The intergenerational transmission of divorce in cross-national perspective: Results from the Fertility and Family Surveys

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Email: juho.harkonen@yale.edu http://www.yale.edu/ciqle/juho Abstract

We used data on women's first marriages from the Fertility and Family Surveys to analyse the

intergenerational transmission of divorce across 18 countries and to seek explanations in macro-

level characteristics for the cross-national variation. Our results show that women whose parents

divorced have a significantly higher risk of divorce in 17 countries. There is some cross-national

variation. When compared with the USA, the association is stronger in six countries. This variation

is negatively associated with the proportion of women in each cohort who experienced the divorce

of their parents and with the national level of women's participation in the labour force during

childhood. We conclude that differences in the contexts in which children of divorce learn marital

and interpersonal behaviour affect the strength of the intergenerational transmission of divorce.

Keywords: divorce; intergenerational transmission; Fertility and Family Survey

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Introduction

Social inheritance takes many forms, one of which is the higher-than-average likelihood that those with divorced parents will themselves divorce. This regularity has been established across a wide range of countries, including the United States (Glenn and Kramer 1987; Amato 1996; Wolfinger 1999; Wolfinger 2005), the Netherlands (Dronkers 1997), the former West Germany (Diekmann and Engelhardt 1999) and East Germany (Engelhardt et al. 2002), France (Traag et al. 2000), and several other nations (Diekmann and Schmidheiny 2004; Wagner and Weiß 2006).

This finding has elicited several explanations, some focusing on the socioeconomic, psychological, and socialization effects of parents' divorce on their children while others emphasise biologically and socially transferred factors that increase divorce risks among parents and children alike. Most proponents of these explanations have not considered the possibility that these mechanisms operate differently under different circumstances. In general, there are good theoretical reasons to expect that the effects of risk factors for divorce are not stable (Teachman 2002a, p. 332). Indeed, previous research on the intergenerational transmission of divorce has established variation in the strength of the association both across time (Wolfinger 1999) and between countries (Engelhardt et al. 2002; Diekmann and Schmidheiny 2004; Wagner and Weiß 2006).

The general objective of this study was to improve understanding of the intergenerational transmission of divorce from a cross-national perspective. Using data from the Fertility and Family Surveys on the first marriages of 43,071 women, we compared intergenerational transmission rates in 18 countries: Austria, Flanders (Belgium), Czech Republic, Estonia, Finland, France, East Germany, West Germany, Greece, Hungary, Italy, Latvia, Lithuania, Poland, Spain, Sweden, Switzerland, and the United States.

We had three specific objectives. Firstly, we wished to know whether there was crossnational and cross-cohort variation in the intergenerational transmission of divorce: does the divorce
of parents destabilize their children's marriages to the same extent in different periods and in
different countries? Some previous studies described cross-national and cross-cohort variation in
the association between parents' and children's propensity to divorce. In this study, we investigated
whether these results could be replicated with comparable data and similar model specifications
across the 18 countries by describing the association in each country under different model
specifications and testing for the statistical significance of the differences. We found some crossnational differences, but fewer than one would expect from the literature. Our results did not show
cross-cohort variation.

Secondly, we wished to know more about the sources of these cross-national differences.

We first tested—and refuted—a hypothesis that cross-national differences in the effects of parents' divorce on other demographic behaviour of the family and educational attainment explained cross-national differences in the association between parents' divorce and children's divorce. We then examined the role of various macro-level factors during childhood that might be associated with the strength of the intergenerational transmission of divorce. After analysing a wider set of hypotheses than in previous research, we showed—in line with some previous results—that the frequency of parents' divorce in one's cohort and women's employment rates were negatively correlated with this intergenerational association.

Thirdly, we wished to know more about the micro-level mechanisms that produce the positive association between parents' divorce and children's divorce and how they operate in different social contexts. We interpreted our findings as reflecting the importance of socialization into marital and interpersonal behaviour by parents and other adults (cf. Amato and DeBoer 2001).

Our results did not support explanations that emphasize the psychological or economic consequences of parents' divorce.

The paper proceeds as follows. In the next section, we discuss the literature on the intergenerational transmission of divorce. We then examine reasons to expect that this transmission varies across countries. In subsequent sections we describe our data and the methods we used, then our results, and finally our conclusions.

Explanations of the intergenerational transmission of divorce

Why would divorce by parents increase the risk of divorce by their children? Several explanations can be suggested (cf. Wolfinger 2005, p. 11-34; Wagner and Weiß 2006, p. 484). One of them points to the intergenerational transmission of personality traits and other psychological factors that affect the risk of divorce for parents and children alike. McGue and Lykken (1992) showed that shared genetic factors explain a sizable share of the intergenerational transmission of divorce. This selection explanation can be extended to cover divorce-enhancing traits and behaviours transmitted from parents to children through channels other than biological inheritance, such as socialization in behavioural patterns that undermine marital stability (Wolfinger 2005, p. 17-9).

One variant of the selection argument stresses the role of pre-divorce conflict between parents (e.g. Amato 1993). The often severe conflicts preceding divorce can decrease the psychological wellbeing of children and later increase their risk of divorce. Given this finding, one might expect that children with parents who stay married but in a conflictual relationship would also have lower marital stability. This is not the case. Instead, children of divorced parents have higher divorce rates than those whose parents had unhappy and conflictual marriages but did not divorce (Amato and Booth 1991; Amato and DeBoer 2001). Conflict between parents may even

stabilize marriages by enabling the offspring learn to endure marital hardship (Amato and DeBoer 2001).

Although selection mechanisms matter, there remains space for explanations that focus on the consequences of parents' divorce itself. One line of argument focuses on life-course decisions and outcomes that may weaken marital stability. Wolfinger (2003) found that children of divorce are more likely to marry as teenagers, and in earlier periods tended to marry earlier in general. However, early marriage itself increases the risk of divorce (cf. Härkönen and Dronkers 2006a). The reasons for early marriage among children of divorced parents include (i) marriage as a way out of a stressful or impoverished home environment; (ii) the psychological consequences of their parents' divorce that can also lead to earlier sexual initiation; and (iii) as a result of deprived economic circumstances, a lack of alternatives such as that of remaining in education. Low education itself is a risk factor for divorce in many countries (ibid.).

