A cross-national comparison of the negative effect of parental separation on offspring’s education

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Abstract

This paper analyses long-term trends and cross-country differences in the effect of parental break-up on child’s educational chances to attain tertiary education. We use data from the first wave of Generation and Gender Surveys for nine countries complemented by macro-level indicators of divorce rate and educational expansion. Logistic regression models show that the negative effect of experiencing parental separation is stronger when divorce is more common. The explanation is declining parental conflict: as divorce spreads in the society, even couples with less conflicts separate and the child is negatively affected by loss of the family rather than relieved from a dysfunctional parental relationship. This pattern was confirmed in most countries.
1 Introduction

Sociological and demographic investigations have shown repeatedly that parental divorce has a multitude of negative effects on the offspring. Children of divorced parents, in comparison to children from non-divorced families, have lower scores on various dimensions of well-being (Amato and Keith 1991b) and continue to do so even as adults (Amato and Booth 1991; Amato and Keith 1991a); attain less education (Evans, Kelly, and Wanner 2001; Fischer 2007; Fronstin, Greenberg, and Robins 2001; Keith and Finlay 1988; Liu 2007), and work in occupations of lower prestige and earnings (Amato and Keith 1991a; Fischer 2007; for women but not men Kiernan 1997). Their future family formation is also impacted as they are more likely to cohabit before marriage, enter marriage at younger ages and experience higher risks of subsequent marital dissolution (Amato 1996; Amato 2003; Biblarz and Raftery 1999; Diekmann and Engelhart 1999; Glenn and Kramer 1987; Keith and Finlay 1988; Li and Wu 2008; on a sample of women Šťastná 2007; Wolfinger 1999).

While the negative consequences of parental divorce on children’s life chances are well documented, less is known about long-term trends and cross-country differences in the strength of this effect and about the mechanism, through which it operates. In this paper, we develop hypotheses on the change in the size of the net negative effect of parental break-up over successive cohorts. Furthermore, we develop a multi-level model linking changes in the association between parental break-up and offspring’s college graduation to the prevailing divorce rate.

We find that the negative effect of divorce is stronger in contexts, where divorce is more common. We attribute this finding the declining to declining parental conflict: as divorce spreads in the society, even couples with less conflicts separate and the child is
negatively affected by loss of the family rather than relieved from a dysfunctional parental relationship. This pattern was confirmed in most countries.

2 **Why are children of divorce socioeconomically disadvantaged?**

Researchers have offered numerous explanations of why parental divorce negatively influences child’s educational chances. These explanations operate with three major arguments. One line of reasoning focuses on the stress associated with parental break-up, another one emphasizes *economic and social deprivation* associated with changing household structure, and the last perspective highlights *selection into divorce* of parents with specific pre-existing qualities (see Amato 1993, 2000 for a review).

Some authors emphasize that parental conflict before and during divorce – rather than divorce *per se* – and resulting stress cause the negative outcomes in the child (Amato 1993; Biblarz and Raftery 1999). Not only the offspring generally suffers from witnessing parental quarrels, he or she can actually become part of it and forced to “choose sides”; the relationship between child and the parents can therefore deteriorate. Moreover, the child can feel guilty for the situation. Parental conflict can also serve as a bad behavioural and problem-solving example (Amato 1993). Children’s school outcomes or life chances in general are negatively impacted as a consequence.

The detrimental effect of parental break-up does not have a single cause, but results from an “accumulation of negative events” (Amato 1993: 33-34, “life stress perspective”), i.e. all of the negative events the child experiences during and after the parental divorce (Amato and Booth 1991). These negative events include parental conflict, loss of contact with one parent, loss of contact with grandparent(s), problems in relationship with custodial parent, parting with pets, or changing residence and school (Amato 1993; see also Sun and Li 2009).
In line with the stress approach is “parental adjustment” perspective (Amato 1993). It looks at the custodial parent and the crucial effect of his or her psychological adjustment after divorce. The strength of the divorce effect on the child is dependent on the ability of the custodial parent to cope with the divorce and the post-divorce situation. The worse the parent copes, the more detrimental the effect on the child. This perspective is based on the view that stress interferes with parenting skills (Amato 1993). Since divorce is a highly stressful event, it is predicted “that decrements in the custodial parent’s psychological state and ability to function effectively in the parental role following marital dissolution can lower the well-being of children” (Amato 1993: 28).

Parental break-up also leads to economic and social deprivation, which results in poorer school outcomes. Post-divorce economic decline leads to an immediate reduction in the resources that could be utilized for the benefit of the children’s education. Divorce also has indirect effects on children’s schooling, since the custodial parent often intensifies her/his work to compensate for the income loss and is hence less often available to help the children with homework and supervise them. Furthermore, tight budget may force the custodial parent to move to a cheaper neighbourhood with lower-quality schools (Sun and Li 2001, 2009; Amato and Booth 1991; Garasky 1995; Fronstin, Greenberg, and Robins 2001). In an extreme case, the child may be forced to leave school and find a job to contribute to the family budget (Keith and Finlay 1988).

