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The Impact of Both Spouses' Education and Parental Education on Divorce Risk in Norwegian First Marriages

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This paper addresses how the divorce rate is influenced by both the husband's and the wife's education, as well as that of their parents. In addition, effects of increases in educational attainment are assessed. According to both economic and sociological theories, spouses' own levels and their parents' levels of educational attainment influence divorce risk, although predictions are ambiguous. Earlier studies of this relationship have often been hampered by lack of high-quality data. Using data extracted from Norwegian administrative registers for the period 1980--1999 (54178 marriages), discrete-time hazard regression models are estimated. Whereas the spouses' own education reduces divorce rates, the effect from parental education on divorce propensity is opposite. An increase in educational attainment also results in a higher risk of divorce, independently of their current educational attainment and current school enrolment.

(133 words)

Introduction

This paper deals with the importance of the effects of spouses' educational attainment, spouses' parental education and increases in spouses' educational attainments on the risk of divorce. Discrete-time hazard regression models are estimated on a large longitudinal register-based data set of Norwegian first marriages entered from 1980 through 1999 to assess the impact these three variables' have on a couple's risk of marital dissolution.

There is a vast literature that studies the relationship between educational attainment and the risk of divorce (de Rose 1992; Tzeng and Mare 1995; Hoem 1997; Jalovaara 2001). Some of these studies have put emphasis on effects of educational homogamy on divorce risk (Bumpass and Sweet 1972; Kravdal and Noack 1989; Tzeng and Mare 1995; Jalovaara 2003). Other studies have examined the impact of socio-economic background, for instance measured as the educational attainment of the couple's parents or the equivalent occupational class, have on divorce risk (Bumpass et al 1991; Hansen 1995; Berrington and Diamond 1999). Tzeng and Mare (1995) also studied whether increases in educational attainment mattered for a couple's chances of remaining married.

As all theoretical contributions argue that divorce risk is determined *jointly by both spouses' characteristics*, data on

both spouses' characteristics are needed to fully test theoretical predictions. However, as data on the couple as a unit often is in short supply, many empirical studies are limited to studying the impact of characteristics that are measured for one of the spouses only. In cases where both spouses' characteristics *are* measured, there are still studies where the characteristics of husbands and wives are treated separately and not jointly.

This study will use data on both spouses' characteristics and estimate effects of the combination of the spouses' educational attainment on the risk of divorce. In addition, similar combination effects of increases in education and educational attainment of the couple's parents are estimated.

The two main research questions asked in this study are: How do the spouses' education and their parents' education level influence divorce risk? And, do increases in educational attainment raise the couple's divorce risk?

Theoretical predictions are ambiguous for the effects of both parental education and the spouses' own educational attainment. Increases in education are thought to increase divorce risk regardless of which spouse's educational attainment increase.

Theoretical arguments

The economic approach to family dynamics is built on a broad concept of the costs and utility of the available modes of family organization. The basic assumption is that each individual tries to maximize his or her own utility by entering or leaving unions (Becker et al, 1977; Becker 1991).

If individuals would want to marry, entering a marriage must yield certain benefits. These benefits include emotional support, companionship, economic benefits due to economy of scale advantage, division of labour within the household, and possibly childbearing. These benefits taken together, net of the costs of being married determine the spouses' gain from marriage. After internal negotiations on the distribution of the gain from marriage, both persons must have no available or perceived alternative that would yield a higher expected gain. According to this framework divorce will occur if the gain from marriage drops below zero or below the expected utility of a union with an alternative partner.

To locate potential mates, each individual searches a market of potential marriage partners for an optimal match. Searching a market of potential partners entails certain costs. Therefore, the individual must weigh the expected marginal gain from searching longer against the costs connected to further search. The marginal increase in utility from finding a better partner is dependent on market constraints such as

the age/sex structure and other characteristics of the population in which the search is made (South and Lloyd, 1995).

