Studies on Parental Leave and Co-residence using Swedish Register Data

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Abstract

Understanding the two primary life-course events that create and accelerate gender inequality within the couple -- the transition to parenthood and parental separation -- may ameliorate their far-reaching consequences over the life-course in multiple domains of life. This thesis includes four studies on various aspects of these life-course events. The first two studies investigate division of child care at the transition to parenthood. A gender equal transition to parenthood, in which both women and men take leave off work to care for their children, is essential for couples to achieve gender equality in the family as well as in the labor market. Study I investigates the ways in which Swedish couples do such ‘dual-caring’ and shows that the dominant trajectory of dual care is characterized by taking turns as the child’s primary caregiver. Study II investigates how the domain of paid work may hinder or facilitate a gender equal transition to parenthood, focusing on economic considerations and occupational conditions of work. Study III investigates gendered division of care leave taken after couples have returned to paid work. It shows that economic differentials within the couple may shape the onset of long-term division of child care but that short-term economic incentives do not seem to alter the division. Study IV turns to parental separation as the second life-course event in which gender inequality is accelerated. As children have been most likely to live with their mothers when their parents’ union ends, parental separation typically marks the (possible) second life-course event in which unpaid work is shifted towards women. Study IV provides a method for estimating parental separation with register data and therefore making possible studies of outcomes for mothers, fathers and children who live apart.

All studies use administrative register data. These data provide a unique source of couple-level longitudinal information on all parental couples registered in Sweden. The first two studies are made possible by the availability of dated information on parental leave use. The third study accurately traces division of care leave by income composition within the couple. The last study traces parental coresidence from birth to age 15 for a period of almost four decades.

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Till mina föräldrar
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List of empirical studies


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Introduction

This thesis focuses on the two primary life-course events that create and accelerate gender inequality within the couple: the transition to parenthood and parental separation.

The first two studies investigate division of child care at the transition to parenthood. *Study I* identifies the ways in which Swedish couples do ‘dual-caring’ over time. It uses dated episodes of parental leave use from birth up until age two for all couples having a first child in 2009. The results show that the dominant trajectory of dual care is characterized by taking turns as the child’s primary caregiver.

*Study II* investigates how the domain of paid work may hinder or facilitate a gender equal transition to parenthood, focusing on economic considerations and occupational conditions of work. It analyzes the number of parental leave weeks taken by the father and the mother for couples in Study I for which both parents were established in the labor market. Occupational conditions of work are found to shape leave-taking and occupational skill level was the most important predictor for fathers’ leave-taking.

*Study III* focuses on gendered division of leave days for children’s illnesses. It uses difference-in-difference modelling applied to a natural experiment following a 2006 policy change in the income compensation for such leave. Results show that economic differentials within the couple may shape the onset of long-term division of child care but that short-term economic incentives do not seem to alter the division.

*Study IV* turns to parental separation as the second life-course event in which gender inequality is accelerated. It provides an approach for estimating parental separation with register data and therefore making possible studies of outcomes for mothers, fathers and children who live apart.
In this introduction, I situate the gendered division of child care within the larger literature of the gendered division of labor. In the first section, I provide an overview of what is termed the “gender revolution”, focusing on where division of child care fits in. In the second section, I review theories for the gendered division of labor, again in terms of applicability to the division of child care and parental leave. The third section discusses the Swedish context as providing real opportunities for fathers’ leave-taking, thereby allowing us to observe and understand variation not found elsewhere. The fourth section discusses the strengths and weaknesses of the data source used for all studies, i.e. Swedish administrative register data. The fifth section discusses the various methods applied to the research problems and the benefits of each method. The sixth section discusses ethical considerations for the use of registers in research. The seventh section discusses policy implications and the eighth section concludes with a discussion of future research.
The Gender Revolution

Division of child care is a crucial aspect of the current reproduction of gender inequality in couples. The importance of child care may be seen in what has been described as the ‘second half’ of the ‘gender revolution’ (England 2010; Goldscheider, Bernhardt & Lappegård 2015). The term ‘gender revolution’ has been used to describe changes over the last fifty years in the gendered division of labor. Two halves have been distinguished -- the first in which women increasingly engage in paid work and the second in which men increasingly engage in unpaid family work. The starting and ending points are implicit: from the complete segregation of labor along gendered lines to ‘a social arrangement in which women and men engage symmetrically in paid work and unpaid caregiving and where young children have ample time with their parents’ (Gornick & Meyers 2008: 313).

While the first half of the gender revolution is near completion in some contexts, the second half is ‘not yet far advanced’ (Goldscheider, Bernhardt & Lappegård 2015), is ‘incomplete’ (Esping-Andersen 2009), has ‘stalled’ or ‘slowed’ (England 2010; 2011). Furthermore, the stall in the second half seems to hinder the completion of the first (Raley, Bianchi & Wang 2012). Although women are almost on par with men in terms of labor force participation in a number of countries -- in Sweden at least since the late 1980s (Stanfors 2014) -- the number of hours in paid work over the life-course is still significantly less than for men (Statistics Sweden 2016).

