Do mother's and father's education condition the impact of parental divorce on child well-being?

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Abstract

We use the British Cohort Study to investigate to what extent parental resources moderate the association between parental divorce and lowered child and adolescent well-being. We argue that children of mothers with more years of education suffer *less* when their parents split up because better educated mothers may be better able to provide a safe and stable environment for their children after divorce. In addition, we argue that having a better educated father could either aggravate or reduce the effects of parental divorce. Our analyses indicate that the effect of parental divorce in childhood is reduced for those with better educated mothers, but only after adjusting for the (interaction) effects of father's education. In adolescence, we see a different picture: children of divorced parents suffer less if their parents are better educated, either the mother or father.

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Introduction

There is a large body of research showing that children with divorced parents experience more unfavorable developmental outcomes than children of intact families. Negative effects are found for a range of outcomes in childhood and adulthood, including well-being, behavioral problems, school grades, delinquency, and educational attainment (Amato 2000; Amato 2010). Increasingly research focuses on factors that may increase or reduce the effects of parental divorce, i.e., questions of moderator (interaction) effects. For example, studies have examined whether the effects of parental divorce depend on the quality of the parents' marriage (Morrison and Coiro 1999; Hanson 1999; Strohschein 2005), the number of siblings (Sun and Li 2009), race and ethnicity (Kalmijn 2010; Fomby and Cherlin 2007; Wu and Thomson 2001; McLanahan and Sandefur 1994; Osborne and McLanahan 2007), and socio-economic resources of the parents (McLanahan and Sandefur 1994; Albertini and Dronkers 2009; Biblarz and Raftery 1999; Cavanagh and Huston 2006; Fischer 2007; Elliott and Richards 1991; Jonsson and Gahler 1997). According to a recent review by Amato (2010) "researchers should focus less attention on mean differences (…) and more attention on the factors that produce variability" (p. 658) (2010). The present contributes to this literature by examining whether the impact of parental divorce on child and adolescent well-being depends on the educational level of father and mother.

Researchers have since long recognized that parental resources (social and economic) play a key role in understanding the impact of parental divorce on child well-being (McLanahan and Sandefur 1994). Most of these studies are studies of mediation; they posit that parental divorce causes a decline in child well-being because a divorce leads to a decline in parental resources available to the child (e.g., Thomson, Hanson, and McLanahan 1994; Sun and Li 2002). However, the loss of resources may depend on the pre-divorce levels and parents with more pre-divorce resources may be better able to provide a safe and stable environment for children even despite a divorce. A few studies have examined such interaction effects, although all of these have focused on the child's socio-economic outcomes, not on well-being. In Italy, for example, Albertini and Dronkers (2009) found that divorce had a large negative impact on children's educational attainment for those with low

educated mothers while there was no difference in educational attainment between children from divorced and intact families when the mother was better educated. Findings from the NCDS British cohort study showed that the effect of parental divorce on children's reading test scores was stronger for manual class fathers than for non-manual class fathers (Elliott and Richards 1991). Biblarz and Raftery (1999), however, found the opposite results. Using data for the US, they found that at the high end of the socio-economic spectrum the negative impact of divorce is the greatest on the child's socio-economic attainment.

These mixed findings may be explained by the fact that these studies took only the resources of one parent into account. Following divorce the mother usually remains with the children and the father leaves the household. A mother with high resources may be quite beneficial to the child, but the father's resources may not have such favorable effects, as these are often lost to the child following divorce. As father's and mother's resources are highly correlated, studies that use information on only one parent may give an incomplete picture. The loss of a high resource father may overshadow the benefits of having a high resource mother in such studies. We are aware of only two studies that examine effects of parental divorce while incorporating information about the resources of both the parents. Using Swedish registry data, Jonsson and Gähler (1997) found that the effect of parental divorce on the child's educational career was most unfavorable if a high resource father and a low resource mother broke up. In the Netherlands, Fischer showed that the impact of parental divorce on the child's educational level is lower when levels of mother's education are higher whereas the impact is larger when father's education is higher (Fischer 2007). Clearly, these studies illustrate the importance of looking at the resources of the mother and father simultaneously.

Little research has examined the interaction between parental socio-economic resources and parental divorce for child and adolescent well-being. To our knowledge, only two studies shed some light on this issue. The study of Elliot and Richards (1991) in the UK also investigated child behavioral problems, but they did not find significant interactions between parental divorce and socio-economic resources. In a study of family instability and children's early problem behavior, Cavanagh and Huston (2006) found that a greater "HOME score," a measure of child toys and other commodities in the home, decreased the effect of family instability on negative behaviors towards teachers and a higher income reduced negative behaviors towards peers.