Children of divorce are more likely to have children out of wedlock (Cherlin et al. 1995; Teachman 2002b), which increases the risk of divorce and partly explains the association between parent's divorce and their children's risk of divorce (e.g., Glenn and Kramer 1987; Bumpass et al. 1991; Amato 1992; Teachman 2002b; Engelhardt et al. 2002; Wolfinger 2005). Furthermore, Wolfinger (2003) found that children of divorce are more likely to opt for the possibly permanent alternative of cohabitation (Wolfinger 2005). If children of divorce are less likely to marry (choosing instead either permanent cohabitation or to remain single), marrying couples may comprise those with a lower propensity for marital dissolution in the first place.

Once married, children of divorce may themselves have traits, attitudes, and behavioural models that undermine marital stability. The divorce of parents usually implies that one of them, usually the father, will be absent for at least part of the individual's childhood. A popular

explanation of the effects of divorce on children's behaviour (one that used to enjoy academic support) equates absent parents (fathers) with absent role models (cf. Wolfinger 2005, p. 12-4). Empirical support for this explanation is, however, weak (McLanahan and Bumpass 1988; Amato 1993; Diekmann and Engelhardt 1999; Wolfinger 2005). For example, children of divorced parents have considerably higher divorce risks than those for whom the death of a parent was the reason for his or her absence (McLanahan and Bumpass 1988; Diekmann and Engelhardt 1999). One common result of a father's absence is a reduction of the household's economic resources, which partly explains the long-term material disadvantages associated with single parenthood (McLanahan and Sandefur 1994).

Other explanations have built on the finding that children of divorced parents show more positive attitudes towards divorce (Amato 1988; Trent and South 1992; Axinn and Thornton 1996) and inferior interpersonal skills (Amato 1996). Although the divorce of parents does indeed affect children's attitudes towards divorce, these attitudes do not appear to explain its intergenerational transmission (e.g. Amato 1996). There is equivocal support for the view that inferior interpersonal skills may be a risk factor. Amato (1996) found that interpersonal behaviour problems explained up to half of the intergenerational transmission of divorce. On the other hand, Amato and DeBoer (2001) found that interpersonal problems did not mediate the effects of parents' divorce on their offspring's thoughts about divorcing, which are an indicator of marital instability and a predictor of divorce. A possible explanation for this apparent inconsistency is that inferior interpersonal skills do not lead children of divorced parents to seek divorce themselves, but do increase the possibility that their spouses will do so.

Another explanation holds that children of divorced parents tend to have a lower long-term commitment to their own marriage than those from intact families (Glenn and Kramer 1987; Amato and DeBoer 2001; Wolfinger 2005). According to this argument, children learn marital behaviour

from their parents and the parents' divorce acts as a signal of possible and acceptable choices when marriages turn sour. This explanation has some supporting evidence (ibid.). For example, Amato and DeBoer (2001) found that when the parents' divorce ended a low-conflict marriage, the divorce was likely to have a strong effect on the stability of the children's marriage. On the other hand, when the divorce ended a high-conflict marriage, the children's divorce risk was lower and similar to that of children from intact families. Children of divorce were also more likely to think about divorcing when marital happiness was low. An interpretation of these findings is that parents who leave a low-conflict marriage send a strong signal that doing so is an acceptable alternative to a seemingly well-functioning marriage, an alternative that their children are particularly likely to adopt if their own marriage shows a low level of happiness (cf. Wolfinger 2005, pp. 27-30). In other words, children of divorced parents are less willing to sacrifice marital happiness for marital stability.

In sum, previous research shows that the association between parents' divorce and children's divorce is partly a product of traits transmitted genetically or otherwise from parents to their children and partly a result of the experience of the parents' divorce itself. Regarding the latter, recent evidence does not support hypotheses that stress the effect of a parent's absence, or conflict in the parents' marriage, or the effect of parents' divorce on children's attitudes towards it. The intergenerational transmission of divorce is mediated in part by life-course decisions and outcomes that also affect the risk of divorce, such as education, age at marriage, cohabitation, and fertility behaviour. Previous research has also shown that, independently of the other factors mentioned, the intergenerational transmission of divorce can be partly explained by the lower marital commitment professed by children of divorced parents and—with somewhat less consistent evidence—by their inferior interpersonal skills. Is there reason to expect that the strength of these mechanisms varies cross-nationally? We turn to this question next.

Social context and the intergenerational transmission of divorce

As mentioned in the introduction, previous findings suggest that the intergenerational transmission of divorce is not a stable association; instead, its strength varies across countries and across time. For example, Wolfinger (1999) found that intergenerational transmission has become weaker in the United States. Diekmann and Schmidheiny (2004) found, using Fertility and Family Surveys data from fifteen countries, that the effects of parents' divorce on that of their offspring ranged from making it 1.5 times more likely in Hungary to 3.2 times more likely in Italy. Similarly, in their meta-analysis of European studies, Wagner and Weiß (2006, p. 491) reported that, on average, parents' divorce increased the probability of divorce among offspring between 13 per cent in Poland and 274 per cent in Italy. These results suggest contextual mediators in the intergenerational transmission of divorce.

Contextual mediators can function in at least the two following ways. First, social context may affect what types of marriage are more likely to dissolve. For instance, Härkönen and Dronkers (2006a) found that the traditionality of the family institution shaped the educational gradient of divorce. Parents' education, on the other hand, affects children's divorce risks (Lyngstad 2006). Social context may also shape other features characteristic of divorced parents, features that may also affect the divorce risk of their children and thus shape the intergenerational association.

Second, social contexts may directly shape the consequences of divorce. Cross-national variation in the economic consequences of divorce is well established (e.g. Aassve et al. 2007). Societal factors can also influence other consequences of divorce that may be reflected in cross-national differences in its intergenerational transmission.

In the foregoing discussion about the mediating effects on intergeneration transmission of several society-level factors, we showed that some explanations receive more support than others. However, most empirical research on the topic has been done in the United States, and we

entertained the possibility that the relevance of particular explanations varied with context. We took the view that testing cross-national hypotheses based on these explanations would provide valuable, albeit indirect, evidence of the way mechanisms behind the intergenerational transmission of divorce varied with context.

