

Country Differences in the Effects of Divorce on Well-Being: The Role of Norms, Support, and Selectivity

Matthijs Kalmijn

Little is known about if and how the effect of divorce on well-being varies across societal contexts. This article uses multilevel models for 38 developed countries to test three hypotheses about societal differences. Data are used from the European and World Values Studies. Results show that, in most countries, the divorced have a lower level of well-being than the married, but the magnitude of this difference varies significantly across countries, even when compositional factors are taken into account. The results show that the effect of divorce is weaker in countries where the family is strong, in line with notions of support. The effect of divorce also appears to be weaker when divorce is more common, which points to the role of declining selectivity as divorce rates go up. Mixed evidence was found for the role of norms. The divorce effect is stronger in countries that have stronger norms against divorce, but this was only found for religious persons. Together, these three factors explain more than half of the variance in the divorce effect. Outlier analyses further indicate that the estimates of cross-level interaction effects are sensitive to specific countries that are in the sample.

Introduction

Many studies have found that the experience of a divorce has a negative effect on one's mental health and well-being (Wheaton, 1990; Booth and Amato, 1991; Mastekaasa, 1995; Marks and Lambert, 1998; Simon, 2002; Williams and Umberson, 2004; Kalmijn and Monden, 2006).¹ Although these effects have been found in a number of countries, few studies have systematically compared the effect across national contexts. Exceptions are a paper by Stack and Eshleman on 16 countries in the early 1980s and an analysis of 42 countries in the early 1990s by Diener *et al.* (Stack and Eshleman, 1998; Diener *et al.*, 2000).

Stack and Eshleman (1998) found that differences in well-being between marital status categories are fairly stable across countries. Diener *et al.* (2000) found weak evidence that the difference in well-being between married and divorced persons is smaller in countries that were more tolerant of divorce. Neither of these works used a multilevel framework for analysing how effects of divorce depend on multiple characteristics of countries while controlling for the influence of individual level determinants of well-being. Building on these earlier studies, I re-examine to what extent the effect of divorce on subjective well-being varies across countries and I examine how such differences can be explained. The analysis is based on

a set of 38 developed countries. Three hypotheses are tested about possible cross-national differences in the divorce effect.

The first hypothesis is inspired by the finding that there are large cross-national differences in the acceptance of divorce (Gelissen, 2003; Kalmijn and Uunk, 2007). This can have important implications for the effect of divorce on well-being. When divorce is disapproved of in a country, the person who divorces will face disapproval in his or her community. Disapproval may take several different forms. The person who divorces may receive criticism from others, he or she may be avoided by others, and in the most extreme case, he or she may be ostracized.² Divorced persons may also be sanctioned by the church, which is probably the strongest institution in a country that supports the institution of marriage and that disapproves of divorce. For example, the church may publicly condemn the behaviour of a divorcing couple and may exclude the couple from attending church. Sanctions may lead to a decline in well-being, because behavioural confirmation is an important element of overall well-being (Lindenberg, 1984). In addition, feelings of guilt and shame are positively correlated with depression (Jones and Kugler, 1993; Orth, Berking and Burkhardt, 2009). As a result, one would expect that a divorce will reduce well-being more strongly in settings where divorce is not accepted. This hypothesis has been suggested in some form or another by several authors in the past, but the evidence has so far been inconsistent (Dronkers, 1997; Diener *et al.*, 2000; Diekmann and Smidheiny, 2004; Kalmijn and Uunk, 2007).

The effect of norms against divorce may not be the same for all members of a society. In principle, societal norms against divorce will be sanctioned regardless of who violates the norm. However, it may also be true that persons who themselves believe more strongly in the norm will be sanctioned more strongly if they violate the norm. For example, religious persons who divorce may face more disapproval from their network than secular persons who divorce. Similarly, religious persons who divorce may have greater feelings of guilt. Research has shown that among religious persons, experiencing certain life events, including divorce, may result in 'religious strain', which, in turn, appears to increase feelings of depression (Exline, Yali and Sanderson, 2000). For these reasons, one would expect that the effect of a norm in a society on the divorce effect will be stronger for religious persons than for non-religious persons. This suggests a three-way interaction effect of societal norms, divorce, and individual religiosity on a person's well-being.

Although it is clear that a divorce can be sanctioned, it is also known from the literature that people who experience negative life events receive support from others (Lin *et al.*, 1979). A divorce is a negative life event that creates a demand for support. People close to the divorcee may be willing to provide that support and the persons most likely to provide support to the divorced are family members (Eggebeen and Davey, 1998). Because the strength of the family varies from country to country, this argument may be important for understanding macro-level differences. In familialistic countries, such as Southern European countries and South American countries, there are strong norms of intergenerational support, and people are more responsive to the needs of their family members (Reher, 1998; Glaser, Tomassini and Grundy, 2004; Kalmijn and Saraceno, 2008). In such societies, prolonged coresidence of children with parents is also common (Aassve *et al.*, 2002) and coresidence is another way in which parents may help (divorced) children, both socially and financially. Because support will buffer the negative effects of divorce on well-being, one would expect that the effect of divorce on well-being is weaker in more familialistic countries.

Familialistic societies generally disapprove of divorce more strongly than individualistic societies. Hence, familialistic societies on the one hand may have strong sanctions against divorce yet at the same time may compensate this by providing family support (Diener *et al.*, p. 421). Similarly, individualistic countries may be rather tolerant of divorce but individuals who divorce there may also feel that they lack support. To disentangle these influences, we develop separate measures of support and norms and we estimate these effects in a multivariate multilevel framework.

My third hypothesis addresses the issue of selection. There is considerable variation in the divorce rate across countries—divorce rates are high in Eastern and Northern Europe and in the United States, and they are generally lower in Southern Europe and in South and Central America. Low divorce rates are in part the result of high legal and social barriers to divorce (Goode, 1993; Gonzalez and Viitanen, 2006). When barriers to divorce are high, the people who divorce will be a more selected group. Research suggests that in times of low divorce, the people who divorce have experienced more serious marital and personal problems than in times of high divorce (De Graaf and Kalmijn, 2005). Examples are problems with addiction, psychiatric disorders, and violent behaviour. When divorce becomes more common in a society, the divorced are a less selected group in these respects, and this may increase the average level of

well-being in that group. At the same time, however, the average level of well-being in the married group may increase, because there are fewer unhappily married persons (Stack and Eshleman, 1998). The net result of these two tendencies depends on the relative size of the two groups. When the divorced are a relatively small group, the increase in well-being in the divorced group is larger than the increase in well-being in the married group. This means that the divorce effect would become smaller when the threshold is lower. An increase in the divorce rate may also go hand in hand with changes in the effects of social and demographic determinants of divorce (De Graaf and Kalmijn, 2006; Härkönen and Dronkers, 2006). When such determinants are included in the model as individual control variables, however, this would have no additional influence on the association between the divorce rate and the divorce effect.