The present paper contributes to this literature by examining whether the impact of parental divorce on child and adolescent well-being depends on the educational level of

mother and father. We use educational level as our indicator of parental socio-economic resources, as educational level is the best indicator of the social, economic, and cognitive resources a person possesses in modern societies. Moreover, educational level is the most comparable socio-economic indicator for men and women and is relatively fixed over time, which makes it ideal when studying the impact of divorce. The data we use come from the British Cohort Study (BCS). This panel data set makes it possible to investigate the impact of parental divorce on well-being of children (age 10) and adolescents (age 16). The BCS has the advantage that it is a very large dataset, so that we observe sufficient parental divorces in order to be able to detect variability in the impact of divorce. We only investigate children living with their mothers before and after the marital split because the number of children living in other arrangements was too small. This has the additional advantage that we can simplify our predictions regarding the effects of mother's and father's resources.

Background and hypotheses

The effects of divorce on children's outcomes have often been explained in terms of a decline or loss of parental resources after divorce (McLanahan and Sandefur 1994; McLanahan 1985). Usually, a distinction here is made between economic and social resources. Following divorce, the household in which the child remains (usually the mother's) faces a marked loss of economic resources (McLanahan and Sandefur 1994; Jarvis and Jenkins 1999). This decline following divorce is the result of a loss of economies of scale and the loss of the father's income. State welfare benefits for single mothers, child support and alimony payments by fathers, and modest increases in labor force participation by mothers are unlikely to compensate fully for the losses sustained by divorce (van Damme, Kalmijn, and Uunk 2009; Jarvis and Jenkins 1999; Jenkins 2008). Money does not buy happiness, but it does buy children better living conditions, better neighborhoods, schools, and various goods and services that benefit children (Turney 2011; Strohschein 2005). Ample research shows that (declining) socioeconomic resources explain a considerable part of the effect of parental divorce on well-being and behavioral problems for children (Sun and Li 2002; Cavanagh and Huston 2006; Thomson, Hanson, and McLanahan 1994; Artis 2007; McLanahan and Sandefur 1994).

Social resources are believed to decline as well after divorce. Research shows that the quality of the relationships with parents as well as the quality of parenting are negatively

affected by divorce (Seltzer 1991; Cheadle, Amato, and King 2010). Because the parent-child relationship is very important to child well-being, this is an important explanation of the divorce effect (King and Sobolewski 2006; Amato and Gilbreth 1999). Most often the father leaves the household which reduces the amount of contact and often leads to a departure of the father from the child's life (Seltzer 1991; Cheadle, Amato, and King 2010). Not only does the father leave, the mother may have less time and energy available for the child too, as she may be forced to work more. The parents may have to cope with their own (psychological) problems and children may blame one or both of the parents for the divorce. Research shows that social resources are important in explaining why a parental divorce has negative effects on children's well-being and behavior (Thomson, Hanson, and McLanahan 1994; Artis 2007; Sun and Li 2002).

To formulate hypotheses about the moderating impact of education, we need to assume that the loss of resources differs depending on the mother's and father's level of education. Below we explain various ways in which this may occur, using the notions of economic and social resources as a starting point. We start with hypotheses on mother's education and then discuss hypotheses on father's education. Because mother's and father's education are highly correlated, we base our predictions on net interaction effects, i.e., moderator effects of mother's education while controlling for the moderator effect of father's education.

Mother's education

There are a number of reasons to suspect that children of better educated mothers experience smaller declines in economic resources following their parents' divorce. Better educated mothers may be better able to negotiate the divorce so that they get more child support and alimony. In line with this, research shows that men are more likely to pay more child support when the mother has a higher educational level (Seltzer 1991). Amato and Gilbreth (1999) show in a meta-analysis that children of divorce have higher well-being if absent fathers pay more child support. Mothers with higher levels of education are also more likely to work during the marriage, and they may in turn have better chances on the labor market which means they are more likely to keep their job (following divorce) and to find a well-paying job (van Damme, Kalmijn, and Uunk 2009). Based on these findings, we expect that a higher level of mother's education reduces the negative impact of divorce on the well-being of their children.

