

Cross-national differences in norms against childlessness: The role of individual characteristics and national context

Suzanne Noordhuizen, Tilburg University, The Netherlands, s.c.c.a.noordhuizen@uvt.nl

Paul de Graaf, Tilburg University, The Netherlands

European Population Conference 2010, Vienna, 01/09/2010 - 04/09/2010

[First draft: please do not cite]

Abstract

Numerous studies report the issues of declining fertility rates and below replacement levels for many European countries. Nevertheless, little is known about if and why norms against childlessness vary across Europe. This study uses multilevel models for 38 European countries to test hypotheses at both the individual- and context level. Using data from the European Values Study 2008, first public release, our analyses show that Europeans do not share common norms regarding childlessness: In the Netherlands and Finland norms against childlessness are weaker than in Georgia and Bulgaria, with the other countries in between. At the individual level, those with stricter norms against childlessness are the lower educated, married or widowed respondents and Muslims and Catholics. At the contextual level, higher levels of childlessness, GDP per capita and gender equality weaken norms against childlessness, while higher church attendance levels is associated with stricter norms.

Theory and hypotheses

Explaining differences in norms against childlessness

In the following section we will present our expectations regarding the norms against childlessness of the European population. To understand differences among European norms against childlessness, we employ previous research to distinguish two types of explanations. First, we examine the relation between individual characteristics and norms against childlessness. Subsequently, we hypothesize on effects of the national context.

Individual characteristics

Age hypothesis: Older people hold stronger norms against childlessness than younger people

Education hypothesis: The higher one's educational level, the weaker one's norm against childlessness

Marital status hypothesis: People in non-traditional living arrangements (registered partnership, cohabitation, divorced and separated) will have stronger norms against childlessness compared to those in traditional living arrangements (married, widowed).

Child status hypotheses: - Childless respondents above the age of 45 will have weaker norms against childlessness than respondents with children and young childless respondents (<45)
- The more children one has the stronger one's norm against childlessness.

Religiosity hypotheses: - The religiously affiliated will have stronger norms against childlessness compared to the non-affiliated.

- Catholic, Muslim and Orthodox respondents will have stronger norms against childlessness than Protestant respondents.

- The more frequent one attends religious services, the stronger one's norms against childlessness.

Country characteristics

So far, we have formulated hypotheses on the impact of individual characteristics on norms against childlessness. The national context, however, is also expected to shape norms against childlessness. A first macro-level characteristic we expect to affect people's norms against childlessness is the occurrence of childlessness in a country. It can be expected that if the percentage of childless people is high in a country, people are more likely to be childless themselves or to have childless relatives, friends or colleagues around them. Because they are confronted with (voluntary) childlessness more often, people may accept childlessness as an alternative but legitimate lifestyle. Previous research has found empirical evidence for the

assumption that people's values are related to behavior displayed by others around them. For instance, in countries with higher abortion ratios abortion is more widely accepted compared to countries where abortion occurs less often (Need, Ultee, Levels & van Tienen, 2008). This leads to our first context hypothesis: *The higher the proportion of childless people in a country, the weaker norms against childlessness will be.*

Next, we elaborate on the relation between country's economic development and norms against childlessness. Modernization theory claims that economic development, and industrialization in particular, lead to pervasive cultural changes (Inglehart & Baker, 2000). Although only a small number of countries were industrialized in olden days, Karl Marx referred to the considerable importance of industrialization in causing cultural changes by stating that 'economically developed societies show the future to less developed societies' (Inglehart & Baker, 2000; Marx, 1973). Nowadays, industrialization is still considered to be a key element of a modernization process, because industrialization is responsible for persistent social and cultural changes, such as rising educational levels and declining fertility rates (Inglehart & Baker, 2000).

In order to study the relationship between economic development and values empirically, Inglehart (1997) uses two value polarities: the traditional versus secular-rational dimension and the survival versus self-expression dimension. With respect to the first polarity, the traditional versus secular-rational dimension, the traditional values stress the importance of the family by preferring larger families and rejecting divorce and abortion. In addition, social conformity is emphasized more strongly than individual self-actualization (Inglehart & Baker, 2000). The opposite part of this dimension, the secular-rational values, stresses the opposite.