In Sweden today, gendered specialization at the transition to parenthood is crucial to understand gender differences in paid and unpaid work that are observed over the life-course. For couples without children, gender differences in unpaid work are almost erased (Statistics Sweden 2013). When the first child is born, the average couple responds to the child’s 24/7 need for child care by extreme gender specialization: women increase unpaid work and decrease paid work while men’s time allocations remain more static. As a result, the
consequences of a gendered division of labor are increasingly attributed to care work rather than to the overall distribution of labor such that the ‘gender wage gap’ is perhaps better termed a ‘family wage gap’ (Gangl & Ziefle 2009). Furthermore, the importance of child care for the reproduction of gender inequality is likely to remain or even grow in importance as compared to other activities. While a more equal division of household work has been achieved through reductions in women’s household work without compensating increases in men’s (Bianchi et al. 2012), such a reduction in parents’ time with children is not desirable from the perspective of the child, the parents or society at large (Saraceno 2011).
Theories on gender division of labor

In this section, I review a number of theories that have been put forth regarding explanations to the gendered division of labor. More than 30 years ago, Berk (1985: 5) pointed out that ‘one might well question the nearly total neglect of children as critical contributors to household labor’, but child care remains poorly understood in this large literature. In many studies, child care is simply excluded from the set of unpaid activities (e.g. Bittman et al. 2003; Brines 1994, Greenstein 2000). Other studies include child care as an activity but ignore theoretical differences between child care and household work (Hook 2006). Although it has been pointed out that theories of division of labor are less applicable to the division of child care, no couple-level theory of child care allocation has emerged (Craig & Mullan 2011).

Below the theories most commonly applied to understanding a gendered division of labor are discussed: New Home Economics, relative resources/exchange, and gender ideology. I bring into the discussion theories of parents’ time with children as investments in children’s human capital.

New Home Economics

Becker’s (1991) New Home Economics draws on theories of human capital to formalize a rational choice model of the division of labor. The model assumes two sectors, the market and the household, in which each person invests. Human capital derived from the investment is mainly sector-specific. Because two-person households can trade with each other (i.e. it is assumed that partners share whatever they produce), Becker postulates that couples maximize utility if each partner specializes in the sector in which the partner has a comparative advantage. Even very small initial differences in efficiency in the different sectors would induce a utility-maximizing couple to have each partner invest only in the sector in which that partner is most efficient. Over time, as partners keep making these sector-specific investments,
they will gain in sector-specific human capital and so become even more efficient in the sector that they have specialized in. Because the theory is in essence gender-neutral, it can explain the gender division of labor only by referring to intrinsic differences between women and men. Only minor biological differences are required to start the process towards extreme specialization.

Becker (1991) assumes constant and stable preferences for ‘commodities’. Commodities are assumed to be direct producers of utility and may include ‘children, prestige and esteem, health, altruism, envy, and pleasures of the senses’ (Becker 1991: 24). The household production function determines the transformation of time and goods into commodities. Because the household shares a common utility function, commodities connected with children will be enjoyed by both partners even when one partner provides time and the other goods. A major critique of the model in terms of time in child care is therefore that the model does not acknowledge ‘joint production’, i.e. that ‘time spent in many production activities is a direct source of utility as well as an input into a commodity’ (Pollak & Wachter 1975: 256). If time with children is a direct source of satisfaction, satisfaction derived from that time is an individual enjoyment and cannot be traded with the other parent.

Study I shows that for about half of all Swedish couples, time allocated from paid work to child care is still extremely gender specialized. Study II provides clear evidence that this specialization is not the result of market-specific human capital as Becker argues; specialization is not reversed in those couples in which the mother has more market-specific human capital than the father. The results of Study III suggest, however, that initial investments in household-specific human capital are important, consistent with the theory. Although the return on market-specific capital is lowered by the increase in income compensation, division of care leave remains the same. Thus, household-specific human capital produced by an unequal parental leave period may determine later care leave choices regardless of the returns to market-specific human capital.
Resource bargaining/Exchange theories

Division of child care could also be the result of bargaining within the couple. Blood & Wolfe (1960) defined marital power as ‘the potential ability of one partner to influence the other’s behavior’ (p 11). Sources of power are the ‘comparative resources which the husband and wife bring to the marriage’ (p 12). If, as generally assumed by the relative resources perspective, household work is a source of disutility, ‘those members with greater resources […] have greater social power and thus can compel those with fewer resources (and less power) to undertake the ‘onerous’ work of the household’ (Berk 1985: 14). The same kind of bargaining is implicitly part of exchange models, where individual (economic) resources determine the ‘threat point’ in implicit or explicit negotiations for the division of labor (Lundberg & Pollak 1996). In an economic dependency model, household labor is provided in return for economic support (Brines 1994). In the wealth of studies investigating the link between resources and division of household labor, resources are often operationalized as tangible socioeconomic characteristics such as earnings, education and occupation (Berk 1985; Blood & Wolfe 1960). Another influential set of studies, often referred to as ‘gender display’, define resources in a narrower sense, as ‘money’ brought into the household (Greenstein 2000; Bittman et al. 2003).