Are there reasons to suspect that the change in social resources differs for higher and lower educated mothers? Better educated mothers may be more aware of the risks of divorce because they are more likely to read books, magazines and newspapers (Van de Werfhorst and Kraaykamp 2001). As a result, they may be more familiar with (popularized) psychological and sociological knowledge on this topic. To counter such risks, better educated mothers may then give extra attention to the children, despite the problems they themselves may have with the divorce. Research on several large panel studies in the US shows higher levels of involvement of mothers following divorce when the mother has a higher educational level (Cheadle, Amato, and King 2010; Seltzer 1991). Second, as stated above, better educated mothers may be better able to keep economic resources intact, these in turn may limit the impact of the divorce on the child's social resources. For instance, better educated mothers may be less likely to be forced to move to a different neighborhood after the divorce and this also reduces the loss of social capital embodied in the neighborhood (and school) that children face (Hagan, MacMillan, and Wheaton 1996). Third, research shows that mothers with more socio-economic resources experience fewer psychological problems following divorce than those with fewer resources (Mandemakers, Monden, and Kalmijn 2010; Liu and Chen 2006). Because the psychological problems that mothers face also affect the parent-child relationship negatively (Kiernan and Huerta 2008), this may be an additional route through which educational level moderates the impact of divorce on well-being.

Father's education

How would father's education affect the economic and social resources of the child after divorce? In our view, the predictions here are less clear and there may even be opposite effects. One argument is that because children are less likely to maintain regular contact with the father after divorce, the status of the father will be less influential in children's lives. The father cannot serve as an economic role model as he did during marriage and he may be less likely to transfer his insights and knowledge to the child. This would imply a weaker effect of father's educational level after divorce (Biblarz and Raftery 1993), or what is the same interaction, a more negative effect of parental divorce for children of better educated fathers. In the literature, this line of reasoning has typically been applied to status outcomes of children such as educational attainment and school grades (Fischer 2007; Jonsson and Gahler 1997). These predictions are inspired by the literature on social stratification in which it is shown that the father's occupational and educational status has strong effects on children's

education and occupation (Grusky and DiPrete 1990). Later research generalized the effect of father's status to other indicators, such as the health and well-being of young and adolescent children (Reynolds and Ross 1998). Hence, we could expect a negative interaction effect of father's education and parental divorce on child well-being as well, with the effect of parental divorce on child well-being being more negative for better educated fathers.

In contrast to this line of reasoning, it can also be argued that there is a reverse interaction effect for fathers. Even though there are more resources to lose when a child has a better educated father, better educated fathers may also be better able to transfer such resources if they are separated from the child. Research has shown that better educated married fathers are more strongly involved in the upbringing of their children than lower educated fathers (Kalmijn 1999). Other research shows that a similar pattern exists for non-resident fathers. For example, Seltzer (1998), analyzing the National Survey of Families and Households in the US, has shown that better educated divorced fathers are more likely to obtain joint custody over their children after divorce after controlling for the effect of the quality of the pre-divorce relationship with the child (Seltzer 1998). Cooksey and Craig (1998), analyzing the same data but this time focusing on non-resident father's relationships with their children (0-18 years of age), have shown that better educated non-resident fathers are more likely to see their children at least once month and more likely to talk weakly with their children than lower educated non-resident fathers (Cooksey and Craig 1998). Hence, it seems that higher educated fathers are better able to maintain the relationship they have with their child after divorce, and in doing so, be also more strongly involved in parenting. Because continued parenting by the non-resident father has a clear positive effect on child well-being (Amato and Gilbreth 1999), one could expect a positive interaction effect, with the effects of parental divorce being less negative for children of better educated fathers.

In sum, we suggest three hypotheses: (1) The effect of parental divorce on child well-being is less negative the higher the education of the mother. (2a) The effect of parental divorce on child well-being is more negative the higher the education of the father. (2b) The effect of parental divorce on child well-being is less negative the higher the education of the father. All hypotheses assume that the educational level of the other parent is constant, hence, they apply to what we call 'net' interaction effects.