Becker et al (1977) argue that the gain from marriage can be reduced by the arrival of new information about the partner or the marriage market or by unforeseen events. If any of the spouses' shares of the gain from marriage drops below the expected utility from being single, or the expected utility from a remarriage with an alternative partner, he or she will consider divorce. These calculations must include any costs due to the search for an alternative partner and costs associated with the divorce itself. These include economic costs as those related to finding new housing and establishing a new household, but also social costs as for instance any social stigma connected to marital disruption or the breakdown of common social networks.

The gain from marriage is thought to have a positive correlation with the amount of marital-specific capital the couple has acquired. The prime example of marital-specific capital is children, as the parents enjoy a higher gain from having and bringing up children when they are married than separated.

Educational attainment and divorce

In his theory of marriage formation, Becker (1974) implicitly assumes that every individual desires a partner with a high level of education. A consequence of this assumption is that those with high levels of education choose as spouses those of the other sex that also have high levels of education. Persons with lower levels of education are left to marry each other. Heterogamous marriages are only formed due to imperfections in the marriage market and imbalances in education levels of the two sexes.

Following this logic, the gain from marriage is highest for couples where both spouses' levels of education are high. Heterogamous marriages have a lower gain from marriage, but still higher than the gain for couples where both have low levels of education. It is not distinguished between marriages where the husband has the higher level of education and marriages where the wife has the higher level of education. Thus, the heterogamous couples have the same divorce risk regardless of which one has the highest level of education in the couple.

However, the economic effects of higher education will, theoretically, offset the effects of the assortative mating process for divorce risk. One of the cornerstones of the New Home Economics is that spouses' specialization in the production of market goods, in effect labour force

participation, or domestic goods, in effect housekeeping and childrearing, increases the gain from marriage. A wife with a higher education will have better labour market prospects and earnings potential than a wife with a lower education. As a higher income potential reduces the relative benefits from specializing in production of domestic goods, there is a negative effect of wives education on the divorce risk working through their economic potential.

Thus, there are two *opposing* effects from education on the risk of divorce. This means that the net effect of education on divorce risk is theoretically unpredictable (Becker et al 1977, p. 1146). If one can filter out the effect of potential earnings, however, the effect of educational attainment on divorce risk should according to Becker et al (1997) be negative.

Social background and divorce risk

Social background is also included in the exposition of the micro-economic theory provided by Becker et al (1977; p. 1157). Their analysis treats social background as a characteristic that is similar to the non-economic component of the education variable. In efficient marriage markets, also social background will be positively sorted. If parental education is an adequate indicator of social background, this means that those with high social backgrounds marry each other. This

generates homogamic marriage patterns. The assumption underlying this argument is that every actor on the market actually desires a partner with highly educated parents. Thus, the predictions for parental education effects on divorce are identical to those for the non-economic component of the spouses' own education levels.

Implications of homogamy for divorce risk

Most sociological research on assortative mating builds implicitly on the economic approach to family dynamics briefly reviewed above, but discusses to a larger degree several factors such as the influence of third parties and the preferences individuals have for their partners' characteristics. For reviews of both empirical evidence and theoretical arguments, see the work of Epstein and Guttman (1984) and Kalmijn (1998).

Many studies view the formation of assortative mating patterns as the result of a process of competition for persons with the highest income, status, wealth et cetera. This view is similar to the micro-economic approach reviewed above. However, another plausible view of how such patterns are formed would be that individuals have preferences for similarity in characteristics such as educational attainment. Educational attainment do not only signal a person's labour market prospects but also display social characteristics that

are not strongly correlated with economic resources such as preferences and leisure interests. Thus, after having taken the economic benefits of a high education into account, persons may value marriages with individuals with the same educational attainment as themselves higher than marriages with a person that have the highest possible educational attainment.

This view can then be extended to also cover how they end their marriages. Thus, similarity or dissimilarity will influence divorce risk since what brings people together and make them form marital unions, also can contribute in keeping these couples together and discourage them from divorcing. Lewis and Spanier (1979) argue that homogamy in general should promote marital stability. Thus, both homogamy in education and social background will reduce divorce risk.

These predictions are often attributed to a higher "cultural compatibility" among the homogamous couples. This higher compatibility is due to the homogamous couple's common values and beliefs, shared lifestyles, expectations of life, and a "common ground for discourse". These shared characteristics should be more easily established and maintained by persons with the same level of education, and in turn be a prerequisite for a successful marriage (DiMaggio and Mohr, 1985).