Children in single-parent families lack support, efficient supervision, self-esteem, and relevant role models as a result of losing frequent contact with one of the parents. Parenting of a single-parent is often inconsistent and the relationship between a single parent and the child is less hierarchically structured and more peer-like. Single parents can also hold unrealistic expectations concerning the maturity of the child. Taken together, these factors
impact children’s life chances negatively (Biblarz and Raftery 1999; Amato and Booth 1991; Keith and Finlay 1988; Amato 1993 calls this “parental loss perspective”). As summarized by Garasky (1995: 92), the negative effect on education stems from the fact that children from single parent families experience different family hierarchy than their counterparts in intact families: „educational attainment [is seen] as a consequence of parental ability to provide children with the motivation and skills necessary for school achievement. Family disruption or nonmarriage weakens the parent-child relationship and reduces the internalization of parental values and role models. […] This may reduce direct supervision, undermine parental control, and handicap the ability to function in institutions that are fundamentally hierarchical, such as education“.

The selection hypothesis proposes that individuals more prone to divorce also have worse parenting skills (Holley, Yabiku, and Benin 2006; Amato 2000; Biblarz and Raftery 1999). As summarized by Biblarz and Raftery (1999), “people who divorce, for example, are less stable or less competent at family life. Children who experience their parents’ divorce do less well because their parents are less competent, not because of the divorce per se. … The divorce, like the negative child outcomes, may have been a consequence of some pre-existing family dysfunction” (p. 326) or weak family values held by the marital partners (Biblarz and Raftery 1999). Similarly Biblarz and Gottainer (2000: 535-536) propose that “(p)eople who divorce may have pre-existing qualities – alternative value systems or a lack of competency at family life – that make both divorce and problems for children more likely“. This perspective also acknowledges difference between divorced and widowed single-mother families. While perspective of “parental loss” would predict the same level of well-being for children in any single parent family type, Biblarz and Gottainer (2000) found children of single widows to resemble children from intact families (in their educational outcomes and happiness) and children of divorced single mothers to be significantly worse off than both
children from intact and children from widowed households. This gradient of outcomes seems to be a general finding across a variety of outcomes (Amato 1993). The differing outcomes of children were therefore probably due to different social position of widowed vs. divorced mothers (Biblarz and Gottainer 2000).¹

Our analysis focuses on the effect of divorce itself when controlling statistically, among other things, parental education to grasp the variation in the likelihood of divorce along socioeconomic status of the family. Hence, we obtain an estimate of the divorce effect that is closely linked to the stresses and strains resulting from parental separation, while holding socioeconomic resources during childhood stable. We investigate variations in this net effect both across cohorts and cross-nationally, but we also relate the size of the negative net divorce effect to the overall divorce rate in a given time period, while controlling for educational expansion. The next section presents our hypotheses regarding variation in the net effect of divorce across social contexts, then we describe the data and our analytical strategy, results, and conclude with a summary of our findings and a discussion.

3 Variations in the net effect of divorce on educational attainment – developing hypotheses

Theoretically, both the decrease and increase in the negative net effect of parental divorce on children across successive cohorts can be predicted. The former expectation stems from three sources: increasingly tolerant attitudes and norms, liberalizing divorce legislation, and

¹ Biblarz and Gottainer (2000) pondered the explanation via parental conflict (its experience being more likely for children of divorce); they however were not able to test this. They nonetheless documented that the mothers did not differ in the areas of family and child related values, psychological well-being, physical health, and social behaviour but did differ in employment, occupation and financial stress. The difference was found to be linked to the advantageous social positions of widows.
declining selection into divorce on poor parental skills. The latter expectation results from declining levels of parental conflict that may trigger divorce. As a consequence, later cohorts contain a larger fraction of the children among whom the negative consequences of divorce outweigh the benefits of escaping from stressful environment.

We have initially developed these hypotheses to reflect differences between birth cohorts. Yet, they operate with differences in divorce rates that cohorts experience and may thus be easily re-expressed to explicitly link the size of the divorce effect and prevailing divorce rate: higher divorce rates are associated with tolerance, liberal legislation, reduced selection on parenting skills, and reduced parental conflict, while lower divorce rates correlate with less tolerance, more restrictive legislative regulations, high levels of selection on poor parenting skills, and high selection on parental conflict (see e.g. González and Viitanen, 2006; Goode 1993; Kalmijn 2010; Kalmijn, Uunk 2007). Then, the detrimental effect of divorce should decrease as divorce becomes more common, since attitudes and norms become more permissive and the stigmatization of divorced families decreases as a result (Wolfinger 1999; Becker 1993; Prokopec 1972; Dronkers, Kalmijn, and Wagner 2006). Similarly a more liberal divorce legislation makes divorce less stressful and thus lessens the harm to both parents and children (Sigle-Rushton et al. 2005; Dronkers, Kalmijn, and Wagner 2006). The selection explanation of the disadvantage of the children of divorce would also predict the negative effect of parental divorce to be diminishing (cf. Kalmijn 2009, 2010). When divorce becomes more common, the splitting couples should be less selected from those with worse parenting skills (see e.g. Diekmann, Engelhardt 1999; Sigle, Rushton wet al. 2005). We call this set of arguments **declining stress and selection hypothesis.**

