Four Essays on Family Life Events

PhD Thesis 2013

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ENGLISH SUMMARY

As demographic and social trends continue to change the institution of the family, a need to reconsider the study family life events as they unfold over the life course has emerged. To advance current knowledge of social dynamics associated with this new complexity, the point of departure of the present thesis is the way in which individual, social, and institutional contexts shape family life events. The main objective of the present thesis is twofold:

i. To highlight the importance of how family life events are theoretically understood and methodologically approached.
ii. To examine why social differentiation in family life events persists across institutional settings and over time.

Specifically, from a life course perspective and by means of dynamic quantitative methods, three central themes are investigated:

a) The importance of children's characteristics.
b) The need to link family contexts and institutional settings.
c) The significance of the interconnectedness of family life events across life domains and over time.

In order to understand the role of children's characteristics, the first analytical chapter (Chapter 3) investigates the importance of children's health in parental relationship termination and in parent's subsequent childbearing. The objective of these two studies is to highlight the significance of including children's health status in the study of family life events. Findings suggest that, as found in other national settings, health-related disparities in family-level outcomes are also present in the Danish context. Danish children experiencing disability or long-term illness remain at a higher risk to also grow up in a single-parent household and to have a less dense sibling-based kin network to rely on when the parents are gone. Furthermore, these two studies demonstrate that child characteristics play a substantive role in family life. Thus, to only question family life events as a function of parental characteristics neglects an under-

standing of the importance of the dynamic link between the lives of children and their parents in contemporary families.

In order to address the linkage between family contexts and institutional settings, the second analytical chapter (Chapter 4) introduces a new concept called care capital, and empirically applies it to mothers' employment transitions surrounding childbirth in the American setting. The aim of this study is to integrate perspectives from sociology and social demography in order to develop a concept that can encompass the variety of care indicators, can draw attention to excluded care variables, and can provide a framework for future individual and comparative research. The results from this study indicate that the use of nonparental child care prior to employment is independently and positively associated with the time to mothers' labor force entry following the birth of a child in the American context. Although the development of the concept of care capital is in its early stages, this study establishes the usefulness of conceptually grouping factors related to care as a compliment to economic and human capital.

In order to assess the interconnectedness of family life events over time, the third analytical chapter (Chapter 5) examines the interplay of changes in societal opportunity structures and individual patterns of family formation. Data from the first cohort to come of age in a well-established Danish welfare state is used to generate family formation pathways and explain the sorting of individuals into these pathways. The purpose of this chapter is to provide a framework for understanding family formation behavior. As opposed to studying only one family-related life course transition at a time, this analysis highlights the benefits of understanding family life events through their interconnectedness with events in other life domains. This study identifies four typical family formation pathways, and shows that the sorting into each of these is dependent on personal preferences, individual abilities, socio-demographic factors, and gender. This study underscores that in order to sufficiently understand family life behavior, attention to the simultaneous presence (or absence) of multiple social roles, their timing, and their sequence is of fundamen tal importance.

Taken together the analyses included in the present thesis combine the need to understand conditions and consequences of contemporary family life

with a renewed attention to the mechanisms associated with social differentiation. One contribution of the present thesis is that it highlights the need for family research in general, and Danish family studies in particular, to pay greater theoretical and methodological attention to the dynamic nature of family life events. In addition, the present thesis underlines the need for an improved understanding of the role of health and caregiving as fundamental aspects of family life, and in doing so allocates increased attention to how children's characteristics are central to family-level outcomes. Just as the lives of family members are lived interdependently, so too are events in one life domain interconnected with the absence or presence of events and transitions in other life domains. Thus, in order advance knowledge on family life and behavior, multiple family life events must be considered simultaneously, in a dynamic framework, and over time.

DANISH SUMMARY

Siden midten af det tyvende århundrede har familien som institution forandret sig markant. Nye demografiske og sociale strukturer har medført, at familien er blevet en mere kompleks social enhed, og det er blevet nødvendigt at genoverveje den måde, hvorpå familielivet undersøges. Udgangspunktet for denne afhandling er at bidrage med viden i forhold til nye sociale dynamikker forbundet med familiens forandring samt at skærpe blikket for, hvordan individuelle, sociale og institutionelle vilkår former begivenheder i familien. Afhandlingen har to overordnede formål:

At fremhæve vigtigheden af, hvordan familie-relaterede hændelser forstås teoretisk og behandles metodisk.
Evaluere, hvorfor social differentiering i forbindelse med familielivet består på tværs af institutionelle sammenhænge og over tid.

Til at belyse disse to problemstillinger kombineres teoretiske indsigter fra livsforløbsperspektivet med en dynamisk kvantitativ metodetilgang. Specifikt undersøges tre centrale aspekter:

Vigtigheden af at inkludere børns karakteristika og omstændigheder.
Nødvendigheden af at undersøge familiers vilkår i sammenhæng med den givne institutionelle kontekst.
Betydningen af måden, hvorpå familie-relaterede hændelser er forbundet på tværs af forskellige livsdomæner og over tid.

I afhandlingens første analytiske kapitel (Chapter 3) eksamineres vigtigheden af at inkludere børns karakteristika og omstændigheder i en undersøgelse af, hvilken rolle børns helbred har i forbindelse med forældres samlivsophør og i forbindelse med forældres beslutning om at få et barn mere. Formålet med disse to studier er at understrege børns helbred som en uafhængig og signifikant faktor i familiens liv. Resultaterne viser, at forskelle i danske børns helbred i høj grad påvirker deres familiers livsbane. Dette medfører, at danske børn med handicap eller længerevarende sygdom har en højere risiko for at opleve flere potentielt marginaliserende betingelser. Udover at skulle navigere deres funkti-

onsnedsættelse har disse børn en forhøjet risiko for at opleve forældrenes samlivsophør såvel som at have færre søskende til at hjælpe sig i hverdagen, når forældrene ikke længere kan. Disse to studier påpeger, at børns karakteristika og omstændigheder har en væsentlig indvirkning på familiers livsforløb, og derfor er det ikke tilstrækkeligt kun at undersøge familie-relaterede hændelser som en funktion af forældrenes karakteristika og resurser. Ved udeladelsen af børns karakteristika og omstændigheder risikerer sådanne undersøgelser at overse det dynamiske forhold, der i dag eksisterer mellem børn og deres forældre.

I det næste analytiske kapitel (Chapter 4) belyses nødvendigheden af at undersøge familiers vilkår i sammenhæng med den givne institutionelle kontekst ved at introducere begrebet care capital og empirisk afprøve det i en undersøgelse af forholdet mellem amerikanske mødres tilknytning til arbejdsmarkedet efter en fødsel og brugen af børnepasningsordninger. Målet med dette studie er at integrere sociologiske indsigter og social-demografiske forståelser af familiens betingelser og derved udvikle et begreb, som kan favne forskellige omsorgsindikatorer og henlede opmærksomheden på ellers ofte udeladte omsorgsvariable og endelig at tilvejebringe en konceptuel forståelsesramme til brug i fremtidige individuelle og komparative studier. Resultaterne indikerer, at erfaringer med pasningsordninger har en uafhængig og positiv påvirkning på mødrenes tilknytning til arbejdsmarkedet. Til trods for at udviklingen af care capital-begrebet endnu er i det tidlige stadie, etablerer dette studie anvendeligheden af at gruppere faktorer relateret til omsorg og pasning som et tillæg til økonomisk- og humankapital.

I det tredje og sidste analytiske kapitel (Chapter 5) tydeliggøres betydningen af, hvordan familie-relaterede hændelser er forbundet på tværs af livsdomæner og over tid. Specifikt undersøges samspillet mellem forandringer i den sociale mulighedsstruktur og familiedannelsesmønstre ved at modellere typiske familiedannelsesforløb for en af de første fødselskohorter, der blev voksen i en veletableret dansk velfærdsstat. Endvidere studeres, hvilke faktorer der er afgørende for, hvilken type familiedannelsesforløb individer følger. Formålet med dette studie er at betone vigtigheden af at forstå familiedannelse som sammenfaldet af flere begivenheder i stedet for blot at studere en enkelt begivenhed ad gangen, eksempelvis det at blive forælder. I dette kapitel identificeres fire typi-

ske familiedannelsesforløb, og det vises, hvordan personlige præferencer, individuelle færdigheder, social-demografiske faktorer og køn er afgørende for, hvilken type familiedannelsesforløb individer følger. Dette studie understreger nødvendigheden af at betragte flere familie-relaterede hændelser samtidigt, og at disse hændelsers timing og fortløbende orden er fundamental for en fyldestgørende og nuanceret forståelse af familieadfærd.

Samlet set kombinerer denne afhandlings analyser behovet for en forbedret forståelse af vilkår og konsekvenser i samtidens familieliv med et fornyet blik på mekanismer forbundet med social differentiering. Afhandlingen bidrager med en understregelse af nødvendigheden af, at familieforskningen generelt - og danske familiestudier specifikt - øger den teoretiske og metodologiske opmærksomhed i forbindelse med familie-relaterede hændelsers dynamiske natur. Derudover pointeres behovet for at udvikle forståelsen af helbred og omsorg som fundamentale aspekter af familielivet, og at man i denne udvikling bør være særlig opmærksom på, hvordan børns karakteristika og omstændigheder kan spille en central rolle i en families livsforløb. På samme måde som familiemedlemmers levede liv er indbyrdes afhængige, er også familie-relaterede hændelser i et livsdomæne ofte afhængige af hændelser i andre livsdomæner. Derfor betoner denne afhandling også vigtigheden af, at fremtidige studier af familieadfærd betragter flere livsdomæner samtidigt, analyserer familiehændelser i et dynamisk perspektiv, og at det gøres over tid.

1 INTRODUCTION

1.1 ABSTRACT

The four self-contained study articles that comprise the present thesis each contribute to three particular aspects of the study of family life events. Specifically, the articles draw on the life course perspective in order to provide valuable insights with regard to (a) family level consequences, (b) theory, family and policy, and (c) family formation and social change. This introductory chapter motivates the thesis, presents the research objectives, reviews the theoretical point of departure, describes the empirical approach, and provides an overview of the thesis.

1.2 FAMILY LIFE EVENTS

The life course of an individual consists of several domains such as family, health, education and employment. These domains are dynamically linked by the way in which they interact with each other and with their common historical and social context. Events in one life domain may prelude, accelerate, delay, enable, or disable status changes in other life domains. Consequently, decisions related to one domain are likely to be made based on general conceptions about future developments in different life domains.