Kalmijn (1998) identifies three types of cultural resources that may induce a possible link between homogamy and marital quality: Similarities of values and beliefs can lead to mutual confirmation of each spouse's behaviours and worldviews, similarities in taste may foster joint activities that can strengthen affective bonds among partners, and similarities of knowledge can promote meaningful interaction, mutual understanding, and conversation.

Individualism and Education

Some authors have argued that a shift towards increased individualization and secularisation has taken place in modern, industrialized societies (Lestaeghe and Surkyn, 1988; Inglehart, 1990; Beck and Beck-Gernsheim, 1995). The peoples of the Western world are, according to this thesis, increasingly prone to act on the basis of rational utility-maximization to realize their own interests and preferences, and, consequently, less prone to act as social norms and traditions prescribe.

If the education is one of the engines behind this process, those who are highly educated will be more prone to individualism than those with lower educations. According to Beck and Beck-Gernsheim (1995), these individuals will therefore also divorce more often than others. It is even more likely that parental education has this effect on divorce risk.

As the socialization process might be important for transmitting individualistic values (Vollebergh et al, 2001), social background measured as the education of the spouses' parents could be increasing the couple's divorce risk.

Increases in education and divorce

Becker et al (1977) also argue that the arrival of new information and unforeseen events may reduce the gain from marriage. One way new information can become available is through schooling.

If one of the spouses experiences an increase in education level, this may reduce the gain from the current partner and thereby render the marriage less attractive than the perceived alternatives. However, such a change may also increase the gain from the current marriage if the change improves the match of the spouses' characteristics. For instance, an increase in education for one of the spouses may increase the gain from marriage for the couple, since the other spouse, after the partner has obtained further schooling, to a larger degree has realized a preference for a partner with a high level of education.

The theory does predict a higher divorce risk at time t for couples that have experienced a change at time $t-dt$, when their other characteristics at time t are accounted for. Tzeng and Mare (1995) have shown with American data that changes in

the wife's education level increase disruption risk slightly, but found no such effect for husbands.

Data and Methods

The data set used in this study consists of several modules, all linked together using the personal ID number (PIN) system used by Statistics Norway and other government bodies in Norway. Each individual resident in Norway is assigned a PIN number, and this number can then be used to link different data sources on individuals together to form a single data set.

The nuptiality module include the date of marriage registration, the spouses' previous marital status (used to select first order marriages), and information on whether this marriage ended in divorce or not and the divorce date. Annual files of newly formed marriages from 1980 to 1999 were linked to data on any divorces in these marriages that took place after the end of 1980.

Another data module gives accurate and complete information on the spouses' individual fertility histories up to 2000. The histories contain, for both spouses in all couples included in the nuptiality module, information on all children born before the end of the year 2000. The information on each child includes date of birth, sex and the PIN of the other parent.

Using this information, we can check whether the spouse in question had any children before marriage with a previous partner. We also know how many children the couple has together, when these children were born, and the children's sex. Time series of both educational level and student status are taken from Statistics Norway's Education Register. Unfortunately, the time series for education do not cover the years 1983 or 1984. I regard this as a minor problem. Education levels for those years are set equal to that of 1982. Education level does not change for most of the observations, and when it does, the change will be accounted for in 1985. Information on the educational level of each spouse's parents is linked to the dataset. The parents' educational levels are mainly taken from the Population Census of 1980, but if it is missing from this census, information from the 1970 census is used instead where possible.

To include time series on the spouses' economic standing I have used annual records of taxable income from the Directorate of Taxation's Income Register. The time series cover the whole study period. The reliability of these data is believed to be very good. There is no indicator of average working hours, thus the data show only how much the person earned during the year. A measure of hourly wage would be a much better indicator of the person's true economic potential, but is not available. In accordance with requirements from the

Data Inspectorate, only marriages where the husband is born in 1940, 1945, 1950, 1955, 1960, 1965, 1970, 1975, or 1980 are included in the final data set. Only first marriages for both partners are included due to the special selection processes that are at work in second and higher-order unions. To avoid any confounding factors related to interethnic marriages, only couples where both spouses are Norwegian-born are selected for analysis. After the selection criteria are applied, the data set consists of 54178 marriages.