First, we considered the possibility that cross-national differences in the transmission of divorce across generations were due to differences in the effects of parents' divorce on demographic and other behaviour that affects divorce risks. Engelhardt and associates (2002) found that differences in the life-course outcomes of parents' divorce explained the differences in the intergenerational transmission of divorce between the former West and East Germanies. They associated these differences with the different socioeconomic and psychological consequences of parents' divorce in these countries. This pattern may apply more generally, but to keep the discussion manageable, we will not elaborate on the particular roles of different life-course factors, some of which were discussed in the previous section. We formulated the hypothesis: *cross-national variation in the intergenerational transmission of divorce is explained by differences in demographic and educational outcomes of parents' divorce* (Hypothesis 1).

Social contexts may affect the association between parents' divorce and their children's divorce beyond these life-course outcomes. A common argument links the intergenerational transmission of divorce to its social acceptance. For example, Wolfinger (1999, p. 415) proposed three reasons why relaxed attitudes towards divorce weaken its intergenerational transmission. First, these relaxed attitudes may reduce the stress and stigma associated with parents' divorce. Secondly, more liberal attitudes and legislation make divorcing easier. Couples who divorce under regimes that are socially and legally strict are likely to be those with more conflictual relationships, and such a regime is likely to keep quarrelling couples together longer than they wish. Thirdly, relaxed attitudes and divorce laws may increase divorce rates regardless of the experience of parents'

divorce, thus weakening its relative strength in affecting children's divorce. From these arguments, we derived the hypotheses that *the intergenerational transmission of divorce is weaker when attitudes towards divorce are more liberal* (Hypothesis 2a), and that *the intergenerational transmission of divorce is weaker when divorce laws are more liberal* (Hypothesis 2b).

The research findings reviewed in the previous section do not support hypotheses about the effects of stress or of conflict between parents, which suggests that hypotheses 2a and 2b may not be supported. Regarding the parent-conflict hypothesis, research suggests that in fact children whose parents ended a low-conflict marriage are particularly likely to divorce when children's marital happiness was low. The signal of low marital commitment that the parents' divorce sends in such situations is that marital happiness does not need to be sacrificed for marital stability (Amato and DeBoer 2001). Following this line of reasoning, we proposed the following hypotheses that contradict those presented above: the intergenerational transmission of divorce is stronger when attitudes towards divorce are more liberal (Hypothesis 3a), and the intergenerational transmission of divorce is stronger when divorce laws are more liberal (Hypothesis 3b).

Parents are not the only people who teach marital behaviour, and societal attitudes and liberal divorce laws have no monopoly in influencing marital behaviour in those societies. The actual behaviour of other persons can also shape the degree to which parents' marital decisions affect their children. Glenn and Kramer (1987, pp. 813-4) suggested that in high-divorce populations, the signal of the fragility of marriage sent by parents' divorce is lower than in low-divorce populations. In the former, people can learn of the possibility and acceptability of divorce by observing the behaviour of couples other than their own parents; thus the relative importance of parents' behaviour is reduced. On the other hand, in low-divorce populations, those whose parents do not divorce are less likely to be socialized into using divorce as a solution to unsatisfactory marriages. From these arguments, we derived the hypothesis that *the intergenerational transmission*

of divorce is weaker in populations with higher levels of divorce in the parents' generation (Hypothesis 4). One should stress that here the focus is on the level of divorce by parents —and the actual behavioural examples they set—rather than on attitudes and divorce laws, which are of course correlated with divorce rates (see above).

Industrialised countries differ markedly in how states support and regulate family life (e.g., Gauthier 1996). The role of divorce legislation has already been discussed above. Additionally, some countries are more generous than others with income transfers to families, which offer an economic buffer against divorce (cf. Aassve et al. 2007). Such transfers may also increase the 'attractiveness' of single parenthood and hasten the divorce process (Gonzalez 2007), thus decreasing the stress associated with it. These considerations led us to the hypothesis that *the* intergenerational transmission of divorce is weaker in countries with more generous welfare states and family transfers (Hypothesis 5).

The promotion of women's employment is another important way in which welfare states support single-parent families. But the employment of the mother can reduce the intergenerational implications of parents' divorce through other channels also. Children of employed mothers are more likely to be consistently in day-care or other 'loco-parentis' facilities. If they have conflict-ridden parents, these children may be less exposed to them, and in consequence may experience less of the stress associated with parents' divorce (cf. Engelhardt et al. 2002). Moreover, such children are more exposed to the experiences of other children and adults, and possibly less likely to be socialized by their parents alone. Some studies have shown that attendance at a day-care facility is positively related to socio-emotional competence (Andersson 1992), with the possible consequence that children of divorced mothers who attended a day-care facility may have fewer problems with interpersonal skills than other children of divorced parents (cf. Amato 1996). Employment of the mother and high rates of women's employment at the society level also signal non-traditional

family practices (e.g. Amato 1996, pp. 630-1). As in the case of relaxed attitudes and laws towards divorce and high overall rates of divorce among parents, these practices may be associated with higher rates of divorce regardless of parents' divorce. Taking into account all these possible processes related to women's employment, we developed the hypothesis that *the intergenerational transmission of divorce is weaker in countries with higher levels of women's employment* (Hypothesis 6).

There has been little comparative research on the intergenerational transmission of divorce. Engelhardt, Trappe, and Dronkers (2002) compared the former West and East Germanies and found that intergenerational transmission of divorce was stronger in the former. They also found that the difference could be explained (in support of our Hypothesis 1) by differences in age at marriage, fertility behaviour, and religiosity. Diekmann and Schmidheiny (2004) used the Fertility and Family Surveys to compare fifteen countries. The association between parents' divorce and children's risk of divorce persisted after controlling for age at marriage and fertility patterns. They found notable cross-national variation, which they linked to differences in the proportion of children who had experienced the divorce of their parents (in support of our Hypothesis 4). In their meta-analysis of studies from nineteen European countries, Wagner and Weiß (2006) also reported important crossnational variation and negative correlations between a measure of 'deinstitutionalisation' of the family, the proportion of children experiencing the divorce of their parents, and the intergenerational transmission of divorce. According to this small literature, our Hypothesis 4 (that relates the likelihood of intergenerational transmission to rates of divorce in the parents' generation) seems to gain the most support. Some results that point to a weakening of the association over time or its differences between subpopulations have also been interpreted in this light (e.g. Glenn and Kramer 1987; Wolfinger 2005). However, a problem with these studies is that they have not usually taken account of other possible explanations for the variation across countries. This is the task of our paper.

