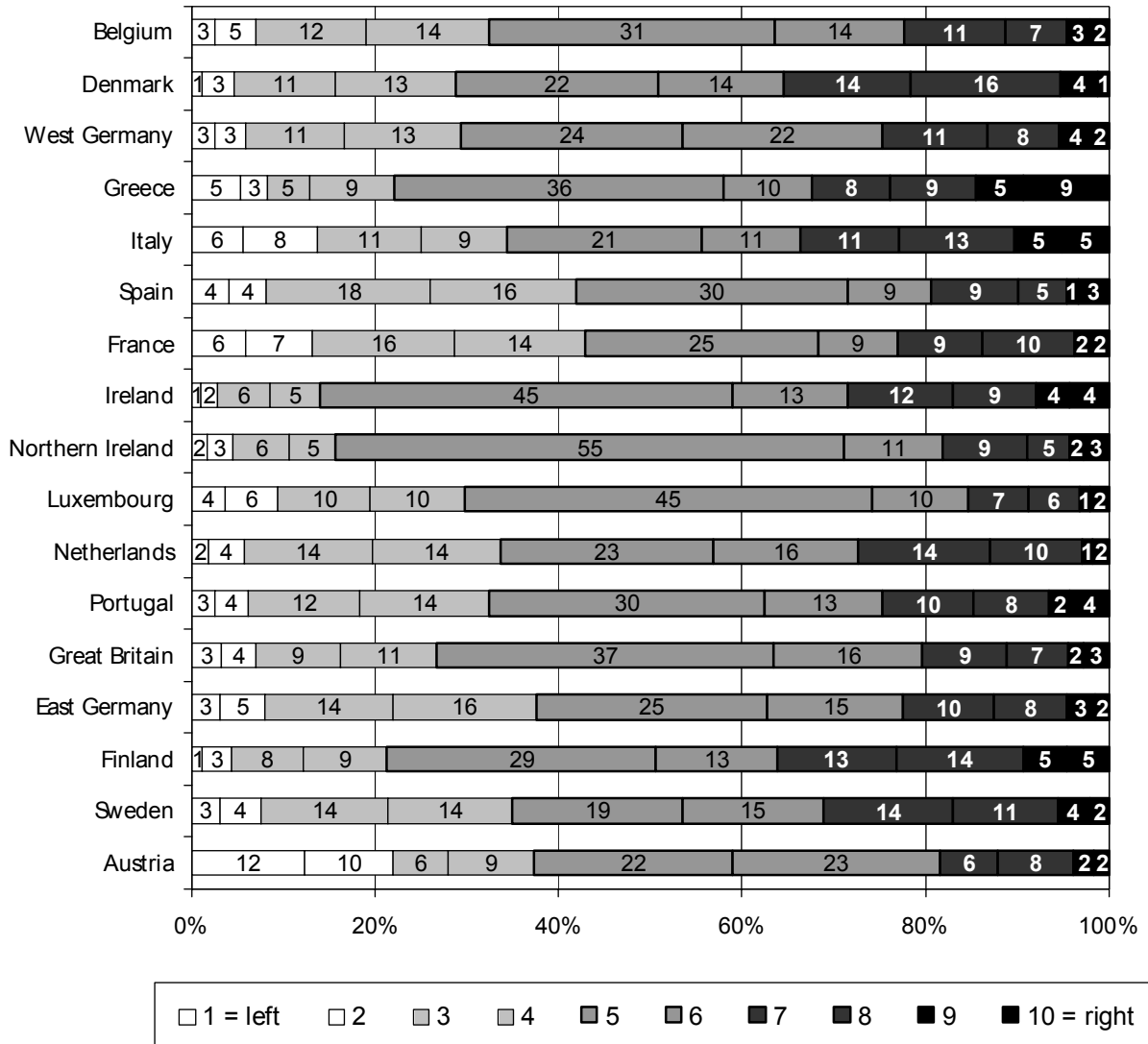
These independent variables (variables that are assumed to interact with attitudes towards minority groups) were entered into the models⁴:

- sex (dummy variable, males=1)
- age (in four groups)
- education (age at which fulltime education ceased, in four groups)
- employment status:
 - employed (dummy)
 - self-employed (dummy)
 - not employed (comparison group)
- satisfaction with present personal situation (ordinal scale, very satisfied to not at all satisfied)
- retrospective and prospective assessment of development of personal situation
 - past to present (improved, stayed the same, got worse)
 - present to future (improved, stayed the same, got worse)
- past or present experience with unemployment
 - oneself
 - family member
 - friend
 - company had to release workers
- income (EU harmonised income scale provided by INRA)
- relationships to other
 - races,
 - religions,
 - cultures,
 - nationalities
- belonging to a minority group (dummy)
- self placement on a left-right scale of political views
- voting behaviour (political parties of a country can be linked to political groups in the European parliament, linking key provided by INRA)

⁴ One should keep in mind that statistical relationships do not per se reveal any causal relationship. Significant statistical relationships just represent a kind of coincidence. They are necessary but not sufficient for the existence of a causal relationship.