To test the macro-level hypotheses, we need data in a large number of countries. Moreover, we need micro-level data in each country to estimate the effect of divorce in a convincing way. Ideally, panel data should be used to assess the effects of divorce, but this can only be done at the cost of losing degrees of freedom at the macro-level. Multi-nation panel studies that include well-being measures are scarce and if they exist, the number of countries is small and the number of divorce events is low. For describing and understanding macro-level differences, this disadvantage is more serious than the disadvantage of using cross-sectional data. Moreover, selection effects can be taken into account in part by including important correlates of both divorce and well-being (e.g., religion, education, and children). This work uses cross-sectional data in 38 developed countries to estimate the effect of divorce on well-being. The hypotheses are tested with multilevel regression models that contain cross-level interaction effects of divorce on the one hand and multiple characteristics of countries on the other hand.

Data and Measurement

The data in this study come from the harmonized EVS/WVS studies (European Values Study Group and World Values Survey Association, 2006). From this data, I use all the EVS and WVS waves, which were collected in the 1990s and 2000s. The EVS and WVS data sets partly overlap, which means that sometimes countries are included in both surveys. Moreover, many countries were included in multiple waves within the same survey (within EVS and within WVS). This means that, for each country, data may come from

different sources. As a result, the *N*'s increase for each country, which is a major advantage given the relatively small number of divorced persons in most societies. The design also implies that estimates for most countries are based on multiple samples. This increases the reliability of the country-level estimates of the divorce effect.

From the pooled surveys, I select developed countries with a Latin-Christian heritage. Developed countries that are primarily Muslim, Buddhist, Hindu, or Orthodox are excluded. This limitation makes the sample of countries more homogeneous and makes it easier to interpret the role of the church, which is one of the central indicators of norms against divorce.³ The number of countries to be analysed is 38 and these are distributed as follows: 17 in Northern, Western and Southern Europe, 9 in Central-Eastern Europe, 8 in Central and South America, 2 in North America (Canada, the United States), and 2 in the Pacific (Australia and New Zealand). From the national samples, I select married, divorced, and separated respondents (of all ages). The number of (married, divorced, or separated) persons per country is 1,148 on average and the number of divorced or separated persons per country is 149.

To test the hypotheses, I use a multilevel regression model with individuals nested in countries. The model includes random intercepts and random slopes. The level of well-being is allowed to vary across countries (random intercept), and the effect of divorce is allowed to vary across countries (random slope). Cross-level interaction effects of divorce and macro-level indicators are used to test the central hypotheses.

Measurement—Individual Level

Well-being

Well-being is measured in the EVS/WVS by two questions:

1. Taking all things together, would you say you are: very happy, quite happy, not very happy, or not at all happy?
2. All things considered, how satisfied are you with your life as a whole these days? (1 = dissatisfied, 10 = satisfied).

Because the two items are highly correlated ($r = -0.59$) they are combined to form a single, more reliable measure. After coding the items in a single direction, the items were standardized and summed. The standardization was needed because the two items have different original metrics. The resulting sum score was recoded into percentile scores. This

gives the measure a metric and makes the regression effects more easy to interpret. The average is 50 and each point indicates a percentage point increase in the relative ranking of well-being from 0 to 100. Taking proportional scores also removes the skew in the distribution (there is long tail on the left side of the well-being continuum).

Marital status

Distinguished in divorced/separated and married. Marital dissolutions can be formal (divorced) or informal (separated); these are not distinguished. Remarried persons are included in the married category because most surveys do not distinguish between remarried and first-married persons. The divorced/separated group is always single. Including the remarried with the married group is an appropriate choice because there generally is an improvement in well-being after remarriage (Kalmijn and Monden, 2006).

With the data at hand, there was no information on breakups of cohabiting unions (this information is rarely present in general surveys). This means that the focus is on persons who broke up their marriage. For this reason, we also exclude currently cohabiting persons from the analysis since these are not an appropriate comparison group for persons who broke up their marriage. How can the exclusion of cohabiting persons and dissolutions of cohabiting unions affect the comparisons across countries? It is likely that the breakup of cohabiting unions has a less detrimental effect on well-being than the breakup of married unions. Hence, if the aim is to say something about the effect of *union* dissolution, the effect is underestimated in countries where cohabitation is common. If the aim is to say something about the effect of marital dissolution, it is less clear what the direction of the bias (if any) would be of not including cohabiting couples (and their dissolutions).

The regression models include several control variables that are known to affect well-being (Diener *et al.*, 1999).

Church attendance

Whether or not the person belongs to a Christian church and attends church at least monthly. Prior research has found that church attendance is positively related to well-being (Hackney and Sanders, 2003).

Education

The highest level of education completed, broken down into primary, secondary, and tertiary. It has often been found that the higher educated have higher

levels of well-being than the lower educated (Diener *et al.*, 1999). I do not include income measures or measures of financial well-being, since these variables may mediate the effect of divorce on well-being.

Age

Age and age squared are included. Age is centered so that the main effect is the age effect for a person of an average age. Research shows improvements in well-being with age (Diener *et al.*, 1999).

Unemployed

It was chosen not to include employment as such since many nonemployed persons have meaningful and accepted roles in society which are not detrimental to well-being (being retired, being a housewife). For that reason, I contrast the unemployed with all other respondents.

Living with parents

In some societies, married and/or divorced persons can live with their parents and it was considered important to adjust for such differences.

The analyses include a dummy variable for sex. I examined whether the effect of divorce and separation differed between men and women but this interaction effect was not statistically significant. All analyses also adjust for the type of survey (EVS versus WVS). Means and standard deviations of micro-level variables are presented in Table 1.

Measurement—Aggregate Level

Divorce

Since most public demographic databases only publish crude divorce rates or divorces per 100 marriages, I constructed net marriage rates. These rates are defined as the number of divorces in a year divided by the number of married women in that year (per 1,000). The rate is constructed for 1990 and for 2000 (or years close to those years). The rate used in the analysis is the average of the two rates.