Data and methods

To examine the hypotheses, we use data from the British Cohort Study (BCS). The BCS follows the lives of nearly all children born in a certain week of April in 1970. The original sample provides information on about 17,000 births. Very little information on the parents is available at the first wave (around the child's birth) so we start at the second wave (age 5). Childhood follow-ups took place when the children were 5, 10, and 16. At age 5 13,071 of the original cohort participated. We selected all children who were still living with both parents at age 5 as they are still at risk of experiencing divorce in childhood (11,791 children). We limited the sample to children who, at the second measurement, were either living with their mother and father (when parents were still together) or were living with their mother (when the parents separated). Mothers who lived with a new partner are included in this second group. We analyzed two samples; the first is comprised of the children followed from age 5 to age 10 (N=10,038), the second of the children followed from age 5 up to age 16 (N=6,456). Further missing information was imputed using mean imputation. Too few children were living in other arrangements for sensible analyses.

Well-being

At age 5, 10 and 16 the mother answered a battery of questions on the child's behavior and well-being, the so-called Rutter A scale. Previous research on parental divorce and child well-being makes extensive use of these items (cf. Elliott and Richards 1991; Cherlin, Chase-Lansdale, and McRae 1998; Cherlin et al. 1991; Kiernan 1997; Sigle-Rushton, Hobcraft, and Kiernan 2005). At age 5 19 yes/no questions were asked, at age 10 the same questions but then on a 0-100 range, and at age 10 on a 3-point scale (0=never, 1 sometimes, 2=almost all of the time). Examples of items are "the X is very restless", "the X is often worried", and "the X bullies others" (see the complete list in the appendix). Factor analyses showed that these items measured an underlying factor of child well-being/behavioral problems. We excluded the following three items: "twitches mannerisms", "sucks thumb or finger", "bites nails, fingers". These items reflected rare, or not necessarily deviant behavior and the factor analyses confirmed that these items were very dissimilar to the other items. To derive a comparable scale over time based on the 16 remaining items, we standardized each item at each age and took the sum of the items. For those respondents who answered fewer than the 16 items, but answered at least 13 items, we extrapolated their scores to 16 items. The

correlation between the summed scores between 5 and 10 was .42 and between 5 and 16 it was .35. Alpha was .76 at age 5, .82 at age 10, and .82 at age 16. We reversed the scales so that a higher score indicates a higher level of child well-being and fewer problematic behaviors.

Parental divorce and family disruption

The BCS does not directly ask about parental divorce, instead we derived information on the parental divorce from questions about the child's mother and father figures (cf. Sigle-Rushton, Hobcraft, and Kiernan 2005). We did not differentiate between marital and non-marital dissolutions because too few non-marital dissolutions were observed. Information at age 10 and 16 on the mother and father figure of the child and the reasons for a lack of natural mother/father were used to define parental divorce and family disruptions for other reasons (death of father or mother were the main reasons). Between age 5 and 10 we observed 545 divorces (5.4%). Between age 5 and 16 we observed 681 divorces (10.5%). Of the divorces occurring between age 5 and 16, 301 occurred before or at age 10 (based on information at age 10), 269 after, and for 111 the timing was not known.

Educational level

We used a somewhat unusual way to operationalize mother's and father's education. We took advantage of the fact that education was reported in more than one wave and in more than one way. Rather than choosing the seemingly best measure, we used all measures in a scale to increase its reliability. We have the following measures: (a) the age at completion of education reported at age 0, (b) the age at completion of education reported at age 5, (c) the highest educational qualification (age 5), (d) the age of leaving school (age 5), (e) the number of years in full time education after leaving secondary school (age 5), and (f) the number of years in full time education past age 15 (age 5). Factor analyses revealed a single common factor underlying these indicators. We computed the sum score and the resulting scores were standardized. Alpha is .90 for both mother's and father's education, which suggests a high degree of reliability. The correlation between mother's and father's educational level was .60, which is fully consistent with research on educational assortative mating (Schwartz and Mare 2005).

Controls

We employed controls for a variety of characteristics of the child and the shared social and economic resources of the family prior to divorce (at age 5 of the child). We controlled for the child's sex, academic test scores at age 5 (by combining their score on a vocabulary test and a copying designs test (cf. Sigle-Rushton, Hobcraft, and Kiernan 2005), and the child's well-being at age 5. Unfortunately, the BCS does not include information on the family's income at age 5 so we resorted to alternative measures of the shared economic resources available to the child. These were whether the parents lived in council rented housing and a composite index of economic deprivation of the household (a scale comprised of 'crowding', the ratio of people per room in the household and a list of amenities (ownership of telephone, car, refrigerator, washing machine, and spin drier), alpha =.50). Social resources available to the child were captured by a dummy variable that indicates whether the mother or father read to the child in the past week. The mother's age at birth of the child and the number of siblings were held constant as well, as these may affect the resources available to the child before and after their parents' divorce. The mother's psychological distress (factor score derived from Malaise inventory) at the child's age 5 wave was included as that may be a relatively good proxy for parental conflict and problems that existed in the family prior to a divorce.

