## Gender Revolution for Whom?

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#### Abstract

The Swedish parental leave policy and father's quota reforms have contributed to the norm that fathers should be involved in the care of the youngest children. While theories suggest that fathers' involvement in domestic work increase family stability, earlier research has been inconclusive on the relationship between parental leave use and union dissolution risk. This study suggests that norms regarding whether to share parental leave equally differ between groups and that norm compliance and related dissolution risks therefore differ. The study analyses the relationship between parental leave division and dissolution risks in relationships characterized by educational homogamy, hypogamy or hypergamy. Dissolution risks for parents of the 2002-2009 child cohort are analysed using register data and a discrete hazard regression model. The results indicate that almost all parental groups experience lower dissolution risk when the fathers use some parental leave. However, only couples where both have high education have a possible further reduced dissolution risk when sharing parental leave equally. Couples where both have low education, or where the woman has relatively higher education, experience increased risks when sharing equally. Parental leave division seems to matter less among couples where the man has relatively higher education. Implications for theory are discussed.


Keywords: Gender revolution, parental leave, gender norms, union dissolution, separation, relative education, Sweden

## Introduction

During the $20^{\text {th }}$ century, drastic changes in gender roles took place as women entered public spheres, such as educational institutions and the labour market, on a larger scale, initiating the so-called gender revolution (England 2010). However, women remained responsible for childcare and housework, as men did not enter the domestic sphere to the same degree or at all. This unequal division of labour has been argued to lead to reduced marital satisfaction and increasing divorce rates (Goldscheider, Bernhardt, and Lappegård, 2015). This period has also been labelled the first half of the gender revolution (ibid). The second half of the revolution takes place when men take on domestic tasks on equal terms, which in turn is predicted to increase union stability (Goldscheider, Bernhardt, and Lappegård, 2015; see also EspingAndersen and Billari, 2015). Indeed, previous research on the relationship between fathers' involvement in childcare and union stability has shown that his involvement is associated with increasing union stability (Lappegård et al., 2018; Oláh, 2001; Sigle-Rushton, 2010). However, other studies have come to more mixed conclusions (Avdic and Karimi, 2016; Cooke, 2004; Lappegård, Duvander, and Johansson, manuscript).

Swedish family policy has encouraged gender equality in family and work since the 1970s, and generous parental leave policy and father's quota reforms have effectively bolstered fathers' involvement in childcare and gender equality (Duvander and Johansson, 2012). Additionally, individual and societal expectations of fathers' involvement have increased, and 'new' caring masculinities and gender equality norms have emerged (Björnberg, 1998; Johansson, 2011; Johansson and Klinth, 2008). The present study takes advantage of Sweden's position as a forerunner in this respect to study whether and for whom a more egalitarian parenthood implies greater union stability. The study investigates how couples' division of parental leave relates to dissolution risks, but unlike previous studies, it analyses this relationship for various parental groups. Couple types based on joint educational levels are studied: couples with educational homogamy (high or low) and couples with hypogamous or hypergamous relationships in which the woman has reached a higher education level than the man or the woman has a lower education level. Individuals' education correlates with income, earning potential, labour market activity and occupational prestige (Card, 1999; Kalmijn, 1998) and with gender egalitarian values (Chatard and Selimbegovic, 2007; Evertsson, 2014). Education should therefore, directly or indirectly, be a source of conventions and norms regarding parental leave division and parenthood responsibilities, and sharing parental leave equally may imply norm compliance for certain couples but not for others, generating differentials in dissolution risk. Different
parental groups might also respond differently to sharing parental leave equally; thus, the risk of union dissolution could differ. Hence, the study hypothesizes that the relationship between an egalitarian parental leave division and union stability differs between parental groups. By analysing the patterns separately for various groups, the study adds to previous research related to the second half of the gender revolution theory by providing more knowledge about for whom an egalitarian parenthood implies greater union stability.

The study is based on Swedish register data that cover the full population, which is beneficial because this allows less common couple constellations to be studied. For the analysis of dissolution risk, the study covers all first-born 2002-2009 cohorts of heterosexual parents. The parents of these cohorts were particularly encouraged to share parental leave more equally, as the parental leave system included a quota of two months' leave reserved for each parent as of 2002. The data include detailed and unique information about parental leave use and further contain information about parents' educational attainment, income from work and social transfers, sickness benefits received, age, birth origin, civil status and place of residence by year. The transition to couple separation is studied using discrete-time hazard models, where dissolution risks for different groups are expressed in hazard ratios.

## The Swedish context and the parental leave system

In Sweden, the divorce rate increased slowly during the 1980s and the 1990s but levelled off in the 2000s (Andersson and Kolk, 2016). There are parity differentials in divorce rates, and the levelling off that occurred during the 2000s was mainly seen among mothers of higher-order parities, that is, among two- and three-child mothers (ibid). Marital unions are more stable than cohabiting unions, despite widespread cohabitation (almost half of all children are born in cohabiting unions) and the many similarities between these two types of unions (Kennedy and Thomson, 2010; Statistics Sweden, 2013).

Swedish family policy has aimed to increase gender equality for decades, and important reforms took place in the early 1970s. Individual taxation was introduced in 1971, and subsidized highquality childcare expanded in the 1970s and onwards. The parental leave system was introduced in 1974 and implied equal rights for mothers and fathers with respect to taking parental leave. The introduction of reserved parental leave for fathers (and mothers) further pushed for fathers' participation in childcare and domestic work. Together, the policies have aimed to change traditional gender roles, increase the child's contact with both of its parents, facilitate fathers'
leave use, and increase mothers' labour force participation (Duvander and Johansson, 2012; Evertsson, 2014; Johansson and Klinth, 2008).