On the other hand, processual (Morrison and Cherlin 1995; Sun 2001; Sun and Li 2001; Luepnitz 1979) and parental conflict (Amato 2000; Hanson 1999; Amato, Loomis, and Booth
1995; Booth and Amato 2001) perspectives would lead to a prediction of increasing
disadvantage over successive cohorts. Becker’s (1993) economic theory of marriage also
offers a similar prediction. Using the concepts of gains and utility, Becker argues that the
utility of marriage was high in the past and thus only high-conflict marriages dissolved.
However, as specialization of men in market production and of women in household
production declined in Western societies in the second half of the 20th century, the gains
from marriage become smaller (see also Oppenheimer 1997 for a review of literature testing
this claim). Hence, the partners have much less to lose if they break up, so even low conflict
marriages often divorce (similarly but with different conclusions Wolfinger 1999).

Amato and Hohmann-Marriott (2007) indeed documented an increase in the incidence of
dissolution in low-distress marriages. While dissolution of a high conflict marriage may not
have detrimental effect on the child’s well-being and can even bring a relief from a stressful
living arrangement, breakup of a low-conflict marriage may cause much more stress and
feelings of loss for the child (Amato, Loomis, and Booth 1995; see also Kalmijn and Monden
2006 for a similar hypothesis applied to the well-being of parents). This is called declining
parental conflict hypothesis.

4 Comparative research on the effects of divorce

Sociologists have paid increasing attention to the variations of the divorce effects across
subpopulations within single countries (Amato 2000; Amato, Cheadle 2008; Biblarz, Raftery
1993; Dronkers 1999; Kalmijn 2010; Kalmijn, Monden 2006; McLanahan, Sandefur 1994).
Much less attention has been until recently paid to differences in the size of the divorce effect
across societies or over cohorts. Notable exceptions, which study the consequences of own
divorce on respondent’s own well-beeing, include Stack and Eshleman’s (1998) comparative
study of 16 countries based on data from the 1980s, Diener and colleagues’ investigation of 42 countries in the 1990s (Diener et al. 2000), and Kalmijn’s recent study examining 38 countries from the European value study/World value study databases (Kalmijn 2010). While Stack and Eshleman’s (1998) study indicated fundamental stability in the effects of marital status on well-being across countries, Diener et al. (2000) results indicated a relatively weak negative association between the size of effect of divorce (i.e. a contrast between the married and the divorced) and overall tolerance towards divorce in a country. Kalmijn’s (2010) study interacts several macro-level variables (e.g. divorce rate, church attendance, familialism, and disapproval of divorce) with individual-level indicator of divorce and finds out that – among other things – the individual-level effect of divorce is somewhat weaker when divorce is more common. If this finding generalized to children’s well-being and comparisons over time/over cohorts, it would imply less negative consequences of divorce at higher divorce rates.

Investigations of the stability/change in the effect of divorce are similarly uncommon and much more so with children’s education as the dependent variable. If they are found, they lead to very ambiguous results, perhaps slightly favouring the no trend conclusion. Evans et al. (2001) found that the detrimental effect of parental divorce on the odds of secondary school graduation increased over successive birth cohorts in Australia, while the effect of divorce on the likelihood of college completion did not change. Ely et al. (1999) compared individuals born in 1946, 1958, and 1970 in Britain and found no change in the negative effect of divorce on education. Whereas birth cohort was the only instrument to measure development over time in this analysis, it was taken to approximate concurring changes such as rising unemployment, rising female employment rates, shift to the service sector, and increase in the divorce rate. The authors did not include any direct measurements of these variables into their models. Sigle-Rushton et al. (2005) similarly identified no change in
divorce effect over time in Britain. The authors also used birth cohorts as the basis for their comparison and employed no other measurement of social change, despite remarking on increase in divorce rates throughout the 70s and the increased likelihood of the 1970 cohort to have experienced parental divorce or to have lived in an environment of divorce’s increased commonality.

