The influence of divorce on the cumulated fertility of men and women across Europe

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Introduction

Marriage and fertility rates have been positively correlated in the West for the most part of the 20th century but, at the aggregate level, the association has reversed since the latter part of the 1990s. In a similar vein, the total divorce rate and the total fertility rate displayed a rather strong negative correlation in the period of the 1960s through the 1980s, but this correlation has reversed since the late 1990s, although the association is not as strong as it was 40 years ago (Billari and Kohler, 2004). For instance, Norway, Sweden, the United Kingdom and France are characterised by total fertility rates that circle around 1.8 to 2.0 (which is relatively high compared to other European countries), while they also record total divorce rates of almost 50 percent. Southern European countries on the other hand have combined rather low divorce rates (about 30 percent) with TFR's below 1.35 (Sobotka, 2008).

Though not absent from the research agenda, the demographic literature has directed little attention towards the current link between partnership dissolution and fertility. Yet, the growing divorce rates across Europe imply that this link is becoming increasingly important for the overall fertility level of a country. For example, Sobotka (2008) notes that a substantial part of the higher order births (parity three and above) in Denmark springs from second or higher order unions.

This paper aims to clarify the correlations found on the country level with individual level data. The first part looks at the theoretical mechanisms that link divorce to fertility on the level of the individual life course. Next, we try to substantiate some of the theoretical findings empirically. Using individual level data for 23 European countries we examine whether a past divorce experience is positively or negatively related to the cumulated number of children. Special attention is given to the gender differences to be expected from the literature and to the mediating role of repartnering and remarriage. The *weakness* of the positive association between divorce and fertility rates on the aggregate level suggests that the influence of divorce on childbearing behaviour at the individual level shows considerable cross-country variability. We therefore investigate both the average number of children and the dispersion around the average in an international perspective.

Theoretical background

1. Marital dissolution, repartnering and fertility

Because divorce and subsequent union formation detach people's own fertility career from both their ex-partner's and their new partner's fertility careers, reproductive biographies increasingly become individually defined. Though single parenthood has become more frequent nowadays, childbearing however still largely takes place within the context of a more or less stable relationship. Therefore finding a new partner after union dissolution plays an important part in the fertility careers of individuals. Research has shown that most divorced adults eventually repartner (Ganong et al., 2006). However, there are some important factors that influence the probability of getting a new partner and consequently the probability of a postmarital birth. Characteristics such as age at marital dissolution, gender, the presence of young children in the household and past experiences in family formation have to be taken into account (Brown, 2000).

Age at marital dissolution is one of the key predictors of repartnering as well as of subsequent childbearing. First, age at divorce determines the individual's range of eligible partners. As divorcees are generally older than never-married individuals, their possibilities of finding a good match in the marriage market have narrowed down. Moreover, divorced people are less involved in social participation and leisure activities than the never-married, diminishing the opportunity of meeting a new partner (Kalmijn, 1998). This age effect is most pronounced for women. Men generally repartner more and at a faster rate than women. This might be partly due to the existing social norms surrounding gender and partnership, i.e. men 'should' have a younger partner and women an older one, creating a wider range of potential partners for men as they age whereas a smaller one for women (Ganong et al., 2006). Moreover, divorced men might be more desperate to find a new partner as they are often dependent on their wives for emotional support and 'networking' during the marriage. Thus they are in search of replacement. Women, on the other hand, often still have a larger network after a divorce that provides them with the support they need. Hence, finding a new partner might be less urgent for them (Ganong et al., 2006).

Age at divorce is also inversely related to postmarital fertility. It is often indicative of fecundity and completed fertility (Brown, 2000). Moreover, the age difference between partners, which is generally bigger in second unions, reduces the likelihood of having another child. Griffith et al. (1985) and Lampard and Peggs (1999) conclude that at some point in life it seems that people come across an ideological constraint to have more children. They perceive themselves as being 'too old' to have another child even if, strictly speaking, they are still physically capable of having children. Again, this might be more pronounced for women, often being together with an older man.

In general the literature suggests that the presence of (young) children in the household after a divorce lowers the chances of repartnering and having another birth. However, this seems especially true for women (although the studies of Wu and Schimmele (2005) and Goldscheider and Sassler (2006) could not confirm this). Women are still the main caretakers of the children after a divorce. As a consequence they are often tied to the house, making it difficult for them to meet new people. Moreover, women, and especially lone mothers, suffer greatly financially after a divorce. On the one hand this might motivate them to seek a partner who can help meeting their financial responsibilities (Ganong et al., 2006). On the other hand these women don't have the luxury to spend money on their appearances or social activities because of their financial difficulties. The presence of children therefore often leads to time and money constraints on women's opportunities to start a new relationship. Some evidence from in-depth interviews has also shown that women with young children are less inclined to start a relationship with a man who has young children himself, unwilling to become the caretaker of his children as well (Lampard & Peggs, 1999). For men, on the other hand, having pre-union children seems to increase their chances to find a new partner. It has been suggested that being perceived as a good father increases men's attractiveness in the (re)marriage market (Wu & Schimmele, 2005; Prioux, 2006; Goldscheider & Sassler, 2006).

Past experiences in family formation are not only linked to repartnering and postmarital fertility but to the risk of divorce as well, leading to selectivity effects if they are not controlled for. Premarital cohabitation, early marriage and premarital childbearing are significant predictors for divorce, heightening the exposure to the risk of postmarital fertility (Brown, 2000). Research has shown that people who cohabited prior to marriage, which predisposes them to divorce, have also the shortest time interval of repartnering after a divorce, increasing the risk of another birth. On the other hand individuals who were married without premarital cohabitation are more likely to choose direct marriage as a second union but their overall repartnering rate decreases (Wu & Schimmele, 2005).

So far it has been made clear that repartnering after marital dissolution is linked to some important characteristics, which in turn might influence postmarital fertility. Those who repartner are disproportionally male, young and childless. Other factors such as religion, occupational status and education are found to have an effect on repartnering as well (see e.g. Wu and Schimmele, 2005; Goldscheider and Sassler, 2006) but a detailed description exceeds the scope of this article. Moreover, because divorce has become more common and accepted nowadays the pool of potential partners is now increasingly bigger and younger. Therefore the question why some people progress to have more children in their second union and others don't, becomes even more relevant.

2. *Postmarital fertility*

Although both economic (Becker, 1981; Gustafsson, 2001) and cultural factors (Lesthaeghe and Van de Kaa, 1986; Lesthaeghe and Surkyn, 2004) have been shown to be important driving forces behind both declining birth rates and rising divorce rates, the relevant theories have hardly been explicitly linked to higher order union fertility. However, the factors put forward theoretically as possible thresholds for future childbearing might even be more important in second unions. A divorce often has an effect on the ex-partners' socio-economic status and on their attitudes towards relationship formation and childbearing and therefore might even have a greater impact on actual fertility behaviour in higher order unions.

The increasing literature on stepfamily fertility has come up with several hypotheses on the mechanisms behind postmarital childbearing. Most of this research focuses mainly on the effect of pre-union children. However, the results are inconsistent and often differ between countries indicating that other factors have to be taken into account. The next paragraph gives an overview of the main results.

2.1. *The value of children in a second union*

There is a large body of literature on stepfamily fertility finding a positive effect of union dissolution on childbearing. In general these studies feature three important motivations for divorced individuals to have children in a second union. First, according to the parenthood hypothesis, adults without children from previous unions have a higher chance to have children in the new union to establish their parenthood status. Secondly, the partnership commitment hypothesis states that couples want to confirm their new union by parenthood. And finally the sibling hypothesis states that ex-partners who have only one child want to have a sibling for this single child in the new union (Buber and Prskawetz 2000; Kalmijn and Gelissen 2002; Vikat et al. 2004).

The empirical results for these hypotheses, however, are mixed. In Sweden Vikat et al. (1999) found that most couples in second unions want to have a shared child regardless of the number of pre-union children. Research in Finland and Great Britain has drawn the same conclusions, supporting the commitment hypothesis (Jefferies et al., 2000; Vikat et al., 2004). Thus divorced individuals have a higher chance to progress to an 'extra' child, i.e. a second or third child, because it is the first or the second one in their new union. These extra births wouldn't have occurred otherwise as they arise from the unique values of a first and second child that a couple shares (Griffith et al., 1985). Other studies, e.g. in Austria, France and the Netherlands, have shown a reduced effect of the presence of pre-union children on fertility in the second union. This was especially the case when there were already two or more pre-union children and when they were actually living in the new household (Buber and Prskawetz, 2000; Kalmijn and Gelissen, 2002; Vikat et al., 2004). Nonetheless the effect of the presence of stepchildren on the new couple's fertility was still much smaller than the effect of their shared offspring, emphasizing the unique value of shared offspring (Henz and Thomson, 2005; Thomson, 2004). Differences have also been found between the effects of men's and women's pre-union children. But again the findings are inconsistent. Some studies show that the pre-union children of women have a stronger negative effect on childbearing in the new union than men's children. Others find evidence that in some cases or countries men's children have the same or even greater effect on stepfamily fertility than the pre-union children of women (Buber and Prskawetz, 2000; Thomson, 1997; Stewart et al., 2003).

The above mentioned differences suggest that other factors than the mere wish for more children play a part in higher order union fertility. In some countries, individuals with a divorce history might be constrained in their childbearing behaviour, while in other countries, divorcees could have a higher propensity to progress to high parity births compared to non-divorcees. This might also imply that the general consequences of a divorce differ cross-nationally, putting up barriers for progression to 'highly valued' first and second shared children in stepfamilies in some countries, while not in others.

2.2. Value orientations and women's labour force participation

Finding a job or increasing the amount of working hours is often needed after a divorce and it is one of the strategies divorcees can apply to deal with the financial loss. However evidence has shown that especially women who were already employed during marriage and higher educated women are involved in paid labour after separation. Furthermore research has found no difference in employment between divorced women who are single and women in a second union (Fokkema, 2001). In other words divorced women do not just work out of financial necessity, they actually want to be involved in the labour market. Moreover, they are not likely to give up their jobs even when they have found a new partner, suggesting that they want to keep their financial independence.

These findings are important concerning postmarital fertility and are also fitting in with a large body of literature on value orientations. Fertility in first marriages is often found to be affected by gender role attitudes, although the effects seem to be different for men compared to women. Egalitarian women often want to spend more time on their career and consequently less time on childcare. A divorce might strengthen this attitude (Fishbein and Ajzen, 1975; Ajzen, 1991; Moors, 2002). It may increase egalitarian women's attachment to the labour market and reduce the chance to have another child in a second union relatively more compared to more traditional women. By contrast, research found that egalitarian men want children more than traditional men suggesting that they want to be involved in the caring aspects and share responsibilities

(Kaufman, 2000). A divorce might interrupt their desire to be an active father, especially when they don't get custody over the children. As a result they might be more inclined to have another child in a new union.

Women are generally more involved with their pre-union children than men, whether the children are co-resident or not. This implies that the costs of having yet another child would be much higher for her than for him (Vikat et al., 2004). Therefore in general it can be expected that divorced mothers are less likely to have more children in their second union than divorced fathers. Furthermore we argue that the perceived costs of having another child are higher for both men and women in a second union compared to individuals in a first union. Individuals starting a second union are generally older than first-time married couples. Having another child might therefore prolong their childbearing and childrearing years beyond that of their age peers (Griffith et al., 1985). Moreover, one or both partners' pre-union children are generally older as well. A new birth means another disruption of a woman's career opportunities. Especially women who are highly educated might be reluctant to reduce their involvement in paid labour for another child.