For the second dimension, the survival versus self-expression polarity, tolerance, self-expression and trust are essential issues. Survival values point at the importance of economic and physical security, which results in more traditional gender roles and higher levels of intolerance towards ethnic groups and homosexuals. Again, the other part of this dimension, self-expression values, represent opposite preferences on these topics.

By using these two values dimensions Inglehart and Baker (2000) find evidence for their assumption that the value climate in rich countries differs from those in poorer countries. Their analyses show that rich countries score relatively high on both dimensions. This means that in rich countries rational-secular values are more important than traditional values. Furthermore, self-expression values are more prevalent than survival values. A reversed pattern, however, is found for the poorest countries in their sample. In these countries

survival and traditional values are more widespread. Inglehart and Baker (2000) explain these value patterns by stating that in case of economic uncertainty, people tend to attach to traditional norms and values in order to increase predictability in the uncertain context they are living in. In rich countries survival is taken for granted, which makes cultural diversity less threatening and more accepted. Based on these arguments, we predict the following: *The higher the level of economic development in a country, the weaker norms against childlessness will be.*

A third context variable in our study is gender equality, which refers to society's allocation of opportunities to men and women (Mills & Begall, 2010). We assume that a higher level of gender equality reflects more opportunities for women. If both sexes are confronted with equal career and income opportunities, the traditional division of care and work tasks in which taking care for the children and the household are women's main responsibilities, becomes less natural. Other context variables measuring women's participation within society are less suitable to measure different lifestyle opportunities for women. Higher levels of women's labor market participation, for instance, might indicate a higher degree of lifestyle choices or economic hardship. In more developed countries women's work is a matter of self-fulfillment, whereas in less developed countries women's participation is not a matter of choice but of economic necessity. Based on these explanations, our next hypothesis is as follows: *The higher the level of gender equality in a country, the weaker norms against childlessness will be.*

Finally, we examine to what extent the religious context is related to norms against childlessness. In the previous section on individual-level effects of religion, we already elaborated upon a number of mechanisms through which religion or religiosity affects fertility values. We have several reasons to measure religious participation rather than religious affiliation to examine the importance of religious context. First of all, many researchers claim that teachings, actively communicated during religious services, are mainly responsible for different fertility rates among religious groups by rejecting contraception and stressing the importance of the family as an institution (McQuillan, 2004). In addition, church attendance levels also indicate the strength of churches as an institution (Kalmijn, 2010). Second, religious affiliation seems to be insufficient to estimate religiosity effects, because in some countries it is only natural to be religiously affiliated. Here, religious denomination does not primarily represent individual beliefs, but is rather one of the many memberships people have (McQuillan, 2004). Third, it is assumed that within countries with high levels of church attendance, religious networks will be more widespread and influential.

In other words, in countries with high levels of religious participation, regular churchgoers will be more integrated in religious networks, in which pro-family and fertility messages are emphasized (Ruiter & de Graaf, 2006; Zhang, 2008). This brings us to our final context-level hypothesis, which is as follows: *The higher the level of church attendance in a country, the stronger norms against childlessness will be.*

Data

To test our hypotheses, we use data from the European Values Study (2008, integrated dataset, release July 2010). The European Values Study is a large-scale standardized cross-national project about how Europeans think about a broad range of areas in life, such as politics, family and marriage, religion, and social or moral issues. The EVS surveys are based on nationally representative samples. Data come from the following 38 countries: Albania, Austria, Armenia, Belgium, Bosnia Herzegovina, Bulgaria, Belarus, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Ireland, Kosovo, Latvia, Lithuania, Luxembourg, Malta, Moldavia, Montenegro, Netherlands, Northern Cyprus, Northern Ireland, Poland, Portugal, Romania, Russian Federation, Serbia, Slovak Republic, Slovenia, Spain, Switzerland, and Ukraine. The total sample covers over 56,000 Europeans. To be selected into our sample respondents had to have valid scores on our dependent variable (n=53,310) and independent variables (n=51,470), which means that less than six percent of the original sample was excluded due to missing values.

Dependent variable: Norms against childlessness

To measure norms against childlessness respondents were asked whether they agree or disagree with the following statement on a 5-point scale (with 1=strongly agree and 5=strongly disagree): *It is a duty towards society to have children.* We reversed these answer categories so that a higher score reflects stronger norms against childlessness. Respondents with missing values were deleted from the analyses. Table 1 shows that all respondents in our sample, regardless of their country of residence, score 2.9 on the 5-point scale measuring norms against childlessness. Examining mean country scores appear to be even more relevant, because for some countries the mean score is below 2 (Belgium and The Netherlands), whereas for a large number of countries mean scores are above 3 (with the highest scores for Bulgaria, Kosovo, Georgia).