The gender equality discourse implies the ideal of active and involved fatherhood in which fathers care for their children and share the family responsibilities in addition to engaging in paid work (Johansson and Klinth 2008; Larsson and Björk 2017). However, studies have suggested that the ideal of involved fatherhood is more pronounced among middle-class fathers than working-class fathers (Plantin, Månsson, and Kearney, 2003) and that the different meanings given to fatherhood are illustrated by the differences in parental leave lengths between classes (Plantin, 2007). However, higher education, income and status may contribute to challenging the still existing traditional ideals of parenthood and work, and likely also facilitate the taking of longer parental leaves (Haas \& Hwang, 2000; Larsson \& Björk, 2017). Under the parental leave system, parents receive 13 months of leave with approximately 80 per cent earnings replacement up to a certain ceiling if they fulfil certain working conditions. Otherwise, they receive a lower flat rate. An additional three months are replaced at a low flat rate for all. In total, parents have 16 months of paid parental leave but may also stay at home without receiving any income replacement during the child's first 18 months. Today, parents can use the leave until the child turns 12 , but the parents in the present study could use the leave until the child turned eight. However, most of the leave days are used at the beginning of the child's life before the child starts preschool, typically when the child is between one and two years of age (Viklund and Duvander, 2017). When the child starts preschool, the parents return to work, and it is uncommon for mothers to stay at home with preschool-aged children. The present study investigates parental leave taken during the child's first 18 months and thereby captures the vast majority of leave days that parents use (Swedish Social Insurance Agency, 2018; Viklund and Duvander, 2017). In 1995, one month of leave was reserved for each parent. In 2002 and 2016, a second and third reserved month, respectively, were introduced. These months are forfeited if not used by the assigned parent, and the total leave is thereby shortened. Thus, the quota has a "forcing" dimension. The introduction of the reserved months implied that fathers' uptake of parental leave increased (Duvander and Johansson, 2012). Fathers of the 2014 child cohort used approximately 70 days of paid leave during the child's first two years (Swedish Social Insurance Agency, 2017) ${ }^{1}$. However, the number of days taken varies widely depending on education, income and occupation (Bygren and Duvander, 2006; Duvander and

[^0]Viklund, 2014; Swedish Social Insurance Agency, 2013). Generally, fathers who have more education, middle-high incomes, and fathers who work in the public sector take longer parental leave. Similarly, mothers who have a low income, a lower education level, and mothers who work in the public sector take longer parental leave. Moreover, fathers who have a weak connection to the labour market tend to take shorter or no leave, whereas mothers in the same situation take longer leave (ibid).

## Background and hypotheses

## Parental leave - dissolution risks

In the gender revolution framework, union stability is predicted to increase as men increase their involvement in childcare and other domestic work (Goldscheider et al., 2015). There are several possible mechanisms behind the relationship between fathers' involvement in childcare and the risk of union dissolution. First, fathers' use of parental leave is thought to generate more equal sharing of other domestic work and to indicate larger investments in the union and commitment to the partner, resulting in greater couple satisfaction (Evertsson, Boye, and Erman, 2018; Lappegård et al., 2018). For instance, a Swedish study found that fathers who take parental leave work fewer hours than other fathers (Duvander and Jans, 2009). A Norwegian study using a natural experimental design concluded that fathers who have been on leave share housework more equally with their partners and experience fewer conflicts about household work (Kotsadam and Finseraas, 2011). Fathers' parental leave has also been related to a more equal division of care for sick children in Sweden (Duvander and Johansson 2018; c.f. Ekberg, Eriksson, and Friebel, 2013). A qualitative study on fathers using longer parental leave found that they took more responsibility for other household chores during the leave and that their attitudes towards domestic work changed after the leave period (Chronholm, 2007). Additionally, studies from the Netherlands and the UK show that fathers' involvement in childcare increases mothers' happiness and relationship satisfaction and results in more stable marriages (Kalmijn, 1999; Schober, 2012). Second, fathers' parental leave is thought to lead to a closer relationship with their children and stronger family ties, making fathers less willing to dissolve the union (Lappegård et al. 2018). The father's early childcare can increase commitment and enhance his position as an equal parent rather than a "supporting player" to the mother, especially if he has sole responsibility for the child for a period (Brandth and Kvande, 2003). Studies also indicate that being on parental leave strengthens the emotional bonds between the father and the child and increases fathers' satisfaction with contact with their children, even after the leave period (Almqvist \& Duvander, 2014; Chronholm, 2007; Evertsson
et al., 2018; Haas \& Hwang, 2008; O'Brien \& Wall, 2017). There is also a third possible mechanism contributing to reduced dissolution risk: sharing parental leave is normatively expected due to the reforms in the parental leave system. Deviation from policy-stipulated behaviour may cause social sanctions, discomfort and conflicts within the couple. The parental leave policy and the father's quota reforms in particular have strengthened gender equality norms and the norm that fathers should take parental leave to be a "good father" (Brandth and Kvande 2002; Johansson and Klinth 2008; Plantin, Månsson, and Kearney 2003). Taking parental leave means conforming to these societal norms and should reduce discomfort and conflicts within the couple and hence contribute to union stability. While it is normatively expected that fathers take some leave, the norm that couples share the leave more equally likely differs between groups of couples. Studies suggest that gender equality ideals are less emphasized among fathers with less education and working class fathers (and mothers), and the ability to live up to these societal ideals might be lower (Plantin, 2007; Plantin et al., 2003). In addition to the possible causal influences of these mechanisms, selection into parental leave also exists: fathers who take parental leave are likely to be more child-oriented and/or familyoriented than other fathers. They may have better functioning relationships in which sharing leave is preceded by fewer negotiations. Some fathers might take longer leaves due to the mother having poor health. Nonetheless, because the father's quota reform has a forcing dimension and because the majority of fathers use some leave, the non-using fathers might have become the selected group today. Additionally, these fathers and couples might experience other problems related to the economy or other factors that cause non-conforming behaviour.

Several studies from the Nordic countries indicate that fathers' use of parental leave is positively related to union stability. For instance, Oláh (2001) showed almost twenty years ago that Swedish fathers who used some parental leave had lower dissolution risk than other fathers. Oláh suggested that both parents' involvement in care activities strengthens the relationship but also discussed possible selection. The study used survey data on child cohorts from the early 1990s, when fathers' leave-taking was less common than now.