The studies in this thesis produce little support for resource-based bargaining out of child care. Although the division of care leave in Study III seems to be allocated in terms of monetary resources, none of the results from Study II are consistent with bargaining away parental leave-taking. Despite the fact that parental leave usually includes the full range of onerous household work, resources are associated with more rather than less leave-taking. Education, income and occupational skills are positively related to father’s leave-taking. The fact that fathers in the highest income decile and whose income is greater than the mother’s income take less leave than most fathers could be viewed as consistent with bargaining out of child care. On the other hand, such fathers still take around eight weeks of leave from paid work.

Gender ideology theories

Theories related to the social construction of gender, often referred to as ‘gender ideology’ invoke two broad explanations for the reproduc-
tion of gender: gender socialization and gender constructed through social interaction.

A large social psychological literature documents how individuals are socialized from childhood into adopting attitudes and values about gender appropriate behavior. The concept of ‘gender roles’ incorporates a ‘socialized role’ produced within families (Chodorow 1999). Feminist scholarship however ‘rejects gender as a static norm or ideal (the so-called gender role), and instead defines gender as a social relation characterized by power inequalities that hierarchically produce, organize, and evaluate masculinities and femininities through the contested but controlling practices of individuals, organizations, and societies’ (Ferree 2010:424). Feminist theories of intersectionality are an important critique to the static ‘gender role’. Gender is here rather seen as a structural inequality interacted with other inequalities such as race, class, age and sexuality across different societal institutions (Ferree 2010, Risman 2009).

The publication of West & Zimmerman’s (1987) ‘Doing Gender’ marked an important theoretical shift away from socialization theories of gender as a static role or attribute towards an accomplishment (Jurik & Siemsen 2009). Gender as social interaction shifted attention to performing (and not performing) household labor. Household labor is here a key activity for the production of gender and the household is the ‘gender factory’ in which the production takes place (Berk 1985). Recent critiques of the ubiquitous usage of gender as social interaction have argued that the concept has been emptied of its feminist concern with inequality (Risman 2009). Indeed, many empirical studies invoke ‘doing gender’ as a residual explanation for gender differences that cannot be explained away by economic concerns or other resources, even though data are rarely collected that supports the social interaction perspective (Brines 1994).

Studies I-III provide overwhelming support for gendered norms in caregiving. Almost all couples take leave along gendered lines; as Study I shows, around half of Swedish couples are extremely gender specialized in leave-taking. Because we know that couples are less gender specialized before the birth of the first child, this would support the particular socialization of motherhood and fatherhood as compared to more general gender socialization (Chodorow 1999). At the same time, all three studies document important changes in the
gendered organization of child care that cannot be explained by ideas of pervasiveness of gender socialization and gendered interaction. As pointed out by Risman (2009) and Deutsch (2009), ‘doing gender’ explanations may mask the diverse ways in which women and men diverge from traditional scripts and ‘undo gender’. As Study I also shows, half of all Swedish parental couples actively strive to ‘undo’ gender in the division of child care.

Gender as social relations characterized by power inequalities also does not seem to fully explain what we observe for fathers’ caregiving. Fatherhood is often described as providing a labor market ‘premium’ rather than a ‘penalty’ (Hodges & Budig 2010). This is what we observe when no or few fathers pursue active child care, i.e. child care that intrudes on paid work. Study II suggests that Swedish fathers’ caregiving is not characterized by an unwillingness to pursue caregiving or an inclination to only reap the ‘premium’ of fatherhood. Instead, fathers with sufficient labor market resources to choose caregiving do so to large extent while fathers lacking such resources may be limited in their caregiving decisions. Gendered norms therefore seem to hinder deviations from gendered caregiving for both fathers and mothers.

Theories of parents’ investments in children
A separate literature on determinants of parents’ time investments in children has paid less attention to gender but is relevant to gender-based theories. Theories of the division of labor rest on assumptions of no utility or disutility from time spent in child care; parental investment theories posit to the contrary that mothers and fathers consciously strive to invest time in their children, often at the considerable expense for other activities. In the much-cited book by Annette Lareau (2011), all parents are found to make considerable investments in the lives of their children but there are clear differences by social class. In middle-class families, investments are explicit and elaborate. Parents of middle-class children engage in ‘concerted cultivation’, an active process of considerable time investments in their children, especially through detailed schedules of organized activities throughout the week. Although working class and poor families do not consider constant interaction with children as crucial responsibilities of
parenthood, Lareau (2011) carefully documents the considerable investments in time and money they make in their children.