In figure 1 also shows that Europeans hold different views regarding voluntary childlessness. The highest percentages of citizens (totally) agreeing that having children is a

duty towards society are found in Bulgaria (70.7%) and Georgia (64.8%). Relatively high levels of agreement are further found in Portugal, Greece, Romania and Cyprus. On the other hand, weaker norms against childlessness are found in Finland, Northern-Ireland and Belgium. The lowest percentage is found in the Netherlands: less than 5 percent agrees with the statement that it is a duty towards society to have children.

Independent variables on the individual level

At the individual level, the following demographic and social background characteristics will be included in our analyses: sex, age, educational level, marital status, child status, religious denomination and church attendance. For examining the influence of educational level, the International Standard Classification of Education (ISCED) is used. This variable is a scale ranging from (0) 'pre-primary education or none education' to (6) 'second stage of tertiary education'.

Another aspect concerns one's current family life situation, for which we use two indicators. First, six dummy variables are used to indicate respondent's marital status: married, registered partnership, widowed, divorced, separated and never married, the first mentioned group being the reference category. Second, we consider respondents' child status by asking how many children one has. We distinguish the childless from respondents with children. Subsequently, respondents without children are divided into two subgroups, because the childless are a heterogeneous group consisting of people that do not want or cannot have children but also consists of younger people who are likely to have children in the (near) future. Therefore, we use two groups of childless respondents in our analyses, namely childless with a maximum age of 44 and childless respondents aged 45 and over. The remaining child status dummy variables refer to respondents with one child, respondents with two children and respondents having three or more children respectively. The childless aged 45 and over are the reference category.

For assessing the impact of religiosity, respondents were asked whether they belonged to a religious denomination and, if so, to specify which one. Along with 'no denomination,' we created dummy variables for the following denominations: Roman Catholic, Protestant, Muslim, Orthodox and other (for example: Jewish, Hindu, Buddhist). In addition, church attendance is measured by posing the question: Apart from weddings, funerals, and christenings, about how often do you attend religious services these days? Again, we reversed scores to obtain a continuous variable ranging from (1) never, practically never to (7) more than once a week.

Independent variables on the country level

Explanatory variables at the contextual or country-level include the percentage of childless people, GDP per capita, gender equality and average church attendance. To start with, we aggregated individual level scores on child status by assigning the percentage of childless respondents aged 45 and over to each country. Table 2 gives an overview of all countries. In our sample, the lowest percentage of childless people can be found in Albania, Bulgaria and Kosovo (below 5 percent), while the highest proportion of childless people live in Finland, Malta and Switzerland (around 20 percent).

Next, to measure national economic development we use real gross domestic product (GDP) per capita corrected for purchase power parity (2008), which we obtain from the World Bank. GDP per capita is measured in thousands of U.S. dollars. For Malta and Kosovo, however, no information was available. For these countries we used data of the CIA Worldfactbook of 2009. For Northern Ireland we used the GDP level of the United Kingdom and we assigned Turkey's GDP level to Northern Cyprus. Our efforts to use only one source for estimating countries' GDP level, proved unsuccessful due to the large number of countries for which data have to be available.

To measure a country's level of gender equality, the Global Gender Gap Index (2008) is used from the World Economic Forum (Hausmann, Tyson & Zahidi, 2008). The Global Gender Gap index is based on earlier indexes measuring gender equality, such as the Gender-Related Development Index (GDI) and the Gender Empowerment Measure (GEM). The Global Gender Gap Index, in contrast to other gender equality indexes, measures the gap between men and women in four categories (or so-called pillars): economic participation and opportunity, educational attainment, political empowerment, and health and survival. To obtain an overall Global Gender Gap Index score, all four sub indexes are averaged and final values are between 1 (equality) and 0 (inequality).

Finally, we also include a country's religiosity measured by church attendance. Mean individual-level church attendance scores are aggregated to a measure of countries' religious participation. As Table 2 shows, the lowest level of religious participation can be found in Czech Republic and France, whereas Malta, Poland and Cyprus show the highest mean levels of church attendance.