2.3. Regional differences

European countries are sometimes divided into "nations of families" and "nations of individuals" (Chesnais, 1996), often reflected in the general level of gender equity and the institutional organization of providing a good work-life balance to families. The opportunity costs of having children are higher in countries where the state does not provide adequate public support to families with children, resulting in low total fertility rates (Chesnais, 1996; Del Boca, 2002). Research on the values of first and second children, however, did not find a stronger effect in countries with higher social support, even after controlling for the higher risk of dissolution in stepfamily unions (Henz and Thomson, 2005). Vikat et al. (2004), on the other hand, who investigated the effect of pre-union childrearing on the risk of a shared birth in Austria and Finland, came to the conclusion that country differences indeed existed in the relative effects of co-resident and nonresident children and men's and women's pre-union children. The difference between the effects of the living conditions of the children was very small or even lacking in Finland, whereas a considerable difference was found in Austria, where public support and gender equality are lower than in Finland. Moreover the lack of government support might act as a barrier to divorce for mothers of young children, who are forced to stay at home and are mostly dependent on the financial security provided by their husbands. Becoming a lone parent would almost certainly drive their standard of living below subsistence level. Therefore the rigidity of the labour market might not only lead to lower total fertility rates but to lower divorce rates as well (see e.g. the low divorce rates in Southern Europe).

Beside gender equality, differences in traditional value orientations towards marriage and divorce might be even of more importance for cross-national variability in second union fertility. Although divorce has become more common nowadays, European countries still differ in their tolerance towards a divorce, which is often also reflected in a country's divorce legislation. Kalmijn and Uunk (2007) found that individuals who lived in European regions in which divorce was less tolerated experienced a greater decline in their social contacts after a divorce than individuals who lived in more tolerant regions. This was particularly true for individuals who didn't move after the divorce. Getting stigmatized might influence the chance of repartnering in two different ways. On the one hand, divorcees in less tolerant regions might have less chance to start a second union as their stigma makes them less attractive to potential new partners. Moreover, diminishing social interaction reduces their opportunities to meet a new partner (de Graaf and Kalmijn, 2003). On the other hand, finding a new partner might be a strategy to lose the stigma and therefore be a primary goal (Ganong et al., 2006). Therefore moving away might increase the possibility of ending up in a second union. However, Kalmijn and Uunk (2007) didn't find support for the hypothesis that regional intolerance increases the chance to move after a divorce.

These findings are very important in the light of the process of self-selection of women who choose to divorce. Some studies have shown that highly educated women and women with egalitarian attitudes are more divorce-prone than more traditional and lower educated women (Hoem, 1997; Kaufman, 2000). Moreover, women who opt for a divorce in societies where a marriage is generally thought of to be a stable union that lasts forever need higher personal capital to cope with the general consequences of a divorce and the stigmatization that comes with it. Hence, the relative risk of a divorce for highly educated women is a lot higher in those countries than in countries where there aren't many obstacles (Hoem, 1997). If ending a marriage is normatively wrong and stigmatized, those opting for a divorce probably attach greater importance to an individual life-style, autonomy and self-realization, values which have been negatively associated with fertility, than other women in the same cohort. Coppola & Di Cesare (2008) argue that decisions on future childbearing and divorce are intertwined processes influenced by a person's beliefs and values. Their results have shown that a spurious relationship between divorce and fertility indeed exists in Italy, where women who have higher chances of having more children in the future have lower chances of union dissolution and vice versa. However, they could not confirm this in Spain. Nevertheless, they also found a clear and direct effect of each process on the other in both countries.

Finally, Southern European countries still consider marriage as the main institute for childbearing and childrearing. Consequently, non-marital fertility remains low. In 2003 one in two births in Norway happened outside marriage whereas in Italy only 14% of births were non-marital (Council of Europe, 2005). The type of second union divorced people choose therefore must be considered in postmarital fertility. It can be expected that individuals who remarry have a higher likelihood of having another birth in their second union than individuals who cohabit outside marriage. This effect, however, may be weaker or even disappear in countries where out-of-wedlock fertility is high.

Empirical analysis

1. Data & hypotheses

Following Billari and Kohler's observation (2004) that fertility and divorce are correlated at the aggregate level – negatively in the past but slightly positively nowadays - the theoretical background above outlines several mechanisms through which divorce and fertility are possibly connected at the individual level. Clearly some mechanisms seem to inhibit (further) childbearing, while others rather act as a pronatalist force. It is suggested that these counteracting mechanisms might be at work at a different pace in different regions, depending among others on the reigning societal norms, giving rise to the observed aggregated shift. Obviously a rich and detailed cross-national, preferably longitudinal study is needed to investigate all of the suggested mechanisms. Though such a study is not at hand yet, we attempt to tackle a few basic research questions which we hope might inspire further research.

The most recent study at hand that entails high quality comparable data on a relatively large number of European countries is the European Social Survey (ESS - http://www.europeansocialsurvey.org/). Round 3 (2006) contains a module called 'the timing of life' in which respondents are questioned about the number of biological children they have given birth to or fathered and whether they have ever been married. Additionally the core questionnaire gauges respondents about their divorce experience in the past. Reliable information on these three components is crucial in order to shed some light on the divorce-fertility association. The 23 countries included in the ESS, round 3 for which the data are already released are Austria, Belgium, Bulgaria, Cyprus, Denmark, Estonia, Finland, France, Germany, Great-Britain, Hungary, Ireland, the Netherlands, Norway, Poland, Portugal, Russia, Slovakia, Slovenia, Spain, Sweden, Switzerland and Ukraine. Within these countries, we select all ever-married respondents. Married respondent who did not experience a divorce form our group of reference.

Though the ESS is currently one of the most widely available studies to answer cross-national research questions such as ours, it also has some important limitations for this particular research. These limitations are explicitly addressed because they shape and restrict the scope of the research questions and hypotheses we are able to answer. To begin with, the ESS unfortunately lacks information on the timing of the divorce and the timing of the start of the (possible) second union. As a consequence it is impossible to derive whether a respondent's biological children are born in his or hers first marriage (or at least before the second union) or whether they result from the second union. Therefore we are forced to use the crude measure 'total number of biological children' as our fertility measure of interest.

How to capture possible repartnering after divorce is another concern related to the lack of longitudinal partnership information. We do however have information on the current partnership status, which we use as a proxy for repartnering. We are aware that a number of respondents possibly have been engaged in a second or higher order union upon divorcing but are not currently in a relationship, so that the current partnership is in some instances not a very reliable proxy. Most *stable* second order unions will however be recorded. An exception is the case of older divorcees. Notably, the older respondents grow, the more likely it is that possible second or higher order partnerships are resolved by death of one of the partners. Therefore we choose to limit our analysis to respondents of 50 years old and younger. As to the lower end, we limit our sample to the age of 20 and above because divorce is only very marginally observed before the age of 20. Because our research questions are framed within the observation of a recent shift in the aggregated fertility and divorce association, we also find this selection justifiable from a theoretical point of view. This implies that no cohort shifts or time trends can be investigated using these data.

Because the ESS is designed as a cross-sectional study, we are also unable to empirically answer any questions on causality. We do not know for instance whether divorcees that remarried did so before they decided to have any additional children, whether they decided to get married because they wanted their additional children to be born in a stable relationship or whether these decisions were made simultaneously. These considerations clearly limit the scope of the research questions we are able to answer using this data frame. The research questions and hypotheses formulated in the next paragraphs should therefore be seen as a first attempt to shed some light on the divorce-fertility connection at the individual level.

The main question we try to answer obviously refers to the association between experiencing a divorce and the eventual number of children one bears. The direction of the association could be either way, but since the inhibiting mechanisms seem to dominate, we expect to find a rather negative overall effect. As argued above, this relationship is probably most notably altered by the repartnering process following a divorce, assuming that having a partner still is a rather strong precondition to engage in further childbearing. We therefore expect a negative correlation between divorce and the number of children one has for divorcees who do not have a new partner, while this correlation should disappear or even reverse for divorcees who do engage in a new partnership. In addition, this association might be influenced by the type of relationship one involves in. Distinguishing between a consensual union and a second marriage, we expect people that remarry to have a higher propensity to have an (additional) child and hence to have more children overall than people that opt for a consensual union as their second union.

More detailed hypotheses pertain firstly to the gender differences in the association between divorce and fertility. Due to the gender division in repartnering rates, we expect divorced men to have a higher number of children compared to women overall. Even after taking the differences in repartnering into account though, we still expect repartnered men to be more prone to proceed to postmarital childbearing compared to women. This is attributed to the fact that on the one hand women in most cases remain the main caretaker of the children after a divorce and on the other hand to the gendered norms regarding age differences which, in case of repartnering prolong men's fertility career.

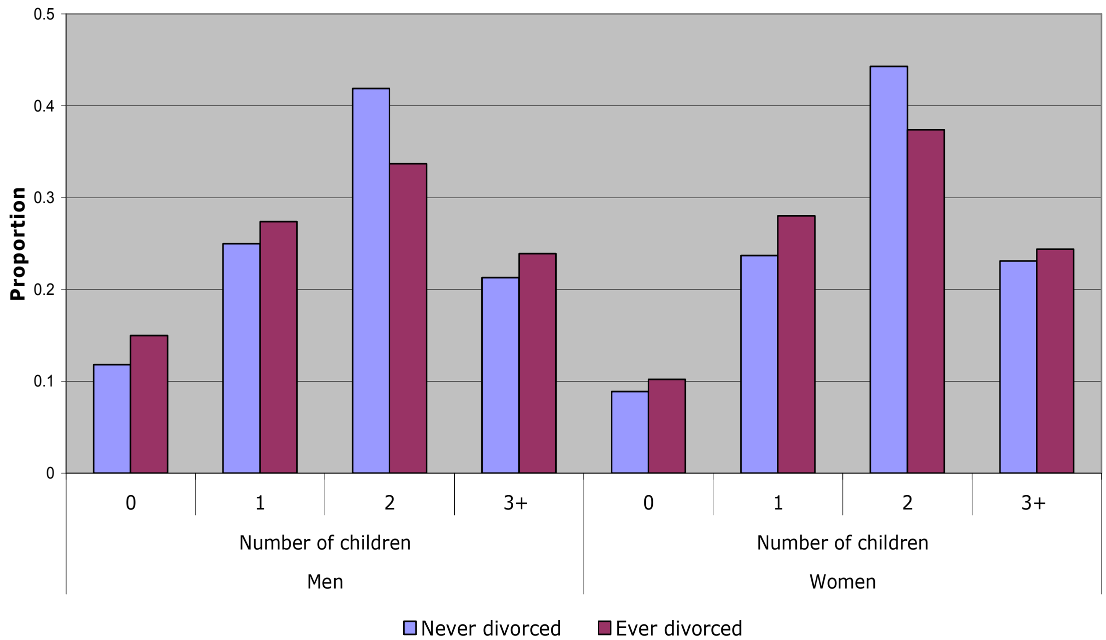
Secondly, we also address cross-national differences in the individual divorce-childbearing association. As outlined in the theoretical part of this paper, such differences are likely to exist. Several countervailing mechanisms seem to be at work in a country-specific mixture. In some countries birth-inhibiting mechanisms are likely to prevail, preventing either repartnering (and subsequent childbearing) or postmarital fertility in second unions, while in others divorcees might be more inclined to repartner and continue childbearing after a divorce. Still in other countries all of these mechanisms might balance each other out, resulting in a status quo in the effect of divorce on the mean number of children but an increased heterogeneity among divorcees.

Selection of all ever-married respondents between 20 and 50 years old results in an actual sample of 4541 men and 5994 women. We use the design weights provided by the ESS to adjust for the survey design in all analyses. As we are mainly interested in differences across countries rather than estimating average effects for Europe as a whole we do not apply the population weights in our analysis. See appendix for an overview of the number of divorcees per country.