Data and methods

We used data for 18 countries from the Fertility and Family Surveys (FFS), conducted by the Population Activities Unit of the United Nations Economic Commission for Europe (see Andersson and Philipov 2002). We included the following countries: Austria, Flanders (Belgium), the Czech Republic, Estonia, Finland, France, East Germany, West Germany, Greece, Hungary, Italy, Latvia, Lithuania, Poland, Spain, Sweden, Switzerland, and the United States. The data were collected in different years in the different countries (see Table 1). Since men are underrepresented in the samples, we used data on the first marriages of women. We focused on marriages instead of all unions (including cohabitations) because marriages continue to send a stronger signal of commitment to an intimate relationship. Cohabiting couples also tend to form a heterogeneous group, ranging from those for whom cohabitation is a real alternative to marriage to those for whom it is simply another form of dating. Additionally, it is likely that there is cross-national variation in the extent to which cohabiting couples resemble married ones.

- Table 1 -

We transformed the data into discrete time event history format, with person-years as the unit of analysis (Yamaguchi 1991). We limited the maximum number of person-years to 15. After considerable data cleaning, we were left with a total sample of 423,949 person-years from 43,071 marriages, of which 7,110 (16.5 per cent) ended in divorce during the observation period.

Our dependent variable was the occurrence of divorce in a specific year. Our main independent variable was the divorce of parents. The exact question concerning their divorce varied somewhat across the countries, although in most countries the respondent was asked whether her parents ever divorced and how old she was when that happened (Festy and Prioux 2002). Festy and Prioux

expressed most concern for the parent-divorce variable in three countries: Finland (where parents' marital status at age 14 was reported) and France and Poland (where parents' marital status at survey date was recorded). We decided, however, to keep these countries. The Finnish data under-represent parent-divorce to some extent whereas the French and the Polish data might over-represent it during childhood and youth. We discuss possible consequences of these decisions in the results section. We excluded respondents whose parents had not divorced but who did not live most of their childhood with two parents. Thus, our comparison group was formed of women who lived with both parents who did not divorce.

The other independent variables were the following: year of birth; marriage duration; duration squared; number of siblings the mother gave birth to; size of locality the respondent grew up in (fewer than 10,000 inhabitants, 10,000 to 100,000 inhabitants, more than 100,000 inhabitants); completed education at the time of interview, because of inconsistencies in the education histories (lower secondary or less (9 years or fewer): International Standard Classification of Education (ISCED) 0–2; (upper) secondary (10–15 years): ISCED 3; any postsecondary: ISCED 4-6) (cf. UNESCO 1997); cohabitation before marriage (dummy); age at marriage; number of children in marriage (time-varying); and whether the woman had any children before her marriage (dummy). The size-of-locality variable was missing for Belgium, Finland, France, and the United States, and the French data did not have information on the number of siblings.

If children of divorced parents—with a presumably higher propensity to divorce themselves—have a lower probability of entering marriage, our estimates could have suffered from sample selection bias. To take account of this possibility, we estimated a Heckman-type sample selection term, the inverse Mills ratio, which we included in the event history models (cf. Heckman 1979). We estimated the selection (first-stage) equation using a probit model, in which marriage was the dependent variable. As independent variables, we used those mentioned above, together with the

following: a measure of whether one had left the parents' home and if so, at what age; age of respondent; and age squared. The predicted probabilities of entering marriage were used to calculate the inverse Mills ratio. In most countries, the results were not very sensitive to the inclusion of the sample-selection correction. The exception was Flanders, where inclusion of the inverse Mills ratio accounted for most of the differences between Models 2 and 3 in Table 3 (see below).

Descriptive information on the variables is presented in Table 2

- Table 2 -

We first estimated three models separately for each country, using logit regression, as is standard in event history analysis with discrete time data (Yamaguchi 1991). We first estimated a baseline model, which included parents' divorce, marriage duration, duration squared, and year of birth as independent variables. These variables were those available for the majority of countries. Our second model added size of locality the respondent grew up in and her number of siblings (when available). Because these two variables can affect both the probabilities of experiencing parents' and own divorce, they were used as control variables. Unfortunately, the data did not allow us to include a fuller set of controls, which ideally would have included such variables as the education or socio-economic status of the parents.

In the third model we also included age at marriage, completed education, premarital cohabitation, a time varying measure of the number of children to which the woman gave birth during the marriage, and a dummy for any births before marriage. These demographic variables were used to assess whether the intergenerational transmission of divorce was mediated by demographic behaviour or educational attainment. In this model we also included the inverse Mills ratio to adjust for possible sample selection bias. Unfortunately, the data available did not include

measures of marital quality, interpersonal skills, attitudes, or marital commitment that could have been used to test the discussed mechanisms directly.

These three models were used to describe and assess the strength of the intergenerational transmission of divorce in our eighteen countries. As we will see, the results suggested crossnational differences. To better assess this variation, we pooled all the country files together and ran two interaction models. The first was based on Model 1 above and included parents' divorce, duration of marriage, duration squared, and year of birth, country dummies, and interactions between country dummies and the other independent variables. The second model added the other independent variables (excluding number of siblings and size of residence the woman grew up in, data on which were not available for all countries), and interactions between them and the country dummies. This second model was used to assess whether country differences in intergenerational divorce transmission could be explained by life-course events and outcomes (Hypothesis 1). The use of these interaction models was equivalent to running separate regressions for each country.

In the second step we analysed macro-level correlates of the intergenerational transmission of divorce. We focused on contexts during childhood and how they shaped the experience of parents' divorce. We used macro level data collected earlier for analysis of cross-national differences in the educational gradient of divorce (Härkönen and Dronkers 2006a; 2006b), and to the extent possible we used time-varying and country-varying macro variables. We focused on seven contextual factors, following our hypotheses.

Our measure of attitudes towards divorce was the proportion of respondents in the World Values Survey (European Values Survey for Greece) who agreed that divorce was justifiable.

Because for some countries we had multiple points of measurement while for others we had only one, we complemented this measure with the proportion of atheists at different time points (from

Barrett et al. 2001).

We estimated the proportion of respondents who experienced parents' divorce within each tenyear cohort in each country from the Fertility and Family Surveys.