In a first step we give a descriptive overview of the political background of the respondents in the Member States.

Figure 4: Self placement on a left-right scale, by countries



An extraordinary high percentage of people placing themselves in the centre of the left-right scale (5 and 6), can be found in Northern Ireland, Ireland and Luxembourg.

In Spain, France, East Germany and Austria many people (35 to 43%) declare themselves as being left (1 to 4 on the left-right scale).

In Finland, Denmark, Greece and Italy, there is a high proportion of people (31 to 37%) placing themselves right of the centre (7 to 10)

Table 16: European political party preference

	PSE	PPE	ELDR	GUE/NGL	FE	RDE	Verts	ARE	IEDN	NI	not represented
Belgium	24	17	23				15	6		13	2
Denmark	23	14	5	13							44
West Germany	44	38	3	2			9			3	1
Greece	46	38		11				1			4
Italy	26	9	2	7	26		4	2		19	4
Spain	31	44	4	10				2			9
France	38	10		5		18	12	1	1	5	11
Ireland	9	22	6	3		53	3				4
Northern Ireland	20	40					0			10	3
Luxembourg	29	29	20				13				10
Netherlands	28	18	31	5			12		5	1	1
Portugal	48		32			6	10				4
UK	51	24	16				3	4	1		1
East Germany	32	33	4	22			3			2	3
Finland	27	23	30	5			11			0	4
Sweden	37	35	10	12			6				0
Austria	43	29	2				9			18	

Table 16 shows the voting behaviour (more exactly the European party preference) of the respondents in the Member States.

These proportions are to be kept in mind when interpreting the regression coefficients in the tables below.

Table 17: R Square for all dimensions and countries

	r square						
	blaming minorities	policies	restrictive accept.	disturbance	multicult	repatriation	assimilation
Belgium	0,14	0,15	0,16	0,14	0,19	0,15	0,10
Denmark	0,16	0,16	0,08	0,10	0,20	0,06	0,09
West Germany	0,17	0,15	0,23	0,14	0,14	0,14	0,03
Greece	0,07	0,09	0,07	0,06	0,10	0,07	0,07
Italy	0,10	0,06	0,14	0,11	0,09	0,10	0,04
Spain	0,13	0,07	0,08	0,06	0,10	0,09	0,04
France	0,21	0,13	0,15	0,14	0,21	0,17	0,10
Ireland	0,07	0,08	0,11	0,06	0,07	0,04	0,03
Northern Ireland	0,14	0,16	0,16	0,08	0,17	0,11	0,11
Luxembourg	0,12	0,11	0,13	0,07	0,06	0,12	0,09
Netherlands	0,13	0,08	0,12	0,09	0,11	0,12	0,07
Portugal	0,07	0,09	0,10	0,05	0,07	0,08	0,08
Great Britain	0,15	0,10	0,11	0,06	0,15	0,15	0,07
East Germany	0,14	0,12	0,13	0,13	0,13	0,10	0,06
Finland	0,14	0,10	0,10	0,06	0,10	0,10	0,04
Sweden	0,15	0,06	0,10	0,08	0,11	0,10	0,06
Austria	0,15	0,11	0,08	0,10	0,14	0,14	0,06

Multivariate linear regressions for all dimensions and all countries

The table provides an overview of the R squares (measurement of goodness of fit which can be interpreted as the percentage of variance in the dependent variable explained by the applied model). In general, the models explain only low percentages of the total variance. Owing to the high number of cases, analysis of variance provided statistical proof of the significance of all models.

In general, interactions between the independent variables and the sum indices to be explained are similar for all the models. Therefore, a threshold of 15% of explained total variance was chosen for models to be analysed in further detail.

Explanations and interpretations are given in the main report. Here, in the technical report, only the tables of coefficients are published for all dimensions and countries where R square is greater than 0.15.