2. Descriptive results

Comparing the average number of biological children according to gender and past divorce experience would be one strategy to get a first grasp of the research questions posed. These averages do not seem to differ very much, being 1.81 and 1.78 for never divorced and ever divorced men respectively. For women, these figures are somewhat higher overall, 1.92 and 1.90 respectively, but the difference between never divorced and ever divorced respondents seems to be of the same magnitude. Interestingly the standard deviations for the divorced men and women are higher than for the respondents that are still married (1.19 vs. 1.15 for men and 1.20 vs. 1.14 for women) suggesting more variation in the number of biological children among respondents that have encountered a divorce in the past. This observation leads us to more closely examine the distribution of the number of children among the different groups. In order to summarize the data in a manner that can be easily presented, the number of biological children one has is recoded into a 4 category-variable: 0 children, 1 child, 2 children and 3 or more children. Figure 1 plots the proportion of respondents, distinguished by divorce experience, that fall into each category.

Figure 1 Distribution of the number of children according to gender and divorce experience

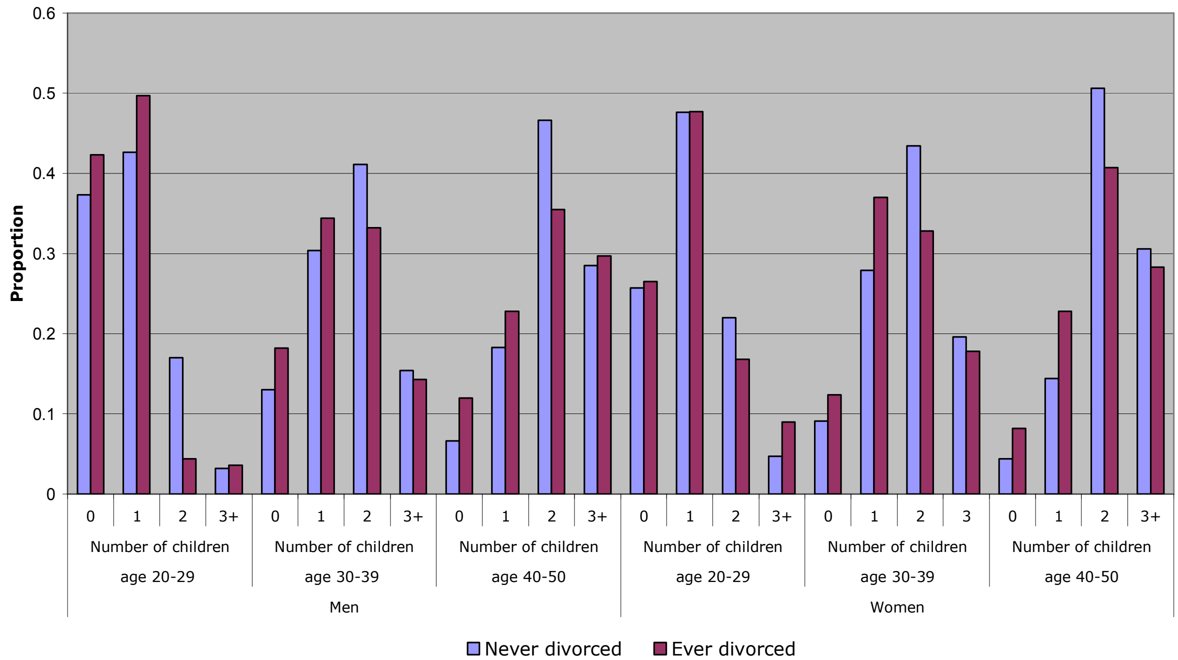


Source: ESS-2006, own calculations

Overall, having 2 children is most prevalent, with respectively 41.9 and 44.3 percent of the male and female never-divorced respondents and 33.7 and 37.4 of the divorced men and women falling into this category. Comparing the distribution of respondents that never encountered a divorce into the four categories with respondents that did, we find that, for both genders, the divorced seem to be overrepresented in the 0 and 1 child category, underrepresented in the 2-children category but slightly more prevalent in the 3 or more children-category. This figure suggests that, on average, the divorced will have less children than the non-divorced but also indicates that people who encounter a divorce are more dispersed in the number of biological children they bear than their married counterparts.

Of course this figure does not take into account the differential characteristics that are likely to prevail between respondents that do encounter a divorce and respondents that do not. Notably divorced people in our sample tend to be older than never divorced people (with a difference of about 2 years for both men and women), and because age is positively associated with the number of children one has, taking age into account will yield a clearer picture. Figure 2 plots the categorical distribution according to gender, age and divorce experience.

Figure 2 Distribution of the number of children according to gender, age and divorce experience



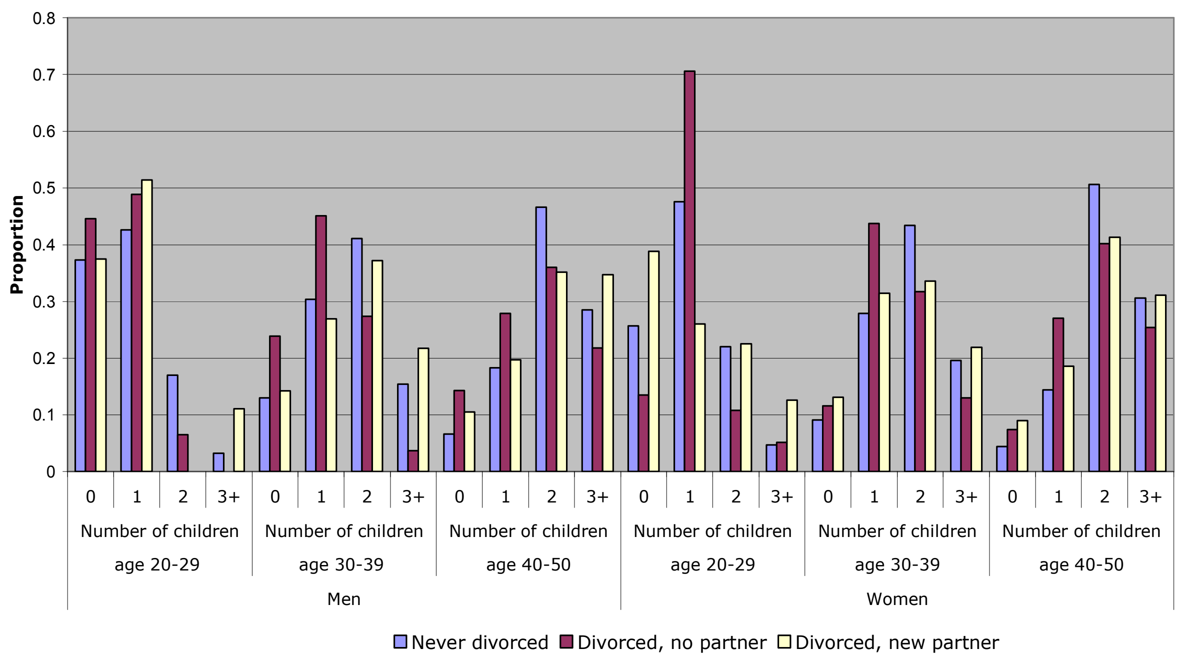
Source: ESS-2006, own calculations

Comparing the distributions for men and women according to their past divorce experience seems to confirm the previous picture. Men and women that have ever encountered a marital split are in all age categories more prevalent in the 0 and 1 child category, while they are generally less prevalent in the 2 and 3 or more children category. Two notable exceptions can be found, i.e. with respect to the youngest age category, divorced women are not overrepresented in the 0 and 1 child category whereas they are proportionally more prevalent in the 3 children or more category. The other exception pertains to divorced men in the oldest age category. These men are slightly more present in the 3 children or more category.

Though the data do not represent real life courses due to their cross-sectional nature and should therefore be interpreted cautiously, it is an interesting exercise to look at this figure as though they would stem from hypothetical men and women exhibiting the successive probability distributions in the number of births while progressing through their fertility careers. Obviously as people are younger they tend to have a higher propensity to have no or just 1 child. As they grow older the distributions shifts to the right. Interestingly, comparing the distributional shift for men that encountered a divorce with men that do not, seems to point to a catching up on the number of children at least for some men. This is not the case for women.

In a last step we refine the descriptive picture by taking the partnership status after divorce into account (see figure 3). Investigating the distributions for the divorced respondents in the younger age categories yields some unexpected results, but for the 30 to 50 year olds the overall message is clear. People that have not engaged in a new relationship after divorce are overrepresented in the less than 2 children categories compared to both respondents in their first marriage and respondents that repartnered after a divorce in the same age category, while they are less prevalent in the higher end of the distribution. For divorced people that do engage in a second union the figure indicates slightly higher prevalences in the 0 and 1 child categories compared to never divorced respondents. On the other hand they also seem to have more 3 or more children compared to never divorced. This pertains particularly to men, whereas for women the difference is very modest.

Figure 3 Distribution of the number of children according to gender, age, divorce experience and repartnering status



Source: ESS-2006, own calculations

These descriptive findings already indicate that divorce and childbearing seem to be somehow connected. Two observations seem most noticeable to bear in mind for further analysis, i.e. the overall higher prevalence of ever divorced respondents at the low end of number of children distribution and the slightly higher presence of repartnered respondents, men in particular, in the 3 children or more category.

3. Regression analysis

In order to test the formulated hypotheses, we need to build a model that is able to control for some relevant background variables that might confound the relationship between past divorce experience and the number of biological children people have, apparent from the descriptive results. Because the number of children people bear is a count variable, which in turn can be approached as a latent hazard rate conditional on the time of exposure, a Poisson regression seems an appropriate choice. A number of considerations however have led us to prefer the multinomial regression model, described in more detail below, above the poisson regression. For one, we did not feel like having a firm grasp on the period the ever divorced are at risk to have another birth. Theoretically one would expect divorcees to exhibit similar hazard rates to never-divorced while married for the first time and have lower odds to progress to higher parity births upon divorce. Repartnering then would heighten their hazard rate again up to or possibly even above the risks exhibited by the never-divorced. As indicated, we do not have longitudinal partnership information at our disposal to model this process. Additionally – and consequently - poisson regression only allows us to establish whether ever-divorced people, albeit repartnered or not, show higher or lower hazard rates overall than their never-divorced counterparts (i.e. a mean-shift). It does not allow us to take the greater dispersion among divorcees into account. A modelling tool that does allow this is the multinomial regression model.

3.1 Multinomial regression model

The multinomial regression model is part of the class of the generalized linear models (Nelder & McCullagh, 1989) and, when using the logit link function, can be seen as an extension of the logistic binary regression approach to a model that allows for an outcome with several categories (Agresti, 2002). The model incorporates n-1 logit equations - with n=the number of response categories – which are estimated simultaneously with respect to a chosen reference category. The model is essentially non-ordered, which allows each parameter to be estimated separately for each category with respect to the reference (or baseline) category. This has the advantage that the model will represent the data quite closely, but adding one variable to the model also adds n-1 parameter estimates which can rapidly yield a large number of parameters to be estimated with even a very simple model. The alternative is a regression model which takes the ordinal nature of the outcome variable into account. This model is also not without its pitfalls, but we refer to the next paragraph for a more detailed explanation.

The multinomial model we choose to start from has a 4 category-outcome variable, i.e. 0 children (0), 1 child (1), 2 children (2) and 3 or more children (3) and can be written as follows:

$$\frac{\log \pi_j(\mathbf{x})}{\log \pi_2(\mathbf{x})} = \alpha_j + \boldsymbol{\beta}'_{\mathbf{j}}\ \mathbf{x}$$

with j=0, 1 and 3 and $\pi_j(\mathbf{x})$ the probability of category j given the vector of explanatory variables **x***.* α_j refers to the constants, one for each logit equation, and $\boldsymbol{\beta}_\mathbf{j}$ to the vector or parameters. As can be seen in the formal representation, we treat the 2 children-category as our baseline category, which is the most common category. As such, the (exponentiated) parameters can be interpreted as the effect of a certain characteristic on the odds that people have 0, 1 or 3 or more children compared to 2 children. We estimate these models separately for men and women.