Two different variables are used to measure norms against divorce.

Divorce attitudes

The data include a question on the degree to which people disapprove of divorce, ranging from 1 (divorce is never justifiable) to 10 (divorce is always justifiable). Inspection of the frequency distribution shows some concentration in the middle category (5), which suggests that 5 was considered neutral by respondents.

Table 1 Means and standard deviations of variables used in the analyses

	M	s.d.	Min	Max
Individual level variables				
Well-being	50.06	28.80	0.01	100.00
Secondary education	0.38	0.49	0.00	1.00
Tertiary education	0.20	0.40	0.00	1.00
Education missing	0.03	0.16	0.00	1.00
Woman	0.52	0.50	0.00	1.00
Age	47.12	12.26	16.00	97.00
Unemployed	0.06	0.24	0.00	1.00
Church attendance (monthly)	0.37	0.48	0.00	1.00
Children at home	0.91	0.29	0.00	1.00
Living with parents	0.07	0.25	0.00	1.00
Divorced or separated	0.13	0.34	0.00	1.00
Country level variables				
Country GDP	0.00	1.00	-1.15	2.41
Eastern European country	0.27	0.45	0.00	1.00
Southern/Central American country	0.19	0.39	0.00	1.00
Divorce rate per 1000 married women	0.00	1.00	-1.97	2.23
Proportion church attendance	0.00	1.00	-1.48	2.22
Proportion disapproving of divorce	0.00	1.00	-1.80	2.94
Proportion living with family members	0.00	1.00	-1.91	1.34

Note: All macro-variables are standardized.

Source: EVS/WVS 1990s, own calculations ($N=43,640$ individuals in 38 countries).

I therefore break down the answers in two: people who are neutral or positive about divorce (67%) and people who are negative (i.e., score below 5, 33%).

Church attendance

The direct measure above has the disadvantage that it is based on a single item indicator of an attitude. For that reason, I also use a more indirect, but behavioural indicator of norms against divorce. The strength of the church in a society is a good albeit indirect indicator of norms against divorce. Churches are strong supporters of the institution of marriage and generally present negative attitudes toward divorce (Knudsen and Waerness, 1999). More importantly, persons who attend church are more likely to choose marriage over cohabitation and they are less likely to divorce (Liefbroer, 1991; Thornton, Axinn and Hill, 1992; Lehrer and Chiswick, 1993). Gelissen (2003) has further shown that people who attend church are also more intolerant of divorce. Differences between Catholics and Protestants are modest in this respect, whereas Orthodox persons are not intolerant and Muslims are much more intolerant than other religious persons. These latter two groups are hardly present in our sample of countries. The strength of the church was measured as the proportion of people in a country who belong to a Christian church and attend church at least monthly.

Familialism

There are no good attitude items in the EVS/WVS, which would be suitable for measuring familialism as a cultural variable. I therefore use a simple behavioural indicator which is closely related to familialism: the percentage of unmarried adults (aged 18–50) who live with their parents (Reher, 1998; Glaser, Tomassini and Grundy, 2004). This varies from less than 20% in individualistic countries such as the Netherlands and Denmark, to more than 70% in familialistic countries such as Mexico, Italy, and Spain.

All analyses control for a main effect of economic development, using GDP per capita, expressed in US dollars (in 1995). The macro-level variables are standardized to facilitate the interpretation of the effects. After standardizing macro-level variables, the main effect of divorce refers to the average country. The macro-level indicators are presented for each country in Table 2 (in unstandardized format). One-tailed tests are used for the effects of macro-level characteristics and their interactions.

Results

Descriptive Results

Before I discuss the regression results, it is important to examine the correlations among the macro-level

Table 2 Macro-level indicators and aggregated individual measures by country

	(1) Well being	(2) Difference married— separated	(3) Divorce rate	(4) Church attendance	(5) Disapproval of divorce	(6) Familialism
Argentina	51.46	13.69	6.18	0.42	0.29	0.70
Australia	61.40	19.34	11.73	0.23	0.22	0.26
Austria	61.33	12.94	11.00	0.42	0.31	0.47
Belgium	59.26	17.11	10.35	0.25	0.26	0.33
Brazil	51.44	12.03	3.81	0.57	0.43	0.68
Canada	64.34	13.28	10.43	0.34	0.22	0.27
Chile	50.19	12.78	2.91	0.41	0.46	0.72
Croatia	36.74	11.92	4.18	0.42	0.31	0.75
Czech Republic	41.95	13.67	12.42	0.12	0.22	0.53
Denmark	67.96	10.25	12.69	0.11	0.15	0.16
Dominica	46.17	6.47	17.09	0.50	0.39	0.69
El Salvador	65.17	11.32	11.32	0.64	0.62	0.73
Estonia	26.44	10.38	18.90	0.04	0.26	0.45
Finland	56.35	15.35	11.26	0.10	0.18	0.18
France	51.97	12.70	9.19	0.11	0.16	0.32
Germany	47.33	12.22	6.40	0.19	0.23	0.23
Hungary	35.22	11.25	10.83	0.16	0.36	0.58
Iceland	67.36	16.55	11.43	0.12	0.15	0.31
Ireland	67.00	18.02	0.00	0.74	0.42	0.60
Italy	48.32	12.46	2.38	0.52	0.34	0.77
Latvia	23.95	6.59	14.45	0.10	0.30	0.44
Lithuania	25.03	4.41	13.84	0.28	0.40	0.56
Luxembourg	59.57	3.81	10.40	0.28	0.22	0.51
Mexico	56.62	15.59	3.55	0.59	0.49	0.72
Netherlands	62.86	18.43	8.74	0.23	0.16	0.09
New Zealand	58.76	13.66	14.14	0.20	0.17	0.24
Norway	57.17	10.68	11.80	0.11	0.23	0.31
Poland	41.16	19.60	5.19	0.75	0.44	0.63
Portugal	46.77	9.12	5.87	0.52	0.32	0.57
Slovakia	32.68	11.37	7.18	0.49	0.33	0.72
Slovenia	45.10	12.67	4.72	0.29	0.22	0.70
Spain	45.53	7.16	3.54	0.36	0.25	0.74
Sweden	60.02	13.83	12.74	0.09	0.10	0.26
Switzerland	62.57	13.30	7.23	0.27	0.23	0.40
United Kingdom	57.68	13.72	12.76	0.08	0.20	0.13
United States	61.84	17.31	19.72	0.53	0.28	0.31
Uruguay	48.26	14.60	11.43	0.22	0.28	0.62
Venezuela	59.36	8.15	10.12	0.46	0.44	0.73
Average	51.6	12.6	9.5	0.32	0.29	0.48

Source: EVS/WVS 1990s, except for indicator (3).