Mothers and fathers seem to be in agreement with the parenting strategy used. In the middle-class families, although mothers constantly take on the largest time investments, middle-class fathers are found to invest considerably as well (Lareau 2011: 114). While the study makes a compelling case for variations in parental practices across class and to some extent race, this literature rarely concerns couple-level dynamics in investments in child care time. In empirical studies of time investments in child care using Lareau’s theory of investment, mothers and fathers are treated separately. Fathers’ time investments follow those of mothers’ with larger time investments among more resourceful parents (Dotti Sani & Treas 2016). Also the explicit nature of the investment strategy is empirically documented, for example by how more resourceful mothers and fathers seem to adapt their investment strategy to the age of the child (Gracia 2014).

Study II provides some support for a gradient in child care investments such that fathers in occupations with higher skill levels take more leave. As these occupations are typically middle- or upper-class occupations, fathers’ leave-taking could be viewed as a direct investment in child development. The same gradient is not, however, found for mothers. Instead, mothers coupled with fathers that take more leave reduce their leave-taking to about the same extent as fathers increase theirs. The results of Study II show that the divide between a dual-caring strategy versus a mother-care strategy, as documented in Study I, is where we see the most important gradient by education, income and occupational skill. As first suggested by Oppenheimer (1997) in relation to gender specialization in paid work, a ‘dual-caring’ norm may involve a notion of less vulnerability if the child has two primary caregivers. Just as extreme specialization in paid work has historically been a high risk and inflexible family strategy (Oppenheimer 1997), mothers’ specialization in child care can be considered a vulnerable strategy over time. In international comparison, the Swedish legislature strongly specifies that the ‘child’s best interest’ should be interpreted as ‘a close contact with both parents’ (Statistics Sweden 2009).
The Swedish context

The Swedish parental leave system offers a context in which fathers have real opportunities to engage in active child care, care that requires their absence from paid work. The parental leave system provides high income replacement, just under 80 percent of earnings, and full job protection. Parents are furthermore allowed to claim additional unpaid leave during the first 18 months. Few restrictions apply as to how paid or unpaid leave can be taken. For example, parents may be on leave full-time but claim only a few days per week. Each parental couple receives 390 days with income replacement and an additional 90 days paid at a low flat rate. Publicly subsidized child care is provided to all children 12 months and older so children may be enrolled at the end of the parental leave period. Parental leave is used for virtually all children born in Sweden and public child care is used by a large majority. Further details are provided in SSIA (2014) and Studies I and II.

In most other contexts, fathers’ caregiving is severely constrained by their assumed responsibility for economic support and the incompatibility between working and caring at the same time. The so-called ‘daddy months’ provide Swedish fathers with an individual-based right to leave taken as mothers have returned to paid work. The Swedish context thereby allows for variability in active caregiving to occur at the couple level. Because constraints on fathers’ full-time child care are low and incentives are high, Sweden allows us to observe real variation; 25 percent of fathers take no full weeks of leave at all while 16 percent share the leave period equally with the mother (author’s calculations on couples included in Study II). Studies I and II would not have been possible in other contexts as these would not provide sufficient variation in fathers’ care.

Sweden also remains an important case for the study of family behaviors and their links to gender equality. During the last half century, Sweden has stood out as the ‘forerunner’ of family behaviors later
observed in other contexts (Ohlsson-Wijk, Turunen & Andersson 2017). Sweden and the other Nordic countries were the contexts in which declining levels of fertility and marriage and increasing levels of family dissolution were first observed. Recent data suggest a re-stabilization of the family also observed first in the Nordic countries. Study IV documents the re-stabilization of the family in decreasing rates of parental separation during the last two decades. These changes are argued to be the result of the “second half” of the gender revolution (McDonald 2000; Goldscheider, Bernhardt & Lappegård 2015). Study I provides an example of the kind of dual-caring arrangement at the transition to parenthood that may serve as a model for changes to be observed elsewhere. Sweden’s experience provides recommendations as to which aspects of family policy are most relevant to dual-caring.
Swedish register data

Administrative registers provide a unique source of research data. In Sweden, a unique identifier for each person, the civic registration number [personnummer], makes possible the merging of personal records, both across registers and across time. The civic registration numbers were introduced in 1947 by the Swedish Tax Authority (Statistics Sweden 2008). All registered events or conditions are linked for an individual across time by the unique identifier. The identifier also allows for the linking of records collected under the jurisdiction of different government agencies.

The Multi-generation Register is fundamental for family research. From the beginning of the registration system, each child under 16 is linked to their parents. Thus, complete information on parents is available for everyone born in 1932 or later (Statistics Sweden 2008). The Multi-generation Register is based, first, on the Total Population Register but has been complemented by a number of supplementary data retrievals. Most notably, because personal records for individuals deceased between 1947 and mid-1991 were not computerized, biological parents of these individuals were added to the Multi-generation Register in 2000. At the same time, links between children and adoptive parents were added. Study IV of the thesis combines the kinship links in the Multi-generational Register with the dwelling registrations in the Total Population Register to estimate parental coresidence and separation for the entire parental population across almost four decades (1969-2007).