A more recent comparative study on Sweden, Norway and Iceland by Lappegård et al. (2018), using register data covering all first-born children between 1993 and 2009, concluded that fathers' parental leave use reduced the union dissolution risk in all three countries. Couples in which fathers used no parental leave had the highest dissolution risk, couples in which the father used leave up to the assigned father's quota had the lowest risk, and couples who shared more equally had a higher risk than the "quota" group. While fathers' parental leave could indicate
greater commitment and closer family bonds, another possible explanation for the U-shaped relationship between parental leave division and dissolution risk could be the composition of couples. However, homogamy and heterogamy in education were not investigated and are the focus of the present study.

A few studies have found no or negative relationships between fathers' parental leave and union stability. Using a natural experimental research design and difference in differences analysis, Lappegård, Duvander and Johansson (manuscript) compared groups of parents that were exposed to the first father's quota reform in Norway and Sweden (in 1993 and 1995, respectively) to groups that were not exposed. They found no effect of fathers' parental leave use on the risk of union dissolution. The authors concluded that the reform itself did not have an immediate effect on dissolution risk and that possible changes in parents' behaviour might develop more gradually. Avdic and Karimi (2016) studied the father's quota reforms in 1995 and 2002 in Sweden and found that an increase in the father's share of parental leave increased the probability of union dissolution. The results were mainly driven by couples in which the man was the main breadwinner and the woman had a low education level and by couples that previously had children.

In all, the partly varying results suggest that it could be that a normative use of parental leave is associated with lower risks of union dissolution. When the woman uses all the leave, this deviates from the norm stipulated by the father's quota policy. Not sharing the leave increases the probability that the mother does most of the other childcare later on (Evertsson et al., 2018) and that she does more housework (Boye, 2008; Kotsadam and Finseraas, 2011). This could in turn contribute to less marital satisfaction and increased divorce risk, as suggested by de Graaf and Kalmijn (2006). However, longer leaves by the father could also generate conflicts within the couple. For instance, employers might be less keen on their male employees taking long leaves (Bygren \& Duvander, 2006; Haas \& Hwang, 1995, 2000), thereby imposing strain on the couple if they still aim for an equal division. Moreover, if sharing parental leave and other household chores equally go against normative and individual expectations, this could strain the relationship. In general, more intense negotiation within the couple on these matters should contribute to increased dissolution risk. It seems useful to analyse the relationship between parental leave division and dissolution risk in parental groups based on educational level, as norms regarding parental leave division should differ between levels. Hence, the focus here is on couples that are homogamous with respect to education levels and couples that are educationally heterogamous. Before establishing the hypotheses on parental leave division and
dissolution risk in the various couple constellations, the meaning of homogamy and heterogamy and separation risk are first discussed, including the gendered aspects of being the partner with most resources. The study uses separation and divorce interchangeably.

## Educational homogamy and heterogamy

Homogamy in couples' education level has been argued to increase reciprocal confirmation of behaviour and worldviews, increase opportunities to engage in joint activities, and function as a common basis for conversation, which in turn should increase mutual understanding (Kalmijn, 1998). Hence, educational homogamy could have a stabilizing effect on unions. Education is further strongly related to income, earning potential and status and to taste, values and lifestyle (Card, 1999; Kalmijn, 1998). Because financial difficulties have been suggested to lead to more conflicts in relationships, this could contribute to higher divorce rates among couples in which both have a low education compared to couples in which both have a high education level (Jalovaara, 2003; Lyngstad, 2004). Further, another difference between couples in which both partners have a high or a low education level is that more highly educated couples are more prone to express gender egalitarian values (Chatard and Selimbegovic, 2007). This could imply that these couples, to a larger extent, aspire to share family responsibilities and household work equally; hence, realizing such aspirations would be in line with normative expectations. In all, the effects of educational homogamy on union dissolution risk is likely attributable to both selection processes and causal influences (Lyngstad and Jalovaara, 2010).

Turning to educational heterogamy, there is either hypogamy (the woman has more education than the man) or hypergamy (the woman has less education than the man). Women's increasing enrolment in tertiary education in high- and middle-income countries has led to a reversal of the gender gap in education, and women now outperform men (Van Bavel, Schwartz, and Esteve, 2018). Additionally, hypogamous relationships have become more common than hypergamous relationships (ibid). Being more highly educated than men should theoretically give women a higher status position and power in relationships and should lead them to do less domestic work (Bittman et al. 2003; Evertsson and Nermo 2004). However, scholars have argued that when the female partner has the most resources, the couple becomes a symbol of non-normative power relations and a threat to male identity; hence, couples use various "deviant neutralization strategies" to compensate for this deviance and to maintain stability (Bittman, England, Sayer, Folbre, and Matheson, 2003; Brines, 1994; Evertsson and Nermo, 2004; Greenstein, 2004; Tichenor, 2005). For instance, women increase their share of household work
when they surpass their partners in terms of resources, in contrast to the expectation that the husband will assume the main responsibility for these duties. A study by Bertrand, Kamenica, and Pan (2015) suggested that these couples experience reduced marital satisfaction and increased divorce risk. However, a woman outperforming her partner in terms of education is likely a smaller norm deviance than being the main breadwinner in the relationship (which most of the studies above focus on), and it seems to be an open question whether dividing parenthood responsibilities in a traditional way, such as having an uneven parental leave division, could reduce the dissolution risk for these couples.

Earlier studies on joint resources showed that couples in which both partners have a high education level have the lowest divorce rates (Jalovaara, 2003; Lyngstad, 2004; Mäenpää, 2015). The fact that couples in which both partners have a low education level have the highest divorce rates implies that homogamy per se is just one part of the explanation for the reduced risk among highly educated couples. The results from Jalovaara (2003) and Lyngstad (2004) indicate that if one of the partners has a tertiary education, the other partner's lower education level then increases the divorce risk. Although the authors argue that the differences are small, this finding suggests that heterogamy in education could increase the separation risk. The effects with regard to gender seem to be more or less symmetrical in Jalovaara (2003), whereas hypogamous marriages are possibly more stable in Lyngstad (2004).