Comparisons of the well-being of children in divorced and step-families, however, offer ancillary evidence in favour of the argument that higher divorce rates lead to a greater negative individual-level effect of divorce. For instance Andersson (2002) pointed out that countries with relatively higher family disruption rates also exhibit higher rates of re-marriage. It has been recognized that children in stepfamilies fare worse compared to their counterparts in two-biological-parents families (Raley, Frisco, and Wildsmith 2005; Garasky 1995). It has also been observed that remarriages are more unstable than first marriages (Coleman, Ganong, Fine 2000; Cherlin 1978, 1981; Halliday 1980; Furstenberg and Spanier 1984). Some authors argue that it is the experience of multiple family transitions (instability), rather than the experience of divorce or any particular family type, that has the most pronounced impact (Raley, Frisco, and Wildsmith 2005; Aquilino 1996). It could be therefore expected that children of divorced parents are more socioeconomically disadvantaged in contexts of high divorce (and therefore high remarriage and higher number of experienced transitions in the household composition) than children of divorced parents in context with less divorce (and hence less re-marriage and more overall stability in household composition).

Since the empirical evidence regarding variations in the size of the effect of divorce on children’s education has been mixed so far (see also Amato and Keith 1991a; Evans, Kelley, and Wanner 2001; Sigle-Rushton et al. 2005), our analysis aims to test which of the two
hypotheses outlined above applies. Both of the hypotheses relate the trend to the increasing prevalence of divorce, which is becoming more common and more easily available, and the accompanying changes attitudes, norms, legislation, and selection patterns into divorce. Is the negative effect of divorce stronger (as is predicted by the declining parental conflict perspective), when divorce is more common, or is it actually weaker, as is predicted by declining stress and selection hypotheses?

Our contribution to the literature is multiple-fold and consists of

a. Estimating variations in the net effect of divorce across a relatively large group of countries and cohorts

b. Estimating the dynamics of the effect of divorce net of family-level controls and thus emphasizing the stress resulting from divorce over the economic consequences

c. Linking explicitly the net divorce effect with divorce rates rather than making inferences on the basis of comparing countries/cohorts.

5 Data, variables, and method

We use data from the first wave of the Generation and Gender Surveys (United Nations 2005) from nine countries: Australia, Belgium, Bulgaria, Czech Republic, France, Lithuania, Netherlands, Norway, and Romania. We chose this data set, since it contains sufficient information about respondents’ family situation during childhood along with a cross-nationally standardized measure of educational attainment. In principle, we wanted to use as many countries as possible from the GGS, yet some countries were not used, since the data set did not contain some important micro-level variable(s), or reasonably good crude divorce rates could not be obtained from external sources.
We limited the dataset to respondents older than 27 years to make sure that they had enough
time to obtain tertiary education. Respondents who did not spent most of their childhood with
at least one parent were excluded from the analysis. We also deleted cases with incomplete
information about parental break-up and respondent’s educational attainment. Table 1 shows
original and cleaned sample sizes for each country.

All of the countries under study have experienced increase of divorce rates during 20th
century (see Figure 1). Figure 1 shows that the crude divorce rate (=the number of divorces
per 1000 individuals in the population) was below 1 in most of the countries in the first half
on the century. The trends then followed, in general, upward direction, but with a differing
pace. In addition, there were some changes in national divorce laws that caused both upward
and downward turns at different time points (see appendix for detailed history of national
divorce legislations). This offers necessary variation for assessing the effect of divorce
context. We use logistic regression and multi-level logistic regressions as our analytic
instruments.

5.1 Dependent variable

The dependent variable is respondent’s educational attainment. We use a binary indicator of
having at least some tertiary education (i.e. at least ISCED level 5). The proportion of
respondents with tertiary education by country and cohort is shown in Figure 2. There was an
educational expansion in all countries. The share of people with tertiary education varies
between 5 and 10 % in the oldest age groups (people born around 1920) and then grows to 10
– 30 % in the cohorts born around 1960. The share of tertiary educated people in the youngest
cohorts reaches the range between 12 and 45 %. The best educated populations were in the
Netherlands, Australia, Belgium, France, and Norway, while the least educated populations
were in Bulgaria, Romania, and the Czech Republic for most of the 20 % century.
5.2 Main independent variable

Respondents were asked whether their biological parents ever broke up and how old were they at the time of parental breakup. We use a binary indicator of having experienced parental breakup before age 15 as the main explanatory variable. We chose age 15 as the cut-off point, since educational aspirations are formed relatively early and some important educational decisions are made before this age in many countries.

5.3 Control variables

We control for the respondents’ socioeconomic background during childhood measured parental educational attainment. We distinguish four categories: up to lower secondary, secondary, tertiary, and a special category for missing responses. We use the educational attainment of the parent with whom the respondent spend his/her childhood. We considered the education of the more educated parent for respondent from two parent families. We control for respondent’s gender coded 1 for males and 0 for females.

We also utilize country (used as a set of dummy indicators) and birth cohort (categories up to 1939, 1940-1949, 1950-1959, 1960-1969, 1970 and later) as controls. We use two macro-level variables – crude divorce rate and educational expansion. These variables were taken from an external source.