We measured strictness of divorce legislation with a three-level categorical variable. In the first category, divorce is either not permitted or permitted on grounds of fault or other major disruption of marital life. We included divorce prohibition in this group for practical reasons having to do with the low number of divorces (or often, annulments) in these regimes. In the second category, divorce is permitted on the grounds of fault, mutual consent of the spouses, prolonged separation, or other indications of an actual breakdown of marriage. Finally, in the third category there are no or only minor legal grounds on which divorce can be denied, and divorce can be granted with very short waiting times. In some cases, classifying a country into one of these categories was not very straightforward. The United States was the most difficult because there each individual state has its own divorce legislation. Since it was not possible to differentiate between the states, we treated the United States as a single case (cf. Härkönen and Dronkers 2006a, pp. 506, 515). We refer the reader to Härkönen and Dronkers (2006a; 2006b) for more information on the divorce-law variable and the sources used.

We used two measures for welfare-state generosity: social expenditure as a percentage of Gross Domestic Product (GDP) to measure welfare-state generosity overall and family cash benefits as a percentage of GDP to measure income transfers targeted at families. With data from the International Labour Organization (ILO) (1967, 1988) and the Organisation for Economic Cooperation and Development (OECD) (1997) we managed to build an effective time series for these variables for all countries but one. The exception is Poland, for which we found data for only one point in time.

Ideally, we would have measured employment of mothers at the individual level. However, because of unsatisfactory labour market histories in the FFS, we measured the proportion of women in the labour market, using ILO Labour Statistics (http://laborsta.ilo.org).

We measured all our macro variables at the time the child was 15 years old. At the time of data collation, we did not manage to obtain data for all variables for every country. Although we examined the Czech Republic and the German Democratic Republic in the first phase, we did not include these countries in the second phase, which means that in the latter our sample consisted of sixteen countries. Because we often could not go back in time as often as we wished, we excluded the oldest birth cohorts.

Results

Intergenerational transmission of divorce in 18 countries

Table 3 shows the effects of parents' divorce on divorce by their offspring in logged odds ratios. We show the results from three models, as discussed above: the first is the baseline model, the second includes controls of childhood experiences (when available), and the third includes measures of demographic behaviour and educational attainment. Because of neglected heterogeneity (see Winship and Mare 1984, p. 517; Wooldridge 2002, pp. 470-472), these estimates cannot be compared directly as showing that, say, the variables added to Model 2 control for a particular percentage of the coefficients in Model 1. Therefore, while we present the familiar logged odds ratios from each model in Table 2, we checked these results against more appropriate estimates using y-standardised coefficients with STATA's 'listcoef' command (Long and Freese 2001, p. 74). The results were closely in line with the ones presented here.

Turning to the results, we find that Poland is the only country for which the estimates of the effects of parents' divorce are not significant in any model. However, one should keep in mind that, because the question about parents' divorce differs in Poland from the one asked in other countries, the result is not fully comparable with that for other countries. The same applies to Finland and France. For Estonia, the estimate becomes non-significant in the second model and remains so in the third one. In the other countries, the estimates remain significant in each model, although for the Czech Republic and Spain the estimates of the effects of parents' divorce in the third model are significant only at the ten per cent level. As mentioned above, when we checked these estimates against y-standardised coefficients, the reduction in their sizes was very similar.

In most cases, controlling for number of siblings and size of locality in childhood does not decrease the size of the estimates in any major way. The y-standardised coefficients decrease by over 30 per cent only in Latvia, and by over 20 percent in Austria, Estonia, Greece, and Lithuania. One must bear in mind that one or both of these controls are missing for Belgium, Finland, France, and the United States. In any case, the estimate for parents' divorce remains significant in most countries after including our set of control variables.

With the exception of Estonia and Poland, the association between parents' divorce and their daughters' divorce remains significant after we control for completed education, age at marriage, premarital cohabitation, premarital births, number of children, and sample selection. Again, coefficient-size reductions are very similar with the y-standardised coefficients. Compared to Model 2, the reduction in effect sizes is the biggest for Flanders, around one third for the United States and the Czech Republic, and somewhat smaller for Estonia, Sweden, and Spain. These results show that demographic behaviour and educational attainment do not explain fully the intergenerational transmission of divorce in our countries, and in most cases, account for only a small part of the

association between parents' divorce risks and their children's divorce risks. In other words, parents' divorce affects the divorce of their offspring through mechanisms over and above these life-course factors.

We also tested whether the association changed across the birth cohorts, but did not find any significant interaction terms (details not shown). Thus we were not able to replicate Wolfinger's (1999) results for the United States or Engelhardt and associates' (2002) finding for the former two Germanies.

The results in Table 3 suggest comparative differences. In Table 4 we show tests of the significance of these differences with two interaction models. The first is based on Model 1 in Table 3, which includes interactions between countries and the independent variables. The second is based on Model 3 in Table 3, which includes the intervening demographic and educational variables but excludes the control variables from Model 2 (owing to missing information for Flanders, Finland, France, and the United States). These two models were used to assess whether the strength of the intergenerational association varied across countries. We compared the two specifications to examine whether the cross-national variation could be explained by differences by parents' divorce in demographic behaviour and educational attainment, as suggested by our first hypothesis. Cross-national variation was contrasted with the United States, since most previous studies used American data and the United States sample is also the largest in the FFS files.

According to Model 1 in Table 4, the intergenerational transmission of divorce is stronger (p < 0.1) than in the United States in six countries: Austria, Flanders, West Germany, Greece, Italy, and Switzerland, though this deviation is stronger than p < 0.05 for only four out of the 17 countries . This suggests relative cross-national stability and few differences. In some cases, such as Spain, the non-significance of the difference may be a product of the small number of divorces among parents.

In any case, the association between parents' divorce and children's divorce may be more stable than previously thought. In the second model, we assessed whether the differences found could be explained by cross-national variation in the effects of parents' divorce on demographic behaviour and educational attainment. This turns out to be true for Flanders only. On the other hand, the Finnish coefficient becomes significant. Our general conclusion is that cross-national differences in demographic behaviour and educational attainment by parents' divorce do not explain the cross-national differences in the intergenerational transmission of divorce, thus contradicting our first hypothesis. Evidently explanations must be sought elsewhere.