## Interaction of education, parental leave division and dissolution risk

Of main interest in this study is how the relationship between parental leave division and union dissolution risk changes with respect to couples' joint education levels. Accordingly, this section presents hypotheses about the expected relationship between the degree of gender-equal parental leave division and dissolution risk in couple constellations characterized by educational homogamy, hypogamy and hypergamy. The exact definition of educational levels and parental leave division are discussed in the data and methods section. While norms regarding parental leave division are hypothesized to differ depending on couples' joint education levels, the study does assume that the expectation that fathers should take some leave is valid and strong among all couples due to the father's quota reforms. Thus, one overall assumption to consider when reading the hypotheses is that not sharing the leave, meaning that the mother uses all the leave, is associated with the highest dissolution risk for all couples.

For homogamous couples with a high education level, earnings potential and job characteristics are expected to be similar between the spouses. Because of these similarities, there might be an
expectation that the parental leave be shared similarly, and gender equality in childcare responsibilities is likely the norm. In addition, as discussed earlier, the involved fatherhood ideal, which includes taking parental leave, are stronger among middle-class fathers (and couples). Furthermore, their work situation could more easily "allow" longer leaves for fathers. Hence, there are reasons to believe that the more equally the couple shares the leave, the lower the dissolution risk. Accordingly, the first hypothesis is formulated as follows:

H1: Among homogamous couples with a high education level, there is a negative relationship between the degree of gender-equal division of parental leave and dissolution risk.

Homogamous couples with a low education level are predicted to experience a less advantageous situation in the labour market with regard to job conditions, income and earning potential, as discussed earlier, and it is therefore expected that their normative use of parental leave differs from that of couples in which both partners have a high education level. A less stable labour market connection among women and men tends to promote a traditional leave division in which the mothers use the majority of the leave. In addition, it is possible that among these couples, father commitment is, to a greater extent, seen as providing for the family. Involved fatherhood ideals are less pronounced and/or may not be possible to realize. Thus, a traditional division of parental leave in which the father uses a smaller part of the leave is normatively expected and generates the lowest dissolution risk. If the couple shares the leave more equally, the dissolution risk is expected to increase. This leads to the second hypothesis:

H2: Among homogamous couples with a low education level, there is a U-shaped relationship between degree of gender-equal division of parental leave and dissolution risk.

While hypogamous relationships are increasingly common, these relationships already imply that the couple deviates from traditionally gendered norms in which the man has the higher status position. If this order threatens the relationship and causes less satisfaction, the couple might try to compensate for the deviance by adhering to traditional gender norms in other realms, for instance, in division of parental leave. This "compensation" may lower the dissolution risk. The normative expectation among these couples is accordingly not to share equally, as the female partner's high education level (and better labour market prospects) would suggest, but rather to have a traditional division due to the male partner having the lower education level. Such a division would be associated with less conflict, while an egalitarian division would increase the risk. The third hypothesis is formulated as follows:

H3: Among couples with hypogamous relationships, there is a $U$-shaped relationship between degree of gender-equal division of parental leave and dissolution risk.

Lastly, hypergamous relationships, in which the man has a higher education level than the woman, implies no deviation from traditional gender identities. Given their differences in education level, the man is expected to have a higher income, better labour market prospects and a higher-status job. Such a couple constellation has been found to correlate with more traditional divisions of household responsibilities. Therefore, the normative expectation is that the mother uses most of the parental leave and the father a smaller part, and conforming to this norm should generate the lowest dissolution risk. This leads to the fourth hypothesis:

H4: Among couples with hypergamous relationships, there is a U-shaped relationship between degree of gender-equal division of parental leave and dissolution risk.

## Data and methods

The study uses administrative data from the Swedish Social Insurance Agency, which covers all parents that apply for parental benefits to care for their child. The main advantage of these data is that parental leave benefits are registered per child date-wise and not per parent yearwise, as is the case in other registers that researchers normally have access to. Thus, one knows exactly how much leave each parent received for each child at any point in time. The data also cover demographic and socio-economic variables that will be further described below. The transition to union dissolution is studied using discrete-time hazard models (survival analysis) with a complementary log-log function, and the risk of event (union dissolution) is expressed in hazard ratios. Survival analysis captures the duration until the event occurs, which is beneficial because couple separation is closely linked to time-related processes (Blossfeld, Golsch, and Rohwer 2007).

The study focuses on the first parental union and covers all first-born cohorts born between 2002 and 2009. Births that took place abroad and multiple births were excluded. In addition, couples were excluded if the child or either of the parents died during the parental leave period. Some selections are made in the sample. The most important relate to how the event, union dissolution, is defined and how parental leave is measured. Information about couples' registered address is captured yearly on December $31^{\text {st. }}$; hence, parental co-residence is known only at this time point. In the data analysis, the child's birth year is referred to as year 1. Parental
leave is measured during the child's first 18 months, which would span years 1 and 2 . Hence, the earliest possible starting point at which the couple comes under analysis, or the "start of the clock", would be year 3. As an early starting point is preferable, in order to include as many separations as possible in the analysis and to avoid problems with the order of events (measuring leave after the start of the clock), only children born from January to June are selected. This selection reduces the sample by half, or to approximately 137,000 cases. Separations that take place during year 1 or 2 will be lost, which means that a certain selection into union stability exists. Other inclusion criteria relate to missing cases. Couples in which either of the partners have missing information for the variables are excluded. In general, these constitute less than one percentage, but approximately 10 per cent of the sample has missing information about income, and three per cent of the sample have missing information about education. The remaining sample consists of 121,280 children and their parents. In the discretetime hazard model, couples are followed from year 3 until the year they dissolve the union or the censoring time point. Couples are censored in 2012, which is the last year for which data are available, or if either of the partners dies or emigrates. Hence, couples are followed for a maximum of nine years.