I have chosen to employ discrete-time hazard regression models in the analysis (Allison, 1984; Blossfeld and Rohwer, 1995). The temporal unit is calendar years. Although higher accuracy could have been achieved by using calendar months instead, it is not considered worthwhile as most variables are measured only at the accuracy of one year. The discrete-time hazard regression model used here is

$$\ln \frac{p}{1-p} = \alpha(t) + \beta x + \gamma z(t)$$

p is the modelled transition probability, α is a time-dependent baseline, β and γ are vectors of regression coefficients, X is a matrix of constant covariates, and Z(t) is a matrix of time-dependent covariates. All independent variables are categorical covariates at either nominal or ordinal response levels.

The real date when the couple broke up can be very different from the divorce date. The process involves several steps before the formal divorce: moving apart, filing separation papers with the authorities (and if there are children involved, entering negotiations with a family counsellor), at least one whole year of separation, and then formal divorce. I choose the time of the formal divorce as the time of dissolution due to its irreversibility. The alternative measure, the time of separation, is not adequate due to the fact that many separated couples reconcile.

Education level is measured for each spouse, and coded as a categorical variable with three levels. The standard classification of 9 education levels is grouped into a three-level scale: primary education, secondary education (mostly three years of either vocational training or academic preparatory courses), and tertiary education. These variables are time-dependent, and therefore updated for every subsequent marriage-year. All time-dependent variables are lagged at least one calendar year, and the variables on educational enrolment and increases in educational attainment are lagged two calendar years.

Similarly to Jalovaara (2003), I want to study the combination of spouses' education. Cross-classifying the spouses' educational levels gives a 3x3 matrix of combinations. The middle cell in the matrix is arbitrarily chosen as a

baseline category. Another 2x2 matrix variable measures if any increases have occurred in the spouses' educational attainment during their marriage.

The parental education variable is measured for each spouse by the highest level of education recorded for either the spouse's father or the spouse's mother. Having at least one parent with secondary schooling is regarded as a high level of parental education. This information is used to compute a 2x2 matrix variable of combinations of parental education.

There is no control for the economic resources of the spouses' parents as such data are not available to the present study. Lack of control for parental economic resources can confound the relationship between education and divorce risk, since economically viable parents may offer financial support to their child who has divorced or is considering divorce as a way out of a bad marriage.

Cohabitation, Marriage, and Divorce

Since the 1970s, cohabitation has become very common in Norway. Currently about a quarter of the unions are cohabitation unions. Among the younger age groups, cohabitation is the dominant form of union. Nevertheless, a large proportion seems to eventually marry (Noack 2001).

It is likely that the couples included in this study are selected into marriage after cohabitation by various socio-economic variables. There may, for instance, by differences in normative climate by education or parental education. Kravdal (1999) reports an effect of educational attainment on the transition rate into first marriage from cohabitation. This may indicate that cohabiting couples with shorter educations that marry, rather than remain cohabitants or split up, may be a (strongly) selected group of firmer unions that are less divorce-prone. If that argument is valid, the results presented here will be underestimating lesser-educated couples' risk of union dissolution.

Results and Discussion

The final data set contains 552367 sub-observations of marriage-years, with a total of 8119 divorces. Table 1 shows the frequency distributions of sub-observations of marriage-years for all the variables included in the model. Note that the classifications of some variables differ for husband and wife. This is the case both for the income variables and for the age at marriage variables.

--> table 1 about here

The only variable where missing values are likely to bias the results is the indicator of parental education. To remedy this, a separate category indicating a missing value was constructed and added to the model along with the categorical variable measuring the spouses' parental education. The estimates for the dummy variable do not indicate any strong bias related to missing values on the parental education variable. All of the remaining 19000 cases where there are missing values on other variables are deleted from the analysis. Table 2 shows the results from the discrete-time hazard regression with all analysis variables included.