Multilevel analysis of macro-level correlates

Table 4 shows that in six countries, the intergenerational transmission of divorce is significantly more likely than in the United States. Country dummies are, however, crude proxies of social context since they are not informative on the factors contributing to the observed cross-national variation. Additionally, the interaction models are inefficient as they use many degrees of freedom.

To examine the role of specific macro-level factors, we continued our analysis with multilevel discrete-time event history models with sixteen countries, as discussed in the methods section (Table 5). The models were otherwise similar to the second model in Table 4 (thus showing 'net' effects of parents' divorce), but the country dummies were replaced with macro-level variables and a country-level random intercept term. The first model included the individual-level variables. Parents' divorce has a positive effect on the divorce risk of their offspring. In the next models, we added each macro-variable separately together with the interaction of the macro-variable and parents' divorce. This was necessary because models with all macro-level variables and their interactions with parents' divorce failed to converge. The interaction term is the most interesting estimate of the models. We also estimated the equations based on Model 1 from Table 4 without changes to our substantive results (details not shown).

Model 2 shows that strictness of divorce laws is not significantly related to intergenerational transmission of divorce. The same holds for the percentage of atheist or non-religious persons in the country. Nor is the interaction between acceptance of divorce and parents' divorce significant. We therefore conclude that liberal attitudes and liberal divorce legislation are not related to the strength of the intergenerational transmission of divorce, contrary to Hypotheses 2 and 3.

Turning to the frequency of parents' divorce within a cohort, the estimates of Model 4 support our hypothesis that the association between parents' divorce and children's divorce is weaker when parents' divorce is more common. This result is in line with previous studies and interpretations by Amato and Keith (1991), Wolfinger (1999; 2005), Engelhardt and associates (2002), and Diekmann and Schmidheiny (2004).

Only one of the interactions between parents' divorce and the three welfare-state and labour-market-related factors is statistically significant: a higher rate of women's participation in the labour market during childhood is negatively related to the strength of the intergenerational transmission of divorce, whereas welfare-state spending patterns do not show a significant association. As discussed above, the level of women's participation in the labour market can be a proxy for at least three societal variables—the extensiveness of the child care system; single mothers' chances of supporting themselves economically; and non-traditional family practices.

- Table 5 -

Finally, we included the two macro-level variables that are significantly related to the intergenerational transmission of divorce in the same model. The results are shown in Table 6. The substantive conclusions remain fundamentally the same since both the level of women's participation in the labour force and the frequency of parents' divorce are negatively associated with the strength of the intergenerational transmission of divorce. The estimate of the interaction term between the frequency of parents' divorce and divorce of own parents is stronger than the interaction between women's labour force activity and parents' divorce, pointing to the importance of the 'normalization' of divorce in reducing its intergenerational transmission.

Discussion

In this study we used event history models and FFS data on the first marriages of 43,071 women to analyse the association between parents' divorce and their children's divorce in 18 countries (Austria, Flanders (Belgium), Czech Republic, Estonia, Finland, France, East Germany, West Germany, Greece, Hungary, Italy, Latvia, Lithuania, Poland, Spain, Sweden, Switzerland, and the United States). We found that, with the exception of Poland, women whose parents divorced have an elevated risk of marital disruption. Furthermore, in most countries (the sole exception being Estonia) the relationship persists after we control for various background and intervening factors.

Our main interest was in cross-national differences in the intergenerational transmission of divorce. Our results show that the association is stronger than that in the United States in six countries: Austria, Flanders, West Germany, Greece, Italy, and Switzerland. With the exception of Flanders, this could not be explained by cross-national differences in life-course behaviours and outcomes by parents' divorce (contrary to our Hypothesis 1). The number of statistically significant differences may seem surprisingly small, given previous results (Engelhardt et al. 2002; Diekmann and Schmidheiny 2004; Wagner and Weiß 2006). Nor do we find (linear) cohort differences, unlike Wolfinger (1999). Small samples can mask some cross-national and cross-cohort differences.

Alternatively, the intergenerational transmission of divorce may be a more stable association than previously thought.

Even though cross-national variation was smaller than expected, we continued our analysis by examining macro-level correlates of the intergenerational transmission of divorce in 16 countries for which such information was available. Country dummies are rather inefficient since they use many degrees of freedom, and they are also not very informative about the factors contributing to cross-national variation. From the existing literature, we derived several hypotheses about the macro-level correlates of the intergenerational transmission of divorce. Our tests of these hypotheses not only provide evidence of the macro-level factors shaping the association between parents' divorce and their children's risk of divorce, but also indirectly shed light on the micro-level mechanisms producing the association.

We failed to find support for hypotheses that based on the stigma of parents' divorce or on conflict between parents; if these had been the driving factors, we would have expected to find that attitudes towards divorce and divorce laws were negatively associated with the intergenerational transmission of divorce (Hypotheses 2a and 2b). Nor did we find a positive relationship, which we would have expected to find if strict divorce regimes kept quarrelling couples together longer than they would have stayed together otherwise, and if conflict between parents taught their children to endure marital hardship (Hypotheses 3a and 3b). Our results do not show any relationship between welfare-state spending or family-policy generosity and intergenerational divorce transmission (contrary to our Hypothesis 5). Thus, although welfare-state transfer policies may well shape the economic consequences of parents' divorce (Aassve et al. 2007), they do not affect other outcomes, such as the children's divorce risk.

Of our set of macro-level factors, the most important affecting this intergenerational association is the frequency of parents' divorce. This finding supports an explanation that stresses the effects of parents' divorce on marital commitment; divorcing parents—especially if they end a low-conflict marriage—send their children a signal of possible and acceptable behaviour when marital happiness is low (Glenn and Kramer 1987; Amato and DeBoer 2001; Wolfinger 2005). When levels of (parents') divorce are high, children whose parents did not divorce can learn of such marital behaviour from people other than their parents; when divorce rates are lower, parents' divorce is likely to have a relatively stronger effect. An alternative explanation points to reduced levels of stigma and stress resulting from the effect of parents' divorce in high-divorce populations (e.g., Wolfinger 1999). However, our other stigma or stress-based explanations are not supported. These explanations have also been challenged by results that show no change in the effects of divorce on other relevant outcomes (Sigle-Rushton et al. 2005). Thus our findings give further support to the low-commitment hypothesis, which has become the major explanation for the intergenerational transmission of divorce (Wolfinger 2005).