(1) Average level of well-being (proportional score). Applies to divorced/separated and married persons.

(2) Well-being of married persons minus well-being of divorced/separated persons.

(3) Number of divorces per 1,000 married women in 1990 and 2000 (averaged).

(4) Percentage of persons who are Christian and attend church monthly. Applies to all ages and marital status categories.

(5) Percentage thinking divorce is not justifiable. Applies to all ages and marital status categories.

(6) Percentage of unmarried adults 18–50 who are living with parents.

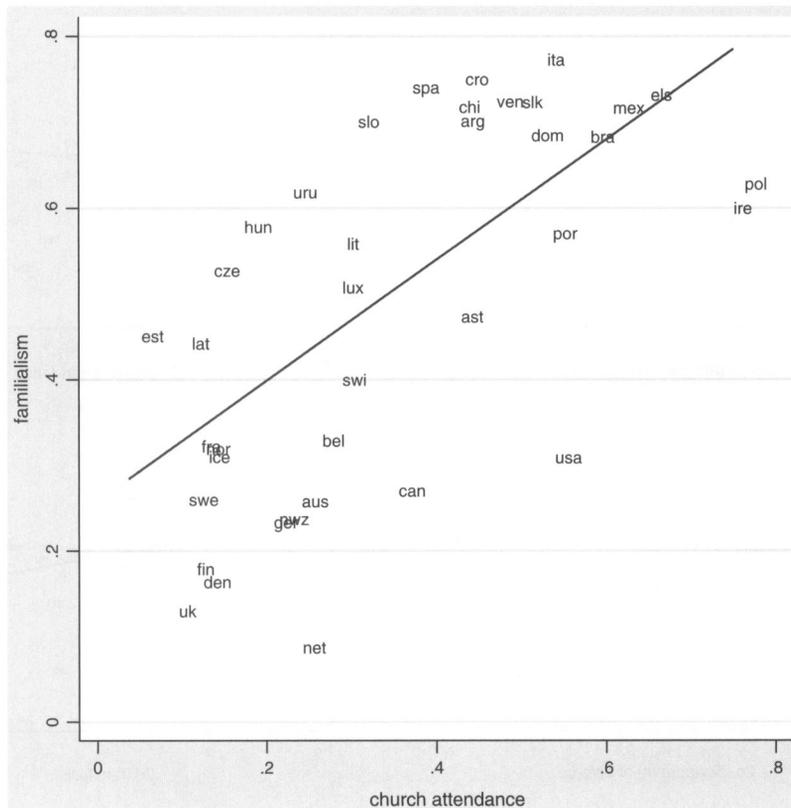


Figure 1 The association between church attendance and familialism

indicators. We focus first on the relationship between the divorce rate and the two indicators of norms. The divorce rate is negatively correlated with church attendance ($r = -0.51$), which is in line with other macro-level research (Kalmijn, 2007). The divorce rate is also negatively correlated with the disapproval score ($r = -0.32$), but this link is weaker (Gelissen, 2003). We further find a high correlation between our two indicators of norms: church attendance and disapproval ($r = -0.77$). For that reason, we will use these indicators (and their interaction effects) in separate models.

We also observe that familialism is related to norms against divorce. This is true for both indicators of norms but more for the rate of disapproval ($r = -0.73$) than for church attendance ($r = -0.65$). Hence, familialistic countries tend to be highly religious and to disapprove of divorce. This will limit our ability to separate these two effects, especially for the disapproval score. I explore the link between religion and familialism by looking at the scatterplot in Figure 1. The figure shows that several religious countries are also highly familialistic (e.g., El Salvador and Mexico)

and that several secular societies are quite individualistic (e.g., Sweden and Denmark). Fortunately, there are also exceptions. Countries like the United States and, to a lesser extent, Canada, are religious but not so familialistic, whereas countries like Hungary and the Czech Republic are familialistic without being very religious.

We now turn to the differences in well-being between the married and the divorced. Table 2 gives descriptive results. On average, the divorced are 13 percentage points lower in well-being than the married (bottom row of Table 2).⁴ Differences between countries are considerable, varying from a low of four points difference in Lithuania and Luxembourg, to a high of 19–20 points difference in Australia and Poland. Are these differences related to the macro-level indicators? We first examine this issue below in a descriptive, bivariate fashion.

Figure 2 shows the association between the well-being gap on the vertical axis, and the four macro-level variables on the horizontal axis. There is a slight negative association at the macro level between the divorce rate and the well-being gap, as expected, but