## Dependent and independent variables

The dependent variable union dissolution is based on parents' registered address on December $31^{\text {st }}$ of each year, as previously mentioned. If parents change their joint address to separate addresses during the year and if this change in co-residence does not occur due to emigration or death, they are considered separated. By using this definition (instead of legal divorce), cohabiting unions are also captured in the analysis, which is essential because approximately half of all births in Sweden take place in cohabiting unions (Thomson and Eriksson, 2013). Parental leave division is the main independent variable. It is defined as the father's share of the parents' total parental leave days during the chosen period and is divided into four categories: a no share group, consisting of couples in which the fathers used no leave, and three groups of couples in which the fathers used some leave. These three groups are based on yearwise terciles of leave division. Using a relative measure facilitates the interpretation of the parental leave division, as there is a trend across the cohorts that fathers increase their use and share of parental leave. Across all the cohorts, the no share group constitutes approximately 20 per cent of the couples. Note that some fathers use leave after the first 18 months, but these are categorized in the no share group. In the first tercile, fathers use on average six per cent of the leave, in the second tercile they use 19 per cent of the leave, and in the third tercile they use 44
percent of the leave ${ }^{2}$. Education is defined as the highest level of education completed the year before the child's birth and is divided into two categories: high (post-secondary education) and low (no post-secondary education). The joint educational variable consists of four possible combinations: mother high-father high, mother high-father low, mother low-father high, and mother low-father low. The income variables are based on individuals' pensionable income, which includes not only wages from employment but also self-employment and social transfers. Income is measured the year before birth to prevent it from being impacted by, at least for women, lower parental leave benefits the year of the childbirth. Two variables are generated. The first is the couples' household income, which is categorized into terciles by year. The other variable reflects homogamy and heterogamy in income within the couple. Equal-income couples are defined as the woman contributing 45-55 per cent of the household income. In female breadwinner couples, the woman's share of the joint income is greater than 55 per cent. In male breadwinner couples, the woman's share is lower than 45 per cent. Couples in which the father uses extensive parental leave might do so because of the mother's poor health. The mother's health is covered broadly by a dummy variable indicating whether she received any sickness benefit the year of the childbirth ${ }^{3}$. Other variables in the analysis are the couples' age at birth, including a squared term, as well as the couples' birth origin. This variable consists of four categories: both born in Sweden or the Nordic countries, only the mother born in Sweden/the Nordic countries, only the father born in Sweden/the Nordic countries, or both born outside Sweden/the Nordic countries. The couples' civil status (cohabiting or married) and the year of the child's birth are included as controls. Lastly, a cohort variable is included to capture cohort effects. The variable is divided into four categories: 2002-2003, 2004-2005, 2006-2007, and 2008-2009 ${ }^{4}$.

[^1]Table 1. Descriptive statistics of the variables included in the analysis. The variables relate to exposure time.

| Variables | Per cent |
| :--- | :--- |
| Parental leave division |  |
| No leave (father's share, mean) | $19.7 \quad(0 \%)$ |
| First tercile (father's share, mean) | $27.0 \quad(6 \%)$ |
| Second tercile (father's share, mean) | $28.0 \quad(19 \%)$ |
| Third tercile (father's share, mean) | $25.3 \quad(44 \%)$ |
| Education |  |
| Both low | 43.2 |
| Both high | 27.1 |
| She higher | 21.3 |
| He higher | 8.4 |
| Household income SEK (mean) | 304,987 |
| First tercile | 479,264 |
| Second tercile | 724,696 |
| Third tercile |  |
| Mother's share of household income | 51.5 |
| Male breadwinner couples, <45\% | 32.7 |
| Equal income couples, 45-55\% | 15.8 |
| Female breadwinner couples, >55\% |  |
| Mother received sickness benefit | 77.6 |
| No | 22.4 |
| Yes | 28.9 |
| Mother's age in years (mean) | 30.9 |
| Father's age in years (mean) |  |
| Origin | 84.9 |
| Both Swedish/Nordic | 5.0 |
| Only she Swedish/Nordic | 5.6 |
| Only he Swedish/Nordic | 4.6 |
| Both non-Swedish/Nordic | 34.3 |
| Civil status at first birth | 30.1 |
| Cohabiting | 22.4 |
| Married | 13.3 |
| Cohort | 599,825 |
| 2002-2003 |  |
| 2004-2005 |  |
| 2006-2007 |  |
| 2008-2009 |  |
| Number of observations |  |

## Results

First, frequency distributions are shown to illustrate how different parental groups share the parental leave. Figure 1 shows clear differences between relationships characterized by educational homogamy, hypogamy and hypergamy. Couples in which both partners have a low education level are the least likely to choose an equal parental leave division, even in comparisons across all couple constellations. The most common division is the traditional one in which the father uses a very small part of the leave and the mother uses the majority of the leave ( $1^{\text {st }}$ tercile). In contrast and unsurprisingly, among couples in which the mother and father have a high education level, an egalitarian leave division is most common ( $3^{\text {rd }}$ tercile). Not sharing the leave at all is the least common choice, even in comparisons across all groups. Among hypogamous and particularly hypergamous relationships, the distribution over the different leave categories is more even. In all, it appears that if either of the partners has a high education level, the couple is less prone to choose a setting in which the father uses no or a very small part of the leave.

Figure 1. Division of parental leave (no share and terciles) among couples with equal and different levels of education.


Father's proportion of parental leave, no share and terciles

## Hazard regression models - main effects model

The results from the discrete hazard regression models are presented in two parts. The first part reports the results from the main effects model, and the second part reports the results from the model that includes the interaction term between education and parental leave. Therefore, the direction of the relationship between the explanatory variables and dissolution risk are first clearly presented before discussing how the relationship between parental leave and union dissolution differs across couple types. Hence, the second part tests the hypotheses listed in the background section. All variables have been added step-wise to investigate changes in the coefficients more closely. The coefficients are given in HRs, where the reference category is 1 . The models show 95 per cent confidence intervals, as the entire population is studied.

Model 1 (Table 2) shows that couples in which the father used some parental leave have a lower risk of union dissolution. Couples that share most equally, that is, the father's leave use corresponds to the third tercile, have a 35 per cent reduction in dissolution risk $(\mathrm{HR}=0.65)$ compared to that of the reference group, that is, couples in which the father used no leave. Accordingly, it appears that the more equally the couple shares the leave, the lower the risk that the couple will dissolve the union.