In table 3 the correlation matrix of the country-level variables is presented. Norms against childlessness are negatively associated with the percentage of childless people in the population, GDP per capita and gender equality, but positively related to average church

attendance levels in a country. These preliminary results are in line with our hypotheses formulated in the theoretical section of this paper. For a better test of our hypotheses we use multilevel analyses, since we are interested in individual as well as contextual level effects. In our models, individual respondents are nested within countries.

Results

In table 4 we present the results of the two-level multilevel analyses with random intercepts and fixed effects. We start our analyses with estimating a null model with random intercepts only for determining the variance in norms against childlessness among individuals as well as countries. We found a variance level of 1.32 for individuals and 0.26 for countries. Then, individual-level effects are analyzed in model 1. Next, contextual-level effects are added one by one in models 2 to 5. Model 6 is the final model in which all variables, at the individual as well as the contextual level, are analyzed simultaneously.

Individual Characteristics

Model 1 contains only individual effects, which are used to show compositional effects. First of all, it appears to be useful to control for respondents' gender, since women's norms against childlessness are significantly weaker than men's. We also find support for our age hypothesis: norms against childlessness are stronger among older respondents. The difference between the youngest and oldest respondents in our sample is 0.9 point on the five-point scale ($0.01 \times (108-18) = 0.9$). Empirical evidence is also found for the education hypothesis: The higher one's education, the weaker one's norm against childlessness.

The results of family life hypotheses are also in line with previous research findings: Those living in more modern living arrangements (registered partnership, divorced and separated) have significantly weaker norms compared to married and widowed respondents. With respect to child status, all respondents with children and the younger childless respondents show stronger norms against childlessness than childless respondents over the age of 45.

We find partial support for our expectations regarding religiosity. Although not all differences between religious groups are significant, religiously affiliated have stronger norms against childlessness than the nonreligious. We even find large differences among the denominations. Clearly, Muslims (0.41), Roman Catholics (0.13) and Orthodox (0.06) have stronger norms than Protestants (0.01), which is in line with our hypothesis. Finally, those attending religious services more often also hold stronger norms against childlessness

compared to those who do not attend church regularly ($0.06 \times (7-1) = 0.36$ on the five-point scale).

The individual-level variables in model 1 explain only 6.8 percent of the total variance on the individual level. By adding the individual-level predictors to the empty model 15.4 percent of the original variance on the country level is explained.

Country characteristics

Model 2 through 6 simultaneously test individual-level and context-level effects. When we add a country's percentage of childless people in model 2, all individual-level effects are virtually unchanged. As hypothesized, the higher the percentage of childlessness in a country, the weaker norms against childlessness are ($b = -0.07$). The strength of this effect is considerable: Since the range of the percentage of childlessness is over 16, the difference between people living in the country with the lowest childlessness rate (Albania) and people living in the country with the highest childlessness rate (Switzerland) is more than one point on the 5-point scale.

Model 3 shows that our hypothesis considering GDP per capita finds clear support as well. The higher the GDP per capita level, the weaker the norms against childlessness are. We find a difference of more than 0.8 point on the five-point scale between people living in a country with the lowest and the highest GDP per capita level.

A country's score on the Global Gender Gap Index, indicating the level of equality between men and women, is negatively associated with norms against childlessness of the population. Norms against childlessness decrease with 0.06 points on the five-point scale for every 1 unit increase in GGGI, leading to a difference of approximately 1.2 between the country with the lowest and highest score on the Global Gender Gap Index. Note that the effect drops below the level of significance if controlled for all other country characteristics in model 6.

Our fourth context-level variable is also related to the norms against childlessness of the population. As predicted, the higher the average church attendance level in a country, the stronger the norms against childlessness. Again, once we analyze all four context variables simultaneously, mean church attendance levels are not significantly related to norms considering childlessness.