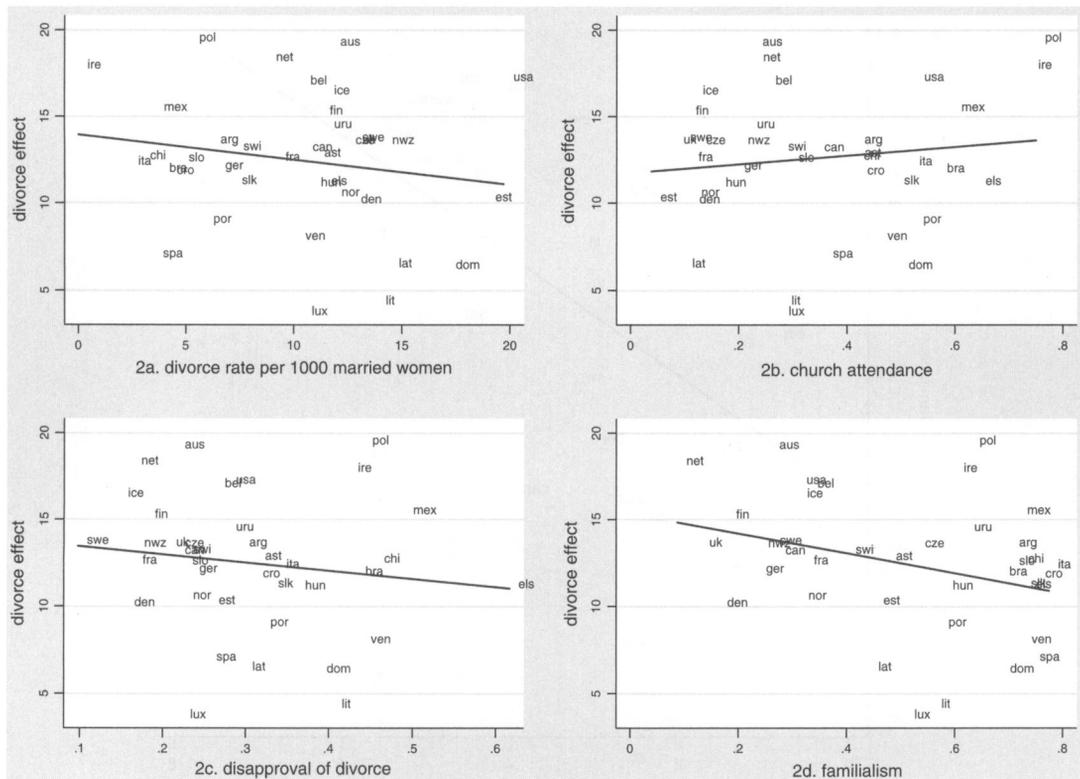


Figure 2 The association between four macro-level indicators and the divorce effect on well being

the pattern is far from clear (Figure 2a). Spain is a clear exception, with a low divorce rate and yet a small effect of divorce. The United States is a good example of an exception at the other side of the plot: a high divorce rate but also quite a large divorce effect. The relationships with the two indicators of norms are relatively weak, at least when we look at these relationships in a bivariate manner. Figure 2b shows that church attendance is mildly positively associated with the divorce effect (in line with expectations) but Figure 2c shows that the disapproval score is negatively associated with the divorce effect (in contrast to expectations). The clearest pattern is observed for familialism. There are smaller differences in well-being between the married and the divorced in familialistic countries than in individualistic countries (Figure 2d).

Regression Analyses

The results so far were based on aggregate-level bivariate analyses. To test the hypotheses formally, I turn to the multilevel regression models in which several macro-level indicators and their interactions are

included simultaneously. The results of the multilevel models are presented in Table 3. I start by discussing the individual-level effects.

People with a higher level of education have higher levels of well-being than people with a lower level of education. Age has a negative effect on well-being, but the effect is not linear given the significant negative quadratic effect. Well-being declines up to age 54 and then increases again.⁵ We should keep in mind that this pattern pertains to the married (and a small group of divorced respondents); hence, they leave out single (never married) respondents who are typically young. The unemployed are 10 points lower in the well-being hierarchy than others (employed, retired, housewives, and students). People who attend church are somewhat happier on average than people who do not attend church. There are small negative effects on well-being of living at home and having children and there are no differences in well-being between men and women. Most of these effects are in line with what is found in the sociological, psychological, and economic research literatures on well-being and happiness (Diener *et al.*, 1999; Veenhoven, 1999; Layard, 2005).

Table 3 Multilevel regression models of well-being on characteristics of individuals and countries with random intercepts and random divorce effects: regression coefficients and *P*-values in parentheses

	Model 1	Model 2	Model 3	Model 4	Model 5
	b	b	b	b	b
	P	P	P	P	P
EVS versus WVS2	-2.82 (0.00) *	-2.82 (0.00) *	-2.81 (0.00) *	-2.82 (0.00) *	-2.82 (0.00) *
WVS1 versus WVS2	-6.48 (0.00) *	-6.48 (0.00) *	-6.47 (0.00) *	-6.48 (0.00) *	-6.48 (0.00) *
Middle level education	2.30 (0.00) *	2.30 (0.00) *	2.30 (0.00) *	2.30 (0.00) *	2.30 (0.00) *
Higher level education	4.55 (0.00) *	4.56 (0.00) *	4.55 (0.00) *	4.56 (0.00) *	4.56 (0.00) *
Education missing	-0.51 (0.60)	-0.52 (0.60)	-0.50 (0.61)	-0.49 (0.61)	-0.50 (0.61)
Woman	0.27 (0.28)	0.27 (0.28)	0.27 (0.28)	0.27 (0.28)	0.27 (0.28)
Age (centered)	-0.12 (0.00) *	-0.12 (0.00) *	-0.12 (0.00) *	-0.12 (0.00) *	-0.12 (0.00) *
Age (centered) squared	0.01 (0.00) *	0.01 (0.00) *	0.01 (0.00) *	0.01 (0.00) *	0.01 (0.00) *
Unemployed	-10.02 (0.00) *	-10.02 (0.00) *	-10.00 (0.00) *	-9.99 (0.00) *	-10.00 (0.00) *
Monthly church attendance	3.70 (0.00) *	3.69 (0.00) *	3.70 (0.00) *	3.69 (0.00) *	3.71 (0.00) *
Having children	-1.72 (0.00) *	-1.72 (0.00) *	-1.72 (0.00) *	-1.72 (0.00) *	-1.72 (0.00) *
Living with parents	-2.25 (0.00) *	-2.24 (0.00) *	-2.31 (0.00) *	-2.29 (0.00) *	-2.30 (0.00) *
Divorced/separated	-11.70 (0.00) *	-11.75 (0.00) *	-11.63 (0.00) *	-11.69 (0.00) *	-11.63 (0.00) *
Country: GDP	4.46 (0.01) *	4.46 (0.01) *	4.47 (0.01) *	4.47 (0.01) *	4.08 (0.03) *
Eastern Europe	-9.72 (0.02) *	-9.72 (0.02) *	-9.68 (0.02) *	-9.71 (0.02) *	-12.66 (0.00) *
South and Central America	8.83 (0.04) *	8.83 (0.04) *	8.81 (0.04) *	8.80 (0.04) *	6.28 (0.11)
Country: divorce rate	-0.50 (0.36)	-0.49 (0.36)	-0.59 (0.34)	-0.54 (0.35)	-1.06 (0.23)
Country: church attendance	2.97 (0.02) *	3.00 (0.02) *	2.95 (0.03) *	3.07 (0.02) *	1.55 (0.19)
Country: disapproval	-5.42 (0.01) *	-5.42 (0.01) *	-5.53 (0.00) *	-5.56 (0.00) *	-4.31 (0.02) *
Country: familialism	-0.02 (0.49)	-0.02 (0.49)	1.12 (0.05) *	0.58 (0.18)	1.14 (0.05) *
Individual divorce × Country divorce rate	-0.48 (0.25)	-0.48 (0.25)	1.77 (0.00) *	-1.94 (0.00) *	2.17 (0.01) *
Individual divorce × Country church attendance					-0.51 (0.28)
Individual divorce × Country familialism					56.01 (0.00) *
Individual divorce × Country disapproval					
Intercept	54.64 (0.00) *	54.65 (0.00) *	54.63 (0.00) *	54.65 (0.00) *	
Random effects					
Variance of divorce effect	7.40 #	7.80 #	6.12 #	4.04 #	6.34 #
Variance of intercept	38.56 #	38.56 #	38.65 #	38.40 #	42.56 #
Proportion reduction in variance of divorce effect		-	0.17	0.45	0.14