Events are most often understood as status changes, such as becoming a parent or becoming disabled. Categorization of events according to their association with specific life domains is needed in order to understand the role of specific types of life events. Life events in the family domain have special social characteristics compared with other events. Family life events are central to the lives of individuals, and are often greatly dependent on the interplay of family members' lives and the social dynamics and relationships within the family. Therefore, family life events are often less controllable and in some instances family life events may pose a threat to the continuity of the family environment.

Family life events affect both parents and children and may be direct or indirect. For example a direct influence of having a child experiencing disability or long-term illness is the often shocking experience which is likely to foster an emotional response among all family members, and thereby immediately put the family under an unusual emotional strain. Indirect influence can then occur from the long-term strain that raising a child with disability or illness potentially puts on the family in form of time, money and psychological resources (Corman & Kaestner, 1992).

Over the course of the latter half of the twentieth century, the dynamics of family life have undergone remarkable changes and a new sociological complexity of family life events has emerged. These changes are not only defined by demographic transformations such as limited fertility, higher divorce rates, increased age at first birth, and first marriage. They are also associated with an unprecedented shift in social norms associated with individual lifestyles and structural opportunities (Beck & Beck-Gernsheim, 2002; Giddens, 1991; Goldin, 2006; Lesthaeghe & Surkyn, 1988). As these dynamics change the

institution of the family it becomes increasingly important to understand the new conditions and consequences of these changes.

Among family scholars dynamics associated with family formation and dissolution are generally seen as key in understanding sociological complexity. For example, as social differentiation has increased over the course of the twentieth century so have family structures diversified (Buchholz et al., 2009; McLanahan & Christine, 2008). As a result, a vast literature has thoroughly investigated the role of family life events in children's outcomes. In particular family formation, childbearing, work-family balance, and relationship termination have been given substantial attention. Whereas traditional determinants such as socioeconomic circumstances have been extensively investigated and children's' health mainly understood as an outcome, it is only very recently that the significance and role of children's health in relation to family life events has started to receive more general attention.

In the majority of family studies influence is assumed to be unidirectional and flow from parents to children. However, the lives of family members are socially linked and influences are likely to flow in both directions; parental life events may influence children's circumstances, and children's life events may also influence parental circumstances. For example, children's health is not only influenced by a family's resources and the behavior of other family members. Children's health status is likely to also influence a family's resources and the behavior of other family members.

In addition, the dynamic interplay of family life events and families real life circumstances have, to some extent, been less carefully emphasized in methodological approaches. Certainly, the intersection of childcare and mothers participation in paid employment has been subject to considerable research over the past two decades. But in order to understand the process underlying a mother's employment transitions and childcare experiences surrounding childbirth, it is necessary to include very rich and detailed data as these transitions are likely to occur in close sequence and across multiple life domains. Similarly, with regard to the study of family formation; because non-marital cohabitation plays a significant role in this process, it is essential to include experiences related to cohabitation as well as to marriage when researching family formation.

Combining the need to understand conditions and consequences of contemporary family life with a renewed attention to dynamics associated with social differentiation, the present thesis takes another look at family level consequences, reconsider the interplay of theory, family, and policy, and revisits family formation in the light of social change. In doing so, rich and detailed data sources are used and dynamic methods applied. Family level consequences are studied by means of event history analysis and the focus is on the role of children's health in parental relationship termination and in subsequent childbearing. The interplay of theory, family, and policy deals with a key aspect of contemporary family life, namely the nexus of availability, accessibility, and experienced resources for childcare as a complement to the importance of human and economic capital in mothers' entry into the labor force following childbirth. Finally, family formation in the light of social change is revisited from the perspective of explaining the interconnectedness of family life events over time and from an intra-cohort perspective.

1.3 RESEARCH OBJECTIVES

As new demographic and social trends change the institution of the family, a need to consider new ways to study familial relations as they unfold over the life course has emerged. Numerous comprehensive sociological studies have described the demographics of the new ways in which people experience family life events. Nonetheless, I argue, at least two essential aspects associated with family life events are still to be fully developed. The first aspect is the need for family studies to pay greater theoretical and methodological attention to the contextual, processual and dynamic nature of family life events. This is especially true for Danish family research. Few Danish family studies take adequate advantage of the rich longitudinal character of available data, and only a limited number of studies apply a dynamic methodology in order to provide a more nuanced picture of the family life course.

The second aspect is the need to further incorporate health and caregiving as a fundamental element of family commitment. Whereas previous studies have advanced our knowledge with regard to the flow of resources from parents to children, only limited research considers the circumstances within the family from a multi-directional approach. In particular, when examining family life

events, there is a need to highlight that family member's lives are lived interdependently and that a broader sociological study of familial relationships needs consider children's characteristics, such as children's health, as an independent factor.

The starting point for the work presented in this thesis is directly related to these two aspects resulting in two overarching questions: How should we understand family life events? And why does social differentiation in family life events persist across institutional settings and over time? The question of how to understand family life events concerns the way in which family life events are conceptualized. Very often family life events are actually treated as individual life events. However, in order to understand the underlying social processes within the family as a unit, it is important to also consider family level mechanisms associated with the broad of variety roles, rules, and relational patterns present in families today. Consequently, Chapter 3 explores this further in two ways. First, study article 1 adopts a general family–level approach and includes a family-level explanatory measure of consensus with regard to child upbringing and the division of household labor. This measure of family consensus is viewed as conceptually important in that it directs the attention to family meanings concerning how families themselves perceive their organization internally as a cohesive unit. Second, study article 2 emphasizes the importance of understanding families through the lenses of linked lives. The life course perspective's concept of linked lives highlights that family members' lives are lived interdependently; events, behavior and outcomes experienced by one family member influences events, behavior and outcomes of other family members (Wu, 2003). Not only do parents interact and provide resources for their children, children also interact with their parents and siblings to structure ongoing family relations and events. In addition, as an emerging topic of research, studies on health disparities and social differentiation over the life course is essential to pursue, because it is likely to offer new insights with regard to mechanisms operating across the full life course, and thereby also help us to further understand the ways in which individual and family processes relate to macro-structural outcomes (Mayer, 2009)

The present thesis engages in one particular aspect of the question of why social differentiation in family life events persists across institutional settings

and over time; namely the role of social mechanisms. The aim of Chapter 4 (study article 3) is to challenge an often rigid understanding of structural resources as human capital and economic capital. By bringing the family's key responsibility of care to the center stage and directly linking family context and institutional context, the concept of care capital underscores the complexities of this relationship. The concept of care capital emphasizes the need to isolate family and care related resources in order to understand the underlying individual, familial, and institutional mechanisms associated with parents' ability to simultaneously pursue the role as a caregiver and the role as a worker. With a focus on intra-cohort variation, Chapter 5 (study article 4) further takes up this notion of multiple social roles to understand the unfolding life course in a context of significant social change. In this light, social mechanisms are best understood through a multidimensional study of the interconnectedness of life trajectories. That is, attention must be allocated to the type, level of intersection, and timing of social roles associated with family life events.

The four specific research questions investigated and their respective study articles are:

1. Does the presence of child disability or chronic illness influence the risk of parental relationship termination?
   Study article 1: Child Health and Parental Relationship Termination: Examining Relationship Termination among Danish Parents with and without a Child with disabilities or Chronic Illness, manuscript published (2011) in *International Journal of Sociology 41(1)*: 27–47.

2. Do families of disabled or long-term ill children experience subsequent childbearing at a lower rate in comparison to families of children without any disability or long-term illness?
   Study article 2: The Importance of Child Characteristics in family Life Events: Children's health and Subsequent Childbearing in Danish families (manuscript under review).

3. Do child care-related resources, understood as 'care capital', complement the importance of mothers' human and economic capital and influence mothers' labor force participation following birth?
   Study article 3: Does Care matter? Care Capital and Mothers' Time to Paid Employment (manuscript under review). This study article is joint work with Dennis Hogan, Brown University.

4. What do distinct pathways of family formation look like for one of the first cohorts to come of age in a well-established Danish welfare state, and how is following a specific family formation pathway associated with personal preferences, individual abilities, socio-demographic resources, and gender?
   Study article 4: Family formation in Denmark: Pathways and Precursors (manuscript under review).

1.4 THEORETICAL REVIEW

Central to this thesis is the overall question of the way in which individual, social, and institutional contexts shape family life events. In answering this general question, I draw on theoretical insights from the life course perspective as applied within sociology. Sociological life course inquiries are primarily concerned with the life course as externally shaped by institutions, structural opportunities, and historical change, in which life course dynamics and expressions of individual agency are contingent on a given socio-historical context.

1.4.1 The life course perspective

Families are central in the unfolding life course of individuals. Family life events such as transitions in and out of singlehood, cohabitation, marriage and the experience of parenthood characterize individuals' movement across the life span. But also time spent in education and paid employment influences the choices available to families and its members. Moreover, historical and social context also vary with regard to resource constraints and structural opportunities. The life course perspective views the individual, the family, and the society in dynamic temporal terms (Hogan & Astone, 1986), and thus provides an

ideal overarching theoretical framework for the present thesis's investigations of family life events. In particular four central life course principles are of importance in the present thesis, namely a) the principal of life span development, b) the principal of linked lives, c) the principal of timing, and d) the principal of agency (Elder, Johnson, & Crosnoe, 2003). Moreover, the life course perspective offers a dynamic understanding of social roles and their interconnectedness over time, and thus enables a multidimensional approach to the study of family life events (Elder, 1985).

The principal of life span development. Understanding social processes is advanced by taking a long-term perspective. For example individual development does not stop when adulthood is reached, i.e., at age 18, but continues throughout the adult years (Elder et al., 2003). Similarly with regard to families: families and family dynamics do not stay unaltered after, for example, the transition to marriage or by the birth of the first child. On the contrary, substantial changes continue to occur both at the individual level and at the family level. Family members may encounter a disability or long-term illness and the course of family life may be modified according to the new situation.

By studying family life over substantial periods of time the potential interplay of social change and individual development also increases. For instance, the first birth cohorts to come of age in a well-established Danish welfare state were also the first to navigate a transition to adulthood under a new social structure introducing a variety of opportunities largely unknown to their parents. These opportunities included an improved educational system, a more occupational diverse labor market, and the widespread availability and use of modern contraceptives were available to those who wished to better control the timing of parenthood. However, these new opportunities also came with an increasing demand for educational requirements and higher expectations of social mobility through labor market participation for both men and women.