In models 2 and 3, education and income are added separately. Couples that share the parental leave, to a greater or lesser extent, still have lower risks of union dissolution than couples in which the father uses no leave in both models. The relationship between parental leave division and union dissolution risk becomes curvilinear (U-shaped) when education is added (model 2), implying that couples that share the leave equally no longer have the lowest dissolution risk. However, confidence intervals overlap between all categories of parental leave sharing, which means that no firm conclusions can be drawn. Interestingly, when only income is included and education is excluded (model 3), a negative relationship between a more gender-equal parental leave division and union dissolution appears, as in model 1. The stepwise addition of the variables indicates that education drives the curvilinear relationship between parental leave and dissolution risk, which also persists in the final model 4 but without overlapping confidence intervals. In all, the results indicate that the highest dissolution risk is found among couples in which the father uses no leave at all, and the lowest risk is seen among couples in which the father uses a very small part of the leave (the first tercile). Couples that share the leave most equally (on average almost fifty-fifty, the third tercile) have an increased risk compared to that of the first tercile group. These results can be interpreted based on their relation to normative and non-normative behaviour. Not sharing the leave at all is a clear deviance from gender
equality norms and the father's quota policy-stipulated behaviour (see also Oláh 2001 and Lappegård et al. 2018). However, the finding that sharing parental leave more equally increases the dissolution risk is thought to vary across the educational groups.

Turning to the role of education for the dissolution risk, all the models show, as expected, that couples in which both partners have a high education level have the lowest risk of dissolving the union. The highest risks are seen among couples in which both have a low education level. Comparing hypogamous and hypergamous relationships in model 4, the hazard ratios are 1.181 and 1.425 , respectively, which implies that the dissolution risk is 21 per cent higher in relationships in which the male partner has the higher education level than in relationships in which the female partner has the higher education level ${ }^{5}$. The finding that hypogamous relationships are more stable than hypergamous relationships differs from earlier Scandinavian results by Jalovaara (2003), who found more similar risks in Finnish data, and is possibly more in line with results by Lyngstad (2004) for Norwegian data. However, as both the period and character of the population differ substantially across all studies, they are not completely comparable. The coefficients for the household income variable imply a clear negative association between household income and risk of union dissolution in all models. In other words, households in the lowest tercile have the highest risk of union dissolution, while households in the highest tercile have the lowest risk. This finding has been observed in numerous studies before, and the higher risk for low income households has been explained by the presumably greater economic stressors in these households (Kalmijn, Loeve, and Manting, 2007). With respect to relative income, couples that have relatively equal income have the lowest risk of union dissolution (model 4). However, male breadwinner couples have only a slightly higher risk, and the confidence intervals overlap. Female breadwinner couples have a $16 \%$ higher risk of union dissolution than equal income couples. A causal interpretation of these findings would be that similarity in income promotes stability through equality in power and similarity in opportunities and experiences. However, as female breadwinning is more uncommon, these couples could be selected in other aspects not captured in the models. Interestingly though, before introducing the controls, female breadwinner couples had lower

[^2]risks and male breadwinner couples had higher risks -the opposite trend. The control variables in model 4 were as expected and are not further commented upon.

Table 2. Discrete-time survival analysis of the transition to union dissolution (hazard ratios). Complementary log-log model.

| Variable |  | Model 1 |  | Model 2 |  | Model 3 |  | Model 4 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Hazard ratio | 95 \% CI | Hazard ratio | 95 \% CI | Hazard ratio | 95 \% CI | Hazard ratio | 95 \% CI |
| Parental leave division (no share) | First tercile | 0.794 | $0.762-0.828$ | 0.777 | 0.745-0.810 | 0.858 | 0.823-0.895 | 0.846 | 0.811-0.883 |
|  | Second tercile | 0.711 | 0.681-0.742 | 0.798 | 0.764-0.833 | 0.835 | 0.800-0.872 | 0.902 | 0.863-0.942 |
|  | Third tercile | 0.645 | 0.617-0.674 | 0.847 | 0.809-0.886 | 0.783 | 0.748-0.819 | 0.941 | 0.898-0.986 |
| Education (both high) | Both low |  |  | 2.840 | 2.712-2.974 |  |  | 1.782 | 1.693-1.875 |
|  | She higher |  |  | 1.334 | 1.260-1.412 |  |  | 1.181 | 1.115-1.251 |
|  | He higher |  |  | 1.779 | 1.662-1.905 |  |  | 1.425 | 1.330-1.527 |
| Relative income (equal income) | Male BW |  |  |  |  | 1.122 | 1.083-1.163 | 1.020 | 0.984-1.058 |
|  | Female BW |  |  |  |  | 1.000 | 0.953-1.049 | 1.161 | 1.106-1.219 |
| Household income (2nd tercile) | First tercile |  |  |  |  | 1.750 | $1.687-1.815$ | 1.318 | 1.268-1.371 |
|  | Third tercile |  |  |  |  | 0.630 | 0.604-0.657 | 0.887 | 0.848-0.928 |
| Mother ill (no) | Yes |  |  |  |  |  |  | 1.213 | 1.172-1.256 |
| Age | Mother's age |  |  |  |  |  |  | 0.737 | 0.713-0.762 |
|  | Mother's age sq |  |  |  |  |  |  | 1.005 | 1.004-1.005 |
|  | Father's age |  |  |  |  |  |  | 0.916 | 0.894-0.939 |
|  | Father's age sq |  |  |  |  |  |  | 1.001 | 1.001-1.002 |
| Origin <br> (both Swe/Nordic region) | She Swe/Nordic |  |  |  |  |  |  | 1.613 | 1.522-1.709 |
|  | He Swe/Nordic |  |  |  |  |  |  | 1.445 | 1.359-1.537 |
|  | Both non-Swe/Nordic |  |  |  |  |  |  | 1.218 | 1.136-1.306 |
| $\begin{array}{l}\text { Civil status } \\ \text { (cohabiting) }\end{array}$ | Married |  |  |  |  |  |  | 0.718 | 0.692-0.746 |
| Cohort (2002-2003) | 2004-2005 |  |  |  |  |  |  | 1.054 | 1.013-1.097 |
|  | 2006-2007 |  |  |  |  |  |  | 1.045 | 0.999-1.093 |
|  | 2008-2009 |  |  |  |  |  |  | 1.080 | 1.024-1.139 |
| Total exposure time |  | 599,825 |  | 599,825 |  | 599,825 |  | 599,825 |  |
| Number of couples |  | '121,280 |  | - 121,280 |  | '121,280 |  | ' 121,280 |  |
| Number of events |  | 16,661 |  | 16,661 |  | 16,661 |  | 16,661 |  |
| Log likelihood |  | -75 883.78 |  | -74 461.03 |  | -74 516.83 |  | -72 757.55 |  |

Note: The reference category is displayed in the left column in parentheses and has a value of 1 .