Analysis strategy

We used OLS regression of the child's well-being in childhood (age 10) and in adolescence (age 16) regressed on parental divorce, parental educational level, and controls. The model is a change score model because we include baseline measures of child well-being (age 5, before separation). We used interaction terms of parental educational level with parental divorce to test our hypotheses whether parental educational level conditions the impact of divorce on child well-being. The independent and dependent variables were standardized so that they can be interpreted as effect sizes. We used mean imputation for missing values and included a dummy variable indicating whether or not the variable was missing in case of a large number of missing values (only needed for the child's well-being at age 5, academic test scores at age 5, and the mother's psychological distress). Future versions of this paper will consider more advanced ways of dealing with missing values, such as multiple imputation techniques. Please see table 1 for descriptives of the variables used in the analyses.

< Table 1 about here. >

Results

First, we present analyses of the impact of parental divorce in early childhood; the analysis of the effect of divorce between age 5 and 10 on well-being at age 10. Then we move on to adolescence to investigate the impact of parental divorce between age 5 and 16 on well-being at age 16. Each analysis first presents a base model in which we investigate the impact of parental divorce on child well-being. These base models replicate previous research on parental divorce using similar datasets. Then we estimate models that add interactions of parental divorce with mother's and father's educational level separately. Finally, we investigate interactions with the educational level of the parents simultaneously. These models test in a stepwise fashion whether parental educational level conditions the impact of divorce.

Childhood

Table 2 investigates the impact of parental divorce between age 5 and 10 on the child's problem behavior at age 10. As we control for baseline child well-being, we can interpret the effects of parental divorce as the change in well-being. Children whose parents divorce show a decrease in well-being at age 10 by about .16 standard deviations compared to children whose families stay intact. Children of families that were disrupted for other reasons do not differ significantly from intact families. These effects hold after we took a range of controls related to characteristics of the child and his/her family into account. The control variables show expected results. The mother's report of well-being at age 5 predicts well-being at age 10; a 1 standard deviation higher level of well-being at age 5 increases the score at age 10 by .35 standard deviations. Children who exhibit higher academic skills at age 5 have a higher well-being at age 10. Note that children who lacked a valid score on the academic behavior score at age 5 showed lowered well-being later. Furthermore, boys and children in larger families show more problem behavior and lower well-being at age 10. Children whose mothers were more psychologically distressed at baseline show lower levels of well-being. Mother's age was not related to well-being and problem behavior. The indicators of the

parent's shared economic and social resources as expected protect child well-being: children from economically deprived backgrounds had lower well-being five years later and children whose parents often read them had higher well-being. The effects of the controls in subsequent models are similar so these will not be discussed in more detail.

< Table 2 about here. >

The second and third model show that a higher parental educational is associated with higher child well-being. The interaction terms with divorce are not significant. In the final model, however, once we control for both parents' education, the interaction effect of mother's educational level and parental divorce is significant and quite strong. A one standard deviation in educational level of the mother decreases the negative impact of divorce by about two thirds, i.e., the interaction effect divided by the main effect (.11 / -.16). Because the variables are standardized, the main effects refer to the effect for a parent with an average level of education, and this is the same main effect as in the model without the interaction.

Figure 1 shows the interaction effect graphically. The figure is based on the full range of educational scores. It shows that there are quite strong effect sizes for children of lower educated mothers. The difference in well-being for children of divorced and married parents is about .6 standard deviations in this range, which is considerable. This difference becomes smaller as mothers become more highly educated. For mothers who are a little bit above average in terms of education, there is already no effect of parental divorce on child well-being anymore. For the highest educated mothers, there even is a slight positive effect of parental divorce. That the effect is positive may be interpreted in terms of the escape hypothesis, i.e., the notion that a divorce may release children from being in a situation with much conflict at home (Hanson 1999).

< Figure 1 about here. >

The moderator effect of mother's education only becomes apparent once we control for the interaction with father's education. This is plausible, given the positive correlation between father's and mother's education. However, there also is a negative interaction effect of parental divorce and father's education which helps to produce this result (-.08). Even though this interaction is not statistically significant, it is in the direction of our second hypothesis which argues that a parental divorce is worse for children when the father is better

educated. We suppose that at age 10, the loss of resources of better educated fathers may increase the impact of divorce, therefore suppressing the beneficial influence of mother's educational level.