--> table 2 about here

Control variables

The duration of marriage effect is strong and negative the first years of the marriage. It approaches the reference category of 5-7 year durations, but declines into a negative effect for durations longer than 5-7 years.

Similarly to those reported by Kravdal and Noack (1989), these results show that age heterogamy raises divorce risk. Couples where the husband is four or more years older than the wife seems to have a risk of divorce that is 19 per cent higher than the divorce risk of age homogamous couples. The disruptive effect is even stronger for age heterogamous

couples where the wife is four years or more older than the husband.

Age at marriage is one of the best-documented determinants of divorce (Booth and Edwards, 1985; South, 1995). For both spouses, marrying young heightens their risk of divorcing. The effects found here are particularly strong for marriages with teenage brides.

Another correlate of divorce that is well documented is the couple's parity. The results from this analysis confirm previous findings with respect to parity and age of youngest child. For example, the effects from having an infant child reduce the divorce risk to a small fraction of that of the baseline group consisting of couples without children. However, as the youngest child grows older, the divorce risk approaches that of the baseline group. And, if the family only has one child, the divorce risk climbs above that of the baseline group. This may be attributed to unrealised expectations of parenthood in one way or another, or just that a low-quality marriage deters the couples from further childbearing.

An indicator of premarital childbearing with someone else than the spouse was included in the models. Kravdal (1988) showed that childbearing before marriage is positively related to divorce risk. Evidence from both Sweden (Liu, 2002) and the United States (Tzeng and Mare, 1995) confirm this. Of these two studies, the former did not have information on both

spouses' premarital childbearing and both lack control for a number of relevant covariates.

The results from this analysis support those of earlier studies, indicating much higher divorce risks for women that initiate childbearing with someone else than their first spouse. If the husband has at least one child with a different woman than his wife before marriage, the risk of divorce is 2.71 times higher than if he has no children with others before the marriage. For the wife, the same odds ratio is 2.16. If both have had children with others before they married, the odds ratio is 2.62.

It is not distinguished here between couples that initiate childbearing before marriage and couples who start their fertility careers within marriage. Due to the rise in cohabitation and out-of-wedlock fertility the elevated risk for couples that initiate childbearing before marriage is now most likely lower than in the results from 1988. An analysis not reported here supports this view.

A categorical variable measured whether any of the spouses was enrolled in an educational programme during that year. If one spouse is studying, the divorce propensity is 1.6 times higher than in the baseline group. If both spouses are studying, however, the effect is non-significant. Both Kravdal and Noack (1989) and Jalovaara (2001; 2003) found higher divorce risks for couples where one or both of the spouses

were enrolled in further education. The enrolment effect can be explained by the poorer economic standing for students versus employed spouses and a large availability of potential mates although this depends much on the age of the studying spouse and the character of the educational program.

If the divorce is anticipated, there is another plausible explanation: A spouse will be more likely to study in order to prepare for the potential economic challenges that may follow a divorce. Although the time lag between divorce and this variable is two calendar years, the preparations for single life might start even earlier.

The income effects are in line with Becker's specialization model, showing a negative effect on the divorce rate of the husband's income and a positive effect on the divorce rate from the wife's income. For the higher income categories, however, the effects are non-significant.

Large differentials in divorce risk by education

The results show a general pattern of effects of educational attainment on a couple's yearly odds of divorce, net of all other covariates. With a higher level of the husband's educational attainment, the divorce risk declines. The same can be observed for the wife's educational attainment, moving downwards from the top of the matrix.

--> table 3 about here

A negative relationship between educational attainment and divorce risk accords with most of the earlier research on this topic from the Nordic countries. The differentials have, however, been smaller in magnitude (Kravdal and Noack 1989; Hoem 1997; Jalovaara 2001, 2003). It is unclear why education matters more for divorce risk in Norway. Some of the earlier research has only had left-truncated marital histories available to them (e.g. Jalovaara 2003). Since this study follows marriage cohorts from the date of marriage until divorce or censoring occur, earlier studies may have underestimated education effects on divorce risk due to left-truncation of their data (Guo 1993). Such underestimation can be particularly strong for education, as Jalovaara (2002) show that the education effects are at their strongest during early marital durations.