The background variables we control for are age, rescaled with age 20 as the zero-point and age (minus 20) squared to allow the number of children to increase rapidly at the onset of the fertile period and slow down towards the end. Also the age at first marriage (again subtracted by 20) is taken into account. As people grow older at the onset of their first marriage, they have less time available to bear a high number of biological children. In addition, age at first marriage also controls to a certain extent for unobserved heterogeneity with respect to family intentions. Previous studies emphasize the influence of educational attainment on fertility. Therefore we control for educational level by including two dummy-variables: medium educated and highly educated. Lastly, the differential TFR's from the European countries under study indicate that the number of children vary from country to country. In order to control for these differences country-dummy variables are included.

3.2 Results

In order to test our hypotheses we refine our model in 3 steps. We firstly include a variable indicating past divorce experience to the model with only the background variables (model 1). This model is extended by distinguishing ever divorced people without a new partner from ever divorced people with a new partner (model 2). Model 3 also takes the type of second union (if any) into account: remarried divorcees are distinguished from repartnered but not remarried divorcees. The models are estimated separately for men and women, presented in tables 1 and 2.

Results for the multinomial logistic regression approach indicate that men as well as women, when having experienced a divorce in the past, display significantly higher odds to have 0 or 1 child, compared to men and women who are in their first marriage. Divorced men are estimated to be 3.3 times as likely to have no children compared to 2 children than comparable married men and almost 2 times as likely to have 1 child. For women, the odds for both the 0 and 1 category are even somewhat higher, estimated to be 3.7 and 2.2 respectively. For both men and women the odds to have more than 3 children compared to 2 children do not significantly differ by past divorce experience, but they are estimated to be higher than 1, suggesting also an increased probability to have 3 or more children when having experienced a divorce. These findings largely confirm the descriptive results outlined in the previous section.

Turning to the second model, we find that distinguishing divorcees who do not repartner from divorcees that do significantly improves the model. As expected, men that do not have a new partner have significantly higher odds to have 0 and 1 child compared to both married men (4.6 and 2.6 respectively) and divorced men that do repartner (4.6/2.5=1.8 and 2.6/1.5=1.7 respectively). Repartnered men however still are 2.5 times as likely to have 0 and 1.5 times as likely to have 1 child compared to never divorced men. Looking at the estimated odds to have 3 or more children confirms the discrepancy between men that do and men that do not repartner after a divorce already revealed by the descriptive results. Divorced men engaged in a second relationship are 1.4 times *more* likely to have 3 or more children than never divorced men – a significant difference - while divorced men without a new partner are 1.3 times *less* likely to have children of parity 3 and above.

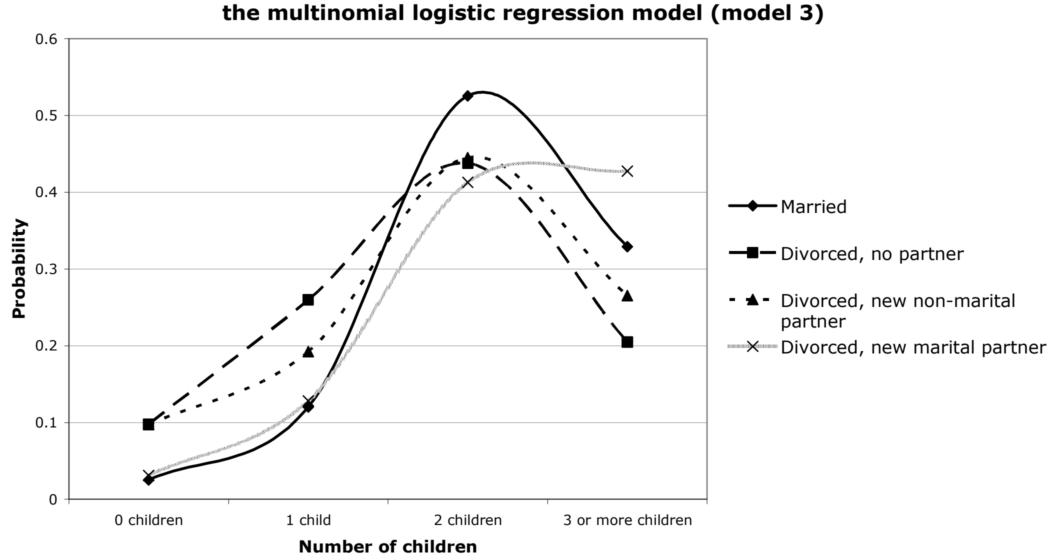
The findings for women are somewhat different. Interestingly, divorced women that enter into a second union are estimated to have a higher probability to have no children at all, compared to both married women and divorced women without a new partner. Consistent with the literature, this seems to indicate that divorce and/or repartnering are selective processes that operate differently according to the number of children people have, i.e. divorced mothers are less likely to repartner than women without any children from a previous marriage. With regard to the odds to have 1 child, divorced women not engaged in a second union are 2.6 times more likely to have 1 child compared to married women (which compares well to men's), and for divorced women who do have a new partner the odds are 1.9 times larger (somewhat larger than men's). Contrary to men, women do not significantly differ in their odds to have 3 or more children according to past divorce experience and partnership status though the estimates point into the same direction as the conclusions reached for men.

The third model reveals that the type of second union men and women embark upon after encountering a divorce also matters for the number of children they bear. In fact, divorced men that do repartner but do not remarry are estimated to be 4.5 times more likely to have no children compared to men who are married for the first time, a figure that closely resembles the one for divorced non-repartnered men. In comparison to never-divorced men, the odds to have no children are only 50 percent higher for men that choose to enter a second marriage. Turning to the odds to have 1 child compared to 2 children, we again find that all divorced men, regardless of their partnership status, have higher probabilities to be in this category compared to married men. The odds are largest though for men that do not repartner, followed by men that engage in a second non-marital union. Men that do marry for the second time most closely resemble men still engaged in their first marriage with regard to the odds to have 1 child. With respect to the odds to have 3 or more children, we notice that in particular men that remarry after first experiencing a divorce expose higher odds to be in this category. Not surprisingly, men that do not repartner are estimated to have lower odds to have higher parity births. This also true though for men that enter a second consensual union without remarrying, be it to a smaller extent. However, both cannot statistically be distinguished from never divorced men.

Again, some gender differences seem to exist in the relationship between divorce, type of partnership status and the number of children people have. The model for men showed that remarried men have substantially lower odds to not have any children than both divorced men that do not have a new partner and divorced men that do have a new partner, be it non-marital. For women, a second marriage does not seem to reduce the odds to be in the 0 children category, at least not compared to divorcees that do not repartner. Both groups are about 3 times more likely than never-divorced to have no children. What stands out the most is the finding that women who engage in a second non-marital union have much higher odds, i.e. 6.6 times higher, to have no children compared to women that never experienced a divorce. Shifting our attention to the odds to have 1 child, we find that women engaging in a second non-marital type of union are about as likely as divorced women that do not engage in a second union to have 1 compared to 2 children, both showing odds of about 2.2 times the ones for never divorced women. Women that do remarry occupy an intermediate position, with odds that are 1.5 times higher. Contrary to men, the type of second union does not seem to add any explanatory power as to the odds of having 3 or more children compared to 2 children.

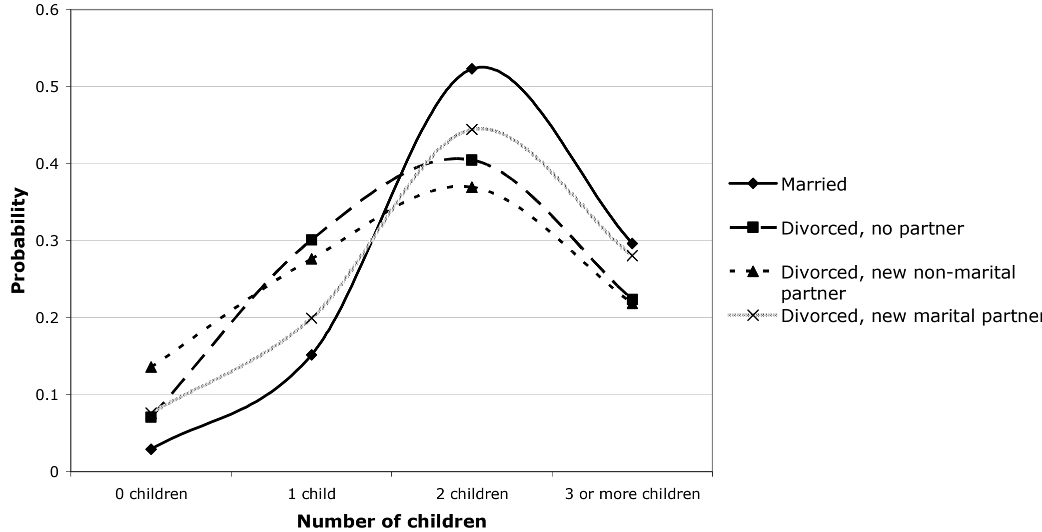
Figures 1 and 2 summarize the findings from the multinomial regression model by displaying the estimated probabilities for 45-year old men and women respectively, according to past divorce experience and partnership status.

Figure 4 - Men: Estimated probabilities for the number of children using the multinomial logistic regression model (model 3)



Note: Belgian men, 45 years old, first married at age 25, mid-educated

Figure 5 - Women: Estimated probabilities for the number of children using the multinomial logistic regression model (model 3)



Note: Belgian women, 45 years old, first married at age 25, mid-educated

3.3 Country differences

A hypothesis that has not been addressed so far regards the existence of cross-country differences in the effect of past divorce experience on the number of children men and women bear. One way to address this hypothesis is to fit a generalized linear multilevel model, including a random slope to estimate the cross-country variability in the divorce parameter. Though theoretically straightforward and appealing, we have not been able to fit such a model in practice, encountering convergence problems for the variance estimates[1].