Values of these macro-level variables were computed for country x cohort units. Divorce rates were assigned to each macro-level unit based on the known average age at parental divorce of the children that actually experienced divorce in that specific country/cohort combination (it was typically between 7 and 8 years). For each unit we took the crude divorce rate in the given country in years when children’s parents were, typically divorcing and averaged them (e.g. divorce rates between 1948-1957 in Australia were assigned to all children born between 1940-1949 in that country). Similarly, we averaged the share of people
with university education in each country/cohort unit to obtain a measure of educational expansion. We rescaled both variables to the 0-1 range, where 0 corresponds to the minimal value found in the data (in case of the crude divorce rate, the lowest value was 0.01 in the oldest cohort in Lithuania) and value 1 to the highest value (the highest average divorce rate is 3.18 and is found in the youngest cohort in Lithuania).

6 Results

We begin the analysis with a series of simple binary logistic regression models with university graduation as the dependent variable. As a first step, we want to see if the effect of parental break-up varies by cohort within countries. We build a simple model that contains only three predictors: parental break-up, country dummies, and cohort dummies. This is model 1 in Table 2. Then, we add the interaction between cohort and break-up into the model and create Model 2. Statistical comparison of the two models tells us that – by criteria of classical inference – we shall not omit the interaction from Model 2 (LR test returns L2=16.3 with 4 degrees of freedom). Hence, we conclude that the size of the negative divorce effect changes over cohorts.

Estimated coefficients of Model 2 are presented in Table 3. We see that the effect of parental break-up is not significant in the oldest cohort born before 1939, though it is negative (the effect on the log odds of complete tertiary education is -0.08). The effect becomes more negative in each subsequent cohort. For instance, the difference in the log odds of completing university between children of divorced parents and children from intact families was -0.274 (= -0.08-0.194; see Table 3) in the 1960-1969 birth cohort and it further grows to -0.458 (= -0.08-0.378) in the 1970-1985 birth cohort. This last difference is statistically significant at the 0.01 level. Hence, we can conclude that the negative effect of parental break-up on children’s education grows in time. Figure 3 visualizes this development.
Other estimated parameters of Model 2 are not surprising: the main effect of country indicates that higher education is more easily accessible in some countries and less accessible in some other countries (e.g. the Czech republic, Lithuania, and Romania exhibit particularly low odds of completing university education). We further observe that men, on average, have lower chances to obtain tertiary degrees than women. The main effect of cohort reflects educational expansion – the growing odds of obtaining tertiary degrees in the population.

In the next step, we use a multi-level specification to model university graduation. We specify unique combinations of country x cohort to be the macro-level units. We use country fixed-effects (dummies) as controls and we add two new macro-level variables into the models – prevailing divorce rate at the time when the respondent was growing up and a measure of educational expansion. Model 5 adds all covariates additively, while Model 6 interacts parental break-up with divorce rate.

Table 4 presents goodness of fit statistics of these multi-level models. By criteria of classical statistical inference we should prefer Model 6 to Model 5, i.e we should not leave the interaction out of the model (the comparison of the two models leads to L2=16.0 with 1 degree of freedom).

Estimated effects of Model 5 are presented in Table 5. We see from the main effect of parental break-up, that parental separation had no effect on the odds of college graduation when the crude divorce rate was at its minimum. Yet, the interaction between parental break-up and divorce rate tells us, that the effect of break-up is large and negative, when the divorce rate reaches its maximum existing in our data set. This basic relationship holds even though
our model controls statistically parental education, respondent’s gender, country, and educational expansion.²

7 Conclusions

This paper analysed long-term trends and cross-national variations in the effect of parental breakup on children’s the odds of attaining tertiary education in nine countries. We focused on the effect of the experience of parental separation when controlling for parental socioeconomic status and other variables. Our analysis is unique, since it uses a relatively large sample of countries, makes comparisons both over cohorts and across nations, and finally explicitly links the size of the divorce effect to the prevailing divorce rate. We evaluated two competing hypotheses: declining stress hypothesis and declining parental conflict hypothesis. Both of them are related to the increasing prevalence of divorce in the countries under study. The hypothesis of declining parental conflict assumes that the divorce disadvantage increases. As divorce becomes common, even couples with less conflicts separate and the child is negatively affected by loss of the family rather than relieved from a dysfunctional parental relationship. This explanation was supported by the analysis: indeed the negative effect of parental separation is stronger (i.e. more negative) in contexts, when divorce is more common.

² We also estimated a model that contains a three-way interaction between break-up, divorce rate, and country, to see if our general result holds in each individual country. Our results indicate, the negative effect of parental break-up diminishes when the divorce rate changes from its observed minimum to its observed maximum in each country. The only exceptions are the Czech Republic and Romania, where the negative effect of parental separation seems to grow with augmenting divorce rates.
8 References


9 Tables and Figures

Table 1. Datasets used in the analysis. GGS, first wave.