The effect of the wife's education level seems to be stronger than the corresponding effect of the husband's education. Theoretically, one should expect that effects of educational attainment show a symmetric pattern, when economic potential is controlled for. In this pattern, couples where the wife has the highest education run the same risks as couples where the husband has the highest education, as long as the couples' total volumes of education are equal.

One possible explanation for the discrepancy between these results and a symmetric pattern, such as the one found for Finland by Jalovaara (2003), is related to the lack of proper control for economic potential: Wife's economic potential is thought (and shown) to have a negative effect on divorce risk. As the variables measuring earnings in the data set in do not fully capture the woman's economic potential (due to widespread part-time work among wives), the whole negative effect of economic potential might not be captured, and the effect from wives education on divorce might in reality be of a slightly smaller magnitude. As more Finnish wives are working full-time than Norwegian wives (OECD 2000), this seems like a plausible explanation for the sex imbalance in education effects on divorce risk in the present study.

A positive effect from parental education

As table 4 shows, couples with well-educated parents clearly run higher risks of divorce net of all other covariates. There are significant positive effects of both his and hers parental education on their risk of divorce.

--> table 4 about here

While Hansen (1995) reported lower divorce risks for couples that are homogamous with respect to social class, the

results presented in table 4 provide no indication of any protective effect for couples that are homogamous with respect to high levels of parental education. The results indicate that couples where both spouses have educated parents run an extra, added risk of divorce compared to the main effects.

However, two important correlates of divorce have been left out: One variable is the economic resources of the spouse's parents. If a spouse has parents that are willing to economically support their son or daughter after a divorce, the spouse might look upon the marital disruption process with fewer concerns. The other is the marital status of the spouses' parents. Parental divorce has been shown to influence individuals' demographic behaviour (Bumpass et al 1991; Cherlin et al, 1995; Kiernan and Cherlin, 1999). If these variables had been included the effect of parental education might have become less positive.

The children of early divorcees will most likely anyhow have more information on how the divorce process can be handled, and may consequently view marital disruption differently than spouses with parents that are still married. In order for the relationship between parental education and divorce risk to be confounded by parental divorce, the effect of the spouses' own education on divorce risk must have been positive for the marriage cohorts to which the parents of the couples in this study belongs to.

Most of the parents of the couples included in this study were born throughout the 1930s. When they married, it was both socially and economically costly to divorce. After a divorce one could experience sanctions from peers and society, and a social support system for single parents was yet to be established. Therefore, the persons who divorced at that time may have been some kind of innovators with more cultural resources to withstand stigma attached to divorce and to cope with the economic strains a marital break-up induces on divorcees. As such resources are often correlated with educational attainment, this would lead to a positive correlation between the education level and the divorce rate for the parents of the couples in the present study.

The above argument implies that the effects of education on divorce risk, throughout the Second demographic transition, must have changed from being positive for the parent generation into being negative for the next generation. It is not extremely unlikely that such changes may have taken place, but it would be contradictory with recent results from the United States reporting that divorce risk factors show a large degree of stability across cohorts (Teachman, 2002).

Increases in Education Results in Elevated Risk of Divorce

Becker et al (1977) argue that divorce is a response to new information or changes in characteristics. An increase in

education may have a persisting effect on the lifestyle and value sets of those who experience it, independently of the effect it has on the socio-economic position of the spouse. It may give an individual access to new social networks, and increase the social distance from the individual's old social networks. In the same way as for educational enrolment, a heightened risk of divorce after an increase in education may be an artefact of anticipation: A spouse in a low-quality marriage may be considering a break-up and therefore also preparing for it by obtaining further education. Tzeng and Mare (1995) found that changes in both wife's income and wife's educational attainment slightly increased dissolution risk. However, they found no effect of increases in the husband's educational attainment on divorce risk.

Qualitative studies have also argued that changes in education can act as a marital stressor, regardless of the new level of education (Hochschild, 1989; Moxnes, 1990). Therefore, all other things being equal, an increase in educational attainment for any of the spouses should raise the couple's divorce risk.