Adolescence

Table 2 investigates the impact of parental divorce (between age 5 and 16) on adolescent's well-being at age 16. Adolescents whose parents divorced between age 5 and 16 (about 10%) show a decrease in well-being at age 16 by about .18 standard deviations compared to adolescents whose parents stayed together. The effect of family disruptions for other reasons is similar to that of parental divorce. The effects of the control variables are fairly similar to those in the analysis of earlier well-being. Well-being across waves is strongly associated (beta = .29). Brighter children at age 5 show higher well-being in adolescence. Contrary to the results for age 10, in adolescence we do not find a difference between boys and girls. The number of siblings has no statistically significant effect either. Again we find that mother's age was not related to problem behavior. Adolescents whose mothers were more psychologically troubled at baseline do show lower levels of well-being. Parental shared social and economic resources reported at age 5 have a diminished influence on well-being in adolescence compared to childhood. Adolescents whose parents were poorer when they were 5 had lower levels of well-being.

< Table 3 about here. >

The second and third models show that a higher parental educational level is—net of the controls—not associated with changes in well-being in adolescence. For adolescents whose parents divorced, parental educational is relevant to their well-being. The interaction terms of parental divorce and the educational level of the mother and the father are both significant. The effects are also of the same size: a one standard deviation increase in educational level of either the mother or father decreases the negative impact of divorce on well-being by about two thirds (.12/-.18). In the final model, once we include the interaction effects of parents' educational levels simultaneously, we see that both interaction effects decline in size and become insignificant. Mother's and father's educational level are strongly correlated (r = .60) and because both are beneficial, the individual effects may not be statistically separated once we include them both in the equation. We also tested a model in

which we replace the two interaction effects with one interaction effect, using the average of the father's and mother's education, and this interaction effect is .15 and statistically significant ($p < .01$). This interaction is even stronger than the one of the mother alone, which leads us to conclude that both parents condition the impact of divorce in the same direction.

Sensitivity

We carried out a number of additional analyses to test the robustness of our results. First, the analysis of the impact of parental divorce occurring between age 5 and 16 on adolescent well-being spans a long period and therefore collapses short- and long-term effects. We tested whether late divorce and divorces of unknown timing are different by incorporating interaction effects with the timing of divorce and by comparing the results to an analysis of divorce between age 10 and 16. These analyses did not reveal substantial differences related to timing. The interaction effects of parental education remain strong and significant. Second, we investigated whether the results were sensitive to the choice of items to include in the well-being scale. Analyses in which we reran the regressions and excluded one of the items at a time did not show substantial differences.

Conclusion and discussion

We used the British Cohort Study to investigate to what extent parental resources moderate the association between parental divorce and lowered child and adolescent well-being. We argued that better educated mothers may be better able to provide a safe and stable environment for their children after divorce. Children of mothers with more years of education may therefore suffer *less* when their parents split up. Furthermore, we argued that having a better educated father could either aggravate or reduce the effects of parental divorce. We tested these assertions on a large prospective dataset that followed children from age 5 to age 10 (N=10,034) and to age 16 (N=6,542), respectively. Between age 5 and 10 about 5% of the parents divorced (545 children) and between age 5 and 16 about 10% (681).

We have found reasonably strong evidence that the mother's educational level interacts with parental divorce. In childhood, we found a strong positive interaction effect, showing that a parental divorce is less detrimental to child well-being if the mother is better educated. For the best educated mothers, there even is a small positive effect, but for lower

educated mothers, the effect is quite negative. In adolescence, we found a positive interaction effect as well, although only before we controlled for the father's level of education. Because the father appears to condition the impact of divorce in the same direction, and because father's and mother's education are highly correlated, a simultaneous test renders the interaction with the mother insignificant. However, an additional test showed that the average of the father's and the mother's education significantly moderates the impact of divorce. Hence, the father and mother have the same moderating effect at this age. Hence, for this age too, we conclude in favor of our hypothesis.