We also find a negative relationship between rates of women's labour force participation and the likelihood of the intergenerational transmission of divorce. Given the lack of support for the welfare-state generosity hypotheses (see above), it is unlikely that this is linked with the financial consequences of parents' divorce. Because children in countries with high rates of women's participation in the labour market are likely to spend more time outside the home (in school and day-care), those with conflict-ridden parents may be less exposed to them (cf. Engelhardt et al. 2002). However, as mentioned above, the conflict hypotheses do not receive other support.

It is more likely that the relationship between women's employment rates and the intergenerational transmission of divorce is explained by constraints on the extent to which children are socialized by their parents (children are more exposed to other adults and the experiences of

other children) or by the fact that women's labour market activity reflects non-traditional family practices more generally. Another possible consequence of constraints on socialization by parents is that children who interact with a larger group of adults and children (such as those of employed mothers who attend day-care and the like) learn better interpersonal skills (Andersson 1992), another factor related to the intergenerational transmission of divorce (Amato 1996). Regarding the latter interpretation, non-traditional family practices are associated with higher divorce rates, and may weaken the relative effect of parents' marital behaviour. However, it is again worth noting that attitudes towards divorce were not related to the strength of the intergenerational transmission of divorce. It is possible that, as in the case of parents' divorce rates, actual practices and the behavioural examples they set matter more than general attitudes. Unfortunately, our data did not allow robust checks of these hypotheses with micro-level data on the labour force histories of mothers.

We look forward to replication of our results with other comparative data, such as the forthcoming Gender and Generations Surveys. Our finding of relatively few cross-national differences and cross-cohort stability may not survive tests using larger datasets. We acknowledge that our results do not allow causal interpretations. Future research would benefit from a larger number of macro-level units and longer and more complete time-series that allow the fitting of more complex models. We also look forward to more analyses of the underlying mechanisms with direct measures, especially with data outside the United States. Such data would improve our understanding of these underlying mechanisms in different social contexts.

Notes

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TABLES

Table 1: A cross-national study of the intergenerational transmission of divorce, using data from the Fertility and Family Surveys: Year of data collection, number of (first) marriages, person-years units, and divorces by country

	Year collected	Marriages	Person-years	Dissolutions
Austria	1995-96	3,080	33,250	452
Flanders	1991-92	2,314	21,196	231
Czech	1997	1,193	11,655	235
Estonia	1994	871	7,548	227
Finland	1989-90	2,675	28,544	382
France	1994	1,734	18,271	580
East Germany	1992	1,797	16,041	354
West Germany	1992	1,368	12,235	242
Greece	1999	1,989	21,737	120
Hungary	1992-93	2,678	25,713	409
Italy	1995-96	3,021	33,387	124
Latvia	1995	1,996	19,458	534
Lithuania	1994-95	2,082	20,010	294
Poland	1991	2,914	31,319	161
Spain	1994-95	2,513	26,911	122
Sweden	1992-93	1,721	14,931	294
Switzerland	1994-95	2,942	28,787	383
USA	1995	6,179	52,956	1,966
Total		43,071	423,949	7,110

Source: Fertility and Family Surveys

Table 2. Mean, standard deviation, and range of variables used for a cross-national study of the intergenerational transmission of divorce in 18 countries, using data from the Fertility and Family Surveys

	Mean	Standard	Minimum	Maximum
		deviation		
Divorce	0.02	0.13	0	1
Parents' divorce	0.11	0.31	0	1
Marriage duration	5.63	4.13	0	14
Year of birth (19)	55.75	6.63	38	81
Size of locality in childhood (persons)				
<10,000	0.52	0.50	0	1
10,000-100,000	0.26	0.44	0	1
>100,000	0.22	0.42	0	1
Number of siblings	3.71	2.24	0	20
Age at marriage	21.68	3.47	15	57
Completed education:				
low (ISCED 0-2)	0.35	0.48	0	1
middle (ISCED 3)	0.43	0.50	0	1
high (ISCED 4-6)	0.22	0.42	0	1
Cohabited before marriage	0.26	0.44	0	1
Premarital child	0.07	0.25	0	1
Number of children	1.41	1.04	0	9
Inverse Mills ratio ¹	0.21	0.21	0	3.42
Percentage who agree divorce justified	49.19	6.49	39	72
Percentage atheists	10.73	10.08	1.1	53.3

Percentage with divorced parents	13.65	8.59	0	29.60
Divorce laws:				
Prohibited or strict	0.34	0.47	0	1
	0.65	0.48	0	1
Breakdown, other less strict				
Unilateral no-fault	0.01	0.11	0	1
Family cash benefits as percentage of GDP	1.15	0.91	0	4.9
Social expenditure as percentage of GDP)	14.54	4.07	9.5	31.9
Women's labour force participation (%)	52.85	13.91	27.5	78.9

Sources: Divorce to inverse Mills ratio and percentage with divorced parents: Fertility and Family Surveys; Divorce laws: Härkönen and Dronkers (2006a; 2006b); Percentage atheists: Barrett et al. (2001); Percentage who agree divorce justified: World Values Surveys and (for Greece) European Values Survey; Women's labour force participation: http://laborsta.ilo.org; Family cash benefits and social expenditure: ILO (1967, 1988) and OECD (1997).

¹ The inverse Mills ratio was estimated to correct possible estimation bias resulting from different marriage propensities by women who experienced the divorce of their parents. The inverse Mills ratio was estimated using predicted probabilities from a probit model with marriage as the dependent variable, together with micro-level independent variables plus a variable indicating whether the respondent left the parental home and at what age, age of respondent, and age squared. Please see text for further discussion of independent variables.