--> table 5 about here

The results shown in table 5 support this view. Most pronounced is the effect of an increase in her level of

education, with an odds ratio of 1.55. Both the two other effects are also strong, however, with a 1.17 times higher risk of divorce associated with an increase in the husband's education and 1.41 times higher risk associated with an increase in both spouses' level. These results show that there is an elevated risk for those who have obtained further education, controlled for their current level of education. It is possible that this effect wanes by time since graduation, but an investigation of that question is left to future research.

Concluding remarks

The findings of this study have shown how educational attainment and parental education influence divorce risk, and in addition shown that a couple's risk of divorce increases if they acquire further education. The results lend no support towards a protective effect of educational homogamy, but showed that education effects on divorce are strongly negative in Norway. The magnitude of the divorce risk differentials presented in this study is substantially larger than in any similar studies of this topic (e.g. Hoem 1997; Jalovaara 2001, 2003). As this study follows actual marriage cohorts through their marital histories rather than observing them through a window of time during their marriage, any bias of left-

truncation is remedied possibly allowing for more accurate estimation of divorce gradients.

Contrary to some earlier research, both his and her parent's education seems to raise the divorce risk. Also for parental education, the protective homogamy effect fails to appear. This finding lends support to a view suggesting that the transmission of liberal attitudes towards marital disruption can be a result of higher parental education. However, it might partly be an artefact of lacking control for parental economic resources.

Finally, the third finding of this study is that any spouse obtaining further education raises the risk of divorce and does so independently of the current level of education. Consequently is the effect of further education also independent of the potentially *improved match* of the spouses' education levels. The relationship might, however, be due to reverse causation: A low-quality marriage and anticipation of divorce may provide an incentive to obtain further education as a preparation for single life.

Together, these three findings have increased our knowledge of how the couple's educational attainment and social background influence its risk of marital dissolution. It is evident from these results that a single existing theory cannot account for all divorce risk gradients.

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Table 1. Distribution of marriage-years over analysis variables

	Per cent	Frequency
Duration		
0	7.6	42916
1	8.7	49207
2	8.7	490090
3	8.2	46223
4	7.7	43550
5--7	20.1	113158
8--10	15.6	87699
11--14	14.2	79762
15+	8.7	48881
Educational attainment (wife's level/husband's level)		
Low/Low	2.2	12835
Low/Medium	6.1	34427
Low/High	0.2	1431
Medium/Low	8.2	46448
Medium/Medium	56.1	314932
Medium/High	8.4	47172
High/Low	0.4	2389
High/Medium	8.7	49290
High/High	9.2	51562
Husband's age at marriage		
--24	26.6	149237
25--29	48.1	269908
30--34	19.0	107019
35+	6.1	34322
Wife's age at marriage		
--19	5.6	31604
20--24	47.9	268866
25--29	35.0	196531
30--34	9.0	50490
35+	2.3	12995
Premarital childbearing		
None	92.5	518865
Husband	2.7	15516
Wife	4.0	22924
Both	0.5	3181
Age homogamy		
Wife 4+ years older	2.5	14239
Age homogamous	65.8	368923
Husband 4+ years older	31.6	17732
Husband's income		
0K--50K	10.2	57260
51K--100K	42.5	238378
101K--150K	34.3	192675
151K--200K	8.5	48059
201K+	4.3	24114
Wife's income		
0K--25K	25.4	142867

26K--50K	22.0	123832
51K--100K	44.6	250310
101K-150K	6.6	37295
151K+	1.1	6182
Parental education		
Both low	48.7	273352
Husband high	16.7	93991
Wife high	18.7	105159
Both high	14.3	80586
Missing data	1.3	7398
Changes in education		
None	86.4	484526
Husband	5.2	29657
Wife	6.1	34702
Both	2.0	11601
Student status		
None study	89.0	499243
One studies	9.3	52552
Both study	1.5	8691
Number and age of Children		
No children	19.4	108818
1, aged 0 years	6.6	37026
1, aged 1-6 years	18.0	101327
1, aged 7+ years	3.2	18039
2, aged 0 years	6.2	34741
2, youngest aged 1-6 years	24.0	135039
2, youngest aged 7+ years	8.5	47904
3, youngest aged 0 years	2.4	13450
3, youngest aged 1-6 years	9.0	50932
3, youngest aged 7+ years	2.3	13210

Table 2. Divorce risk estimates for control variables from the discrete-time hazard regression model. Odds ratios.