For father's education, we had opposite predictions and the results are more uncertain. When we focus on child well-being at age 10, we see a *negative* interaction effect but this is insignificant. The direction of the effect suggests that for children of higher educated fathers, a parental divorce is more detrimental. At age 16, we see a *positive* interaction effect which is significant before we include mother's education and which, in an additional test, is as strong as the interaction with the mother. Hence, we conclude that there is little evidence for the loss of resources hypothesis (the negative interaction at age 10 is insignificant). There is more evidence for the notion that better educated fathers are better able to maintain good relationships with their children (the positive interaction at age 16 is significant). Perhaps there even is a tendency for the interaction to flip across the life course—a better educated father being more detrimental early on and more positive later on in the child's life—but this is a speculation that other data should confirm.

Theoretically, we suggested several mechanisms to understand the interaction effects. For the mother, we argued that better educated mothers would be less likely to fall into poverty after divorce. We also argued that better educated mothers would be more aware of the possible harm that a divorce can mean for children, and hence, would be more likely to make additional investments in their children after divorce. Finally, we argued that better educated mothers would suffer less psychologically from a divorce compared to lower educated mothers. This too, could have a positive outcome for children. Although these mechanisms have been studied and confirmed in other research before, it remains to be seen which of these mechanisms is most responsible for the interactions that we found. We welcome analyzes which directly test such explanations. Our purpose now was to establish that there was an interaction effect in the first place. We established this, especially for mothers, and we await further explanatory research.

The consequences of our findings are complex. At first, the finding seems to have a positive implication. As the population of most western societies continues to become better

educated, we would expect that the effects of divorce on children in general would also become less negative in society. At the same time, however, there is evidence that in some societies, divorce has become relatively more common among the lower educated than among the better educated (De Graaf and Kalmijn 2001; Martin 2006; Hoem 1997). This would run counter to the previous, more optimistic conclusion. Finally, and more importantly, we could argue that the interactions that we found imply a cumulative disadvantage. Children of lower educated parents have worse life chances in the first place and when their parents divorce or separate, they are affected more negatively. This suggests that the problem of divorce may become more rather than less important over time. It also means that issues of family life and social stratification remain closely linked in modern societies (McLanahan 2004).

TABLES

Table 1. Descriptives

	5-10 analysis (*N*=10,034)				5-16 analysis (*N*=6,542)			
	mean	s.d.	min	max	mean	s.d.	min	max
dependent variable								
child/adolescent well-being at 10/16	0	1	-6.772	1.874	0	1	-8.490	.908
Controls (measured at age 5):								
child well-being (std.)	0	1	-5.589	1.522	0	1	-5.589	1.522
missing child well-being	.005	-	0	1	.005	-	0	1
child academic test score (std.)	.050	1.559	-5.485	4.650	.139	1.564	-5.350	4.650
missing child academic test score	.067	-	0	1	.066	-	0	1
male (ref.=female)	.518	-	0	1	.494	.500	0	1
number of siblings	1.560	1.113	0	13	1.510	1.067	0	13
mother age (std.)	0	1	-2.207	3.832	0	1	-2.113	3.832
mother's psych. distress (std.)	0	1	-1.087	5.185	0	1	-1.087	4.931
missing mother's psych. distress	.006	-	0	1	.006	-	0	1
Parental shared resources (at age 5):								
economic deprivation (std.)	0	1	-9.988	2.107	0	1	-9.988	2.107
owner-occupied, private rented (ref.)	.703	-	0	1	.720	-	0	1
council rented housing	.297	-	0	1	.280	-	0	1
child not read to by parent (ref.)	.190	-	0	1	.169	-	0	1
a parent read to child last week	.810	-	0	1	.831	-	0	1
mother's educational level (std.)	.001	.843	-4.927	4.427	.034	.857	-4.927	4.157
father's educational level (std.)	-.002	.836	-5.925	3.722	.027	.852	-5.925	4.534
family structure between 5-10 and 5-16:								
family remains intact (ref.)	.930	-	0	1	.871	-	0	1
parental divorce between 5-10/5-16	.054	-	0	1	.105	-	0	1
other disruption between 5-10/5-16	.016	-	0	1	.024	-	0	1

Table 2. OLS results, parental divorce between 5-10 and child's well-being (std.) at age 10.