Table 18: Multivariate linear regression, dependent variable 'blaming minorities', selected countries

	unstandardised coefficients					
	Denmark	W Germ.	France	GB	Sweden	Austria
constant	0,62	0,52	0,64	0,42	0,55	0,42
sex	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
age	0,02	0,02	n.s.	n.s.	n.s.	0,02
education	-0,06	-0,05	-0,09	-0,10	-0,07	-0,04
self-employed	n.s.	n.s.	n.s.	n.s.	n.s.	-0,06*
employed	n.s.	-0,04*	n.s.	n.s.	-0,06	n.s.
satisfaction with pers. situation	n.s.	n.s.	n.s.	0,04	n.s.	0,05
past-present situation	n.s.	0,04	0,04	n.s.	n.s.	n.s.
present-future situation	n.s.	n.s.	n.s.	0,08	0,05	0,03*
rel. – nationality	-0,05*	-0,11	n.s.	n.s.	n.s.	-0,15
rel. – race	0,23	n.s.	n.s.	n.s.	n.s.	n.s.
rel. – religion	-0,12	n.s.	n.s.	-0,08	n.s.	n.s.
rel. – culture	n.s.	n.s.	-0,14	n.s.	n.s.	-0,10*
left-right	0,03	0,01*	0,01	n.s.	n.s.	n.s.
income	n.s.	n.s.	n.s.	0,02	n.s.	n.s.
belonging to a minority	n.s.	n.s.	0,07	0,06*	n.s.	n.s.
experienced unemployment	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
family member was unemployed	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
friend was unempl.	n.s.	-0,05	n.s.	n.s.	0,03*	-0,05
company	n.s.	n.s.	n.s.	n.s.	n.s.	0,08
party: PSE	-0,05	-0,06	-0,06	n.s.	-0,04*	n.s.
party: PPE	n.s.	-0,05	n.s.	0,07	n.s.	n.s.
party: ELDR	-0,13	-0,13*	#	n.s.	n.s.	n.s.
party: GUE/NGL	-0,08	n.s.	n.s.	#	-0,12	#
party: FE	#	#	#	#	#	#
party: RDE	#	#	0,10	#	#	#
party: Greens	#	-0,13	n.s.	n.s.	-0,12	n.s.
party: ARE	#	#	n.s.	n.s.	#	#
party: IEDN	#	#	n.s.	n.s.	#	#
party: NI	#	0,20	0,20	#	#	0,11

for all countries, where $r^2 \geq 0,15$, coefficients are significant at the 0.05 level

* significant at the 0,10 level

n.s. ... in the model, but not significant (p-value > 0.10)

... not in the model

Table 19: Multivariate linear regression, dependent variable 'policies improving social coexistence', selected countries

	unstandardised coefficients			
	Belgium	Denmark	W Germany	North. Ireland
constant	0,76	0,65	0,46	0,39
sex	n.s.	n.s	n.s	n.s
age	-0,02	n.s	n.s	n.s
education	-0,05	-0,05	-0,04	n.s
self-employed	n.s	n.s	n.s	n.s
employed	n.s	n.s	n.s	n.s
satisfaction with pers. situation	0,03	n.s	0,05	n.s
past-present situation	n.s	n.s	n.s	n.s
present-future situation	0,07	n.s	n.s	n.s
rel. – nationality	n.s	-0,07	n.s	n.s
rel. – race	n.s	n.s	n.s	n.s
rel. – religion	n.s	-0,18	n.s	0,11*
rel. – culture	n.s	n.s	n.s	n.s
left-right	0,01	0,03	0,02	n.s
income	n.s	n.s	n.s	0,04
belonging to a minority	n.s	n.s	n.s	-0,23
experienced unemployment	n.s	n.s	n.s	n.s
family member was unemployed	n.s	n.s	0,07	n.s
friend was unemployed	n.s	-0,04*	n.s	n.s
company	n.s	n.s	n.s	0,09*
party: PSE	n.s	n.s	n.s	-0,19
party: PPE	-0,13	-0,07	n.s	n.s
party: ELDR	n.s	-0,19	n.s	#
party: GUE/NGL	#	-0,12	n.s	#
party: FE	#	#	#	#
party: RDE	#	#	#	#
party: Greens	-0,21	#	n.s	n.s
party: ARE	-0,15	#	#	#
party: IEDN	#	#	#	#
party: NI	0,10	#	0,262	n.s

for all countries, where $r^2 \geq 0,15$, coefficients are significant at the 0.05 level

* significant at the 0,10 level

n.s. ... in the model, but not significant (p-value > 0.10)