Variable	Category	Odds ratio	Lower C.L.	Upper C.L.
Duration of marriage	0	<0.01	<0.01	0.01
	1	0.03	0.02	0.04
	2	0.32	0.28	0.36
	3	0.69	0.63	0.75
	4	0.96	0.89	1.04
	5-7	1.00	.	.
	8-10	0.81	0.76	0.87
	11-14	0.58	0.53	0.63
	15+	0.37	0.33	0.41
Age difference	Wife 4+ yrs	1.37	1.13	1.53
	Homogamous	1.00	.	.
	Husband 4+ yrs	1.19	1.12	1.27
Husband's age	--24	1.24	1.16	1.32
at marriage	25--29	1.00	.	.
	30-34	0.84	0.78	0.91
	35+	0.69	0.59	0.80
Wife's age at marriage	--19	2.11	1.90	2.34
	20-24	1.43	1.35	1.53
	25--29	1.00	.	.
	30-34	0.69	0.61	0.78
	35+	0.40	0.31	0.52
Premarital Childbearing	None	1.00	.	.
	Both	2.75	2.28	3.33
	Wife	2.22	2.03	2.42
	Husband	2.67	2.44	2.93
Number and age of	No children	1.00	.	.
children	1, 0 years	0.16	0.13	0.20
	1, 1-6 yrs	0.88	0.82	0.95
	1, 7+ yrs	1.39	1.25	1.55
	2, 0 yrs	0.11	0.09	0.14
	2, 1-6 yrs	0.64	0.59	0.69
	2, 7+ yrs	1.07	0.96	1.17
	3+,0 yrs	0.10	0.07	0.14
	3+,1-6 yrs	0.53	0.47	0.59
	3+,7+ yrs	0.90	0.76	1.05
Student status	None studies	1.00	.	.
	One study	1.57	1.46	1.69
	Both studies	1.15	0.93	1.44
Husband's income	0K-50K	1.63	1.51	1.76
	51K-100K	1.10	1.04	1.16
	101K-150K	1.00	.	.
	151K-200K	1.05	0.96	1.14
	201K+	0.94	0.82	1.07
Wife's income	0K-25K	0.33	0.30	0.36
	26K-50K	0.45	0.41	0.49
	51K-100K	0.61	0.56	0.66
	101K-150K	1.00	.	.
	151K+	1.14	0.94	1.39
Education level	Low/Low	1.78	1.58	2.00
(wife/husband)	Low/Medium	1.56	1.44	1.69
	Low/High	1.11	0.74	1.66

	Medium/Low	1.35	1.25	1.45
	Medium/Medium	1.00	.	.
	Medium/High	0.71	0.64	0.79
	High/Low	0.68	0.49	0.94
	High/Medium	0.47	0.42	0.52
	High/High	0.38	0.33	0.43
Parent's education	Low/Low	1.00	.	.
(wife/husband)	Low/High	1.17	1.09	1.24
	High/Low	1.13	1.06	1.20
	High/High	1.39	1.29	1.49
Increases in Education	No Inc/No Inc	1.00	.	.
(wife/husband)	Inc/No Inc	1.55	1.42	1.73
	No Inc/Inc	1.17	1.05	1.28
	Inc/Inc	1.41	1.18	1.70

Table 3. Effects of educational attainment on divorce risk net of all other covariates. Odds ratios.

	Husband's level		
Wife's level	Low	Medium	High
Low	1.78	1.56	1.11*
Medium	1.36	1.00	0.71
High	0.69*	0.47	0.38

Table 4. Effects of parental education on divorce risk net of all other covariates. Odds ratios.

	Husband's parents' level	
Wife's parents' level	Low	High
Low	1.00	1.17
High	1.13	1.39

Table 5. Effects of increase in education on divorce risk net of all other covariates. Odds ratios.

	Husband's increase	
Wife's increase	No increase	Increase
No increase	1.00	1.17
Increase	1.55	1.41