Table 1: Descriptive statistics on individual level variables (n=51,470)

	%	Min	Max	Mean	STD
<i>Dependent variable</i>					
It is a duty towards society to have children		1	5	2.91	1.25
<i>Individual-level characteristics</i>					
Women	52.2				
Age		18	108	45.71	17.72
Educational level		0	6	3.13	1.32
<i>Marital status</i>					
Married	53.7				
Registered partnership	2.0				
Widowed	10.0				
Divorced	6.9				
Separated	1.4				
Never married	26.1				
<i>Child status</i>					
No children, age <45	24.6				
No children, age 45 and older	5.4				
One child	18.5				
Two children	32.1				
At least three children	19.4				
<i>Religious denomination</i>					
None	25.8				
Roman Catholic	29.7				
Protestant	8.7				
Muslim	6.9				
Orthodox	26.4				
Other	2.5				
Church attendance		1	7	3.37	1.91

Source: European Values Study, 2008 (first public release)

Table 2 Descriptive information on country-level variables

	n	Duty towards society (1-5)	% Childless, aged 45 and over	GDP per capita	Global Gender Gap 0 (inequality) – 1 (equality)	Church attendance (1-7)
Albania	1345	3.15	3.6	7,716	0.66	2.79
Austria	1476	2.58	15.5	38,153	0.72	3.23
Armenia	1425	3.32	10.1	5,900	0.67	4.02
Belgium	1504	1.99	12.0	34,493	0.72	2.49
Bosnia Herzegovina	1410	2.88	11.5	8,390	0.70	4.16
Bulgaria	1329	3.85	4.1	12,394	0.71	3.28
Belarus	1442	3.50	9.5	12,261	0.71	3.27
Cyprus	983	3.49	8.5	21,200	0.67	4.70
Czech Republic	1605	3.28	10.3	24,712	0.68	2.21
Denmark	1470	2.14	12.1	36,604	0.75	2.78
Estonia	1470	2.89	9.7	20,657	0.71	2.50
Finland	1071	2.09	17.2	35,426	0.82	2.46
France	1479	2.22	11.5	34,045	0.73	2.24
Georgia	1467	3.70	9.1	4,280	0.67	4.07
Germany	2007	2.67	16.5	35,613	0.74	2.48
Greece	1480	3.26	11.8	29,361	0.67	4.38
Hungary	1492	2.98	9.3	19,329	0.69	2.58
Ireland	929	2.52	16.3	44,195	0.75	4.40
Kosovo	1435	3.69	4.9	2,300	0.70	4.66
Latvia	1448	2.94	11.7	17,101	0.74	2.96
Lithuania	1362	2.95	9.5	18,826	0.72	3.71
Luxembourg	1538	2.42	9.9	78,559	0.68	2.84
Malta	1428	3.24	18.1	23,800	0.66	5.67
Moldavia	1473	3.39	7.3	2,925	0.72	4.08
Montenegro	1384	2.79	13.7	13,958	0.70	2.95
Netherlands	1519	1.73	15.3	40,850	0.74	2.92
Northern Cyprus	478	3.10	8.4	13,920	0.59	3.07
Northern Ireland	449	2.27	15.9	35,445	0.74	4.12
Poland	1378	2.89	10.8	17,625	0.70	5.05
Portugal	1510	3.09	11.5	23,073	0.71	3.97
Romania	1310	3.20	6.7	14,064	0.68	4.61
Russian Federation	1358	3.08	6.4	16,139	0.70	2.81
Serbia	1386	2.87	9.5	11,457	0.70	3.30
Slovak Republic	1428	2.86	8.1	22,081	0.68	4.08
Slovenia	1308	2.77	6.9	27,610	0.69	3.20
Spain	1445	2.72	15.0	31,955	0.73	2.82
Switzerland	1213	2.48	19.7	42,534	0.74	2.73
Ukraine	1398	3.21	6.3	7,271	0.69	3.60

European Values Study 2008 (first public release)

(Weighted data)

Table 3: Correlation matrix of norms against childlessness with context-level variables

	(1)	(2)	(3)	(4)	(5)
(1) Duty towards society to have children	1	-0.23**	-0.27**	-0.23**	0.19**
(2) % childless		1	0.54**	0.50**	-0.11**
(3) GDP per capita			1	0.34**	-0.36**
(4) Global Gender Gap Index				1	-0.39**
(5) Church attendance					1

Source: European Values Study 2008 (first public release).