Because theoretical considerations clearly point to the existence of some country variability and also the exploratory analysis indicated that countries differ in the divorce effect on the number of children, we tried to incorporate this factor in our model by including interaction-effects between the country dummies and the various divorce variables. The likelihood ratio tests comparing these models[2] with the models without any interactions suggest that for men, countries differ with regard to the effect of divorce on the overall response probability, (chi^2 difference of 90.17, df=66, p=0.03) while the likelihood ratio test is only significant at the 0.1-level for women (chi^2 difference of 81.93, df=66, p=0.09). This variability could be partially explained by the country-specific repartnering rates, but also upon repartnering divorcees might differ in the

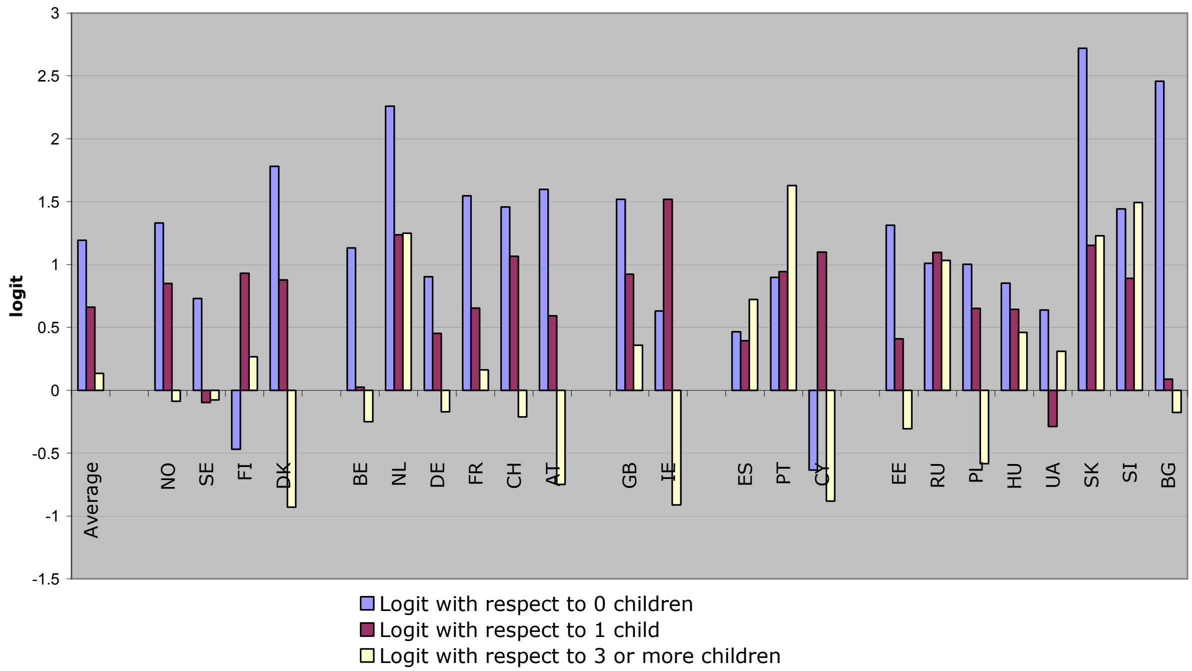
[1] In our attempt, we used SAS (proc nlmixed), MlWin and R, all three of them encountering the same kind of problems.

[2] Model estimates not presented in this paper due to lack of space. They can be obtained from the authors upon request.

number of children they bear depending on their country of residence. Therefore we specified a model that includes an interaction-effect between the country of residence, past divorce experience and subsequent partnership status. For this specification, the likelihood ratio does not seem to reveal any significant cross-country differences for men (χ^2 difference of 78.91, df=66, p=0.13), while it remains significant at the 0.1 for women (χ^2 difference of 82.73, df=66, p=0.08). Extending this approach to interactions between country and type of second union becomes troublesome for the country - non-marital second union for men. Trying to estimate the stipulated model we encounter singularity problems, indicating that our sample is too small. The country - remarriage interaction for men does however point to some cross-country variation (χ^2 difference of 87.25, df=66, p=0.04). For women, including the country- non-marital partnership interactions, does not yield to a significant decrease in the -2LL of the model (χ^2 difference of 74.65, df=63, p=0.15). However, country of residence seems important as to the divorce-fertility connection for women that remarried after experiencing a divorce (χ^2 difference of 118.37, df=66, p<0.001).

This at least gives an indication of the existence of some cross-country variability in the crude divorce-fertility nexus on the individual level. Of course, this approach is not ideal: next to a number of other problems related to the use of the likelihood ratio test, one of the main problems is the large number of parameters that have to be incorporated in a multinomial logistic regression model in order to say something about the variability in divorce effects. Because each β is estimated separately for each logit equation, incorporating 23 countries in an analysis using a 4 categorical outcome variable already yields to 66 parameters ((22-1)*(4-1)) to be estimated. Each interaction effect between country and a dichotomous (or continuous) variable sacrifices another 66 degrees of freedom. This also implies that it is difficult to discern any patterns or regularities in the actual parameter estimates. Also plotting them separately for the different logit equations does not seem to reveal a tangible pattern, e.g. with respect to the different European regions. Figure 6 for example depicts the country-specific divorce effects for men, grouped by region. An effect larger than 0 implies an increased probability to be in this category relative to married men, an effect smaller than 0 implies a decreased probability. Scandinavian men for instance, often assumed to expose quite similar demographic behaviour, do not seem to reveal the same pattern when it comes to the divorce – childbearing connection. The same observation applies to other European regions. We do not further elaborate on the cross-country differences here, but we will come back to the topic in the next section.

Figure 6 - Men: Estimated country-specific divorce effect (b's)



4. An alternative approach: Location-scale model

4.1 Model and theoretical implications

In the previous paragraph we already mentioned that adding country-dummies and their interactions in the multinomial logistic regression is a non-parsimonious strategy. This argument can easily be extended to the multinomial model in general, which is most appropriate when applied to a non-ordered outcome variable. When the outcome variable of interest is ordered in one way or another, other regression models may offer a more parsimonious way of answering our research questions. Obviously the number of children one bears has such an ordinal character.

The most popular ordinal response model currently in use is the cumulative logit model, also known as the proportional odds model (Agresti, 2002, p.274). Similarly to the multinomial logit model, this ordinal model consists of n-1 logit equations. However, the response probabilities that are modelled now refer to the cumulative probabilities instead of the categorical probabilities. The most important property that distinguishes this model from the multinomial one is probably that each variable is restricted to influence each cumulative probability in the same way. This assumption is also known as the parallel lines or proportional odds assumption. It is this assumption that allows for a parsimonious model specification. Formally we write that

$P(Y \leq j|\mathbf{x}) = \pi_1(\mathbf{x}) + ... + \pi_j(\mathbf{x})$ with j=0, 1, 2 and 3 (see Agresti, 2002). The model itself is defined as follows:

$$\text{logit}\left[P(Y \leq j|\mathbf{x})\right] = \alpha_j - \boldsymbol{\beta}'\mathbf{x}$$

α_j refers here to the estimated thresholds or constants, one for each logit equation while $\boldsymbol{\beta}$ refers to the vector of slope parameters. Notice firstly the absence of the index j for $\boldsymbol{\beta}$ which corresponds to the parallel lines assumption. Secondly the negative sign in front of the parameter vector follows from a certain specification of the cumulative distribution function[3] which we will not expand upon, but the sign does not alter the conclusions reached.

Although this cumulative logit model seems to be an attractive alternative to answer our research questions more parsimoniously, fitting an ordinal model reveals that the parallel lines assumption does not hold for these data. Several factors may be responsible for this, including misspecification of the link function and omitting important interaction effects. Another reason often leading to poorly fitting models is the dispersion in the response probabilities not being uniform across groups but itself a function of one or more explanatory variables (Agresti, 2002, p. 282, 285). Not discarding any of the other possible misspecifications, this last characteristic certainly seems to be one of the main factors that result in a poorly specified model in our case. As was already pointed out at the descriptive results and again illustrated by the figures obtained from the multinomial model, the dispersion in the number of children seems to be larger for divorced respondents than for never divorced respondents. As Williams (2008) and Keele and Park (2006) point out, unequal variances or heteroskedasticity is problematic in the context of ordinal regression models because it does not only inflate the standard errors obtained (as in the context of OLS regression), but also biases the parameter estimates themselves[4].

The ordinal cumulative regression model can be modified in such a manner that these differences in dispersion can be included (McCullagh, 1980; McCullagh & Nelder, 1989; Agresti, 2002). Such models are variously known as location-scale models or heterogeneous choice models (Keele & Park, 2006; Williams, 2008). Essentially, both a location model - referring to a shift in the response probability to either right or left - and a scale-model - explicitly modeling the dispersion in the response probability – are specified in terms of explanatory variables. These explanatory variables can, but do not have to be the same for both models. The cumulative logit model is modified to a non-linear location-scale model as follows:

$$\text{logit}\left[P(Y \leq j|\mathbf{x})\right] = \frac{\alpha_j - \boldsymbol{\beta}'\mathbf{x}}{\exp(\boldsymbol{\gamma}'\mathbf{x})}$$

[3] The subsequent models are estimated using SPSS PLUM, which uses this formulation
[4] For an in-depth coverage of the problem, we refer to the cited papers.

with γ a vector of parameters referring to the scale model (McCullagh & Nelder, 1989; Agresti, 2002). It is easy to see that the cumulative logit model is the special case of the location-scale model when $\gamma = 0$. When $\gamma > 0$, the dispersion tends to be larger for the groups defined by the explanatory variables than for the reference group, while a estimate for $\gamma < 0$ means that people defined by the explanatory variables are more homogeneous in the number of children they bear.

In essence, this kind of specification does not contain any more information than does the multinomial logistic model, on the contrary. However, the location-scale model does offer a new perspective on the divorce-fertility nexus because it not only addresses location shifts (say shifts in the average number of children) but it is also able to answer questions explicitly with regard to the heterogeneity in the number of biological children within certain specified groups. It is not difficult to see that from a theoretical point of view this is a very interesting feature. This certainly applies to our case, in which we are, due to a lack of data, ignorant as to how some of the theoretical mechanisms operate empirically. Though we have mainly formulated our hypotheses in terms of location shifts, with divorcees assumed to have a higher or lower number of biological children on average than never divorced people, it can be expected that divorcees in general differ more in the number of children they bear due to the several countervailing mechanisms that have been specified in the theoretical part. In fact, theoretically, these countervailing mechanisms might balance each other out, so that no location shift might be observed empirically at all. Past divorce experience could then be most relevant to explain differences in dispersion around this common location. After taking repartnering into account – one of the most obvious characteristics related to childbearing in which divorcees vary quite a bit – the dispersion in the number of children people have should be largest for repartnered men and women because they might or might not choose to embark upon postmarital childbearing.

The dispersion model may also put the observations regarding the cross-country variability in the divorce effect into a new perspective. As already mentioned, countries are likely to differ in the social norms regarding the ideal number of children on the one hand and the way people should behave after having experienced a divorce, i.e. in repartnering and subsequent childbearing on the other hand. When post-divorce behaviour is strongly normative, divorcees will tend to be rather homogeneous in the number of children they bear, net of other individual characteristics. On the other hand, in societies where divorce and non-standard forms of living are widely accepted, divorcees are likely to be more heterogeneous in their childbearing behaviour. Not only social norms but also institutional settings are likely to support postmarital childbearing to different extents. Thus, next to a possible country-specific location shift, there may also exist a country-specific dispersion effect related to divorce. This approach has the advantage that 'only' 44 parameters have to be added to our model in order to say something about the cross-country disparity.

4.2 Results

Similar to the approach taken in the previous analysis, we refine the location-scale model in 3 steps. The parameter estimates are presented in tables 3 (men) and 4 (women). Because the model is nonlinear in nature, the parameter estimates are less straightforward to interpret in terms of odds ratio's than they are for the multinomial model. We can however infer a great deal from just looking at the direction and magnitude of the estimates for both the location and the scale part of the model. In addition, at the end of this section we will present some figures, similar to the ones presented for the multinomial logit model, displaying the predicted response probabilities for prototypical men and women.