Hazard regression models - The relationship between relative education, parental leave and union dissolution risk

The results from the interaction model are visualized in figure 2 . The underlying regression model, where confidence intervals are displayed, is found in the appendix (Table S1). The model includes an interaction term between parental leave division and education and tests the hypotheses listed in the background section. All control variables are included in the model. Figure 2 shows somewhat diverse patterns in dissolution risk with regard to parental leave division for the couples. Among all couples, with the possible exception of those in which both couples have a low education level, the highest dissolution risk is seen among those in which the mother uses all parental leave (the no share group). Homogamous couples with a high education level display a negative relationship between degree of gender-equal parental leave division and dissolution risk. However, as confidence intervals overlap between all terciles, strong conclusions should be avoided. Thus, the first hypothesis is partially supported: Among homogamous couples with a high education level, there is a negative relationship between the degree of gender-equal division of parental leave and dissolution risk. Among homogamous couples with a low education level, the relationship is curvilinear. Couples in which the father uses a very small or a smaller part of the leave (first and second terciles) have lower risks than the no share group. Couples that share the leave equally have a higher risk than couples in the first tercile and even the no share group, though they have overlapping confidence intervals with the latter. This indicates support for the second hypothesis: Among homogamous couples with a low education level, there is a U-shaped relationship between degree of gender-equal division of parental leave and dissolution risk. For hypogamous relationships, the patterns are similar to those for couples in which both the mother and the father have a high education level, with deviations in risk with regard to the gender-equal division of leave (third tercile). In other words, in hypogamous relationships, sharing equally is clearly associated with a higher dissolution risk than for educationally homogamous couples. Overall, hypogamous couples seem to exhibit a Ushaped relationship between parental leave division and dissolution risk, but confidence intervals overlap between the third tercile and the other terciles. Thus, the third hypothesis is only partially supported: Among couples with hypogamous relationships, there is a $U$-shaped relationship between degree of gender-equal division of parental leave and dissolution risk. Lastly, in hypergamous relationships, there is no clear direction of the association between parental leave and dissolution risk, as it fluctuates, and the confidence intervals overlap between all four categories of leave. This finding indicates that the father's share of the leave does not contribute to dissolution risk. This group was small (approximately eight per cent of all couples), which
may contribute to the unclear pattern. Overall, there is no support for the fourth hypothesis: Among couples with hypergamous relationships, there is a $U$-shaped relationship between degree of gender-equal division of parental leave and dissolution risk.

Figure 2. Union dissolution risks by interaction between parental leave division and educational constellation. Complementary log-log model. Computed hazard ratios.


Note: The model controls for household income, relative income, mother's health status, age, origin, civil status and cohort.

## Further tests

In this study, an interaction term between parental leave division and relative income was included as a further test. The results indicate that among equal-income couples, a possibly weak negative relationship is seen between the degree of gender-equal parental leave division and dissolution risk, but with overlapping confidence intervals (see figure 3 below, and related Table S2 in the appendix). These results are similar to those for homogamous couples with a high education level. In contrast, among female and male breadwinner couples, clear U-shaped relationships are observed, though with overlapping confidence intervals among female breadwinner couples. These results are also interesting and indicate that equality in income can be associated with different normative behaviour than that exhibited by couples with dissimilarities in income level (note, however, the overlapping confidence intervals). Among couples with equal income, sharing parental leave equally is likely to be expected to a greater degree than it is among couples with large differences in income levels. According to qualitative studies and surveys, the male partner's higher income is a rationale for a traditional division of parental leave (Boye and Alsarve 2012; Swedish Social Insurance Agency 2013).

Figure 3. Union dissolution risks (hazard ratios) by interaction between parental leave division and income group. Complementary log-log model. Computed hazard ratios.


Note: The model controls for relative education, household income, mother's health status, age, origin, civil status and cohort.

## Concluding discussion

This study has investigated the relationship between couples' division of parental leave and dissolution risk in Sweden. Previous studies on this subject have come to mixed conclusions. Therefore, the present study focuses on leave patterns and dissolution risk among couple types distinguished by the partners' relative educational levels to provide additional knowledge on how and for whom a more egalitarian division of family responsibilities implies greater union stability. As individuals' education level correlates with income, earning potential, labour market activity and gender egalitarian attitudes, the study suggests that the couple types have varying ability to share parental leave equally and that norms regarding whether to share parental leave equally differ between these groups. Within the gender revolution framework, as discussed by Goldscheider, Bernhardt, and Lappegård (2015), fathers' parental leave use and involvement in domestic work are predicted to increase union stability. The present study suggests that in addition to the mechanisms previously discussed in the study by Lappegård et al. (2018), a third possible mechanism within this relationship could relate to norms and norm conformity in parental leave division. Swedish family policy has contributed to a gender equality hegemony and strong norms that fathers should be involved and take parental leave (Johansson and Kinth 2008). While norm deviance may cause discomfort and conflicts and may contribute to
separation processes, sharing parental leave equally is not necessarily associated with the lowest dissolution risk among all the couple types, as normative behaviour differs between parental groups.

The main hazard regression model showed an aggregate U-shaped relationship between the degree of gender egalitarian parental leave division and dissolution risk. Couples in which the father used no leave at all (the no share group) had the highest dissolution risk, and couples in which the father used a very small or a smaller part of the leave (first and second terciles) had the lowest risk. When the couples shared equally (third tercile), the risk increased again but was still lower than that in the no share group. These results are in line with those found in the study by Lappegård et al. (2018). Interaction models further showed that a U-shaped relationship existed in two parental groups: homogamous couples with a low education level and possibly among hypogamous couples (overlapping confidence intervals). Only among homogamous couples with a high education level was a possible negative association between the degree of gender egalitarian parental leave division and dissolution risk observed, also with overlapping confidence intervals. Among hypergamous couples, the parental leave division had no influence on the dissolution risk.