... not in the model

Table 20: Multivariate linear regression, dependent variable ‚restrictive acceptance’, unstandardised coefficients, selected countries

	unstandardised coefficients			
	Belgium	W-Germany	France	North. Ireland
constant	,46	,31	,49	,32
sex	n.s.	n.s.	n.s.	n.s.
age	n.s.	,01	n.s.	n.s.
education	-,04	-,04	-,05	-,05
self-employed	n.s.	n.s.	n.s.	n.s.
employed	n.s.	n.s.	n.s.	n.s.
satisfaction with pers. situation	n.s.	,05	n.s.	,06
past-present situation	n.s.	n.s.	n.s.	n.s.
present-future situation	,05	n.s.	n.s.	,06
rel. – nationality	n.s.	-,09	n.s.	n.s.
rel. – race	n.s.	n.s.	n.s.	n.s.
rel. – religion	-,07*	-,04	n.s.	n.s.
rel. – culture	n.s.	n.s.	n.s.	n.s.
left-right	,01	,01	,01	,01
income	n.s.	n.s.	n.s.	n.s.
belonging to a minority	n.s.	n.s.	n.s.	-,09*
experienced unemployment	n.s.	n.s.	n.s.	n.s.
family member was unemployed	n.s.	n.s.	n.s.	n.s.
friend was unemployed	n.s.	n.s.	-,04	n.s.
company	n.s.	n.s.	n.s.	n.s.
party: PSE	,07	n.s.	n.s.	n.s.
party: PPE	n.s.	n.s.	n.s.	n.s.
party: ELDR	n.s.	n.s.	#	#
party: GUE/NGL	#	n.s.	n.s.	#
party: FE	#	#	#	#
party: RDE	#	#	n.s.	#
party: Greens	-,06	n.s.	-,06*	n.s.
party: ARE	n.s.	#	,30	#
party: IEDN	#	#	,18*□	#
party: NI	,18□	,34*	,18	,15□

for all countries, where $r^2 \geq 0,15$, coefficients are significant at the 0.05 level

* significant at the 0,10 level

n.s. ... in the model, but not significant (p-value > 0.10)

... not in the model

Table 21: Multivariate linear regression, dependent variable ‘multicultural optimism’, selected countries

	unstandardised coefficients				
	Belgium	Denmark	France	GB	Northern Ireland
constant	,44	,51	,22	,20	,44
sex	n.s.	n.s.	n.s.	,05	,07*
age	n.s.	,02*	n.s.	n.s.	n.s.
education	-,07	-,12	-,06	-,11	-,09
self-employed	n.s.	-,15	n.s.	n.s.	n.s.
employed	n.s.	-,13	n.s.	-,07	n.s.
satisfaction with pers. situation	,03*	n.s.	n.s.	,05	n.s.
past-present situation	n.s.	n.s.	n.s.	n.s.	n.s.
present-future situation	,05	n.s.	n.s.	,06	n.s.
rel. – nationality	-,09	-,08	n.s.	n.s.	n.s.
rel. – race	n.s.	,21	n.s.	n.s.	n.s.
rel. – religion	-,09*	n.s.	-,17	-,12	n.s.
rel. – culture	n.s.	n.s.	n.s.	n.s.	n.s.
left-right	,01	,02	,02	,01	n.s.
income	n.s.	n.s.	n.s.	,04	n.s.
belonging to a minority	n.s.	n.s.	,08	,06*	-,22
experienced unemployment	n.s.	n.s.	n.s.	n.s.	-,09*
family member was unemployed	n.s.	-,04*	n.s.	n.s.	n.s.
friend was unemployed	n.s.	n.s.	n.s.	n.s.	n.s.
company	n.s.	n.s.	n.s.	n.s.	n.s.
party: PSE	,08	-,09	n.s.	n.s.	n.s.
party: PPE	n.s.		n.s.	n.s.	n.s.
party: ELDR	n.s.	-,14	#	n.s.	#
party: GUE/NGL	#	-,10	n.s.	#	#
party: FE	#	#	#	#	#
party: RDE	#	#	n.s.	#	#
party: Greens	-,15	#	-,14	n.s.	n.s.
party: ARE	n.s.	#	n.s.	-,13	#
party: IEDN	#	#	,36	n.s.	#
party: NI	,32	#	,28	#	n.s.

for all countries, where $r^2 \geq 0,15$, coefficients are significant at the 0.05 level

* significant at the 0,10 level

n.s. ... in the model, but not significant (p-value > 0.10)