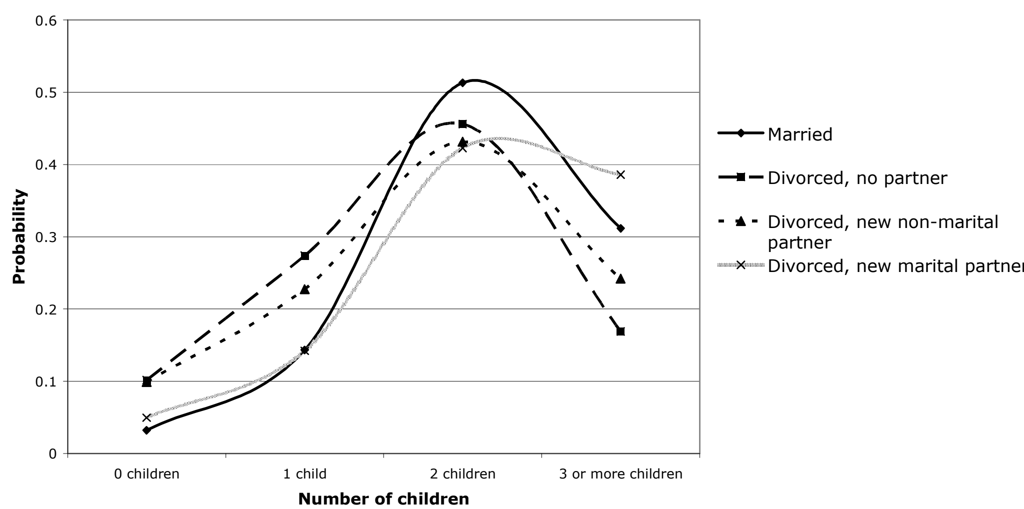
A past divorce experience seems to be related to a location shift to the left (indicated by the negative sign) in the cumulative response probability for both men and women. Comparing the magnitudes of the divorce effect, divorced women seem to be somewhat more likely to have a smaller number of children compared to married women than divorced men compared to married men. Turning to the scale component, we indeed find evidence for a greater dispersion in the number of children for both sexes.

Taking the partnership status after divorce into account, we find considerable differences between men and women. Men as well as women that have experienced a divorce but do not engage into a second union are definitely less likely to progress to the higher end of the distribution compared to never divorced people. However, this location shift is more pronounced for men than for women. In addition, these men are – though still more variable in the number of children they father than married men - somewhat less dispersed than their female counterparts. This again seems to point to selective divorce and/or repartnering processes for women with regard to the number of children they have. Looking at the divorcees that do find a new partner, we find a clear gender difference for the location component. Women are considerably more likely to find themselves in the lower categories compared to married women as men are compared to married men. Repartnered men do not even seem to differ significantly from married men in the average number of biological children they have, all else being equal. They are however significantly more dispersed around this number. This is also true for repartnered women, tending to vary even more compared to repartnered men.

Lastly we take a look at the model that accounts for the type of second union divorcees might embark upon. The location component indicates that men that cohabitate but do not remarry also have significantly less children than married men. The response probabilities for men that remarry though are estimated to shift to the right of these for never divorced men – indicating that these men are estimated to have more children overall than men that are married for the first time – but the location shift is not significantly different from zero. Again, both groups show more variability than married men. For women we find that especially those who engage in a non-marital second union are concentrated more to the left of the response distribution, even more so it seems than women that do not have a new partner. These women are however also most heterogeneous in the number of children they bear compared to other women. A second marriage does shift the response probability distribution somewhat towards the one for never divorced women, but a gap remains.

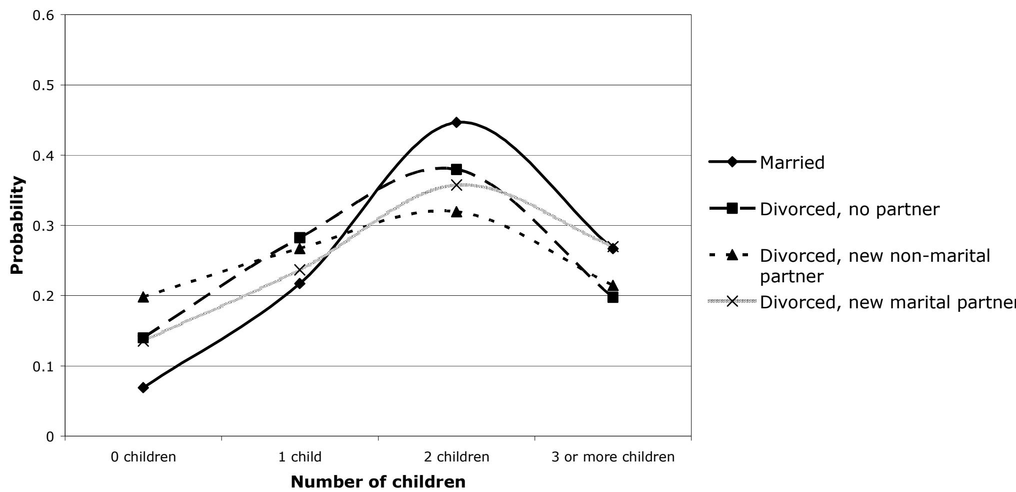
All in all, these findings are consistent with the conclusions reached from the multinomial logit model. This is illustrated by figures 7 and 8 displaying the predicted response probabilities for Belgian men and women respectively, 45 years of age, mid educated and married for the first time at age 25. Comparing those with figures 4 and 5 reveals that both approaches yield to very similar results, especially for the models for men. Overall the location-scale model tends to give more weight to the lower categories and somewhat less to the 2 children-category. Though the results from the location-scale model depend upon more assumptions than the multinomial logit model and should therefore be more cautiously interpreted, the conclusions reached with regard to our research questions point into the same direction. Comparing the AIC and BIC statistics for the multinomial logit and location-scale model, we find that the BIC statistics at least seem to favour the latter one. Next to the more parsimonious specification, we find the location-scale model very appealing from a substantive point of view. The location-scale model enables us to address questions regarding the heterogeneity in the number of biological children within the large group of divorcees.

Figure 7 - Men: Estimated probability for the number of children using a location-scale approach



Note: Belgian men, 45 years old, first married at age 25, mid-educated

Figure 8 - Women: Estimated probabilities for the number of children using a location-scale approach



Note: Belgian women, 45 years old, first married at age 25, mid-educated

4.3 Country differences readdressed

Using the more parsimonious location-scale model may enable us to gain more insights as to the existing country differences in the divorce-fertility link. Again we estimate country-specific divorce parameters by including interaction effects, for both the location and scale component of the model. Table 2 in the appendix provides the values of the likelihood ratio tests. These indicate that country differences seem to exist in the number of children divorced men and women bear, but that these are mainly located in the scale component of the model. Put differently, divorcees do not so much differ in the number of children they bear according to their country of residence, but in some countries they expose greater heterogeneity in their childbearing behaviour than in others. Admittedly, looking at the likelihood ratio test statistic, these differences seem to be quite moderate.

When looking at country differences in the divorce effect for divorcees engaging into a second union, we find that both the location shift and the dispersion for men in non-marital second unions are related to the country of residence. Some country differences in the heterogeneity in the number of children for divorced women that do not remarry can also be discerned. In some countries, these women tend to be alike in the number of children they bear, while in others they display quite varying childbearing behaviour. This finding can be extended to men that choose remarriage as their second union. Also for them, the dispersion in the number of children they have seems to depend on the country they live in. Remarried women on the other hand do not seem to display more heterogeneous childbearing behaviour according to their country of residence but the location shift, i.e. the overall shift in response probabilities, seems to be nationally defined.

Discussion

1. Divorce, second unions and postmarital childbearing

Inspired by the observation that divorce and fertility are nowadays positively correlated at the aggregate level, in this paper we addressed the divorce-fertility link at the individual level. Using comparable cross-sectional data for 23 European countries, we investigated whether people who experienced a divorce in the past are more likely to have a higher number of children than people who are married for the first time or whether their childbearing is negatively affected by their divorce experience.

As the theoretical overview has clearly pointed out, a number of mechanisms are expected to negatively affect the number of children divorced men and women bear. Because childbearing still largely takes place within the context of a more or less stable union, the occurrence of a divorce itself within people's fertile period usually inhibits (further) childbearing at least for a while. Comparing the distribution of the number of children for never-divorced people with the one for divorced men and women, we indeed find that in general, net of other factors, divorcees are significantly more likely to have no or just one child compared to never-divorced men and women. This finding is also confirmed by the significant location shift to the left for both men and women who experienced a divorce in the past, as shown by the location-scale model. Therefore we can safely argue that for ever-married people between 20 and 50 years of age a past divorce experience is negatively associated with the number of children they tend to bear.

The inhibiting effect of divorce on childbearing illustrated above can however be counteracted by postmarital childbearing. Almost imperative in order to embark upon postmarital childbearing is the process of repartnering. Taking the current partnership status into account in our analyses - as a proxy for repartnering - shows that people who do not engage in a second union are indeed more likely to have a lower number of children than divorcees that do repartner. Also the type of second union seems to matter. A second marriage is associated with a higher number of children compared to a second non-marital relationship. Although we should be careful to interpret this finding causally, we conclude that a marital partnership still tends to be the preferred context for bearing and rearing children, even those stemming from second unions.

In general, though, postmarital childbearing does not make up for the 'lost fertility' due to divorce. The only support we found for divorce to act as a pronatalist force in certain instances is the finding that for men a second marriage is associated with an increased likelihood to have three or more children compared to never divorced men. The commitment hypothesis which stated that couples want to confirm their new union by entering parenthood could be at least a part of the explanation for this finding. The location-scale model points out, however, that remarried men are too dispersed in their childbearing behaviour to talk of a real shift towards higher fertility.

This higher dispersion in the number of biological children that has been observed for remarried men extends to all groups of divorcees we defined in our analysis, men and women, remarried or in a non-marital second union. This is an important finding as it confirms our assumption that several countervailing mechanisms are influencing the childbearing behaviour of divorced men and women. For most groups, this higher dispersion still goes hand in hand with a negative location shift, suggesting that the inhibiting mechanisms dominate. However, higher dispersion might also prelude change in the direction of a positive divorce-fertility link, as already seems to be the case for remarried men.

2. Gender differences

Theoretically there are several reasons to expect gender differences in the divorce-fertility link. This is confirmed by our analyses. First of all, a clear gender difference seems to exist in the overall picture, i.e. the negative effect of divorce is estimated to be larger for women than for men. This can partly be explained by the differential repartnering rates, which we have already shown to be a very important intermediating factor. In our dataset, about half of the divorced women have a new partner, while almost 60 percent of the men do. Additionally, previous research has shown men to repartner faster than their female counterparts. Consequently divorced men tend to have a shorter period in which they are not (or only to a small extent) at risk for further childbearing.

Men and women also tend to differ in the number of children they have when we take their current partnership status into account. Generally speaking, divorce more negatively affects the childbearing behaviour of repartnered women than it affects men's. Remarried men are found to have higher probabilities to have three or more children than never divorced, still married men. We do not find such a significant effect for women. Apparently, divorce and subsequent repartnering drives some men to have children beyond the ones they would have had if they had not divorced, whereas women do not succeed in increasing their fertility to levels that compare to those for never-divorced.

A number of mechanisms that contribute to this gender difference have been theoretically discerned. To start with, contrary to women's, men's physical abilities to have biological children are not restricted to a period of 25 to 30 years. In practice though, men's childbearing ages are substantially intertwined with their partner's which means that repartnering with a younger (and also more likely childless) woman prolongs the period men are at risk for further childbearing. Such a prolongation is supported by the fact that having a considerably younger (new) partner is socially more acceptable for men, whereas this may be less the case for women. Looking at the data at hand we find that married men are on average 2.35 years older than their female partners, while divorced men differ 4.23 years on average with their new partners. Thus they have about 2 more years to embark upon further childbearing. Repartnered women on the other hand are estimated to choose a partner that is 1.91 years older than they are. Another reason for the observed differences may be that women in most countries remain the main caretakers of the common children after divorce. Though our data does not allow us to examine this empirically, the literature on stepfamily fertility has pointed out that children from a previous marriage tend to inhibit further childbearing, thus leaving repartnered women with a lower number of children than repartnered men.

We do however want to explicitly point out that we should be careful to interpret our empirical results entirely in terms of causality. As we do not know whether the biological children divorcees have stem from their first or their second union, it could be so that repartnered men do have more biological children overall than non-repartnered men, not because they exhibit a higher postmarital fertility, but because they already had more children from a previous marriage. As described in the theoretical part, some scholars have noted that men who already have a number of children from a previous marriage could be perceived by women to be good fathers, increasing their attractiveness on the second marriage market and as such, their repartnering rate. The opposite has been shown for women, leaving divorced mothers to not repartner as quickly as divorced fathers or perhaps not at all. We have found at least one indication that selective repartnering has influenced our results to a certain extent, i.e. divorced women that are engaged in a new relationship are found to be more likely to have no children than divorced women that do not have a new partner.