The principle of linked lives. The principle of linked lives describes the effects of a social change on an individual's life as depending greatly on interpersonal relationships and especially so with family members. That is, social change, institutional context and personal events influence individuals through

the impact such context or events may have on social relationships. This influence is best defined as the foundation of inter-personal flows of resources (Elder, 1994). For example, parental socio-economic disadvantage may affect disabled children's options for appropriate care as it might be too costly in time or money for the parents to afford. Likewise, a mother's re-entry into the labor force after childbirth can alleviate the financial situation of her family and thus contribute to her children's increased living standard. Yet, in a context where high quality care is hard to find, a mother's participation in paid employment may also result in the children spending significant amount of time in less appropriate care environments.

Although empirical investigations most often apply the concept of linked lives to study transfers from parents to children, the concept does not in its theoretical form assume any a priori directionality in this flow (Bengtson, & Putney, 2012). Thus, just as parental and family resources and constraints may influence the life of a child, so too may a child's resources and constraints influence the life of the parents and other family members including siblings and grandparents.

The principal of agency. Even though the flow of influence and resources is an essential component of the life course, this does not translate into the absence of agency. The principle of agency suggests that, although the choices individuals and families make are conditioned on external influence and their access to resources, they are still active agents. Individuals are not passively acted upon by structural constraint and social influence. Instead they make choices and compromises based on the alternatives they perceive before them (Elder et al., 2003).

Generally within sociological theories the concept of agency tends to be very broad, and within the life course perspective this is also true. Agency as a life course principle simultaneously refers to values, intentionality, preferences, goals, and all abilities used in the formulation as well as the pursuit of future orientations (Macmillan, 2005). For example, parents' involvement in their child's care environment is structured to some extent by their resources and the care-takers openness to their participation, but it also reflects the parents' assessment of whether their child's needs and wishes are, can, or should be met.

Even under difficult circumstances individuals as well as families are likely to strive to preserve a sense of control over their own situation. That is, in the life course perspective individuals and families are considered purposive. They have the ability to act based upon past experiences and current strategies, while at the same time make decisions about the future based upon perceived resource constraints and structural opportunities (Elder, 1998). Thus, agency matters in shaping lives, and while the exercise of agency is influenced by social conditions, agency also influences social conditions as well as the timing and sequencing of events.

The principal of timing. The timing of lives refers to the timing and sequencing of events, and defines how the meaning and consequences of events depend on when and within which social context they occur. That is, the same event or experience may affect a family differently depending on where and when in the family life course it occurs (Elder & Johnson, 2003). The concept of timing allocates attention to how meaning is attributed to a given individual or family life event and the consequences that a particular event has, depending on where and when in a life time it occurs. For instance, the incidence of a child's disability or chronic illness is likely to affect family life events differently depending on at what family stage or when in the child's life it occurs. Whereas a child's early disability or illness and diagnosis are likely to result in early intervention and adaptation to the child's special needs and the new family situation, a later occurrence may have little impact on, for example, parental relationship termination or subsequent childbearing. Nonetheless, it may still impact other family life events such as a child's prolonged dependence on parental support or the absence of grandchildren.

It is important to note that timing does not only refer to age. Timing can be measured in a variety of ways. Child age is one way, but it may not be the age of the child that is most important for a family's adaption to a new situation. It may as well, for instance, be how long the parents have known each other or lived together. Thus, duration is important to define, and can be measured in a number of meaningful ways (Elder, 1994).

Also the social context of events is of importance. For example, in some social groups it is considered normal to have a college degree whereas in other

groups college education is a rare event. Similarly, to marry at age 26 may be considered early in the Danish context, whereas in other contexts such as the American it may be considered the right time. The order in which events occur (sequencing) is also a key component in the understanding of timing. To live together before marriage or to have children before marriage have until recently been considered a non-normative ordering. In addition, early or late events or a non-normative sequencing of events is likely to be associated with negative consequences (Elder, 1998; Hogan, 1980). For example, to become a parent prior to the completion of any qualifying educational attainment or training may have consequences for a family's social mobility and well-being many years into the future.

Social Roles and Pathways. The life course perspective posits that development involves the order and timing of events and transitions over the life course. That is "pathways through the life span involving a sequence of culturally defined, age-graded roles and social transitions enacted over time" (Elder, 1985). Roles in this view refer to the positions that individuals occupy within social institutions, such as being a student, a worker, a partner, a parent or the like (Macmillan & Copher, 2005). In addition, roles are defined by the social expectations persons in given social positions have regarding their own behavior and the behavior of others (ibid).

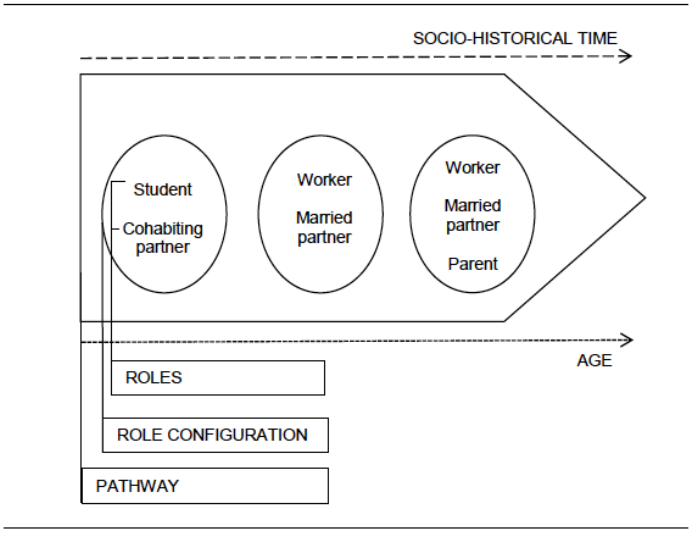
Looking at family lives in their actual context also implies that individuals occupy multiple social roles simultaneously. A person may simultaneously be a worker, a father and husband. This is further illustrated by the fact that the meaning of a given role is often to be understood in the presence or absence of other roles (Macmillan & Eliason, 2003). For example, if someone is cohabiting they are not (yet) married. Therefore families and their members are more realistically viewed as moving from one set of roles to another set of roles, as opposed to just transitioning between single social positions. Therefore, it is also useful to conceptualize social roles in terms of role configurations that can be connected over time to form pathways (Macmillan & Copher, 2005). For example one individual may finish education, get a job, get married, and have children where as another individual may stay in education, cohabit, become a

parent, and then enter the labor market. These two individuals follow different pathways.

Furthermore the interplay of different life domains is an essential component of the life course perspective. Family, education, labor market and health trajectories intersect and together shape life course pathways.

Figure 1.1 visualizes the conceptualization of roles, role configurations and pathways.

Figure 1.1
Conceptualization of roles, role configuration, and pathway. The defined roles are examples.



1.4.2 Summary

As a theoretical framework the life course perspective highlights the embeddedness of family life events in socio-historical time and social context. That is, family life events are embedded in social contexts and pathways that give them distinctive form and meaning. Moreover, various segments of the life course exist simultaneously as something individuals construct and experience, as well as a reinforcing population phenomenon with historical, cultural and social character (Macmillan et al 2003). Development and experiences are greatly associated with interpersonal relationships as well as personal agency. When

investigating family life events the timing and sequencing is of particular interest, theoretical attention and methodology must be situated within a dynamic and process-oriented understanding of the life course. Finally, the sociological study of the life course aims at mapping, describing, and explaining the distribution of individuals and families into social positions over time. However, in doing so it is important to keep in mind that the results may appear more linear than they were actually experienced as being (Mayer, 2004).

1.5 EMPIRICAL APPROACH

The present thesis specifically answers an ongoing call for a dynamic approach to how variation in institutional factors is likely to shape family life events, and to understand how opportunities and constraints substantively contribute to the choices made within a particular context (Hogan et al 1986). Moreover, it highlights the differential timing and interconnectedness of people's lives (Elder 1997). Two methodological approaches are used: event history techniques and latent class analysis combined with principal component inquiry and multinomial regression.

1.5.1 Methods

Event history techniques. In three out of the four study articles event history techniques are applied to longitudinal data and used to examine the dynamic interplay of family life events. Since the 1980s event history analysis - also known as survival analysis, hazard regression analysis, failure time analysis, duration analysis and transition analysis - has become one of the principal methodological approaches in life course research (Wu, 2003).

Event history models a hazard function (hazard rate) and the hazard function describes the probability that an event (e.g. divorce) occurs during a specified time interval given that the event in question (or a competing event) has not been experienced before the start of that interval (Box-Steffensmeier & Bradford, 2004). Thus, event history analysis focuses on the time-to-event as the dependent variable. Time-to-event is linked to explanatory variables (covariates) that can be either time-invariant covariates such as sex and race, or time-variant covariates such as education or marital status (Allison, 1982). Whether variables are categorized as time-invariant or time-variant can also be

determined by the way in which they are measured. If there is not adequate data available to determine how a variable varies across the given window of observation, or it is not relevant for a study to include the variable as a varying entity, a variable that in its nature is potentially time-variant may be included in the model as time-invariant.

The advantage of event history analysis is that it allows the researcher to explain the history of one event by taking into account the relevant history of other events. This way it is possible to study the complex interdependencies between different aspects of family life course trajectories. In addition, event history analysis takes into account unobserved factors underlying these complex interdependencies (Billari, 2005).

Latent class analysis. Study article 4 employs a two stage latent class analysis to generate family formation pathways. This latent class analysis is carried out in agreement with Macmillan and Eliason (2003) and its application has been further validated in a number of high quality life course studies (see e.g. Amato et al., 2008; Macmillan & Copher, 2005; Oesterle, Hawkins, Hill, & Bailey, 2010; Osgood, , Eccles, Jacobs, & Bonnie L. Barber, 2005; Sandefur, Eggerling-Boeck, & Park, 2005).

Specifically in study article 4, family formation is modeled as probabilistically distributed pathways of age-graded role configurations. In this model all states of relevant family life events are examined at discrete two-year intervals from age 18 to age 30. The advantage of this particular application of latent class analysis is that it allows for the consideration of whether particular states are present or have been attained at each age point, and thus enables identification of configurations of social roles (role configurations). Moreover, it enables the linkage of these role configurations over time (pathways) asserting heterogeneity in people's journeys through life (Macmillan & Copher, 2005).

Initially, latent class models were estimated at one-year intervals from age 14 to age 47; however at the early ages (14 to 17) as well as the later ones (30 to 47), no notable variation was present for any of the measures. As a consequence, these years of observation were excluded from the analysis. Likewise, there were no notable differences in the emerging patterns when a two-year interval was used instead of a one-year interval. Thus, in order to work with the

most parsimonious model, family formation was assessed between age 18 and 30 and at two-year intervals.