Source: EVS/WVS 1990s, own calculations (N = 43,640 individuals in 38 countries).

**p* < 0.05 (one-tailed tests for country-level effects).

#*b* more than twice the standard error.

There are also some effects of macro-level indicators. In line with other studies, we find that countries with a higher GDP have higher levels of well-being. On top of this, Eastern European countries have lower levels of well-being while South and Central American countries have higher levels of well-being (compared to Western Europe, North America, Australia, and New Zealand). There is also a negative effect of familialism: In familialistic countries, people on average have lower levels of well-being. Religious countries, on the other hand, have higher levels of well-being.

The most important effect for the present paper is that of divorce. Model 1 in Table 3 shows that the divorced are 12 points lower in the well-being hierarchy than the married, after the effects of the other well-being determinants are controlled for. This effect is of the same order of magnitude as the effect of unemployment on well-being. The effect size is 0.41, which is considerable.⁶ More importantly, we see that the effect of divorce varies significantly across societies. The cross-country variance of the divorce effect is 7.4, and this is more than twice its standard error. Note that there are no effects of the country's divorce rate on well-being. In other words, when holding constant individual divorce, well-being is not reduced when more people in a society are divorced. The effect of individual divorce is the same in the other models (2–5) where interaction effects are included; this is the result of the fact that the macro-level variables were all centered.

Model 2 includes interaction effects of individual divorce and the divorce rate. This interaction is not statistically significant. We also considered a quadratic term for the divorce rate and an interaction of this term with the divorce variable. This turned out to be not significant either. We next include interactions with church attendance and familialism. In Model 4, both are included, whereas in Models 2 and 3, these interactions are included separately.⁷

We find clear support for the role of familialism. There is a significant interaction effect of divorce and familialism. This effect is significant regardless of whether (the interaction with) church attendance is included (compare Models 3 and 4). The direction of the interaction effect is positive which shows that the (negative) effect of divorce is weaker in more familialistic countries. This is in line with expectations.

The interaction effect with religion is more difficult to see. There is a negative interaction effect of (individual) divorce and church attendance at the country level. The interaction effect is not significant when familialism is not included (Model 2), but it becomes significant when familialism is included

(Model 4). Hence, we can only see the role of the church when another, correlated macro-trait is included that has the opposite effect on the difference in well-being between the divorced and the married. The sign of the interaction effect with church attendance in Model 4 is negative, which shows that the effect of divorce becomes more negative in countries with higher levels of church attendance. This is in line with expectations. In Model 5, we replace the interaction of divorce and church attendance with the interaction of divorce and the disapproval score. Although the direction of this interaction is similar as the direction of the interaction with church attendance, it fails to reach statistical significance.

How large are the interaction effects? Focusing on Model 4, we see that the interaction of divorce with familialism is 2.7. Hence, one standard deviation increase in familialism reduces the average divorce effect with 23% (i.e. $2.7/11.7$). Using information on the range of familialism (Table 1), we estimate that the divorce effect in the least familialistic country is $-11.7 - 1.9 \times 2.7 = -16.8$, whereas it is $-11.7 + 1.3 \times 2.7 = -8.2$ in the most familialistic country. This is a considerable range. For religion, we see a smaller but still substantial effect. The effect is -1.94 , which means that the divorce effect increases with 17% for each standard deviation increase in church attendance in a country. We estimate that the divorce effect is $-11.7 + 2.22 \times -1.94 = -16.0$ in the most religious country and $-11.7 - 1.48 \times -1.94 = -8.8$ in the least religious country. Together, these two interactions (and the insignificant interaction with the divorce rate) explain 45% of the total variance in the effect of divorce (Table 3). This is a substantial amount.

How robust are the cross-level interaction effects? Given the small number of units at the macro-level and the high correlation among macro-level variables, the question arises as to whether specific countries influence the estimates of the cross-level interaction effects. To examine this, I performed an outlier analysis. Several outlier statistics are available but one which may be particularly suitable in the present context is DFBETA. DFBETA measures the influence that an individual case has on the estimates by comparing a model with and without that case. A DFBETA is calculated for each case and can in principle be defined for each regression coefficient. It is defined as the difference between regression coefficients in the full sample and in the sample without the specific case, divided by the standard error of the coefficient in the smaller sample (Belsley, Kuh and Welsch, 1980). Normally, DFBETA is calculated for individual cases but in the present case, I apply

Table 4 Outlier analyses of cross-level interaction effects

	DFBETA's for interaction divorce and:			
	Divorce rate	Church attendance	Familialism	
Argentina	0.06	0.03	0.12	32
Australia	0.06	0.09	0.38	36
Austria	0.01	0.01	0.01	40
Belgium	0.02	0.02	0.07	56
Brazil	0.03	0.02	0.00	76
Canada	0.03	0.17	0.22	124
Chile	0.03	0.02	0.02	152
Croatia	0.07	0.05	0.10	191
Czech Republic	0.12	0.41	0.39	203
Denmark	0.02	0.02	0.15	208
Dominica	0.19	0.09	0.10	214
El Salvador	0.08	0.10	0.04	222
Estonia	0.19	0.11	0.15	233
Finland	0.02	0.02	0.02	246
France	0.01	0.02	0.00	250
Germany	0.51	0.06	0.47	276
Hungary	0.02	0.13	0.13	348
Iceland	0.04	0.10	0.04	352
Ireland	0.02	0.01	0.01	372
Italy	0.05	0.00	0.02	380
Latvia	0.21	0.25	0.23	428
Lithuania	0.57	0.03	0.43	440
Luxembourg	0.07	0.06	0.13	442
Mexico	0.05	0.25	0.02	484
Netherlands	0.02	0.02	0.06	528
New Zealand	0.04	0.03	0.08	554
Norway	0.01	0.06	0.01	578
Poland	0.04	0.46	0.17	616
Portugal	0.05	0.13	0.05	620
Slovakia	0.00	0.00	0.04	703
Slovenia	0.04	0.03	0.02	705
Spain	0.14	0.15	0.20	724
Sweden	0.00	0.15	0.09	752
Switzerland	0.05	0.02	0.03	756
United Kingdom	0.03	0.01	0.03	826
United States	0.73	0.73	0.35	840
Uruguay	0.11	0.23	0.30	858
Venezuela	0.15	0.05	0.20	862
Cutpoint	0.32	0.32	0.32	