** $p < 0.01$

Table 4: Individual and country-level effects on norms against childlessness (n=51,470; n countries=38)

	Model 0		Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	b	se	b	se	b	se	b	se	b	se	b	se	b	se
<i>Individual-level characteristics</i>														
Women			-0.12 ***	0.01	-0.12 ***	0.01	-0.12 ***	0.01	-0.12 ***	0.01	-0.12 ***	0.01	-0.12 ***	0.01
Age			0.01 ***	0.00	0.01 ***	0.00	0.01 ***	0.00	0.01 ***	0.00	0.01 ***	0.00	0.01 ***	0.00
Educational level			-0.07 ***	0.00	-0.07 ***	0.00	-0.07 ***	0.00	-0.07 ***	0.00	-0.07 ***	0.00	-0.07 ***	0.00
<i>Marital status^a</i>														
Registered partnership			-0.07 *	0.04	-0.07 *	0.04	-0.07 *	0.04	-0.07 *	0.04	-0.07 *	0.04	-0.07 *	0.04
Widowed			0.05 ***	0.02	0.05 ***	0.02	0.05 ***	0.02	0.05 ***	0.02	0.05 ***	0.02	0.05 ***	0.02
Divorced			-0.15 ***	0.02	-0.15 ***	0.02	-0.15 ***	0.02	-0.15 ***	0.02	-0.15 ***	0.02	-0.15 ***	0.02
Separated			-0.16 ***	0.04	-0.16 ***	0.04	-0.16 ***	0.04	-0.16 ***	0.04	-0.16 ***	0.04	-0.16 ***	0.04
Never married			-0.03	0.02	-0.03	0.02	-0.03	0.02	-0.03	0.02	-0.03	0.02	-0.03	0.02
<i>Child status^b</i>														
No children, age < 45			0.24 ***	0.03	0.24 ***	0.03	0.24 ***	0.03	0.24 ***	0.03	0.24 ***	0.03	0.24 ***	0.03
One child			0.23 ***	0.03	0.23 ***	0.03	0.23 ***	0.03	0.23 ***	0.03	0.23 ***	0.03	0.23 ***	0.03
Two children			0.27 ***	0.02	0.27 ***	0.02	0.27 ***	0.02	0.27 ***	0.02	0.27 ***	0.02	0.27 ***	0.02
At least three children			0.27 ***	0.03	0.27 ***	0.03	0.27 ***	0.03	0.27 ***	0.03	0.27 ***	0.03	0.27 ***	0.03
<i>Religiosity^c</i>														
Roman Catholic			0.13 ***	0.02	0.13 ***	0.02	0.13 ***	0.02	0.13 ***	0.02	0.13 ***	0.02	0.13 ***	0.02
Protestant			0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02
Muslim			0.41 ***	0.03	0.40 ***	0.03	0.40 ***	0.03	0.40 ***	0.03	0.41 ***	0.03	0.40 ***	0.03
Orthodox			0.06 ***	0.02	0.06 ***	0.02	0.06 ***	0.02	0.06 ***	0.02	0.06 ***	0.02	0.06 ***	0.02
Other			0.01	0.03	0.01	0.03	0.01	0.03	0.01	0.03	0.01	0.03	0.01	0.03
Church attendance			0.06 ***	0.00	0.06 ***	0.00	0.06 ***	0.00	0.06 ***	0.00	0.06 ***	0.00	0.06 ***	0.00
<i>Country-level variables</i>														
% childless					-0.07 ***	0.02								-0.03 *
GDP per capita							-0.02 ***	0.00						-0.01 ***
Global Gender Gap Index									-0.06 ***	0.02				-0.02
Average church attendance											0.17 *	0.09	0.06	0.07
Intercept	2.91 ***	0.08	2.22 ***	0.09	3.00 ***	0.19	2.73 ***	0.11	6.40 ***	1.28	1.63 ***	0.31	3.90 ***	1.18
Variance on individual level	1.32 ***	0.01	1.23 ***	0.01	1.23 ***	0.01	1.23 ***	0.01	1.23 ***	0.01	1.23 ***	0.01	1.23 ***	0.01
Variance on country level	0.26 ***	0.06	0.22 ***	0.05	0.14 ***	0.03	0.12 ***	0.03	0.17 ***	0.04	0.20 ***	0.05	0.09 ***	0.02
-2 Log Likelihood	160476		157105		157088		157080		157096		157101		157073	

Source: European Values Study 2008 (first public release).*** p < 0.01, ** p < 0.05, *p < 0.10

^a reference category: married, ^b reference category: no children, aged 45 and older, ^c reference category: no religious denomination