In order to also investigate precursors of the probabilistically distributed pathways, principal component analysis and multinomial regression was used. Principal component analysis provides data reduction by combining correlated variables into a smaller number of underlying dimensions (Joliffe, 2002), and multinomial regression analysis enables analysis with a categorical outcome (dependent variable) with more than two categories (Long, 1997). Table 1.1 presents an overview of the applied methods.

Table 1.1
Overview of applied methods.

Chapter	**Study article**	**Method**
3. Family Level Consequences	*2.1 Child Health and Parental Relationships*	Event history
	2.2 The Importance of Child Characteristics in Family Life Events	Event history
4. Family, Theory, and Policy	*3.1 Does Care Matter? Care Capital and Mothers' Time to Paid Employment*	Event history
5. Social Change and Family Formation	*4.1 Family Formation in Denmark: Pathways and Precursors*	Latent class, factor analysis, multinomial regression

1.5.2 Events under study

In the beginning of this chapter it is argued that family life events are central to the lives of individuals, and that over the course of the latter half of the twentieth century a new sociological complexity associated with of family life events has emerged. To further investigate social dynamics associated with this new complexity and to advance current knowledge with regard to the how individual, social, and institutional contexts shape family life events, three central themes are investigated; a) the role of children's health in family life events, b) the need to directly link family context and institutional context in understand-

ing mechanisms associated with care, and c) the interconnectedness of family life events over time in a context of social change.

To explain the role of children's health in family life events an event history model for parental relationship termination is estimated (Chapter 3, study article 1). In contrast to most previous research, this study aims to investigate family life events from a family-level approach. To do so, an additional explanatory focus is on the degree of family consensus with regard to the parental division of domestic tasks and child upbringing. To further assess the importance of children's characteristics in family life events, an event history model is also estimated for families' subsequent childbearing (Chapter 3, study article 2). Again the focus is on the role of children's health, and in this study article child health is accompanied by an additional exploration of the influence of family size. These two studies underscore the significance of dynamic connections between children and parents in contemporary family life, and give emphasis to the role of health in social differentiation.

To extend current knowledge of the link between family context and institutional context in understanding the mechanisms associated with care an event history model is estimated for mothers' time to paid employment following a child birth (Chapter 4, study article 3). This study illustrates how care, understood as a form of capital, complements economic and human capital, and highlights the need for increased attention to care and care related variables in future studies of family life events.

To examine the interconnectedness of family life events over time in a context of social change latent class analysis is used to generate family formation pathways based on the timing of when individuals leave the parental home, pursue educational attainment, have their first paid employment experience, engage in cohabitation or marriage and become parents (Chapter 5, study article 4). In order to further draw conclusions in this study with regard to social differentiation, membership of the generated family formation pathways are included as outcome in a multinomial regression analysis. With regard to explanatory emphasis, a measure associated with personal preferences and a measure associated with individual abilities are each constructed by means of principal component analysis and included in the multinomial regression model. In addition, socio-demographic background factors are also included in the

multinomial regression model. This study article provides a useful investigation of family formation in a time of significant social change. In particular, it underlines how social mechanisms operate through a variety of resources, and together with gender jointly shape patterns of family formation during the young adult years.

Table 1.2 presents an overview of the events under study and the explanatory focus.

Table 1.2
Overview of events under study and explanatory focus

Chapter	**Study article**	**Event(s)**	**Explanatory focus**
3. Family Level Consequences	*2.1 Child Health and Parental Relationships*	Parental relationship termination	Child health, family consensus
	2.2 The Importance of Child Characteristics in Family Life Events	Subsequent childbearing	Child health, family size
4. Family, Theory, and Policy	*3.1 Does Care Matter? Care Capital and Mothers' Time to Paid Employment*	Entry into paid employment	Care capital
5. Social Change and Family Formation	*4.1 Family Formation in Denmark: Pathways and Precursors*	Leaving parental home, educational attainment, employment experience, cohabitation, marriage, parenthood	Preferences, abilities, socio-economic factors

1.5.3 Data sources

A total of four data sources were used for the investigations presented in the present thesis. The first study article uses data from the Danish Longitudinal Survey of Children (DALSC), the second study article uses a combination of DALSC data and data form the Central Population Register (CPR), the third study article uses data from the Early Childhood Longitudinal Study – Birth Cohort (ECLS-B), and the fourth study article uses data from the Danish Longitudinal Survey of Youth (DLSY).

Danish Longitudinal Survey of Children (DALSC). The DALSC is an ongoing longitudinal survey with a specific focus on child development and family conditions, and is the first Danish study aimed to follow children and their families from birth into adult life. In actuality DALSC covers three separate surveys: the Danish survey, the Ethnic survey, and the Children in Care survey. In the present thesis DALSC refers to the Danish survey. The Danish survey consists of a random sample of all children born in Denmark between September 15th and October 31st 1995 and their families.

The Danish survey initially sampled 6,011 children and so far five waves of data collection have been completed: 1996 (focal child 6 months old), 1999 (focal child 3 years old), 2003 (focal child 7 years old), 2007 (focal child age 11 years old) and 2011 (focal child age 15-16 years old). Each wave of data collection has had a response rate of 80 percent or higher and has been validated as representative. The DALSC data is administrated by The Danish National Centre for Social research (SFI).

It should be noted the Children in Care survey (CIC), is collected somewhat parallel to the Danish survey, and follows all children born in 1995 that at some point are placed in out-of-home care. Therefore children from the Danish survey can migrate over in the CIC survey if they are at some point placed in out-of-home care. This issue of children migrating out of the Danish survey and into the CIC may cause the Danish survey to be less representative, because children placed in out-of-home care often come from fragile families with less socio-economic resources available. Nonetheless, because data access available for the present thesis includes both data from the Danish survey and the CIC, those who migrate into CIC have been identified and pulled back into the Danish survey. So far 158 children have migrated over in the CIC survey. However, for the DALSC data used in the present thesis this is only an issue in 39 families, and appropriate data has been available for all of these 39 families to be included in a manner identical to all the other families.

Central Population Register (CPR). All DALSC data has been linked to Danish central population registers which makes it possible to draw information from a wide variety of different administrative population records. The advantage of CPR data is that these data are inherently prospective, standardized

and collected continuously. In the present thesis CPR data is used with regard to parental education, parental unemployment, and household income. The CPR data is administrated by Statistics Denmark, and the data linked to DALSC is included in SFIs administration of the DALSC data.

Early Childhood Longitudinal Study – Birth Cohort (ECLS-B). The ECLS-B cohort is an American longitudinal survey designed to look at children's early development and access to services, but as a very rich dataset detailed information is also available on family life events including mothers' participation in paid employment. ECLS-B initially sampled 14,000 American children born in 2001. The sampling frame excluded children of mothers younger than age 15 at the time of the birth of the focal child, and some subpopulations were oversampled including Asian and Pacific Islander children, American Indian and Alaska native children, Chinese children, twins, and low birth weight children. The ECLS-B provides weights to adjust for the sampling strategy and obtain a nationally representative sample.

ECLS-B data was collected in 2001/2002 (focal child age 9 months), in 2003/2004 (focal child age 2 years old, in 2005/2006 (focal child age 4 years old), and in 2005/2006 (focal child age 4 years old). In the present thesis, data from the first wave of data collection is used and the response rate for that wave was 76 percent. The ECLS-B data is administrated by the U.S. Department of Education and the National Center for Educational Statistics.

Danish Longitudinal Survey of Youth (DLSY). The DLSY is an ongoing multigenerational longitudinal survey that provides a unique opportunity to answer research questions related to changes over longer periods of time. The original focus in 1968 when the DLSY began was to investigate educational and occupational choice in the transition to adulthood. Yet, the data collected also includes detailed information on relationship histories, fertility histories, and extensive information on family background, personal preferences, and individual abilities.

The DLSY was initially sampled as a cohort of 7th graders. A total of and 152 7th grade classes were randomly selected, and so far eight waves of data have been collected. Data was collected in 1968 (age 14), in 1970 (age 16),

1971 (age 17), in 1973 (age19), in 1976 (age 22), 1992 (age 38), in 2001 (age 47), and in 2004 (age 50). In addition to collecting data from the respondents themselves, data was also collected from parents and school teachers in 1968. Moreover, in 2010 data was collected from the children of the initial sampled respondents. Each wave of DLSY data collection resulted in a response rate of 82 percent or higher. In addition, all the DLSY data is currently in the process of being linked to the Danish central population registers. With the addition of the CPR data it becomes possible to follow all family members from 1981 and onwards. The DLSY data is administrated by The Danish National Centre for Social research (SFI).

Table 1.3 presents an overview of the data sources.

Table 1.3
Overview of data sources.

Chapter	**Study article**	**Data Source**
3. Family Level Consequences	*2.1 Child Health and Parental Relationships*	DALSC
	2.2 The Importance of Child Characteristics in Family Life Events	DALSC + CPR
4. Family, Theory, and Policy	*3.1 Does Care Matter? Care Capital and Mothers' Time to Paid Employment*	ECLS-B
5. Social Change and Family Formation	*4.1 Family Formation in Denmark: Pathways and Precursors*	DLSY

1.6 OVERVIEW

Although the work presented in the present thesis includes a diverse set of study articles, they all share the aim to examine family life events through the lenses of the life course perspective and by means of a dynamic methodological approach. Three of the four study articles analyze Danish data, and one study article analyzes American data. Although one explicit aim of the present thesis is to move Danish family research forward by taking advantage of the enormous potential for rich longitudinal research Danish data sources has to offer, the substantive research questions do not only pertain to the Danish case. On

the contrary, the theoretical and methodological developments offered by each study article are intended to be of general interest to the family literature. Whereas the Danish context may, in some ways as outlined in Chapter 2, provide a particular interesting setting, each of the four study articles poses a general research question.

The four research questions outlined in section 1.3 speak to three different aspects of explaining social mechanisms associated with family life events, and the thesis is organized around these three aspects. Research questions 1 and 2 are devoted to understanding the broader significance of disparities in children's health, and investigating the interplay between individual-level life course events and family level consequences. Research question 3 is concerned with the interplay of family and employment transitions, and highlights the importance of institutional context. Finally, research question 4 investigates the interplay of family formation behavior and social opportunity structure.