Note: $DFBETA = (b1 - b2)/s.e. b2$, where $b1$ is the original b (Table 3) and $b2$ is the b without the listed country.

Source: EVS/WVS 1990s, own calculations ($N = 43\,640$ individuals in 38 countries).

this logic to countries. More specifically, I estimate the model with and without all cases from a specific country and compare the cross-level interaction effects.

Table 4 presents DFBETA's for each country and each of the three interaction effects. The critical value of DFBETA is calculated as $1/\sqrt{n}$. For the present case, we set $n = 38$, which is the number of macro-units. Hence, the critical value is 0.16. The table shows that

there are several countries which have a substantial impact on the estimates. The strongest outlier is the United States. The United States has a higher than average level of church attendance and a lower than average level of familialism (Figure 1), a combination, which is in principle most detrimental to the well-being of divorced persons. In line with this, the United States has a rather strong divorce effect (Figure 2). This combination of values makes the United States a highly

Table 5 Sensitivity analyses of cross-level interaction effects in multilevel regression models: regression coefficients and *P*-values in parentheses

	Model 1A			Model 2A			Model 1B			Model 2B		
	b	P	*	b	P	*	b	P	*	b	P	*
Divorced versus married	-11.87	(0.00)	*	3.44	(0.00)	*	-11.28	(0.00)	*	-10.85	(0.00)	*
Individual church attendance	3.35	(0.00)	*	-11.46	(0.00)	*	3.51	(0.00)	*	3.58	(0.00)	*
Divorce × Church attendance							-1.26	(0.24)		-1.14	(0.31)	
Country: divorce rate	-0.64	(0.34)		-0.63	(0.34)		-0.65	(0.34)		-0.65	(0.34)	
Country: church attendance	3.97	(0.01)	*	4.41	(0.01)	*	3.93	(0.01)	*	4.38	(0.01)	*
Country: familialism	-6.60	(0.00)	*	-6.90	(0.00)	*	-6.62	(0.00)	*	-6.91	(0.00)	*
Individual divorce × Country divorce rate	1.28	(0.06)	~	1.65	(0.02)	*	1.38	(0.05)	*	1.76	(0.01)	*
Individual divorce × Country church attendance	-1.55	(0.03)	*	-0.60	(0.25)		-0.79	(0.20)		0.18	(0.43)	
Individual divorce × Country church × Individual church							-1.52	(0.06)	~	-1.83	(0.04)	*
Individual divorce × Country familialism	2.89	(0.00)	*	2.31	(0.00)	*	2.86	(0.00)	*	2.30	(0.00)	*

Note: Model 1A and B are without the United States, Czech Republic, Germany, Lithuania. Models 2A and B also exclude Poland and Australia. * $P < 0.05$, ~ $P < 0.10$.

Source: EVS/WVS 1990s, own calculations ($N = 43,640$ individuals in 38 countries).

influential country for the cross-level interaction effects. Other outliers are the Czech Republic, Germany, and Lithuania. These countries have a substantial impact on two of the three interaction effects. Finally, we see smaller influences of Australia and Poland, both countries affect only one interaction effect.

In Table 5, I estimated the model again without the outliers. Model 1 leaves out the four strongest outliers, Model 2 leaves out all six outliers mentioned above. We see two important changes. First, the interaction effect of individual divorce and country-level church attendance becomes smaller and is only marginally significant when leaving out four outliers. It becomes non-significant when leaving out all six outliers. Furthermore, we see that the interaction of individual divorce and the divorce rate becomes stronger and is significant in the sample without all six outliers. The direction of the effect is positive, suggesting that a divorce is less detrimental to well-being in countries where divorce is more common. The interaction with familialism appears fairly robust. It is still strong and significant in the samples without outliers.

The conclusion is that the interaction effect of divorce and church attendance that was found earlier, is sensitive to the particular subset of countries. Leaving out countries that are high (low) in familialism and low (high) in church attendance makes it more difficult to find this interaction. Moreover, the negative conclusion about the effect of the divorce rate depends on outliers as well. A more positive

conclusion about this effect is obtained when influential cases are removed.

In formulating our hypothesis about norms, I also considered the possibility of a three-way interaction. More specifically, it was expected that the effect of a norm in a society will be stronger for religious persons than for non-religious persons. To test this notion, I include a three-way interaction of divorce, individual church attendance, and aggregate church attendance in Models 1A and 2A. This interaction was included along with the two-way interaction effect of individual church attendance and divorce. Results are presented in Table 5 (Models 1B and 2B). In both models, the two-way interaction is not statistically significant. The three-way interaction effect is marginally significant in Model 1B and fully significant in Model 2B. The sign of the interaction is negative, and the magnitude is substantial. A graphic representation of this three-way interaction effect is presented in Figure 3. The figure clearly shows that for religious persons (persons who attend church), a divorce is more detrimental to well-being when more persons in a society are religious. For persons who do not attend church, no effect of the country's level of church attendance on the divorce effect is found. These findings are in line with expectations.

To what extent do the interaction effects of divorce and the three macro-level variables explain the variance in the effect of divorce in the two smaller samples, without the outliers? Calculations show that

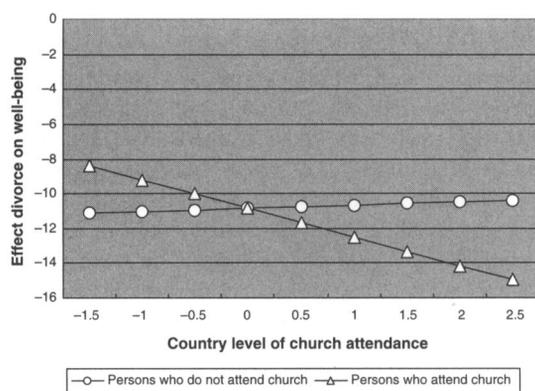


Figure 3 Interaction effect of individual and country-level church attendance

the variance in the divorce effect is explained by 65% and 82% in the samples without outliers. This is more than what was found in the original, full sample.