	base	mother's education	father's education	both parents' education
Controls (measured at age 5):				
child well-being (std.)	.35***	.35***	.35***	.35***
missing child well-being	.32**	.32**	.32**	.32**
child academic test score (std.)	.04***	.04***	.04***	.04***
missing child academic test score	-.06*	-.06*	-.06*	-.06*
male (ref.=female)	-.13***	-.13***	-.13***	-.13***
number of siblings	-.02*	-.02*	-.02*	-.02*
mother age (std.)	.00	.00	.00	.00
mother's psych. distress (std.)	-.11***	-.11***	-.11***	-.11***
missing mother's psych. distress	-.36**	-.37**	-.36**	-.37**
Parental shared resources (at age 5):				
economic deprivation (std.)	.04***	.04***	.04***	.04***
owner-occupied, private rented (ref.)				
council rented housing	-.02	-.02	-.02	-.02
child not read to by parent (ref.)				
a parent read to child last week	.04*	.04*	.04*	.04*
mother's educational level (std.)	-.01	-.01	-.01	-.01
father's educational level (std.)	.03**	.03**	.03**	.04***
family remains intact (ref.)				
parental divorce between 5-10	-.16***	-.16***	-.16***	-.16***
other disruption between 5-10	.02	.02	.02	.02
mother's educ. level * parental divorce		.07		.11*
father's educ. level * parental divorce			-.01	-.08
constant	.08**	.07**	.08**	.08**
R^2	.21	.21	.21	.21
N	10,034	10,034	10,034	10,034

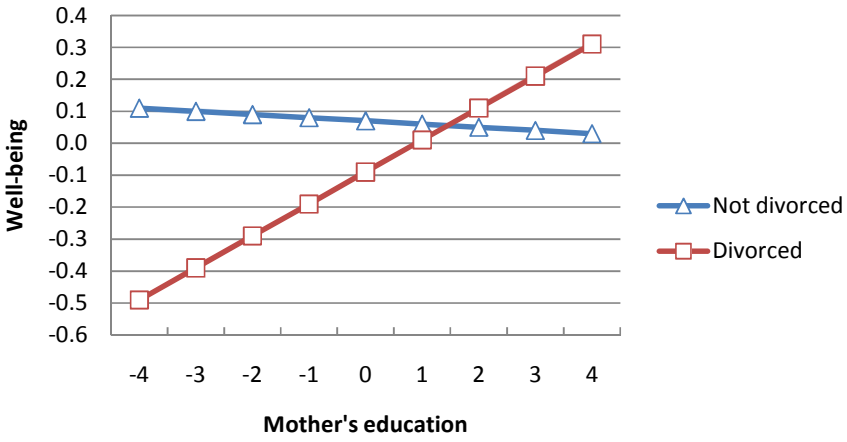
legend:* p<.1; ** p<.05; *** p<.01, two-sided

Table 3. OLS results, parental divorce between 5-16 and adolescent well-being (std.) at age 16.

	base	mother's education	father's education	both parents' education
Controls (measured at age 5):				
child well-being (std.)	.29***	.29***	.29***	.29***
missing child well-being	.56**	.54**	.55**	.54**
child academic test score (std.)	.06***	.06***	.06***	.06***
missing child academic test score	-.04	-.04	-.04	-.04
male (ref.=female)	.01	.01	.01	.01
number of siblings	-.01	-.01	-.01	-.01
mother age (std.)	-.00	-.00	-.00	-.00
mother's psych. distress (std.)	-.07***	-.07***	-.07***	-.07***
missing mother's psych. distress	-.95***	-.95***	-.93***	-.94***
Parental shared resources (at age 5):				
economic deprivation (std.)	.04***	.04***	.04***	.04***
owner-occupied, private rented (ref.)				
council rented housing	-.00	.00	.00	.00
child not read to by parent (ref.)				
a parent read to child last week	-.02	-.02	-.02	-.02
mother's educational level (std.)	-.01	-.02	-.01	-.02
father's educational level (std.)	.02	.02	.01	.01
family remains intact (ref.)				
parental divorce between 5-16	-.18***	-.18***	-.17***	-.18***
other disruption between 5-16	-.20***	-.20***	-.20***	-.20***
mother's educ. level * parental divorce		.12**		.09
father's educ. level * parental divorce			.11**	.06
constant	.04	.04	.04	.04
R^2	.15	.15	.15	.15
N	6,452	6,452	6,452	6,452

legend:* p<.1; ** p<.05; *** p<.01, two-sided

Figure 1.- Well-being of child and education of mother



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Appendix

Included items in well-being scale:
is very restless
is squirmy/fidgety
often destroys belongings
frequently fights with others
is not much liked by others
is often worried
is rather solitary
is irritable, quick to anger
often appears miserable/unhappy
sometimes takes others' things
is often disobedient
cannot settle to do things
is fearful/afraid of new things
is fussy or overparticular
often tells lies