1.6.1 Summary of Chapters

Chapter 3 "Family Level Consequences" includes two study articles. The main argument in this chapter is that because family members' lives are socially linked, it is important to understand events such as parental relationship termination and childbearing as family-level events and investigate them as such, as opposed to approaching them as individual-level events. Consequently, the linked lives of family members do not only consist of unidirectional flows of resources from parents to children. On the contrary, children's characteristics, such as their health status, are likely to be an independent factor in family level events.

The first study article, Child Health and Parental Relationship Termination: Examining Relationship Termination among Danish Parents with and without a Child with disabilities or Chronic Illness, investigates the association between having a child diagnosed with disability or chronic illness and parental relationship termination. The results strongly support the notion that families of children with disabilities or chronic illness have a higher risk of parental relationship termination, when compared to families where no diagnosis of child disability or chronic illness is reported. The second study article, The Importance of Child Characteristics in Family Life Events: Children's health and

Subsequent Childbearing in Danish families, examines the role of children's disability or chronic illness in families' subsequent childbearing. The results reveal children's health to be negatively related to families' subsequent childbearing.

The findings from these two studies suggest that health-related disparities in family level outcomes persist in the Danish context. Danish children in poor health remain at risk of experiencing double jeopardy associated with having disabilities or chronic illness and growing up in single-parent households and/or having a less dense kin network (based on siblings) to rely on once the parents are gone. Furthermore, these two studies demonstrate that child characteristics play a significant role in family life, and to only question family life events as a function of parental characteristics neglects an understanding of the importance of dynamic connections between children and parents' lives in contemporary families.

Chapter 4 "Theory Family and Policy" includes one study article with the main objective to develop a theoretical concept of care capital as the nexus of available, accessible, and experienced resources of care, and to propose this concept as a complement to human and economic capital.

This third study article, Does Care matter? Care Capital and Mothers' Time to Paid Employment, examines one aspect of care capital, namely the use of child care and its relationship with maternal employment in the American context. The results suggest that use of nonparental child care prior to employment is independently and positively associated with the rate of employment entry.

Although the development of the concept of care capital is in its early stages, this study establishes the usefulness of conceptually grouping factors related to care under the rubric of care capital. Care capital may be higher when care is more affordable and high quality care is available. Variations in care capital can be found at the individual level, at the community level, in administrative divisions, or at national levels. In addition, the concept of care capital is a useful concept as it also provides a framework to compare international care policy.

Chapter 5 "Social Change and family Formation" includes one study article. The aim of this chapter is to provide a framework for understanding family formation behavior. As opposed to studying only one family-related life course transition at a time (for example to get married or to become a parent), this chapter highlights the benefits from understanding family life events through their interconnectedness with events in other life domains (for example attaining education or entering the labor market). In addition, the importance of intra-cohort cohort differences and socio-historical context are also emphasized.

The study of this chapter, Family Formation in Denmark: Pathways and Precursors, investigates typical pathways of family formation among men and women in one of the first cohorts to come of age in a well-established Danish welfare state. The results support the presence of four typical family formation pathways, and shows that already for this cohort close to half of all men and women did not follow a standard traditional family formation pathway. In addition, individual-level preferences, abilities, and socio-demographic factors also played a role in sorting men and women into the identified family formation pathways.

The findings in this study article underscore that in order to sufficiently understand family life behavior, attention to the simultaneous presence (or absence) of multiple social roles, their timing, and their sequence are of particular importance. Furthermore, the results suggest that a broad variety of social resources jointly shape patterns of family formation.

Taken together the analyses included in the present thesis combine the need to understand conditions and consequences of contemporary family life with a renewed attention to the mechanisms associated with social differentiation. One contribution of the present thesis is that it highlights the need for family research in general, and Danish family studies in particular, to pay greater theoretical and methodological attention to the dynamic nature of family life events. In addition, the present thesis underlines the need for an improved understanding of the role of health and caregiving as fundamental aspects of family life, and in doing so allocates increased attention to how children's characteristics are central to family-level outcomes. Just as the lives of family members are lived interdependently, so too are events in one life domain interconnected with

the absence or presence of events and transitions in other life domains. Thus, in order advance knowledge on family life and behavior, multiple family life events must be considered simultaneously, in a dynamic framework, and over time.

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2 THE DANISH CONTEXT

Public policy and demographic trends

2.1 ABSTRACT

Although the present thesis does not exclusively work with Danish data, the Danish context is an important element in three out of the four studies included. Due to the limited number of Danish family studies available in English, the Danish context may be less familiar to the reader. In consequence, this chapter outlines public policy and demographic trends in a Danish context. Where extensive and interesting literatures are available for each of the institutional and demographic developments described in this section, these literatures, however, are not the substantive focus of this thesis. Thus, the aim of this chapter is not to discuss theory or to present previous research with regard to institutional and demographic change. Rather, the aim of this chapter is to descriptively introduce the Danish setting.

This chapter is organized to first define the relevant dynamics of policy and family, followed by a section presenting the interplay of policy and family as it relates to the Danish context. Next, a section describes some of the key elements in Danish family policy. After that, the chapter turns to the relationship between demography and family, and relevant demographic trends are presented. In conclusion, essential components of the Danish context are summed up.

The demographic account is based on a large number of tables and figures generated from different national and international data sources. The majority of these tables and figures are available in the appendix. Tables and figures presented in the appendix are marked with an A in the table or figure reference. For example, a reference to Table 2.1 will refer to a table embedded in the text, and a reference to Table A.2.3 will refer to Table A.2.3 listed in the appendix.

2.2 INTRODUCTION

The family life course is on the one hand formed by relatively rigid sets of ideologically based institutional factors often referred to as the Social democratic[1]-, Liberal market-, Continental conservative-, and the Southern European familistic welfare regimes (see Esping-Andersen,1999; Mayer & Svallfors, 2005; Mayer, 2004) as well as specific public policies such as regulations of spending towards paid maternity/paternity leave and subsidized childcare, the educational system, degree of unemployment insurance, and access to healthcare (Breen & Buchmann, 2002). On the other hand, the family life course is also shaped by cultural differences with regard to preferences associated with timing, sequencing, and interplay of social roles in various life domains (Lesthaeghe & Surkyn, 1988). Thus, understanding family life events requires consideration of the broader social and institutional context within which these occur. Specifically, these investigations should take into account the dynamic nature of family life events and the importance of educational and employment-related social roles. That is, examinations of family life events need to consider that timing and sequencing of events as well as the relationship between them are likely to be mediated by public policy and demographic trends

2.3 POLICY AND FAMILY

Decisions associated with family life events are shaped by the opportunity structure present in a given time and place. That is, institutions establish a set of opportunities and constraints to which people respond, but they also reflect, and help to establish, normatively appropriate ways of behavior (Breen & Buchmann, 2002). Such an opportunity structure is to a large degree a product of public policy. In contrast to many other fields of public policy, such as foreign policy or labor market policy, family policy rarely constitutes a distinct policy area. Instead, family policy often works across other policy areas such as social policy, welfare policy, labor market policy, tax policy, civil law, etc. Neyer and Andersson (2008) outline three different conceptualizations of family policies; a) the sum of all state activities directed towards the family (Kamerman & Kahn, 1978), b) state measures to construct and institutionalize a particular

[1] The Scandinavian countries of Denmark, Norway, and Sweden are typified as social democratic welfare states.

form of family as the prevailing form of private relationships in a society (Bourdieu, 1996), and c) policies that construct society through a structuring of private relationships as decomposed into partnership, motherhood, and fatherhood (Neyer, 2003). Because family policy is not the central focus of the present thesis, I approach family policy defined as the sum of all state activities directed towards the entity of interest, while keeping in mind that policy may also act to construct and institutionalize a particular form of family. This, in turn, highlights the need to decompose structured relationships into categories such as partnership, motherhood, and fatherhood as well as workership and studentship.

2.3.1 The interplay of policy and family life events

Policies influence how easy or difficult it is to form and dissolve partnerships, to raise children, and to combine family responsibilities with educational attainment and paid employment in a particular context. Policies also regulate supply, and comparative research has shown how the influence of educational attainment on the transition to motherhood varies between different types of welfare states (Blossfeld, 1995). Such variations associated with family life events have also been found with regard to labor market entry, employment patterns, economic standing, and couples' careers (Blossfeld & Drobnic, 2001; Blossfeld & Hakim, 1997; Blossfeld, 2008; Esping-Andersen, 2007; Liefbroer & Corijn, 1999; Ono, 2003). In addition, this interplay between family life events and events in other life domains also varies by birth cohort as well as by gender and age.

Although in most instances a complex relationship, the influence of educational attainment and participation in paid employment on family life events seems to be weaker in societies in which the degree of compatibility is higher such as in the Scandinavian welfare states. For example, whereas young children had a very strong negative association with women's employment in the United States, Britain, and Japan (Waldfogel, Higuchi, & Abe, 1999), this association was less apparent in the Danish context (Leth-Sørensen & Rohwer, 1997; Pylkkänen & Smith, 2004). Likewise in other Scandinavian countries; Kravdal and Rindfuss (2008) reported that in Norway over the course of the second half of the twentieth century, the relationship between completed fertili-

ty and education became substantially less negative among women, while a positive trend has emerged among men. These changes are attributed to family-friendly ideologies and policies, including better access to high quality daycare (Kravdal & Rindfuss, 2008). Similarly, Petersen and colleagues (2007) found that in Norway the wage penalty associated with marriage and children for women has decreased substantially between 1980 and 1997, concluding that Norwegian family policies have been largely successful at reducing gender differences (Petersen et al., 2007).

When understanding the dynamic relationship between family, education, and work it is important to distinguish between unequal attributes and unequal treatment. Joshi and Paci (2001) showed that the gains from men and women's equal pay and equal opportunities have been greatest for an elite group of well-educated women, and highlighted that as unequal treatment of men and women decreases, inequality among men and inequality among women is likely to increase. Along similar lines, Drobnic and Blossfeld (2001) stressed that a decrease in gender inequality in terms of labor market participation was likely to be accompanied by an increase in social class inequalities. In the social democratic welfare states, however, this trend has been found less pronounced due to the equalizing effects of the re-distributional policy environment (Blossfeld & Drobnic, 2001).