<table>
<thead>
<tr>
<th>Country</th>
<th>Original N</th>
<th>Final N</th>
<th>Year of data collection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>7,125</td>
<td>5,666</td>
<td>2005-2006</td>
</tr>
<tr>
<td>Belgium</td>
<td>7,163</td>
<td>6,005</td>
<td>2008-2010</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>12,858</td>
<td>10,234</td>
<td>2004</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>10,006</td>
<td>7,546</td>
<td>2005</td>
</tr>
<tr>
<td>France</td>
<td>10,079</td>
<td>8,202</td>
<td>2005</td>
</tr>
<tr>
<td>Lithuania</td>
<td>10,036</td>
<td>7,969</td>
<td>2006</td>
</tr>
<tr>
<td>Netherlands</td>
<td>8,161</td>
<td>6,812</td>
<td>2002-2004</td>
</tr>
<tr>
<td>Norway</td>
<td>14,881</td>
<td>12,676</td>
<td>2007-2008</td>
</tr>
<tr>
<td>Romania</td>
<td>11,986</td>
<td>10,701</td>
<td>2005</td>
</tr>
</tbody>
</table>

Note: Final N=75815, age 27+, grew up with at least one parent, known information about parental breakup.
Figure 1. Proportion of people with tertiary education by cohort in the countries under study.

Source: Eurostat (European countries), OECD (Australia).
Figure 2. Crude divorce rate by year in the countries under study. 1920-2000.

Source: UN Demographic yearbooks.
Table 2. Goodness of fit statistics of selected binary logistic regression models of university graduation. Selected countries from the GGS, 2005-2010.

<table>
<thead>
<tr>
<th>Model</th>
<th>Model description</th>
<th>BIC</th>
<th>LR2</th>
<th>d.f.</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1</td>
<td>Country+cohort+break-up</td>
<td>-5506</td>
<td>5652.2</td>
<td>13</td>
<td>0.000</td>
</tr>
<tr>
<td>M2</td>
<td>M1+cohort*break-up</td>
<td>-5476</td>
<td>5668.5</td>
<td>17</td>
<td>0.000</td>
</tr>
<tr>
<td>M3</td>
<td>M1+parental education+gender</td>
<td>-13505</td>
<td>13696.4</td>
<td>17</td>
<td>0.000</td>
</tr>
<tr>
<td>M4</td>
<td>M3+ cohort*break-up</td>
<td>-13472</td>
<td>13708.4</td>
<td>21</td>
<td>0.000</td>
</tr>
</tbody>
</table>

**Contrasts**

| M2-M1 | 30   | 16.3 | 4    | 0.003 |
| M4-M3 | 33   | 12.0 | 4    | 0.018 |
Table 3. Estimated coefficients and standard errors (in parentheses) of a selected binary logistic regression model of university graduation, Model 2. Selected countries from the GGS, 2005-2010. N=75815.

<table>
<thead>
<tr>
<th>Explanatory variable</th>
<th>Estimated effect</th>
<th>s.e.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents broke up (vs. no breakup)</td>
<td>-0.080</td>
<td></td>
</tr>
<tr>
<td>Country (Australia is reference category)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belgium</td>
<td>0.238***</td>
<td></td>
</tr>
<tr>
<td>Bulgaria</td>
<td>-0.410***</td>
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</tr>
<tr>
<td>Czech Republic</td>
<td>-1.139***</td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>-0.018</td>
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</tr>
<tr>
<td>Lithuania</td>
<td>-0.294***</td>
<td></td>
</tr>
<tr>
<td>Netherlands</td>
<td>0.262***</td>
<td></td>
</tr>
<tr>
<td>Norway</td>
<td>-0.035</td>
<td></td>
</tr>
<tr>
<td>Romania</td>
<td>-0.914***</td>
<td></td>
</tr>
<tr>
<td>Cohort (1924-1939 is reference category)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1940-1949</td>
<td>0.354***</td>
<td></td>
</tr>
<tr>
<td>1950-1959</td>
<td>0.521***</td>
<td></td>
</tr>
<tr>
<td>1960-1969</td>
<td>0.469***</td>
<td></td>
</tr>
<tr>
<td>1970-1985</td>
<td>0.593***</td>
<td></td>
</tr>
<tr>
<td>Parental education (Up to lower secondary is reference category)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not reported</td>
<td>-0.136***</td>
<td></td>
</tr>
<tr>
<td>Upper secondary</td>
<td>1.087***</td>
<td></td>
</tr>
<tr>
<td>Tertiary</td>
<td>2.27***</td>
<td></td>
</tr>
<tr>
<td>Male (vs. female)</td>
<td>-0.064***</td>
<td></td>
</tr>
<tr>
<td>Interaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cohort*Parental breakup</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1940-1949*Parents broke up</td>
<td>-0.057</td>
<td></td>
</tr>
<tr>
<td>1950-1959*Parents broke up</td>
<td>-0.053</td>
<td></td>
</tr>
<tr>
<td>1960-1969*Parents broke up</td>
<td>-0.194</td>
<td></td>
</tr>
<tr>
<td>1970-1985*Parents broke up</td>
<td>-0.378**</td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>-1.915***</td>
<td></td>
</tr>
</tbody>
</table>

*** p<0.01, ** p<0.05, * p<0.1
Figure 3. Estimated odds ratios of tertiary education on parental breakup estimated by Models M1 and M2. Selected countries from the GGS, 2005-2010.