The administrative registers provide longitudinal measurements that would not be possible to collect retrospectively. Starting with each individual registered in Sweden on December 31, 1968, stock data, such as different kinds of income or other labor market outcomes, have been collected and made available on an annual basis. For individuals aged 18 in 1968, the registers therefore allow us to track, for example, labor market outcomes for the entire period in which the
individual is active in the labor market, a period of almost 50 years to date. For the purposes of Study III in this thesis, longitudinal information for two consecutive years is key for the experimental design.

Register information is longitudinal not only at the individual level but also at the couple level for couples who have children together. That is, because each child is connected to both parents, the parents can also be linked, whether they are married or not, or whether they live together or not. Although a main limitation of the Swedish registers is that they cannot track cohabitation before 2011, the approach applied in Study IV validates an indicator for coresidence of parental couples. Longitudinal information on parental couples makes possible the couple analysis of Study III, in which couples are followed both before and after a policy change.

The registers also provide a level of accuracy for event data that would not be possible to collect by a survey instrument. In Studies I and II, administrative register data from the Swedish Social Insurance Agency provide each dated episode for which a parent was on leave to care for their child. On average around 40 episodes are registered for each child, for which each episode includes a start and end date and the number of paid days claimed by each parent during the episode. These data allowed for the reconstruction of the trajectories by which the child was cared for by their mother and father during the first 24 months of the child’s life. It made possible the detection of differences in care trajectories that other instruments would not be able to capture.

Because the administrative registers include the entire population, case numbers are typically much larger than with sample surveys. In Studies I-III, the population of parents provides enough power to study differences between relatively small sub-populations. Because the entire parental population was available, Study II could select first-born children to couples in which both parents were active in the labor market. Furthermore, the number of observations allowed for cross-classified random effects for each couple’s occupational combination (112 father occupations by 111 mother occupations). This allowed for the disentangling of various characteristics of the father’s as well as the mother’s occupation as sources of variation in leave-taking.
Because data is collected for other purposes than research, some important indicators are missing. The lack of information on attitudes, beliefs and norms is a limitation for all studies in the thesis. Another limitation is the annual collection of income data. Because only the annual amount earned is needed for the taxation of income in Sweden, register data lack information on monthly salary and hours worked. Studies II and III would have benefited from the recording of salary and hours worked. The collection of data is furthermore limited by changing needs of government. For example, major changes to the tax system produce time series breaks in the type and nature of data that cannot be reconciled. Change can also, of course, provide improved data quality. A major change in the process by which parents claim leave days was introduced in 2014, allowing the tracking of the exact days for which each parent took leave. Another major change was in 2011 in which dwelling units were introduced to complement the property codes used in Study IV. In the future, it is therefore possible to estimate non-marital cohabitation even for couples who do not have a child together.
Methods

In Study I, sequence and cluster analysis are applied to the division of child care over time. Sequence analysis provides a holistic perspective to the division of care while disaggregating the timing of care across the child’s first two years. Each sequence of care is compared to other sequences to create a ‘dissimilarity measure’, a measure of how similar the care sequences are to each other. Based on these comparisons, sequences are combined into more or less homogenous clusters. In Study I, sequence analysis allows us to detect the dominant care trajectory as ‘taking turns’ rather than sharing at every point in time. Moreover, we can detect qualitatively different care trajectories that would not be identified if we had looked only at the total amount of parental leave over the first two years.

In Study II, cross-classified multi-level models are applied to simultaneously model characteristics of mothers’ and fathers’ occupations. At the occupational level, each occupation is allowed to vary around the overall mean of the outcome and so this variation may be modelled with a set of occupational-level characteristics. The occupational level is important because information on the individual’s specific occupational conditions is not known but the conditions for the occupation as a whole are known. In Study II, information on occupations is gathered from the Structure of Earnings Survey, the Swedish Labor Market Survey as well as from the US Occupational Information Network (O*NET) classifications. While the administrative registers provide only indirect measures of labor market characteristics, most notably education, income and sector, these data sources provide direct measurements of characteristics that can be modelled at a level above the individual and couples.

In Study III, difference-in-difference modelling is applied to a natural experiment following a policy change in the income compensation for days taken to care for a child that cannot attend preschool due to illness. In 2006, the income cap for care leave was increased substantial-
ly (by around 33 percent), creating a ‘treatment’ group of those couples with a partner with an income higher than the cap and a ‘control group’ of those couples with both partners having an income lower than the cap. The experimental method provides a way to hold constant all possible factors that could confound a causal relationship between a predictor and an outcome. Although individual-level causality cannot be observed, average group-level causality may be estimated following the Neyman-Rubin causal model (Rubin 1974). Methodologically, Study III provides a strong case for the need of differential policy exposure, i.e. critical junctures, in studies of effects of family policies on family behavior (Neyer & Andersson 2008). All groups of couples (categorized in terms of each partner’s income) increased leave-taking rapidly (13 to 34 percent) between the years studied. If the policy change had not affected groups differently observational data on this period could have led investigators to falsely attribute the strong increases in leave-taking to the policy change.