Whereas linkages between family policy, family formation, employment participation, and educational attainment have been the focus of numerous studies, much less is known about these associations when families dissolve. Theoretically, the issue has mainly been approached as a question of relationship stability through applications of the specialization model (see Oppenheimer, 1997 and South, 2001 for a review). This model posits that spouses specialize in different productive activities (the male breadwinner and the female homemaker), and that the exchange of the gains from each of their specialized labor generates a mutual interdependence reinforcing relationship stability (Becker, 1993). Thus, the most common key hypothesis derived from this model is that women's paid employment undermines the differentiated and specialized roles of the male breadwinner and the female homemaker, and thereby reduces the gains to the relationship and, consequently, increases the risk of relationship termination. Nevertheless, the results on the influence of educational attainment

and employment on relationship stability have been mixed. Examining this hypothesis, Oppenheimer (1997) showed that women's educational attainment, employment, and earnings either had little or no effect on relationship dissolution (divorce), or, where they did have an effect, it was found to be positive – the opposite effect of what the specialization model hypothesizes (Oppenheimer, 1997). In addition, Oppenheimer argued that contemporary real-world conditions indicate that the specialization model can be a risky and inflexible strategy for maintaining a family's economic well-being over time (ibid.). That is, achieving economic well-being over time has often been a result of having more than one earner in the household, but whereas in earlier times that might have been the children, in more recent history this has become the female partner. In consequence, in the context of the Scandinavian social democratic welfare states, where dual-earner households today are normative and supported by family policies to ease the work-family balance, the influence of women's education and employment is likely to have no direct or perhaps even a positive influence on the relationship stability.

When considering linkages between policy and relationship termination, national laws are likely to play a very important role. Historically, the Scandinavian social democratic welfare states lifted the ban on divorce early on relative to other kinds of welfare states, and thus divorce has been an actual option to leave a relationship for a significant period of time. The extended historical period that divorce has been available has been argued likely to impact the attitude and practices related to divorce in a given society. Conceptualizing divorce culture as a composite measure of both attitudes toward and the practices of divorce at the national level, Yodanis (2005) found a strong divorce culture to be associated with a more egalitarian distribution of work within marriages. In countries such as the Scandinavian, where divorce is more accepted and widely practiced, women were found to be in a better bargaining position within marriages (Yodanis, 2005). Likewise, the economic consequences of divorce have also been observed to differ significantly between countries with different policy configurations. For example, controlling for compositional heterogeneity, Uunk (2004) demonstrated that welfare state arrangements mediate the economic consequences of divorce. Divorced women from the Scandinavian social democratic welfare states displayed the least adverse changes in income, and

women from the southern European familistic welfare states displayed the most adverse income changes (Uunk, 2004). Thus, policies that enable divorce are argued to promote egalitarian partnerships and reduce potential economic consequences of relationship termination.

A key element in distinguishing the Scandinavian countries from other Western settings is policies ensuring the provision of extensive, high quality, and universal healthcare. Nonetheless, despite a universal access to high quality healthcare, a growing body of comparative literature has demonstrated that although social democratic welfare states such as Denmark fare best in terms of general population health outcomes, this group of countries is doing less well with regard to socio-economic inequalities in health (Bambra, 2007; Eikemo, Bambra, Joyce, & Dahl, 2008; Eikemo, Huisman, Bambra, & Kunst, 2008). In addition, in a Danish study, Ottosen and colleagues observed that, although the health among Danish children at the general level is good, Denmark may be starting to lack behind relative to children in other Nordic countries2 (Ottosen, Andersen, Nielsen, & Stage, 2010). This mismatch between doing well in overall health outcomes while doing less well in terms of reducing health inequalities is often referred to as the public health paradox (Bambra, 2013).

The present thesis's Chapter 3 is dedicated to the importance of children's health in family life events, and is indirectly related to this paradox. It is central to theoretically sort out the interplay of assumptions and mechanisms potentially driving this inequality. First, a key assumption in this paradox is that better general health should be accompanied by smaller health inequalities. However, Krieger (2008) reminds us that the social determinants of health are different from the determinants of health inequalities (Krieger, 2008). That is, what determines the overall levels of population health (absolute terms) may not be the same as what determines the magnitude of health inequalities (relative term). For example, Eikemo (2008) and colleagues found that whereas the greater redistribution within the Scandinavian countries is likely to have a protective effect for the disadvantaged, other factors such as relative deprivation and class-patterned health behavior might be acting to widen health inequalities (Eikemo, Huisman, et al., 2008). In addition, it was not always the case that the Scandi-

[2] The Nordic countries include Denmark, Norway, Sweden, Finland, the Faroe Islands, Greenland, and Iceland.

navian countries performed below expectation. To the author's knowledge, the limited number of comparative studies available of the conditions prior to the 1980s has concluded that the Scandinavian countries had the smallest social inequalities in health (see for example Black, 1980).

2.3.2. The Danish policy context

The historical foundation of the Danish welfare state. The Danish social democratic welfare state is, like the other Scandinavian welfare states, characterized by its unusually heavy social spending, benefits, and high quality services, and a large degree of government intervention. Already during the late 1800s and early 1900s a variety of social policies were initiated in Denmark. However, the two main historical turning points came in the 1930s when the social democratic working-class party formed an alliance with the centrist farmers' party, and with the post-WWII period's emphasis on solidarity (Esping-Andersen & Korpi, 1986). Whereas other countries outside the Scandinavian region largely followed a strategy of adding new groups to already existing coverage schemes, the Danish policy development was characterized by its universal and unified programs (ibid.). By the early 1960s a solid foundation for the modern institutional Danish welfare state had come into place, in which eligibility was granted all citizens and thus separated from work performance or other market participation.

This commitment to universalism and equality of status as a means to eliminate differentials between citizens due to for example gender, kin networks, income, or occupational position has been continued as a core element of the Danish policy context. One of the most noticeable public policy developments is how this principle of equal rights has translated into providing everyone, especially women, with opportunities for continued educational attainment and labor force participation. This has mainly been accomplished by relieving parents from care obligations and reducing the adverse economic and social consequences of having children.

Family and work balance. During the latter part of the twentieth century and onwards Danish policies have reflected a strong commitment to men and wom-

en sharing the responsibility of children and providing the dual-earner family with a supportive infrastructure (Abrahamson, 2010).

Abrahamson (2007) combined theoretical and practical aspects of the reconciliation of work and family life in a comparative study of Germany, the United Kingdom, France, and Denmark, and showed that the configurations of policies matter in that the male breadwinner remained the dominant practice among families in Germany and the United Kingdom, whereas a public service model dominated in France and Denmark. Inspired by Hantrais (2004), Abrahamson emphasized the interplay of welfare, labor, and family policies in consolidating several theories of welfare state regimes, and offered the matrix categorization of the EU-15 countries shown in Table 2.1. In this matrix, Denmark is placed as characterized by high levels of women's employment combined with national policies strongly supporting women's employment.

Table 2.1
Women's employment and national policies related to women and work. Adopted from Abrahamson 2007, page 196

National policies	Women's employment	
	High	**Low**
Strong	Denmark, Finland, Sweden Belgium, France	Austria, Germany, Netherlands, Luxemburg
Weak	Portugal, United kingdom	Greece, Ireland, Italy, Spain

In line with the Danish welfare state's general goal of individual equal rights and thus the ambition to support women's labor force participation, Denmark introduced separate taxation of married couples' income from paid employment in 1970. Nonetheless, it was not until 1983 that married couples' joint taxation was abolished by law. Today all Danish couples are taxed separately on their earned income, and income tax consists of two parts: a progressive tax paid to the state and as proportional tax paid to the local authority. Research suggests that the design of a country's tax scheme is a central factor

with regard to the economic incentives of married women to participate in paid employment. For example, Smith and colleagues (2003) show that Danish women age 25 to 49 would reduce their full-time labor supply to 45 percent if they were subject to the lower taxation of the United Kingdom, and that the non-participation rate would increase to 74 percent if they were subject to the joint taxation system of Ireland (Smith et al., 2003).

Women's participation or degree of participation in paid employment is often dependent on the presence of children. A common finding in the literature has been that children are a major barrier for the labor force participation of their mothers, and given participation, mothers tend to work fewer hours than women with no children (Hegewisch & Gornick, 2011). Nevertheless, even though part-time work is widespread in Denmark, Danish mothers' participation (vs. non-participation) in paid labor is not affected by the presence of children, and only young children (age 0-2) reduce their mother's number of hours spent in employment – that is, influence her move from full-time employment to part-time employment (ibid.). Part-time work is also common among mothers in, for example, the United Kingdom. However, whereas it is only children below age 2 that have a significant negative impact on Danish mothers' probability of full-time work given labor force participation, children at older ages continue to promote such a significant negative relationship among British mothers (Joshi, Macran, & Dex, 1996; Smith et al., 2003). Likewise, Drobnič and colleagues (1999) found that whereas the presence of preschool children has a strong negative influence on German women's participation in full-time work, this influence is only modest for American women (Drobnič et al., 1999). Such comparative differences are argued to be a result of vast differences in parental leave schemes and childcare availability (Brewster & Rindfuss, 2000; Hegewisch & Gornick, 2011; McRae, 2008; Smith et al., 2003).

Leave and childcare. Indeed, central components of Danish family policy are the flexible parental leave programs and the extensive availability of childcare. The first Danish law regarding maternity leave came in 1901, but the right to maternity leave remained restricted until the 1980s (Hansen, 2003). With the law of 1985 mothers who had had a regular income during the most recent 13 weeks before childbirth gained the right to 4 weeks of maternity leave before

birth and 14 weeks after birth, plus a 10-week parental leave period. In 2002 the parental leave period was extended to 32 weeks. The parental leave can be taken either by the mother or the father, but the parents cannot be on leave at the same time (ibid.). In Denmark (as opposed to, for example, Sweden) the level of compensation during the parental leave period depends on the sector of employment. In the public sector there is full wage compensation, whereas in the private sector employees are entitled to a minimum level benefit as set by the collective agreements (Pylkkänen & Smith, 2004). Because men on average tend to have higher earnings than women, and women more often are employed in public sector jobs (Leth-Sørensen & Rohwer, 1997), most households may have an implicit economic incentive for the mother to use the parental leave period. Studies have shown that in Denmark the relative income of spouses strongly influences how parental leave is distributed. If the father had the highest salary the mothers took the leave, while the proportion of fathers who used the leave was highest in families in which the parents' income levels were close to equal (Knudsen, 1999).

Although today daycare facilities are widespread in Denmark, they hardly existed when women started to enter the labor market in large numbers during the 1960s. For example, by the early 1970s less than 20 percent of children age 0 to 2 were attending private or public daycare even though 43 percent of all women with children within that age group were engaged in paid employment (Bonke, 1997). Today this picture has changed completely, and municipality-run daycare facilities are widely available. More than half of all Danish children between age 0 and 2 and more than 90 percent of all children age 3 to 5 attend publicly provided childcare (Pylkkänen & Smith, 2004). Even though Danish parents pay for childcare, this may not exceed more than one-fourth of the actual cost of daycare in a municipal institution. Moreover, parents of more children may receive a sibling discount. Danish childcare is considered of relative high quality, and national nominations place three adult daycare providers for every ten children in nurseries, and two adults for every twenty children in kindergarten groups.