Source: GGS (1st wave), author’s computation.
Table 4. Goodness of fit statistics of selected multi-level logistic regression models of university graduation. Selected countries from the GGS, 2005-2010.

<table>
<thead>
<tr>
<th>Model</th>
<th>Model description</th>
<th>BIC</th>
<th>LR2</th>
<th>d.f.</th>
<th>p-value</th>
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<tbody>
<tr>
<td>M5</td>
<td>Country+cohort+break-up</td>
<td>72710</td>
<td>8097.1</td>
<td>15</td>
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<tr>
<td>M6</td>
<td>M1+cohort*break-up</td>
<td>72705</td>
<td>8115.4</td>
<td>16</td>
<td>0.000</td>
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<tr>
<td><strong>Contrasts</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M6-M5</td>
<td></td>
<td>-5</td>
<td>16.0</td>
<td>1</td>
<td>0.000</td>
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Table 5. Estimated coefficients and standard errors (in parentheses) of a selected multi-level logistic regression model of university graduation, Model 2. Selected countries from the GGS, 2005-2010. N=75815.

<table>
<thead>
<tr>
<th>Explanatory variable</th>
<th>Estimated effect</th>
<th>s.e.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational expansion</td>
<td>1.363***</td>
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<tr>
<td>Divorce rate</td>
<td>-0.466***</td>
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<tr>
<td>Parental breakup</td>
<td>0.019</td>
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</tr>
<tr>
<td><strong>Parental education</strong> (Up to lower secondary is reference category)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not reported</td>
<td>-0.169***</td>
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</tr>
<tr>
<td>Upper secondary</td>
<td>1.110***</td>
<td></td>
</tr>
<tr>
<td>Tertiary</td>
<td>2.288***</td>
<td></td>
</tr>
<tr>
<td><strong>Male</strong> (vs. female)</td>
<td>-0.067***</td>
<td></td>
</tr>
<tr>
<td><strong>Country</strong> (Australia is reference category)</td>
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<td></td>
</tr>
<tr>
<td>Belgium</td>
<td>0.172*</td>
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<tr>
<td>Bulgaria</td>
<td>-0.087</td>
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</tr>
<tr>
<td>Czech Republic</td>
<td>-0.522***</td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>0.142</td>
<td></td>
</tr>
<tr>
<td>Lithuania</td>
<td>-0.124</td>
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<tr>
<td>Netherlands</td>
<td>0.346***</td>
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<tr>
<td>Norway</td>
<td>-0.095</td>
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</tr>
<tr>
<td>Romania</td>
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<tr>
<td><strong>Interaction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parental breakup x Divorce rate</td>
<td>-0.710***</td>
<td></td>
</tr>
<tr>
<td><strong>Constant</strong></td>
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<td>/lnsig2u</td>
<td>-3.942***</td>
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</tr>
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<td>sigma_u</td>
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<tr>
<td>rho</td>
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</tr>
</tbody>
</table>

*** p<0.01, ** p<0.05, * p<0.1
Figure 4. The effect of parental breakup (odd ratios) on educational chances when divorce rate changes from minimum to maximum value observed in the countries.

Source: GGS (1st wave), author’s computation.

Note: The minimum value of crude divorce rate was 0.01 (Lithuania, cohort 1939) and the maximum value was 3.18 (Lithuania, cohort 1970+).
Appendix: historical change in divorce legislations and divorce rates in selected GGS countries

The divorce legislation of Australia is based on the 1857 English Divorce and Matrimonial Causes Act. The present family law system was introduced in 1975 by the Family Law Act, in which fault grounds were replaced by the irretrievable breakdown ground (Finlay 2001). Until 1975 the crude divorce rate was relatively low, in 1974 the rate was 1.3; in 1975 it was 1.7. In 1976 it however reached the level of 4.5. After this rise the rate was slowly declining, stopping somewhere around the level of 2.5 (2.5 in 1990; 2.6 in 2000; 2.3 in 2010).