3. Regional variation

One of the objectives of this paper was to clarify the regional variation in the divorce-fertility link on the individual level. The existence of institutional and normative differences across societies should theoretically yield divorcees in some countries to refrain from postmarital childbearing while in others they might not be inhibited to the same extent. Originally we tried to address this question by formulating a random effects model and estimating the variance in the divorce effect at the country-level. However, this model did not converge. Alternatively we used a fixed effects approach by incorporating country dummy-variables and their interaction with the several divorce-specifications. This approach led us to conclude that country variation in the divorce-fertility link indeed exists.

Looking at the influence of divorce while not controlling for subsequent repartnering, we find that divorcees do not so much differ in the number of children they bear according to their country of residence, but that in some countries they display greater heterogeneity in their childbearing behaviour than in others. It has been argued that this differential heterogeneity is related to differences in institutional settings and normative beliefs, which yield divorcees in some countries to behave quite alike while in others they are less restricted in their childbearing behaviour. One of the norms that is likely to differ between countries involves the formation of second unions. Also after controlling for the current partnership status at the individual level though, some differences remain. Inspection of the country-specific estimates does not reveal any straightforward pattern and we have not embarked upon explaining the cross-national differences we found. We feel that a random effects multilevel approach is needed to address this kind of research questions.

Conclusion

At the start of the 21st century, divorce is no longer a marginal phenomenon in most European countries. In this paper we have addressed it's consequences for individual's fertility both theoretically and empirically. The positive correlation between divorce and fertility found at the aggregate level is not retrieved at the individual level. On the contrary, almost all evidence points to an inhibiting effect of divorce on the number of biological children people have, net of people's age, age at first marriage, and educational background. This inhibiting effect is found to be larger for women than for men. Repartnering attenuates the negative divorce effect to a certain extent, notably for remarried men. However, the divorce effect is not the same in all 23 European countries included in the study. Most striking are the country differences in the dispersion around the number of children people bear. This indicates that, indeed, counteracting mechanisms might be at work at different paces in different European regions.

Although the theoretical overview has pointed to several mechanisms that possibly affect the divorce-fertility link we have only been able to address some of them empirically in a rather crude manner due to data limitations. Therefore a lot of questions remain to be answered by future research. These especially relate to the exact mechanisms behind the observed associations and the cross-national variation in the divorce-fertility link.

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Table 1 Multinomial regression results, men

	Model 1						Model 2						Model 3					
	0 chld		1 chld		3 chld		0 chld		1 chld		3 chld		0 chld		1 chld		3 chld	
Parameters	Exp(b)	Sig	Exp(b)	Sig.	Exp(b)	Sig.	Exp(b)	Sig.	Exp(b)	Sig.	Exp(b)	Sig.	Exp(b)	Sig.	Exp(b)	Sig.	Exp(b)	Sig.
Constant	3.227 (b)	***	2.653 (b)	***	-2.614 (b)	***	3.201 (b)	***	2.637 (b)	***	-2.596 (b)	***	3.238 (b)	***	2.654 (b)	***	-2.629 (b)	***
Age	.578	***	.748	***	1.147	**	.579	***	.749	***	1.146	**	.577	***	.748	***	1.149	**
Age squared	1.011	***	1.005	***	.998		1.011	***	1.005	***	.998		1.011	***	1.005	***	.998	
Age first marriage	1.188	***	1.099	***	.959	***	1.188	***	1.099	***	.959	***	1.191	***	1.099	***	.958	***
Education																		
Low educated	ref		ref		ref		ref		ref		ref		ref		ref		ref	
Mid educated	1.068		1.297	*	.706	***	1.072		1.299	*	.703	***	1.072		1.301	*	.700	***
High educated	1.242		1.419	***	.747	**	1.251		1.422	***	.741	**	1.260		1.429	***	.734	**
Divorced	3.297	***	1.938	***	1.145													
Divorced, no partner							4.641	***	2.590	***	.750		4.681	***	2.597	***	.748	
Divorced, new partner							2.526	***	1.548	***	1.373	**						
Divorced, new cohabitation													4.560	***	1.890	**	.952	
Divorced, new marriage													1.584	°	1.359	°	1.656	***
Country																		
Austria	.885		.683	*	1.151		.876		.676	°	1.155		.850		.670	°	1.171	
Belgium	.769		.482	***	1.622	°	.778		.485	**	1.621	°	.719		.474	***	1.672	*
Bulgaria	.452	°	.690		.510	*	.445	°	.680		.519	*	.440	°	.674		.525	*
Switzerland	1.067		.287	***	1.103		1.072		.288	***	1.103		1.030		.284	***	1.127	
Cyprus	1.254		.311	***	2.288	**	1.252		.311	***	2.289	**	1.223		.307	***	2.330	**
Denmark	1.083		.547	**	1.098		1.080		.545	**	1.099		1.031		.537	**	1.120	
Germany	.456	*	.326	***	2.045	**	.454	*	.324	***	2.048	**	.439	*	.320	***	2.080	**
Estonia	.909		.772		1.236		.933		.782		1.236		.870		.761		1.287	
Spain	1.220		.517	**	.858		1.216		.513	**	.867		1.167		.506	**	.887	
Finland	.414	**	.202	***	2.557	***	.420	*	.202	***	2.586	***	.402	**	.199	***	2.667	***
France	.526	*	.292	***	1.954	**	.531	°	.294	***	1.944	**	.504	*	.289	***	1.994	**
Great-Britain	1.473		.562	**	2.164	**	1.506		.570	*	2.136	**	1.495		.569	*	2.118	**
Hungary	.784		.495	**	.876		.798		.500	**	.864		.788		.497	**	.869	
Ireland	1.204		.285	***	3.538	***	1.245		.290	***	3.522	***	1.239		.287	***	3.584	***
Netherlands	1.339		.304	***	1.636	°	1.354		.305	***	1.634	°	1.303		.301	***	1.663	*
Norway	.618		.302	***	2.454	***	.610		.299	***	2.476	***	.573	°	.292	***	2.563	***
Poland	.822		.718		1.222		.817		.712		1.230		.792		.704		1.255	
Portugal	1.585		1.128		.564	°	1.596		1.128		.563	°	1.588		1.120		.572	°
Russia	.883		.984		.518	*	.885		.982		.521	*	.883		.979		.521	*
Sweden	.428	*	.215	***	2.369	**	.425	*	.213	***	2.412	**	.392	**	.208	***	2.489	***
Slovenia	.441	°	.490	*	.814		.450	°	.496	*	.802		.436	°	.489	*	.812	
Slovakia	.489	°	.439	***	1.499		.488	°	.436	***	1.504		.461	*	.428	***	1.551	°
Ukraine	ref		ref		ref		ref		ref		ref		ref		ref		ref	
-2LL	*11677.923 (df 84)*						*11646.946 (df 87)*						*11623.379 (df 90)*					
AIC	*11851.923*						*11826.946*						*11809.279*					
BIC	*12424.841*						*12419.620*						*12421.809*					
N of obs	*4541*						*4541*						*4541*					

Table 2 Multinomial regression results, women

	Model 1						**Model 2**						**Model 3**					
	0 chld		1 chld		3 chld		0 chld		1 chld		3 chld		0 chld		1 chld		3 chld	
Parameters	Exp(b)	Sig	Exp(b)	Sig.	Exp(b)	Sig.	Exp(b)	Sig.	Exp(b)	Sig.	Exp(b)	Sig.	Exp(b)	Sig.	Exp(b)	Sig.	Exp(b)	Sig.
Constant	1.205 (b)	***	2.366 (b)	***	-2.740 (b)	***	1.207 (b)	***	2.363 (b)	***	-2.733 (b)	***	1.245 (b)	***	2.380 (b)	***	-2.737 (b)	***
Age	.598	***	.749	***	1.181	***	.596	***	.750	***	1.180	***	.595	***	.749	***	1.180	***
Age squared	1.011	***	1.006	***	.997	***	1.011	***	1.005	***	.997	***	1.011	***	1.006	***	.997	***
Age first marriage	1.208	***	1.094	***	.939	***	1.209	***	1.094	***	.940	***	1.210	***	1.094	***	.940	***
Education																		
Low educated	ref		ref		ref		ref		ref		ref		ref		ref		ref	
Mid educated	1.138		1.061		.621	***	1.142		1.057		.621	***	1.141		1.059		.621	***
High educated	1.953	***	1.370	***	.581	***	1.960	***	1.365	***	.581	***	1.972	***	1.372	***	.581	***
Divorced	3.712	***	2.224	***	1.039													
Divorced, no partner							3.159	***	2.564	***	.976		3.158	***	2.563	***	.975	
Divorced, new partner							4.254	***	1.883	***	1.089							
Divorced, new cohabitation													6.631	***	2.577	***	1.044	
Divorced, new marriage													3.080	***	1.546	**	1.113	
Country																		
Austria	3.665	***	.592	**	2.285	***	3.715	***	.590	**	2.283	***	3.610	***	.583	**	2.285	***
Belgium	2.481	**	.529	***	1.955	**	2.492	**	.532	***	1.950	**	2.378	*	.519	***	1.960	**
Bulgaria	1.445		.961		.747		1.466		.951		.748		1.422		.938		.750	
Switzerland	2.501	**	.417	***	2.835	***	2.514	**	.419	***	2.822	***	2.421	**	.413	***	2.822	***
Cyprus	1.087		.353	***	6.688	***	1.080		.356	***	6.679	***	1.074		.355	***	6.688	***
Denmark	4.133	***	.771		1.698	*	4.181	***	.771		1.696	*	4.053	***	.760		1.700	*
Germany	.847		.288	***	3.093	***	.843		.292	***	3.079	***	.785		.282	***	3.093	***
Estonia	3.445	***	1.088		2.242	**	3.465	***	1.095		2.236	**	3.333	**	1.071		2.247	**
Spain	3.649	***	.778		1.171		3.672	***	.781		1.166		3.530	***	.766		1.172	
Finland	2.136	*	.443	***	3.523	***	2.162	*	.444	***	3.512	***	2.074	*	.436	***	3.523	***
France	2.008	*	.498	.***	3.005	***	2.011	*	.501	***	2.998	***	1.905	°	.489	***	3.009	***
Great-Britain	2.184	*	.520	.***	2.513	***	2.191	*	.528	***	2.492	***	2.118	*	.520	***	2.501	***
Hungary	2.075	°	.902		1.169		2.094	°	.897		1.170		1.977	°	.874		1.175	
Ireland	4.180	***	.503	**	7.329	***	4.150	***	.509	**	7.304	***	4.041	***	.500	**	7.328	***
Netherlands	2.357	*	.439	***	2.345	***	2.369	*	.440	***	2.339	***	2.246	*	.430	***	2.344	***
Norway	1.931	°	.318	***	4.837	***	1.943	°	.319	***	4.826	***	1.846	°	.312	***	4.845	***
Poland	2.896	**	.911		2.578	***	2.943	**	.906		2.576	***	2.844	**	.893		2.581	***
Portugal	3.829	***	1.271		.635	°	3.903	***	1.262		.635	°	3.814	***	1.247		.637	°
Russia	1.629		1.323	°	1.353		1.663		1.309	°	1.357		1.626		1.293		1.360	
Sweden	1.449		.250	***	3.216	***	1.459		.251	***	3.206	***	1.381		.244	***	3.225	***
Slovenia	1.163		.388	***	.919		1.159		.391	***	.918		1.077		.378	***	.922	
Slovakia	1.503		.489	***	2.157	***	1.526		.487	***	2.154	***	1.470		.479	***	2.160	***
Ukraine	ref		ref		ref		ref		ref		ref		ref		ref		ref	
-2LL	*15104.092 (df 84)*						*15092.226 (df 87)*						*15079.515 (df 90)*					
AIC	*15278.092*						*15272.226*						*15265.515*					
BIC	*15878.353*						*15893.186*						*15907.174*					
N of obs	*5994*						*5994*						*5994*					