... not in the model

Table 22: Multivariate linear regression, dependent variable ‚conditional repatriation’, selected countries

	unstandardised coefficients		
	Belgium	France	GB
constant	,17	,40	,19
sex	n.s.	n.s.	n.s.
age	n.s.	n.s.	-,02
education	-,04	-,10	-,11
self-employed	n.s.	n.s.	n.s.
employed	-,05*	n.s.	n.s.
satisfaction with pers. situation	,04	n.s.	,06
past-present situation	n.s.	n.s.	n.s.
present-future situation	n.s.	n.s.	,09
rel. – nationality	n.s.	-,07	n.s.
rel. – race	n.s.	n.s.	n.s.
rel. – religion	n.s.	n.s.	-,09
rel. – culture	n.s.	n.s.	n.s.
left-right	,01	,02	,01
income	n.s.	-,02	n.s.
belonging to a minority	n.s.	,10	,18
experienced unemployment	n.s.	n.s.	,07
family member was unemployed	n.s.	n.s.	n.s.
friend was unemployed	n.s.	n.s.	n.s.
company	n.s.	n.s.	-,06
party: PSE	,12	n.s.	n.s.
party: PPE	n.s.	n.s.	n.s.
party: ELDR	n.s.	#	n.s.
party: GUE/NGL	#	n.s.	#
party: FE	#	#	#
party: RDE	#	n.s.	#
party: Greens	-,08	n.s.	n.s.
party: ARE	,10*	n.s.	n.s.
party: IEDN	#	,30	n.s.
party: NI	,34 [□]	,37	#

for all countries, where $r^2 \geq 0,15$, coefficients are significant at the 0.05 level

* significant at the 0,10 level

n.s. ... in the model, but not significant (p-value > 0.10)

... not in the model

8 Cluster Analysis – typology

SORA identified a typology of people according to their attitude towards minority groups. Six of the seven dimensions were used for this typology. As the calculation was carried out at the EU level, the dimension 'blaming minorities' had to be excluded from the analysis owing to poor comparability. The typology divides the EU-population into four groups: actively tolerant; intolerant; ambivalent; and passively tolerant people.

Cluster analysis is a method that builds groups of persons who are 'similar' to each other. In this case, similarity means exhibiting similar attitudes towards minority groups. The authors used the K-means cluster method (a partition algorithm) and entered six of the seven sum-indices of the dimensions of attitudes (calculated with imputed values where values were missing) as characteristic variables for the typology. K-means cluster analysis can handle a large number of cases (here: 16 000), but you have to specify in advance the number of clusters to be found. This was done for four, five and six clusters, but the four cluster solution fitted best to the theoretical background for interpretation purposes.

Table 23: Final cluster centres

variable	cluster 1 intolerant	cluster 2 passively tolerant	cluster 3 actively tolerant	cluster 4 ambivalent
policies improving social coexistence	,91	,84	,26	,84
restrictive acceptance	,67	,35	,30	,53
disturbance	,84	,04	,04	,05
multicultural optimism	,83	,18	,10	,64
repatriation	,70	,13	,09	,54
assimilation	,75	,23	,42	,67

sum indices of dimensions used, cluster centres

The interpretation of the cluster centres led to the cluster labels as well as the description given in the main report.

Analysis of variance (with adapted weights, so that the sum of weights equals the number of respondents) proofed that mean values between the four groups were significantly different.

9 General recommendations and conclusions

These recommendations are based on findings hinted at in the data-analysis which do not permit the development of a complete set of policy recommendations. Policy recommendations should be based on a knowledge of causal relationships and the strength of effects which is beyond the scope of this project. Thus, the recommendations are linked and clearly connected to the evidence within the data.

Political leadership. A quarter of all Europeans can be categorised as ‘ambivalent’ – meaning that they harbour positive and negative attitudes towards minorities at the same time. Data show that party affiliation is a part of the causal system producing attitudes towards minorities. Ambivalent people should be considered those who react most political leadership – awareness of this fact can help politicians to make their decisions.

Unemployment. Experience with unemployment and the expectation of higher unemployment rates lead to an increase in hostile attitudes towards minorities. Sinking unemployment rates and information about a decrease in unemployment might reduce concerns about migration and minorities.

Welfare. Since a large part of xenophobic concerns is about loss of welfare standards, policies which lend large majorities the feeling that they can participate in the increase of wealth within a growing economy will contribute significantly to reducing xenophobic concerns. Demographic developments and their impact have to be considered and researched. Particular attention should be paid to the number of retired people and the increasing number of old people with lower income and with low expectations within that group. An increase in hostility towards minorities might well get stronger in this group.

Education. Higher education clearly correlates with positive attitudes towards minorities. More research should be carried out to determine the nature of this effect and establish whether the increase of higher education – which is a stable trend – will result in a more tolerant attitude within Europe in the coming decades.

Personal relations. Supporting personal relationships between people of different religions, nations or with different skin color increases tolerance.

In the countries of Southern European, attitudes towards minorities seem to be influenced by other factors than in the rest of Europe. There is not enough evidence about causal relationships within this analysis to confirm that the conclusions mentioned above are meaningful for the southern part of Europe.