The divorce legislation of Belgium is based on Code Napoleon (1804). More or less the same between the years 1804-1974, divorce was made easier in 1994. Nowadays, the most common way of ending one’s marriage is by mutual consent (for more see Pintens 2002). The divorce rates grown dramatically over last thirty years and now are among the highest in Europe (crude divorce rate was 2.0 in 1990; 3.5 in 1995; 2.6 in 2000; and 3.0 in 2010). The high divorce rate however mostly applies to the region of Wallonia, not Flanders where it is low and where the attitudes to divorce have been observed to be negative (for more see Snoeckx et al. 2007).

In Bulgaria, the secular divorce legislation was not applied until 1945; the pre-existing canon law however recognized some grounds for divorce (for more see Todorova 2002). The legislation was changed in 1952, guided by the idea of marriage preservation and leading to a ban of divorce by mutual consent. In 1968 grounds for divorce were reduced to two in the first Bulgarian Family Code: mutual consent and irretrievable breakdown. These grounds were preserved in the second Family Code of 1985, which remains to be the source of
divorce legislation (Todorova 2002). From the 1960s the crude divorce rate has been around 1.5 (1.3 in 1990; 1.3 in 2000; 1.5 in 2010).

In the **Czech Republic**, divorce was possible since 1919; the complex rules of the “First Republic” were reformed in 1950. After 1964 the fault ground was gradually abandoned. The divorce rates were rising for most part of the 20th century. The current family legislation is based on 1998 changes in family law (for more see Hrušáková 2002). This change brought about sharp decline in crude divorce rate, from 3.1 in 1998 to 2.3 in 1999. Since then the rates returned to their previous levels (2.9 in 2010).

In **France**, possibility of divorce briefly existed in early 19th century (Code Napoleon 1804) but was abolished during Restoration. The 1884 Loi Naquet established divorce on fault grounds. Divorce legislation was then reformed in 1975, favouring mutual consent, but keeping other grounds as well (for more see Ferrand 2002). The divorce rate was on the rise since the 1960s and nowadays the divorce is common (Rydell 2002). In 2000s divorce rates were still rising. On the other hand, in the last few years a share of dissolving families with under aged children has been decreasing (Prioux and Mandelbaum 2008). In the year 1990 the crude divorce rate was 1.9; in 2000 it was 1.9; in 2010 it was 2.1.

**Lithuania** – In year 1950 the crude divorce rate was 0.2; in 1960 it was 0.8; in 1970 it was 2.2; in 1980 it was 3.2; in 1990 it was 3.4; in 2000 it was 3.1; in 2010 in was 3.0.

The **Dutch** legislation was liberalized in the 1970s. Since 1971, the only ground for divorce in the Netherlands is irretrievable breakdown. It is, however, also possible to change one’s marriage to registered partnership, which can then be dissolved only by consent of the partners (Boele-Woelki, Cherednichenko, and Coenraad 2002; Fokkema, de Valk, de Beer, and van Diun 2008). The divorce rates increased between the 1960s and the 1980s; currently
the rates are rather high (Kalmijn, de Graaf, and Poortman 2004) but stable (Fokkema, de Valk, de Beer, van Diun, 2008); around 2 (1.8 in 1980; 1.9 in 1990; 2.2 in 2000; 1.9 in 2010).

In **Norway**, divorce was possible since the 17th century. In the 20th century liberalization of divorce legislation was based on liberal laws of the 19th century. In 1909 mutual consent after one-year period of separation was introduced as an addition to already existing fault ground and the irretrievable breakdown ground. Legislation in this form was preserved in 1918 Marriage Act. New divorce regime was introduced by the 1991 Marriage Act (in force since 1993) – divorce can be granted after period of separation or non-cohabitation, consent or particular ground is no longer necessary (Sverdrup 2002; Hyggen and Skevik 2002). The divorce rate increased in the 1960s and the 1970s. Nowadays the crude divorce rate is rather high and according to Tjotta and Vaage (2008) is positively affected by public transfers to divorced families (see also Clarke and Jensen 2004; Andersson et al. 2006). In the year 1990 the crude divorce rate was 2.4; in 2000 it was 2.2; in 2010 it was 2.4.

The divorce rate in **Romania** rose after the WWII when large percentage of the population transitioned from rural to urban. The divorce legislation was very liberal, but due to the rising number of divorces, the divorce was made difficult in 1966. The divorce rate remained low, since 1974 it however started to return to its previous level (in 1960 crude divorce rate was 2.0; in 1970 it was 0.4; in 1974 it was 0.9; and in 1979 it was 1.6). After the end of socialist regime, the divorce legislation was changed; crude divorce rates however remained low compared to other European countries and have not shown a tendency to rise (1.4 in 1990; 1.5 in 2010). The reason might have been economic situation and cultural norms which make the divorce difficult (Muresan, Haragus, Haragus, and Schröder 2008; Boldureanu and Paduraru, 2008). In 2011 new Civil Code made divorce easier for childless partners who
agreed to divorce, and for spouses with minor children who agreed about the post-divorce arrangements (Buda, 2012).

**Crude divorce rate taken from:**


**References in the appendix**