Finally, I examined whether there are interactions with divorce and other individual level variables. If such interaction effects exist, they may bias the interactions with divorce and the macro-level variables. To examine this, I interacted divorce with each of the other independent variables and included them one-by-one in the model. Only one interaction was statistically significant. The interaction effect of divorce and the linear age term is 0.09 ($P < 0.01$). This shows that the difference in well-being between married and divorced respondents declines with age. This interaction effect did not change the effects of the macro-level variables and their interactions with divorce.

Conclusion

The first conclusion from this work is that in most developed countries, the divorced have a substantially lower level of well-being than the married, even after controlling for basic social and demographic determinants of well-being. More importantly, the divorce effect is negative in all the developed country we analyse but its *magnitude* varies significantly across countries. Three hypotheses were examined to understand these differences: the role of norms, the role of support, and the role of selectivity.

I find some evidence for the notion that the divorce effect is weaker when the divorce threshold is low. Theoretically, there was no straightforward expectation about selectivity. On the one hand, one can argue that a lowering of the divorce threshold increases the number of not so unhappy people in the divorced

group, which would make the divorced group as a whole happier. On the other hand, one could argue that a change in the threshold increases the level of happiness in the married group as well. This is also the presumed advantage of a low divorce threshold: fewer people are unhappily married. The outcome of these two tendencies is uncertain. As long as the divorced group is relatively small, the change in the level of well-being in the divorced group can be more pronounced than the change in the level of well-being in the married group. In this case, the difference between the married and the divorced will become smaller. My findings are in line with this interpretation, but we should emphasize that this effect is only found when outliers are removed. Especially interesting is the position of the United States, which has a strong divorce effect, despite a high level of divorce. Analyses show that the United States is a clear outlier in this respect (Table 4).

Strong and unconditional evidence is found for the hypothesis about support. The effects of divorce on well-being are weaker when the family is more central in a society. This effect is found regardless of whether society-level indicators of norms are included in the model. The effect is also not sensitive to outliers. The interpretation of this effect is that families provide support to their members, especially in times of need, and that this supporting role of the family is stronger in more familialistic societies (Kalmijn and Saraceno, 2008). This interpretation is further supported by micro-level evidence from other studies which demonstrates the important role of family members, especially parents, in times of divorce (Miller *et al.*, 1998; Smerglia, Miller and Kort-Buller, 1999).

Do we also find positive evidence for the role of norms against divorce? We expected that in religious societies, as indicated by high levels of church attendance, the effect of divorce on well-being would be more negative than in secular societies. Initially, a significant interaction effect was found but this turned out to be the result of a few highly religious countries with a strong divorce effect (e.g. Poland, the United States, see Table 4). When these outliers were removed, no evidence for this hypothesis was found. Subsequent analyses indicated, however, that there was positive evidence for the hypothesis under certain conditions. More specifically, a significant three-way interaction was found between divorce, individual church attendance, and aggregate church attendance. The pattern showed that for persons who attend church, higher levels of church attendance in a society are associated with a stronger effect of divorce on well-being, in line with the hypothesis. For people

who do not attend church, no interaction effect was found. This result is consistent with a modified notion of norms. People who divorce in a highly religious setting will face more disapproval and feel more guilty, but these effects apply more strongly to the people who themselves support the norm.

The three macro-level characteristics were able to explain a large part of the existing cross-national differences in the divorce effect. New hypotheses are needed to understand the remaining differences. One line of thought lies in the economic consequences of divorce for women. One would expect that effects of divorce on well-being are weaker in countries with more generous social security for divorced women. Earlier studies have found that the deterioration of women's financial situation after divorce is smaller in countries with a stronger welfare state (Uunk, 2004). Next to new hypotheses, it is also worthwhile to study the role of norms in smaller geographical settings. Countries differ internally in their norms and values and it is likely that this will affect the people who 'break the norms' in a society. Earlier studies found more negative social consequences of divorce in more conservative regions in Europe (Kalmijn and Uunk, 2007).

Two methodological notes must be made at the end of this paper. First, I have found that effects of country-level characteristics (in my case, cross-level interactions) are sensitive to the specific sample of countries under consideration. Although I have a reasonable number of macro-units (38) and I estimate effects using multilevel models, this still limits the statistical power of the macro-level effects. I have performed outlier analyses and have shown that there are macro-cases, which may greatly affect the estimates of macro-level effects. These findings suggest that performing an outlier analysis is an important task in applications of multilevel models in comparative research.

Second, I have examined the effects of divorce in a cross-sectional fashion, which leaves room for possible effects of selectivity (Mastekaasa, 1995). Panel data would be better to analyse the effects of divorce, but this cannot be done in the context of a comparative study since there are no large-scale multi-nation panel surveys. It should be kept in mind, however, that even though the overall effect of divorce may be overestimated (or underestimated) in my cross-sectional approach, the question is whether the degree of selectivity varies among countries. My analysis reveals some evidence that the effect of divorce depends on the divorce rate, and by including this cross-level interaction effect, possible biases in the other cross-level interaction effects will be reduced.

Data Reference

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Notes

1. Divorce and separation (of marriage) are treated as equivalent in this article.
2. Physical punishment of divorced persons probably does not occur in the developed countries we analyse.
3. The Orthodox Church, for example, is generally not opposed to divorce (Gelissen, 2003).
4. This average is calculated for the country-specific differences listed in Table 2. Due to country-differences in well-being, this average is not the same as the difference in well-being in the total sample.
5. Calculated as $[\text{effect age}/(-2 \times \text{effect age squared})] + 46.7 = 53.8$.
6. Effect size calculated as -11.7 divided by the standard deviation of well-being (Table 1).
7. We also examined the interaction of GDP and divorce but this was not statistically significant.

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Author's Address

Matthijs Kalmijn, Department of Sociology, Tilburg University, P.O. Box 90153, 5000 LE Tilburg, the Netherlands. Email: m.kalmijn@uvt.nl

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