In addition to the subsidized daycare, all parents registered as tax payers in Denmark receive a child and youth allowance until the child turns 18 years old. This allowance is set at a tax-free fixed rate regardless of parental income,

and the amount of money decreases as the child ages. This system of child allowance has been in place since 1951.

Family dissolution. Though not a part of official Danish law, already by the 16th century permission for divorce could be granted in exceptional circumstances where one of the partners could be proven guilty of violation of the marriage pact. By the end of the 18th century this practice was extended to include situations where it was impossible for the partners to consolidate their differences (Jørgensen, 2010). In 1922 Denmark simultaneously passed two interlinked laws: one on formation and dissolution of marriage, and one on parental authority. The way in which the 1922 laws were formulated together with the inclusion of divorce legislation sat apart the 1922 laws from earlier laws. With these new laws both spouses were considered equally responsible for supporting the family although it might be done through different means (for example, breadwinner–homemaker division of labor). Furthermore, the principle that spouses had a duty of support toward each other in marriage, during a separation period and after a divorce had now been officially recognized (Bouteillec, Bersbo, & Festy, 2011). This implied that after separation spouses should be able to maintain the same standard of living as within marriage, and the law stated that alimony was to be paid after the court's consideration of the recipient's needs and the provider's capability. Although the Danish divorce laws historically have been considered promoting greater individual freedom and gender equality, the extent to which the state remained involved in the financial settlements could also be interpreted as trying to preserve the sanctity of marriage (ibid.).

Children are often a complicating factor in the decision to divorce or to dissolve a cohabiting relationship. Just as the divorce law renders the spouses responsible for one another, Danish parents have the obligation to provide for their children until age 18 regardless of whether they live with their children or not. By law a minimum of monthly support must be paid to the parent residing with the child. With the 1922 law, the parent with whom the children do not reside was granted the right to visitation. Nonetheless, it was not until 1969 that fathers of children born outside of marriage obtained the right to such contact, and still a special set of conditions was associated with this group of fathers

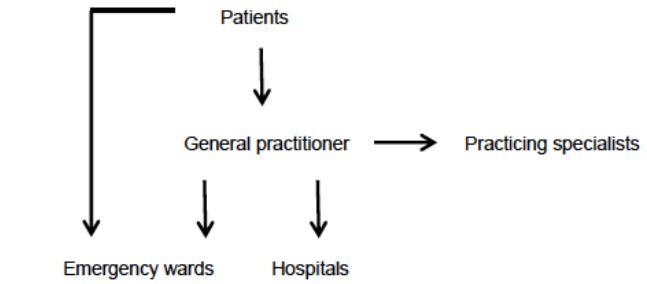
(Lund-Andersen, 2004). By 1985 these rules were revised, and the right to visitation no longer distinguished between children born within and outside marriage (ibid.).

Healthcare. Danish healthcare provision has traditionally been characterized by consensus regarding basic institutional structures. Already by the end of the nineteenth century public hospitals had been built in most Danish towns, and the Danish healthcare sector has always been primarily sponsored by taxes (Vrangbæk & Christiansen, 2005). That is, in contrast to other national settings, church-based philanthropy and other charity never played a large role in the Danish healthcare provision.

Since WWII political parties have agreed that access to healthcare should be universal and independent of individual ability to pay or place of residence. During the post-war period and throughout the 1960s, healthcare became strongly influenced by the medical profession, and healthcare-related issues were most often discussed in technical rather than in political terms (Petersen, Petersen, & Christiansen, 2012). Since the 1970s the Danish healthcare system has been best characterized as publicly integrated and universally accessible through a health security scheme (ibid.). Healthcare includes both prevention and treatment, and most hospitals are public. Most general practitioners work as private entrepreneurs under a contract with the national regions (Christiansen, 2012).

Figure 2.1 outlines the organization of healthcare from a patient's point of view. In the Danish healthcare system, general practitioners act as gate-keepers with regard to hospital admission and referral to specialists. That is, patients' primary contact is always with their general practitioner, and in instances where the general practitioner finds that hospital or specialist treatment is needed a referral will be issued. However, in case of emergency (accident or acute illness) patients can go directly to the emergency ward (Ministeriet for Sundhed og Forebyggelse (Ministry of Health), 2008). Besides referring patients to hospital or specialist care, the general practitioner also refers patients to other health professionals working under agreement with the healthcare service, as well as assists in arranging for home nursing to be provided (ibid.).

Figure 2.1
Health care service organization. Adopted from the Danish Ministry of Health 2008, page 7.



Other benefits. A number of other key benefits are also available in the Danish context. Sickness will usually impair working ability, and while there is a long history of compensation of lost income due to periods of sickness, this entitlement has undergone considerable change in the past 40 years. Whereas in the 1970s and 1980s entitlement to sickness benefit depended very much on diagnosis, the focus from the 1990s and onwards has been on active re-integration into the labor market through monitoring and planning (Johansen et al., 2008). Under the current Danish Sickness Benefit Act, sickness benefits are paid to the employee by the employer for the first 2 weeks of absence. After that, the benefits are paid by the local authority.

Services and benefits for people with disability are also an integrated part of Danish policy. If found necessary, people with disabilities are provided with personal assistance and socio-pedagogical support, as well as reimbursements of extra costs depending on the specific situation. In addition, individuals who cannot support themselves financially due to a disability are entitled to a maintenance benefit from the Danish State (probably best described as a type of pension). This disability pension is available to those aged 18 to 65 whose ability to work is assessed as permanently reduced. A shift towards increased em-

phasis on activation and re-integration into the labor force, as seen with regard to the sickness reforms, has been paralleled in the disability legislation.

In contrast to all other forms of social security in Denmark, unemployment insurance is voluntary. Thus, Danish citizens are not per se insured against unemployment, but an unemployment insurance policy must be taken out from a private unemployment insurance fund. Although voluntary, the insurance take-up rate is generally high. In 1995 the take-up rate was 80 percent (Parsons, Tranæs, & Lilleør, 2003).

2.4 DEMOGRAPHY AND FAMILY

Just as decisions associated with family life events are shaped by the institutional structures associated with opportunities and constraints, so are demographic trends important in understanding changes in contemporary family life. Demographic developments inform us with regard to historical path dependencies and provide an empirical picture of the more general changing aspects with regard to family formation and family dissolution, including normative developments in the overall age-grading in events associated with family life. In the following section trends in population composition, fertility, age at childbearing, age at marriage, childbearing outside marriage, non-marital cohabitation, divorce, education, and employment are described.

2.4.1. The Danish demographic context

Population composition. As in most other Western nations, changes in social conditions in Denmark across the past 150 years were closely intertwined with demographic transformations and affected the family life course. Over the past 250 years, the Danish population increased significantly. In 1850 only about 1.4 million people resided within Denmark's national borders, but already by the turn of the century in 1901 this number had increased by more than a million people (Figure A.2.2). By the 1950s the Danish population was 4.3 million people, and today Denmark counts 5.6 million inhabitants.

The remarkable increase in the Danish population from the mid-18th century to the mid-19th century cannot be ascribed to immigration to Denmark, as during the same period a significant number of Danes migrated to, for example, the United States. Nor did Danes have more children, quite the contrary; fertili-

ty levels had already started to decline during this period. Instead, nutrition was greatly improved, and in the wake of the mid-19th century's cholera epidemic the water supply and sewerage were greatly improved in the cities (Vrangbæk & Christiansen, 2005). In addition, this period's increased access to public hospitals is likely to also have played a crucial role in improving the overall health of the Danish population (ibid.). The late nineteenth and the early twentieth centuries were characterized by industrialization, and during that same period the living standard greatly increased in Denmark (Petersen et al., 2012). In 1901 more than 1 in every ten children born died before its first birthday. However, by 1950 this number had been reduced to 0.3 (Figure A.2.3). Moreover, whereas Danish men born between 1840 and 1849 could expect an average lifespan of 42.9 years, Danish men born by the turn of the century (1901 to 1910) could expect, on average, to live about ten years longer (53.9 years) (Figure A.2.4). It is estimated that men born between 2000 and 2010 can expect, on average, to live for 75.8 years. Generally, women's average expected lifespan has been between 3 and 5 years longer than that of men. Thus, women born between 1840 and 1849 could expect an average lifespan of 45 years, for women born between 1901 and 1910 this figure was 57.1 years, and women born between 2000 and 2010 are estimated to live for 80.3 years on average.

Fertility. During the first three decades of the twentieth century the fertility decreased relatively rapidly in Denmark. The period total fertility rate (TFR) was reduced from 4.14 children per woman in 1901 to 2.09 children per Danish woman in 1933 (Figure A.2.5). After the baby boom of the late 1940s, and a somewhat lower, but stable TFR at about 2.50 children per woman during the 1950s, the TFR again declined from 1962 and onwards. In 1983 the Danish TFR hit an all-time low of 1.38 children per women. The timing of this latter period of declining TFR corresponds, among other things, with a progressive introduction of contraceptives and a rapid increase in women's labor market participation in the Danish setting. From the mid-1980s the trend of very low fertility was reversed, and a slight increase was present until 1995 where the rate reached a plateau around 1.8 children per Danish woman.

In comparison to other Western European countries, a distinctive feature of the Danish fertility pattern was the relative speed and magnitude of the re-

versal of the declining TFR between the mid-1980s and the mid-1990s. Neither of the other two Scandinavian countries (Norway and Sweden) ever reached as low a TFR as the Danish 1.38 low-point (Figure A.2.6). Among the selected Western European countries of Figure A.2.6, only Italy, Spain, Portugal, and Germany (including the former GRD) did at some point experience a TFR as low (or lower) than 1.38 children per women.

The TFR measures the fertility for a time period (such as in a given year). Another way to measure fertility is to observe the cohort fertility rate (CTFR). Using birth cohorts, Anderson and colleagues (2008) show that the CTFR has, despite a decreasing trend across the Danish cohorts of women born in the 1940s, been relatively stable at 1.8 children per women for women born in the late 1940s and onwards (Figure A.2.7). Moreover, there is indication of some variation between the Scandinavian countries with regard to the CTFR. Danish women born in the mid-1950s or later have a somewhat lower CTFR than that of Norwegian and Swedish women born within the same years (Andersson et al., 2008). For example, none of the Norwegian birth cohorts of women born prior to 1964 had had a CTFR below replacement level (2.1 children per woman).