In Study IV, life-table techniques are applied to estimate parental separation. By the estimation of a total rate as the summation of age-specific rates, the method allows for the production of period estimates even when full cohort data is not available. Life-table techniques therefore allow us to estimate parental separation by child’s age 3 to 15 for a period of almost 40 years. A range of different validation techniques are used. Registers are compared to census and survey reports of parents’ coresidence. Information on the child’s month of birth is also used to better understand cohabitation as a process and to further validate property registration at the birth of the first child as an accurate indicator of parental coresidence. In Studies I and II, the indicator for parental coresidence is utilized to measure leave-taking also for couples with children born out-of-union. Because of the existence of a valid indicator, Study II could show that although fathers’ leave-taking is much reduced for parents not coresiding at the birth of the child (around 2.5 weeks less overall and 1.5 weeks in the full model), fathers in these couples still take around 7 weeks of leave during the first two years of the child’s life.

As a final note on Studies I and II, the cross-sectional design observing parental leave-taking from birth to age two produces only weak internal validity, i.e. claims of causality. Gelman & Hill (2009) suggest that regression coefficients be thought of as ‘comparisons across predicted values or as comparisons among averages in the data’ (p
31). For a binary predictor, the regression coefficient would be interpreted as ‘the difference between the averages of the two groups’. Likewise, continuous predictors would be interpreted as representing differences in outcome averages for subpopulations defined by the predictor. Standard regression is therefore a way to compare average outcomes across subpopulations, or similarly to predict how the outcome differs on average between two or more groups, rather than a way to provide a counterfactual explanation (Gelman & Hill 2009: 31-34). Although counterfactual interpretations, such as how regression is used to ‘represent relationships between variables’ or that a change of 1 in x is associated with a change of something in y, are unwarranted in all designs that are not experimental, they are often easier to communicate. Although some of the prose in Studies I and II may suggest a counterfactual interpretation, only the experimental design using differences in paid care leave replacement levels in Study III would be equipped to make such a claim.

A limitation of the methodology in Study III is that, as in most social science applications, the manipulation of the treatment is outside the researcher’s control. In Study III, the treatment is not randomly assigned but assigned by income levels. The lack of random assignment allows other factors to affect behavior of high-income earners at the same time the cap was increased. One robustness test for assuring the absence of such factors would be to examine the trend in care leave usage for the treatment and control group respectively, for years before the reform as well as years after. Parallel trends would suggest that any difference observed in the treatment year could in fact be assigned to the treatment itself. The unexpected behavioral changes documented by the study, in which father’s leave-taking, relative to the control group, is decreased in couples with only the father above the cap while mother’s leave-taking, relative to the control group, is decreased in couples with only the mother above the cap suggest that other factors may have affected groups differently. Another issue is that a relatively strong effect of the income cap on leave-taking would be required for the design to detect it. Because the reform was introduced in June 2006, differences between the years reflect only half of the possible treatment effect. The number of days claimed each year for care of sick children is also highly volatile. On the other hand, the increase in the income cap was substantial in terms of compensation for the above cap earners (an increase by around 33 percent). It also modified in a transparent way a feature of the system that was well-
known among parents. If the income cap had represented a constraint on day-to-day leave-taking, we would have expected an immediate and quite strong effect measurable also under the conditions provided by this natural experiment.
Ethical considerations

The use of administrative register-data for research purposes involves a particular set of ethical considerations. The most important is the lack of informed consent. By informed consent it is understood that humans can only participate in research if they give their consent in a fully informed situation. A number of situations arise in which consent is neither fully valid nor fully informed. Any research on children, for example, includes only proxy consent (typically from parents) because children are not deemed able to give valid consent. Even among adults, a fully informed consent may be impossible if the individual lacks the education or judgement to give a fully informed consent (Resnik 1998:135). A more realistic guideline for research may therefore be to gain adequate informed consent (Resnik 1998:135) and to strive for informed consent as an ideal.

If informed consent cannot be obtained, the highest possible standard of other relevant ethical principles is required. First, the research should contribute to the production of knowledge that may in turn benefit society. As the data section above shows, research using administrative registers provide societal value that cannot be acquired any other way. Second, anonymity and confidentiality must meet the highest standards. Data for the current thesis are completely anonymized by Statistics Sweden and the Swedish Social Insurance Agency before any data are disclosed. Confidentiality of individuals is ensured through the Micro Online Access (MONA) system of Statistics Sweden. No data physically leave the secure servers on which they are stored and the system cannot be reached in any other way than through a secure Virtual Private Network (VPN) connection. Data from the Swedish Social Insurance Agency were delivered on encrypted media and are protected by data security software, firewall software, and intrusion detection systems maintained by the Swedish Civil Contingencies Agency [Myndigheten för samhällsskydd och beredskap].
The Swedish legal system regulates some aspects of the principles of ethical conduct in research. For the purposes of research on administrative register data as in this thesis, the Act (SFS 2003:460) concerning the Ethical Review of Research Involving Humans [Etikprövningslagen] applies primarily to two different areas. First, the Act prescribes that the processing of sensitive personal data [känsliga personuppgifter] for research purposes must be approved by the Ethical review board. Sensitive personal data is defined in the Personal Data Act [Personuppgiftslag] (SFS 1998:204) as ‘all kinds of information that is directly or indirectly referable to a natural person who is alive’ (Personal Data Act, 3 §; translation in Ministry of Justice 2006). The data is further deemed sensitive if it ‘discloses race or ethnic origin, political opinions, religious or philosophical convictions, and membership of trade union’ or is ‘relating to health or sexual life’ (PDA 13 §, translation in Ministry of Justice 2006). Second, any research ‘that entails a clear risk of physical or mental harm to the research subject’ (4 §) (translation Swedish Research Council 2017) must also be approved by the board. Physical or mental harm to the research subject may also apply to register-based research. A possible source of mental harm in register-based research could be the possibility of backtracking, i.e. the possibility to identify certain individuals also when data is anonymized. However, the Swedish government notes that ‘A processing of personal data from a register, in which the individual has submitted the data for other purposes than research, but is not aware that the data is processed in a research situation, and the research results are presented in such a way that single individuals may not be distinguished, ought not affect the individual to any large extent’ (Government offices 2007 (Prop. 2007/08:44), page 26, author’s translation).