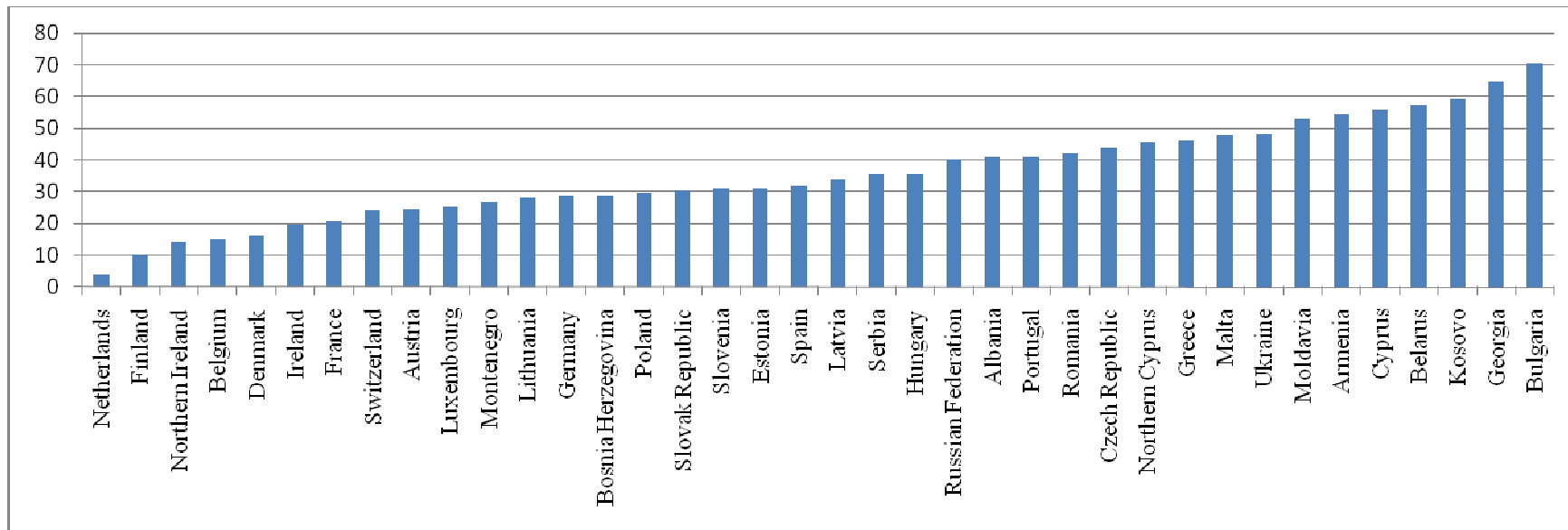


Figure 1: Percentage of the population that (totally) agrees with the statement: 'It is a duty towards society to have children'

Source: European Values Study 2008 (weighted data; own calculations).

Literature

Hausmann, R., Tyson, L. & Zahidi, S. (2008). The global gender gap report 2008. Geneva, Switzerland: World Economic Forum.

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

Inglehart, R. & Baker, W. (2000). Modernization, Cultural Change, and the Persistence of Traditional Values. *American Sociological Review*, 65,(1):19-51.

Kalmijn, M. (2010). Country differences in the effects of divorce on well-being: The role of norms, support, and selectivity. *European sociological review*, 26,(4):475-490.

Marx, K. (1973). *Foundations of the critique of political economy*. New York: Vintage Books.

McQuillan, K. (2004). When does religion influence fertility? *Population and development review*, 30,(1):25-56.

Mills, M. & Begall, K. (2010). Preferences for the sex-composition of children in Europe: A multilevel examination of its effect on progression to a third child. *Population studies*, 64,(1):77-95.

Need, A., Ultee, W., Levels, M. & van Tienen, M. (2008). Meningen over abortus in West-Europa, 1981-2000 [Opinions about divorce in Western Europe, 1981-2000]. *Mens & Maatschappij*, 83,(1).

Ruiter, S. & de Graaf, N.D. (2006). National context, religiosity, and volunteering: Results from 53 countries. *American Sociological Review*, 71:191-210.

Westoff, C. & Frejka, T. (2007). Religiousness and fertility among European Muslims. *Population and development review*, 33,(4):785-809.

Zhang, L. (2008). Religious affiliation, religiosity, and male and female fertility. *Demographic research*, 18:233-261.