Table 3. The intergenerational transmission of divorce in eighteen countries: results of discrete-time event history models

	Model 1		Model 2		Model 3	
	b	s.e.	b	s.e.	b	s.e.
Austria	0.726	0.123**	0.596	0.327**	0.525	0.128**
Flanders ¹	1.035	0.177**	1.033	0.178**	0.629	0.191**
Czech	0.524	0.154**	0.431	0.157**	0.290	0.161†
Estonia	0.380	0.164*	0.265	0.166	0.168	0.168
Finland ¹	0.751	0.156**	0.725	0.157**	0.632	0.164**
France ²	0.553	0.117**	-	-	0.469	0.125**
E-Germany	0.582	0.128**	0.545	0.131**	0.431	0.140**
W-Germany	0.784	0.168**	0.656	0.174**	0.692	0.185**
Greece	1.118	0.320**	0.852	0.127**	0.839	0.329*
Hungary	0.362	0.123**	0.284	0.124*	0.277	0.126*
Italy	1.287	0.306**	1.171	0.321**	1.189	0.333**
Latvia	0.393	0.100**	0.267	0.109*	0.260	0.111*
Lithuania	0.596	0.136**	0.465	0.143**	0.425	0.145**
Poland	0.237	0.390	0.078	0.393	-0.052	0.401
Spain	0.875	0.309**	0.772	0.322*	0.589	0.332†
Sweden	0.674	0.154**	0.593	0.156**	0.476	0.163**
Switzerland	0.813	0.131**	0.717	0.155**	0.630	0.157**
United States ¹	0.465	0.050**	0.458	0.050**	0.307	0.052**

Source: Fertility and Family Surveys

Other independent variables (not shown):

Model 1: parents' divorce, marriage duration, duration squared, year of birth

Model 2: Model 1 + size of locality during childhood, number of siblings

Model 3: Model 2 + completed education, age at marriage, premarital cohabitation, number of children in marriage, premarital births, inverse Mills ratio (sample selection correction)

¹ No size of locality during childhood for Models 2 and 3

² No size of locality during childhood or number of siblings for Models 2 and 3

⁺ p<0.1, * p<0.05, ** p<0.01

Table 4: Test for cross-national differences in the intergenerational transmission of divorce in 18 countries: interaction terms between parents' divorce and country dummies

	Model 1		Model 2	
	b	s.e.	b	s.e.
Austria	0.294	0.133*	0.325	0.136*
Flanders ¹	0.538	0.183**	0.314	0.198
Czech	0.060	0.162	0.035	0.167
Estonia	-0.150	0.170	-0.027	0.173
Finland ¹	0.227	0.167	0.344	0.170*
France ²	0.040	0.126	0.140	0.135
E-Germany	0.108	0.143	0.136	0.148
W-Germany	0.326	0.184+	0.363	0.192+
Greece	0.649	0.324*	0.763	0.328*
Hungary	-0.103	0.132	0.014	0.135
Italy	0.966	0.323**	0.932	0.333**
Latvia	-0.119	0.118	-0.010	0.121
Lithuania	0.103	0.148	0.193	0.152
Poland	-0.229	0.391	-0.329	0.402
Spain	0.404	0.322	0.253	0.335
Sweden	0.199	0.161	0.265	0.167
Switzerland	0.304	0.160+	0.384	0.163*
United States ¹	Ref.		Ref.	

Source: Fertility and Family Surveys

Independent variables (only country*parental divorce shown):

Model 1: parents' divorce, duration of marriage, duration squared, year of birth, country, interactions between country dummies and other variables

Model 2: Model 1 + completed education, age at marriage, premarital cohabitation, number of children in marriage, premarital births, inverse Mills ratio (sample selection correction), interactions between country dummies and other variables

Table 5: Macro-correlates of the intergenerational transmission of divorce in 18 countries: random intercept multilevel discrete-time event history models with macro-level variables measured around age 15, introduced separately.

	Model A:	B: A + divor	rce	C: A + %	D: A + %	E: A + Level	F: A + Female	G: A + Family	H: A + Social
	Individual	laws (Ref: no	o & strict)	atheists or non-	divorce	of parental	labour market	cash benefits	expenditure
	model			religious	justifiable	divorce	participation		
		Less strict	Pure						
			unilateral						
Parents' divorce	0.477**		0.592**	0.550**	0.298	0.904**	1.133**	0.414**	0.295*
Macro-variable									
Main effect		-0.075	-0.112	0.007	-0.010	0.025**	0.002	0.001	0.003
*Parents' divorce		-0.143	-0.182	-0.006	0.004	-0.020**	-0.011**	0.007	0.013
Control variables									
Year of birth	0.015**		0.019**	0.015**	0.015**	0.006	0.016**	0.015**	0.014**
Duration	0.260**		0.259**	0.267**	0.255**	0.266**	0.259**	0.259**	0.260**
Duration ²	-0.016**		-0.016**	-0.016**	-0.016**	-0.016**	-0.016**	-0.016**	-0.016**
Education	-0.043		-0.043	-0.045+	-0.042	-0.048	-0.043	-0.043	-0.043
Age at marriage	-0.048**		-0.047**	-0.048**	-0.048**	-0.048**	-0.048**	-0.048**	-0.048**
Cohabited	0.346**		0.344**	0.350**	0.342**	0.360**	0.343**	0.345**	0.345**

Number of	-0.053**	-0.052**	-0.054**	-0.052**	-0.053**	-0.052**	-0.052**	-0.053**
children								
Premarital child	-0.624**	-0.619**	-0.637**	-0.617**	-0.636**	-0.621**	-0.624**	-0.626**
Inverse Mills	0.571**	0.571**	0.561**	0.590**	0.555**	0.558**	0.564**	0.558**
Country variance	0.273**	0.276**	0.258**	0.287**	0.179**	0.273**	0.273**	0.286**
Ind. variance	0.783**	0.730**	1.058**	0.635**	0.900**	0.783**	0.783**	0.802**
- Log-likelihood	392247	392705	393762	394362	418503	394154	391631	390670

Sources: please see Table 2. + p<0.1, * p<0.05, ** p<0.01

Table 6: Macro-correlates of the intergenerational transmission of divorce in 18 countries: random intercept multilevel discrete-time event history models with macro variables that have significant interaction effects with parents' divorce.

	Model I
Parents' divorce	1.261**
Level of parents' divorce	0.026**
Level of parents' divorce * Parents' divorce	-0.017**
Level of women's labour market	-0.002
participation	
Level of women's labour market	-0.008*
participation* Parents' divorce	
Year of birth	0.007
Duration	0.263**
Duration ²	-0.016**
Education	-0.042+
Age at marriage	-0.048**
Premarital cohabitated	0.355**
Number of children (time varying)	-0.053**
Premarital child	-0.630**
Probability of marrying	0.544**
Constant	0.000
Country variance	0.183**
Individual variance	0.796**
Log-likelihood	417671

Sources: please see Table 2.

⁺ p<0.1, * p<0.05, ** p<0.01