On May 25, 2018, the Swedish Personal Data Act will be replaced by the General Data Protection Regulation (GDPR). The GDPR was approved by the European Union Parliament in 2016 and is ‘designed to harmonize data privacy laws across Europe, to protect and empower all EU citizens’ data privacy and to reshape the way organizations across the region approach data privacy’ (European Union 2018). Its impact on data for research purposes, especially register data, remains to be seen.
Policy implications

The Swedish policy constellation is often considered a ‘blueprint’ for a comprehensive dual earner/dual caregiver system (Gornick & Meyers 2008). The studies included in this thesis highlight the parts of the system that are especially important and those that may be less important.

Parental leave as an individual-based right rather than a family-based right seem crucial for father’s leave-taking. Together with previous evidence on ‘daddy months’ (Duvander & Johansson 2012), the thesis shows that individual-based rights are the foundation for fathers’ leave-taking in Sweden. As shown in Study I, the dominant dual-caring trajectory is characterized by a complete handing over of childcare responsibilities from the mother to the father. An individual-based system is probably a necessary condition for fathers’ primary caregiving rather than the kind of ‘helping out’ observed in other contexts (Grunow & Evertsson 2016). Study II suggests that fathers with individual-based rights use them if they have enough resources to do so.

Theoretically, high economic compensation is necessary for fathers to take leave. Study I challenges this notion by showing that most Swedish parents are willing to face a much lower replacement level than the 80 percent paid through the social insurance system. Only a quarter of all Swedish parents took leave in a period completely replaced by paid parental leave. All others extended the parental care period by the use of unpaid days of leave. Previous research has shown that this practice is as common for fathers as for mothers (Duvander & Viklund 2014), suggesting that the actual income replaced may be less important than previously thought. Study III also shows that the income compensation as such does not seem to hinder leave-taking. Of course, high replacement levels may have indirect effects such as legitimizing leave-taking for fathers and thereby increasing the acceptance of not wanting to forfeit the ‘daddy months’. Study II pro-
vides an important exception to the seemingly low importance of income compensation. Low-income fathers earning less than their partners were those least likely to take longer leaves. For such fathers leave might not be affordable even with 80 percent income replacement.

Flexibility is further argued important for leave-taking. Study I shows to the contrary that most dual-caring couples use the large degree of flexibility to a limited extent. Three quarters of all dual-caring couples take two ‘clean’ leave periods, with the mother’s period preceding the father’s. Because flexibility may de-legitimize father leave by giving employers reason for expecting fathers to continue working during the leave period (Brandth & Kvande 2009), flexibility may hamper rather than support primary caregiving. It is possible that flexibility is important for fathers who may otherwise use no leave at all but it is also possible that flexibility induces these fathers to take their ‘daddy months’ in a scattered manner and therefore never take on primary caregiving. Furthermore, because most parents in a fully flexible parental leave system take leave in turns, leave schemes stressing the importance of the first period may be less successful for dual-caring than those in which father care is replacing mother care.

It is also argued that parental leave systems that include ‘child care gaps’ (McLean, Naumann, & Koslowski. 2017), i.e. gaps between the parental leave period and the provision of non-parental care, hampers father’s leave-taking. Study I supports this claim; the dominant strategy of dual-caring requires a temporal sequence of care with no gaps: mother care, followed by father care, followed by non-parental care. The mother returns to work as the father takes over care and may stay in the labor market as the fathers’ care period ends and the child is enrolled in public child care.
Future research

The studies in this thesis demonstrate that the second half of the gender revolution has indeed started but is certainly ‘not yet far advanced’ (Goldscheider, Bernhardt & Lappegård 2015), even in one of the most gender-egalitarian contexts in the world. As argued above, the importance of child care for the advancement of the second half of the gender revolution cannot be understated. Its importance will grow as women keep reducing and outsourcing other kinds of household work while child care is kept at the same level or even increased (Raley, Bianchi & Wang 2012). Research on division of child care, especially child care that requires an absence from paid work, is likely to become in even greater demand in the future.