Table 3 Ordinal regression (logit), location-scale model, men

MEN	Model 1				Model 2				Model 3			
	Location		Scale		Location		Scale		Location		Scale	
Parameters	b	Sig.	b	Sig.	b	Sig.	b	Sig.	b	Sig.	b	Sig.
Treshold 0 children	.639	**			.596	**			.614	**		
Treshold 1 child	2.819	***			2.766	***			2.779	***		
Treshold 2 children	5.554	***			5.498	***			5.502	***		
Age	.355	***	.010	***	.351	***	.010	***	.353	***	.010	***
Age squared	-.006	***			-.006	***			-.006	***		
Age first marriage	-.153	***			-.151	***			-.151	***		
Education												
Low educated	ref		ref		ref		ref		ref		ref	
Mid educated	-.548	***	-.132	**	-.540	***	-.128	**	-.546	***	-.128	**
High educated	-.483	***	-.118	**	-.471	***	-.114	**	-.470	***	-.112	**
Divorced	-.576	***	.204	***								
Divorced, no partner					-1.144	***	.106	°	-1.141	***	.107	°
Divorced, new partner					-.109		.235	***				
Divorced, new cohabitation									-.745	***	.227	**
Divorced, new marriage									.258		.206	**
Country												
Austria	.291		.112		.286		.116		.291		.115	
Belgium	.810	***	.228	*	.772	***	.225	*	.806	***	.229	*
Bulgaria	-.124	.	-.385	***	-.122		-.381	***	-.118		-.373	***
Switzerland	.530	**	.152		.496	*	.151		.509	*	.150	
Cyprus	.874	***	.272	*	.857	***	.260	*	.863	***	.250	*
Denmark	.339	°	.125		.313	°	.121		.327	°	.118	
Germany	1.486	***	.247	*	1.451	***	.237	*	1.455	***	.244	*
Estonia	.220		.010		.177		-.002		.214		.001	
Spain	.000		.010		-.011		.009		.008		.011	
Finland	1.732	***	.299	**	1.692	***	.283	**	1.704	***	.286	**
France	1.223	***	.185	*	1.181	***	.169	°	1.200	***	.165	°
Great-Britain	.580	**	.316	***	.527	*	.309	***	.513	*	.305	***
Hungary	.146		-.078		.101		-.100		.101		-.119	
Ireland	1.552	***	.497	***	1.506	***	.498	***	1.490	***	.496	***
Netherlands	.625	**	.319	***	.590	**	.311	***	.601	**	.306	***
Norway	1.451	***	.274	**	1.436	***	.275	**	1.454	***	.265	**
Poland	.312	°	.018		.296		.008		.307	°	.008	
Portugal	-.572	**	-.158		-.587	**	-.165	.°	-.584	**	-.162	°
Russia	-.213		-.202	*	-.230		-.221	**	-.230		-.216	**
Sweden	1.643	***	.204	°	1.623	***	.204	°	1.651	***	.194	°
Slovenia	.406	°	-.127		.361		-.154		.371	°	-.146	
Slovakia	.781	***	-.055		.749	***	-.071		.772	***	-.068	
Ukraine	ref		ref		ref		ref		ref		ref	
-2LL	*11786.261 (df 54)*				*11753.118 (df 56)*				*11738.114 (df 58)*			
AIC	*11900.261*				*11871.118*				*11860.114*			
BIC	*12275.621*				*12259.649*				*12261.815*			
N of obs	*4541*				*4541*				*4541*			

Table 4 Ordinal regression (logit), location-scale model, women

MEN	**Model 1**				**Model 2**				**Model 3**			
	Location		Scale		Location		Scale		Location		Scale	
Parameters	b	Sig.	b	Sig.	b	Sig.	b	Sig.	b	Sig.	b	Sig.
Treshold 0 children	.006				-.009				.002			
Treshold 1 child	2.428	***			2.414	***			2.404	***		
Treshold 2 children	5.190	***			5.178	***			5.142	***		
Age	.362	***			.361	***			.358	***		
Age squared	-.007	***			-.007	***			-.007	***		
Age first marriage	-.156	***	.014	***	-.156	***	.014	***	-.155	***	.014	***
Education												
Low educated	ref		ref		ref		ref		ref		ref	
Mid educated	-.760	***	-.103	**	-.758	***	-.103	**	-.755	***	-.107	**
High educated	-.402	***	-.135	***	-.398	***	-.133	***	-.395	***	-.135	***
Divorced	-.712	***	.194	***								
Divorced, no partner					-.810	***	.116	**	-.802	***	.116	**
Divorced, new partner					-.601	***	.270	***				
Divorced, new cohabitation									-1.037	***	.293	***
Divorced, new marriage									-.359	**	.238	***
Country												
Austria	.658	***	.318	***	.651	***	.317	***	.654	***	.311	***
Belgium	.650	***	.400	***	.643	***	.398	***	.659	***	.390	***
Bulgaria	-.195		-.032		-.198		-.028		-.183		-.037	
Switzerland	1.017	***	.218	**	1.007	***	.216	**	1.006	***	.211	**
Cyprus	2.015	***	.273	**	2.002	***	.268	**	1.988	***	.258	*
Denmark	.157		.255	***	.153		.253	***	.167		.241	***
Germany	1.567	***	.207	*	1.564	***	.200	*	1.574	***	.198	*
Estonia	.127		.277	**	.097		.267	**	.115		.256	**
Spain	-.067		.109		-.077		.105		-.058		.098	
Finland	1.138	***	.345	***	1.144	***	.341	***	1.148	***	.331	***
France	1.040	***	.282	***	1.034	***	.278	***	1.044	***	.274	***
Great-Britain	.789	.***	.239	**	.764	***	.228	**	.771	***	.216	**
Hungary	-.038		.115		-.047		.115		-.017		.102	
Ireland	1.751	***	.699	***	1.743	***	.691	***	1.741	***	.684	***
Netherlands	.851	***	.239	**	.842	***	.236	**	.856	***	.237	**
Norway	1.607	***	.397	***	1.609	***	.392	***	1.615	***	.394	***
Poland	.444	**	.212	*	.440	**	.214	**	.447	**	.210	*
Portugal	-.652	***	-.055		-.650	***	-.050		-.635	***	-.055	
Russia	-.015		-.040		-.019		-.038		-.011		-.043	
Sweden	1.434	***	.190	*	1.424	***	.185	*	1.435	***	.185	*
Slovenia	.304	°	-.076		.289	°	-.083		.310	°	-.092	
Slovakia	.668	***	.101		.658	***	.102		.667	***	.093	
Ukraine	ref		ref		ref		ref		ref		ref	
-2LL	*15325.978 (df 54)*				*15317.255 (df 56)*				*15306.582 (df 58)*			
AIC	*15439.978*				*15435.255*				*15428.582*			
BIC	*15833.253*				*15842.329*				*15849.455*			
N of obs	*5994*				*5994*				*5994*			

Appendix

Table 1 Unweighted frequencies

Country	Men		Women	
	Never divorced	Ever divorced	Never divorced	Ever divorced
Austria	201	63	349	96
Belgium	186	44	247	71
Bulgaria	121	21	211	35
Cyprus	135	16	181	25
Denmark	149	26	151	49
Estonia	127	37	139	79
Finland	170	39	172	59
France	213	43	234	69
Germany	253	81	322	124
Great-Britain	207	71	241	119
Hungary	118	45	180	76
Ireland	167	24	259	21
The Netherlands	190	38	214	67
Norway	182	48	198	58
Poland	257	16	283	23
Portugal	190	27	320	57
Russia	253	86	328	142
Slovakia	205	32	277	42
Slovenia	107	11	160	26
Spain	222	26	283	25
Sweden	139	37	180	54
Switzerland	189	42	268	65
Ukraine	204	41	304	82
Total	4185	914	5501	1464

Table 2 Values for the likelihood ratio tests for the different location-scale model with country-divorce interactions

Men	Model	-2LL	df	Δchi²	Δdf	p-value
	No interactions (model 1)	11786.26	54			
	Interactions (cntry*divorce) *Location*	11761.92	76	24.34	22	0.35
	Interactions (cntry*divorce) *Location and scale*	11731.38	98	30.54	22	0.10
	No interactions (model 3)	11738.11	58			
	Interactions (cntry*divorce, new partner) *Location*	11702.01	80	36.10	22	0.03
	Interactions (cntry*divorce, new partner) *Location and scale*	11638.93	102	63.08	22	0.00
	Interactions (cntry*divorce, marital partner) *Location*	11710.79	80	27.32	22	0.20
	Interactions (cntry*divorce, marital partner) *Location and scale*	11670.04	102	40.75	22	0.01
	Interactions (cntry*divorce, new partner)	11606.69	124	131.42	66	0.00

	Location					
	Interactions (cntry*divorce, marital partner)					
	Scale					
Women	Model	-2LL	df			
	No interactions (model 1)	15325.98	54			
	Interactions (cntry*divorce)	15302.59	76	23.39	22	0.35
	Location					
	Interactions (cntry*divorce)	15265.25	98	37.34	21	0.02
	Location and scale					
	No interactions (model 3)	15306.58	58			
	Interactions (cntry*divorce, new partner)	15292.14	79	14.44	21	0.85
	Location					
	Interactions (cntry*divorce, new partner)	15226.25	100	65.89	21	0.00
	Location and scale					
	Interactions (cntry*divorce, marital partner)	15253.39	80	53.19	22	0.00
	Location					
	Interactions (cntry*divorce, marital partner)	15228.15	102	25.24	22	0.28
	Location and scale					
	Interactions (cntry*divorce, new partner)	15190.08	101	112.51	43	0.00
	Scale					
	Interactions (cntry*divorce, marital partner)					
	Location					

Table 3 Country-specific divorce effect estimates

		Men		Women	
Divorce	Country	Location	Scale	Location	Scale
	Norway	-1.044	0.173	-0.550	0.272
	Sweden	-0.394	0.072	-0.879	0.155
	Finland	0.072	-0.069	-0.757	0.170
	Denmark	-1.869	0.031	-0.773	0.385
	Belgium	-0.683	0.089	-0.715	0.186
	Netherlands	-0.693	0.789	-1.024	0.212
	Germany	-0.785	0.147	-0.689	0.136
	France	-0.411	0.288	-0.890	0.249
	Switzerland	-1.378	0.004	-1.071	0.298
	Austria	-1.444	-0.073	-0.974	0.117
	Great-Britain	-0.458	0.336	-0.146	0.466
	Ireland	-1.056	-0.279	0.104	0.263
	Spain	0.218	0.212	0.316	0.650
	Portugal	0.002	0.372	-0.298	0.476
	Cyprus	-0.679	-0.420	0.229	0.120
	Estonia	-0.836	0.210	-0.941	-0.094
	Russia	-0.454	0.157	-0.889	0.028
	Poland	0.002	-0.065	-1.089	0.519
	Hungary	-0.307	0.141	-0.393	0.014
	Ukraine	-0.046	0.257	-0.902	-0.291
	Slovakia	-0.394	0.830	-0.165	0.347
	Slovenia	0.480	0.490	-0.589	0.437
	Bulgaria	-0.662	0.160	-0.185	0.041