The general finding that couples in which the mother uses all the leave have the highest risk of union dissolution (except possibly among homogamous couples with a low education level) can be explained by at least two factors. First, the non-sharing of parental leave likely implies that the mother does most of the other domestic work too, which could generate dissatisfaction (Nermo and Evertsson, 2004). Second, these couples constitute approximately a fifth of all couples in the study, and might be selected in some other characteristics that the model cannot capture. Moreover, these couples should become an increasingly selected group over time due to the increasing number of fathers taking parental leave (Swedish Social Insurance Agency, 2012). When summarizing the findings and patterns of dissolution risk across couples, it is clear that whether we observe greater union stability following an egalitarian parental leave division depends on the couples' relative education levels. This finding has implications for the gender revolution theory (Goldscheider, Bernhardt, and Lappegård 2015). As studies have shown that fathers' involvement in childcare is associated with mothers' increasing satisfaction (Kalmijn, 1999; Schober, 2012), and with stronger emotional bonds between the father and the child (Evertsson et al., 2018; O'Brien and Wall, 2017), these results would provide an explanation for why the dissolution risk is reduced when parents share the leave more equally. However, the present study suggests that similarities and dissimilarities in couples' education levels generate
differences in normative behaviour and ability to realize possible gender egalitarian aspirations. Hence, for some couples the strengthening aspects of a more gender-equal parental leave division on the union might be offset by the strain caused by the possible difficulties in achieving such a division. Couples in which both partners have high education might, to higher extent than others, not only aspire on sharing parental leave (and other household duties) equally, they should also have greater ability in overcoming possible obstacles. Thus, the theory building could be further developed with regard to how gender behaviour work in different social strata, and what might be the implications for union stability.

An advantage of this study is its use of register data, which generates a large population and the possibility to investigate less common couple types, such as hypergamous relationships. However, definite answers regarding how the decision processes of division of parental leave and other family responsibilities and possible separation processes accompany or follow each other cannot be provided. In addition, despite using longitudinal data and survival analysis, associations cannot be separated from causal mechanisms. In Sweden, a third parental leave month was reserved for each parent in 2016. As a result, fathers' parental leave use should continue to increase, and more fathers should begin to take leave. Norms regarding fathers' involvement and gender equality should likely increase in various segments of society, which should facilitate gender equality in parental leave division. It is therefore possible that, over time, a more egalitarian parental leave division will be accompanied by greater union stability in also other parental groups.

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## Appendix

Table S1. Union dissolution risks by interaction between parental leave division and educational constellation. Complementary log-log model. Hazard ratios.

|  | Hazard <br> ratio | $95 \%$ CI |
| :--- | :---: | :---: |
| Parental leave |  |  |
| division*education |  |  |
| No share*both low | 1.000 |  |
| 1st tercile*both low | 0.863 | $0.820-0.908$ |
| 2nd tercile*both low | 0.941 | $0.892-0.993$ |
| 3rd tercile*both low | 1.043 | $0.982-1.107$ |
|  |  |  |
| No share*both high | 0.713 | $0.645-0.789$ |
| 1st tercile*both high | 0.526 | $0.473-0.586$ |
| 2nd tercile*both high | 0.517 | $0.474-0.565$ |
| 3rd tercile*both high | 0.484 | $0.446-0.524$ |
|  |  |  |
|  | 0.714 | $0.650-0.784$ |
| No share*she higher | 0.582 | $0.531-0.636$ |
| 1st tercile*she higher | 0.588 | $0.540-0.640$ |
| 2nd tercile*she higher | 0.654 | $0.599-0.714$ |
| 3rd tercile*she higher |  |  |
|  | 0.808 | $0.723-0.903$ |
| No share*he higher | 0.732 | $0.651-0.822$ |
| 1st tercile*he higher | 0.777 | $0.696-0.867$ |
| 2nd tercile*he higher | 0.720 | $0.635-0.817$ |
| 3rd tercile*he higher | 0 |  |
| Total exposure time | 599,825 |  |
| Log likelihood | -72731.991 |  |

[^3]Table S2. Union dissolution risks (hazard ratios) by interaction between parental leave division and income group. Complementary log-log model.

|  | Hazard <br> ratio | $95 \%$ CI |
| :--- | :---: | :---: |
| Parental leave |  |  |
| division*relative income |  |  |
| No share*male bw | 1.000 |  |
| 1st tertile*male bw | 0.827 | $0.781-0.876$ |
| 2nd tertile* male bw | 0.897 | $0.845-0.953$ |
| 3rd tertile*male bw | 0.959 | $0.900-1.021$ |
|  |  |  |
| No share*equal inc | 1.014 | $0.939-1.094$ |
| 1st tertile*equal income | 0.858 | $0.800-0.920$ |
| 2nd tertile*equal income | 0.874 | $0.815-0.937$ |
| 3rd tertile*equal income | 0.855 | $0.791-0.923$ |
|  |  |  |
| No share*female bw | 1.093 | $1.015-1.177$ |
| 1st tertile*female bw | 0.961 | $0.878-1.052$ |
| 2nd tertile*female bw | 1.040 | $0.953-1.135$ |
| 3rd tertile*female bw | 1.124 | $1.026-1.232$ |
| Total exposure time | 599,825 |  |
| Log likelihood | -72750.497 |  |

Note: Same model as figure 3.


[^0]:    1 The actual stay at home is likely longer, as parents often combine paid parental leave and unpaid leave, but the latter is not registered (Duvander and Viklund, 2014).

[^1]:    2 As a sensitivity test, couples in which the mother used very little leave (fewer than 50 days, corresponding to one per cent) were excluded from the analysis. The results did not change.

    3 In the analysis, sickness benefits received the year before or after childbirth were also tried, but the results were the same.

    4 Yearly variables were also tried, but the results did not change.

[^2]:    $51,425 / 1,181=1,207=21 \%$

[^3]:    Note: The model controls for household income, relative income, mother's health status, age, origin, civil status and cohort. Same model as figure 2.