One important source of resistance in the gender revolution’s second half is the organization of paid work (Haas, Hwang & Russell 2000). The results of Study II make clear how strongly gendered parental leave-taking is, even in the context of occupational characteristics that might facilitate or hinder leave. The conditions of work shown in a large literature to increase mothers’ work-family balance do not produce the same outcomes for fathers; thus, studies on father leave-taking in relation to the organization of paid work are needed to derive appropriate policy implications. A policy implication derived from research on mothers, such that occupational segregation would hinder leave-taking as male-oriented occupations lack those family-friendly practices that female-oriented occupations have, is partly rebutted in Study II.

More and better measures of time- and task-oriented jobs could extend the findings and implications of Study II. To date, the O*NET provides 277 different descriptors that could be utilized to further our understanding of the organization of paid work. Of particular interest is a similar database just released by the European Commission, the European skills/competences, qualifications and occupations (ESCO),
that contains a large number of knowledge, skill and competence concepts (European Commission 2018).

Observing conditions of work at the individual level would also offer potential for improved understanding. In any given occupation, individuals are likely to vary in terms of, for example, skill level or autonomy. It is possible that workplaces are put under pressure to initiate firm-level practices and policies to attract high-skilled workers that collectively reap the benefits of their skill level. Within each occupation however, individuals with higher skill levels may still be hindered in their leave-taking. One way to test this in the Swedish registers would be to consider occupational skill levels within each workplace. If there is a gradient in leave-taking by occupational skills even within each workplace that would suggest that individual fathers mobilize their occupational position also within a given level of family-friendly policies and practices.

Study I has only scratched the surface in terms of distinguishing different patterns of dual- or mother-only care. Although we cannot observe preferences in register data, differentials in the choice of care patterns and/or outcomes of different care patterns may shed light on the goals couples hope to achieve with particular patterns of care. For example, what are the labor market outcomes for dual-caring parents who choose one or another pattern of care? How do the partners’ occupations combine to influence their patterns of dual-caring? To what extent does the caring pattern influence the couple’s decisions to have more children, the risk of separation or divorce, and/or custody arrangements in the case of separation/divorce? How do the children fare with different patterns of care, especially in relation to the timing of entry to non-parental care? In addition, qualitative interviews or structured surveys could be developed to understand why parents choose one pattern of care over another, now that the patterns have been identified.

Study II focused on leave-taking from paid work in couples in which both parents were in the labor force. An important avenue for further research is to understand how couples divide care when only one partner has income-replacement and a return-to-work guarantee, 25 percent of parental couples overall. For such couples, leave-taking of one or both parents becomes a new source of income rather than replacement of prior income. Further, leave-taking may be reduced when the
partner does not need to worry about how their employers or co-workers are going to redistribute work while they are absent. On the other hand, leave-taking might be greater when the partner’s leave produces only the flat rate, if it is much less than the replaced income. Gender differences in leave-taking may be accentuated or attenuated in these couples depending on whether the mother or the father is the parent with an income-replacement and job guarantee.

Comparing Studies I and II with Study III raises the question of links between gendered patterns of parental leave and short-term leave taken for the care of a sick child, after the parents have both returned to work. Qualitative studies have established that parents reporting limitations in daily work-family balance may at the same time find few difficulties in taking long-term leave from work. Longitudinal data to measure patterns of parental leave sharing as well as short-term care of sick children in the context of regular paid work would allow us to further understand how occupations and workplaces can hinder or facilitate full-time parenting by fathers as well as mothers.

The indicator developed for separation of cohabitating parents in Study IV has tremendous potential for studying the development of family changes in Sweden from the time they were first observed. Analyses of these four decades allow us to test the link between family stability and the two halves of the gender revolution. If, as confirmed on the macro-level (McDonald 2000), the narrowing of the gap between a gender equal labor market and a gender unequal family is what caused the re-stabilization of the family for countries entering the second half of the gender revolution, we should be able to observe a differential pattern of re-stabilization on the micro-level.

Finally, administrative registers remain an incredibly valuable source for research. Enormous investments are made in every country to collect and maintain a wide variety of information on residents. These investments do not produce their full value when the data are not used for research. Researchers must therefore continually demonstrate the value of Swedish and other register data to facilitate the further enhancement of access to and infrastructure for register-based research.
Föräldraskap och föräldraseparationer är två av de främsta livsförloppshändelser som skapar och förstärker könsskillnader i betalt och obetalt arbete i olikkönade par. Trots att fördelningen av obetalt arbete innan barnets födelse är jämn i många par så är det just kvinnorna som till största del minskar sin betalda och ökar sin obetalda arbetstid när de blir föräldrar. Samtidigt som jämställdheten ökat på många områden de senaste decennierna så delar många par fortfarande föräldraledigheten på ett mycket ojämställt sätt.

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