Age at childbearing. Denmark's fluctuating TFR but more stable CTFR may, to a large extent, be explained by shifts in age at entry into parenthood (and probably also to some extent by the timing of subsequent childbearing). Danish women's average age at first birth has increased by 5.4 years over the past four decades. In Denmark in 1970 the average maternal age at first birth was 23.7, whereas by 2012 it had risen to 29.1 (Figure A.2.8).

Furthermore, the overall mean maternal age at birth appears historically to have been high in the Danish context. The overall maternal mean age at birth was as high in the first quarter of the twentieth century as in the most recent decade (Figure A.2.8). Nevertheless, the mechanisms driving these high average maternal ages at childbearing are likely to be quite different. In the beginning of the century when fertility levels were relatively higher in comparison to more recent decades, women probably initiated childbearing somewhat earlier, but also continued childbearing to older ages whereas today, in the context of

lower fertility levels, women's overall high average age at birth is likely due to an older age at first birth.

The trend of women's increasing age at first birth in recent decades is not distinctive for the Danish context. Similar trends are present in most of Western Europe and in the United States (Figure A.2.9). Among the Scandinavian countries, Danish women have had the highest age at first birth since the 1990s. Nonetheless, even though Denmark has relative high age at first birth, women from familistic welfare states, such as Italy and Spain, on average have their first child even later in life. In 2010 Italian women on average had their first child at age 30.2, and in Spain this figure was 29.8.

Age at marriage. Just as the transition to parenthood has been postponed, so has the age of entry into marriage. Figure A.2.5 showed that the post-war period was associated with a temporary disruption of a decline of the TFR. This temporary interruption in the TFR decline lasting until the early 1960s was largely mirrored by a temporary decrease in age at first marriage during the same period. Nevertheless, during the 1960s men and women's age at first marriage started to increase somewhat rapidly over the course of the remainder of the twentieth century and into the twenty-first century. In 1970 the average age at first marriage for Danish women was 22.9, and by 2012 this number had increased to 32.4 (Figure A.2.10). Among men the average age at first marriage increased from 25.1 to 34 during the same period. That is, within four decades the age at first marriage increased by close to 10 years for both men and for women.

In comparison to other Western European countries, and with the exception of British women, the Scandinavian countries have displayed highest average ages at first marriage both among women and among men over the course of the most recent three decades (Figure A.2.11). Whereas this trend of a relatively rapid increase in men and women's average age at first marriage is characteristic among the selected Western European countries in Figure A.2.11, this increase has not been present to the same extent in the United States. Whereas Danish women's average age of first marriage increased by 7.3 years between 1980 and 2010, this figure was only 4.1 among American women.

Childbearing outside marriage. One very distinct demographic feature of the twentieth century is the significant increase in the share of births taking place outside of marriage. In Denmark from the beginning of the century until 1970 the share of non-marital births was relatively stable at around 10 percent (Figure A.2.12). However, by 1985 this percentage had increased to 43 percent, and it continued to rise until the mid-1990s where it stabilized at about 48 percent. Moreover, this increase in births outside of marriage seems to have occurred earlier and in a more condensed form in the Danish context relative to other European countries (Figure A.2.13). Among the selected Western European countries in Figure A.2.13, only Sweden and Denmark, and to some degree Norway, experienced such a rapid increase in the share of births taking place outside of marriage between 1970 and 1985. This shift toward more children being born outside of a marital union was not initiated in these other Western European countries until after 1985.

Nonetheless, this drastic increase in births outside of marriage during the 1970s and 1980s was not associated with high rates of single parenthood in the Danish context; rather, the majority of these children were born to unmarried cohabiting (hereafter cohabiting) parents. Although data was only available for the present thesis from 1986 and onwards, Figure A.2.14 indicates that while the trend in children less than 1 year old living in a single parent household has been relatively stable over the past two decades, the share of these children living in cohabiting households has increased relative to married households. In 1986 48 percent of all children less than 1 year old lived in a married couple household and 37 percent in a cohabiting couple household. By 2010 these relative share sizes had been reversed, and now 40 percent of all children less than 1 year old lived in a married couple household and 47 percent in a cohabiting couple household.

Non-marital cohabitation. The dramatic increase in children born to cohabiting parents is based on the overall increase in non-marital cohabitation (cohabitation). Since the 1970s an increasing share of couples has been cohabiting couples. Figure A.2.15 shows that whereas in 1974 about 8 percent of all married and cohabiting couples were cohabiting couples, by 2010 this share was

23.9 percent. That is, close to one in four of all married and cohabiting relationships are cohabiting relationships.

In addition, in the Danish context younger couples are much more likely to cohabit than to marry. By 2010 74 percent of all Danish men and women age 20-29 in a married or cohabiting relationship were cohabiting (Figure A.2.16). In contrast, for the 30 to 39 age group this share was only 31 percent, and for the older age groups this share was even smaller.

Moreover, whereas in, for example, the United States roughly half of all cohabiting unions are terminated within the first year, and only one in five lasts five years or longer (Bumpass et al., 1989, 2000), cohabitation in the Scandinavian setting is characterized by longer duration. The median duration of cohabitation in the Scandinavian context is between four and five years, signifying an overall higher level of stability regardless of whether the cohabiting union transforms into marriage (Heuveline et al., 2004; Hoem 1988). That being said, cohabiting couples are still more likely to dissolve their relationship relative to married couples in the Danish context (Ottosen 2000, 2002).

Divorce. In Denmark the median duration of marriages has remained relatively stable at about 11 years since the 1980s (Statistics Denmark, Table SKI5). Over the course of the past fifty years Denmark has had a relatively high crude divorce rate (Figure A.2.17). In 1960 Denmark had 1.5 divorces per 1000 population, and by 1985 this number had increased to 2.8. At the national level, the rapid increase in crude divorce rate appears to have happened approximately 5 years earlier in Denmark and Sweden in comparison to other Western European countries. From the mid-1980s and onward, the United Kingdom fluctuated around the same level as Denmark, with France and Germany following close behind.

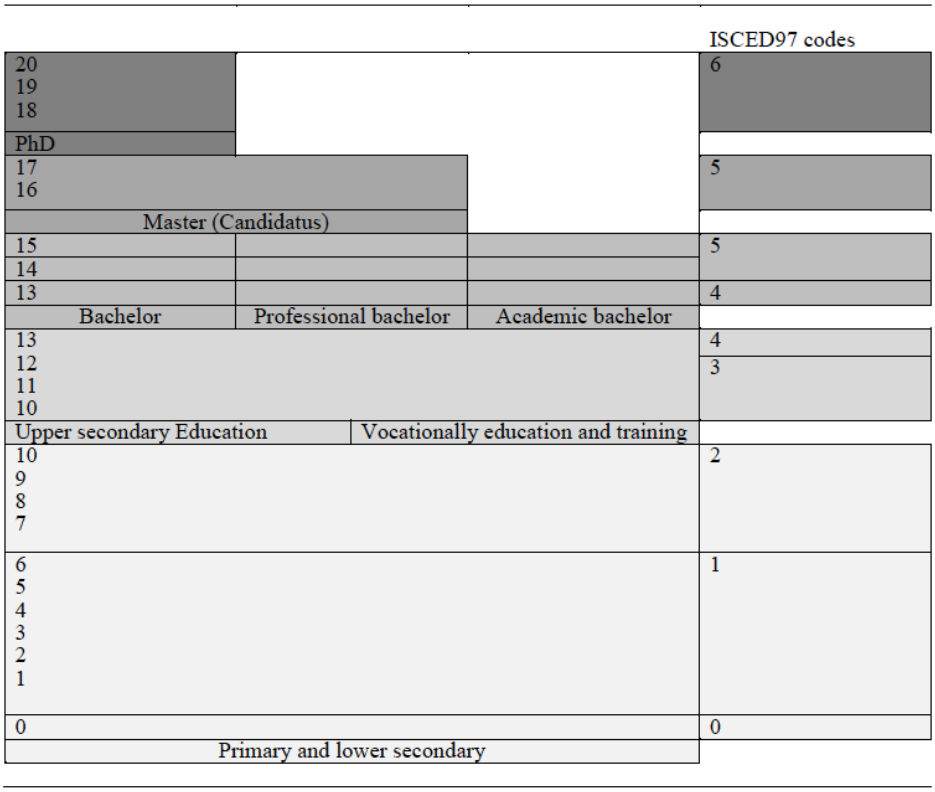
In countries such as Portugal a similar rapid increase in divorce rates occurred over the course of the 1990s, and likewise in Spain during the 2000s. For example, Spain in 2000 experienced 0.9 divorces per 1000 population and by 2010 this number had increased to 2.2 divorces per 1000 population. The continued low divorce rate in Italy and Ireland appears to be an exception among the selected countries in Figure A.2.17. The legislation related to formal divorce differs significantly among the European countries, and part of the

variance in Figure A.2.17 must be viewed as a product of these differences. For example, Ireland's ban on divorce was not lifted until 1995, whereas, in comparison, the right to divorce was introduced to Danish law already in 1922.

Education. The Danish educational system is financed by general taxation and is run almost entirely by the public sector, and there are no tuition fees associated with attending education. In Denmark primary and lower secondary schooling covers the first ten years of schooling with the tenth year not being mandatory (age 6/7 to 16), upper secondary covers the next three to five years of education depending on which track the student chooses (age 16 to 19), and tertiary (higher education) comprises short-cycle higher non-university programs, medium-cycle non-university and university programs, and long-cycle university programs. In 1937 and again in 1958 the secondary education levels were strengthened with the aim to improve the move into secondary schooling and further encourage the transition from lower to upper secondary schooling. Figure 2.18 displays the basic outline of the Danish educational system.

By the end of the nineteenth century less than 5 percent of a Danish 7th grade cohort continued education after the seven years of mandatory primary schooling (Undervisningsministeriet [Ministry of Education], 1998). However, at the turn of the century the share of students attending lower and upper secondary education started to increase. The share of adolescents age 15 to 19 participating in secondary education increased from 9 percent in 1910 to 55 percent by 1970 (Figure A.2.19). From the 1970s and onwards secondary education was considered normative among the group of 15- to 19-year-olds, and by 1995 83 percent of this group were participating in secondary education.

Figure 2.18
Overview of the Danish education system. Adopted from the Danish Ministry of Education



However, the participation rates in upper secondary education remained relatively low until the mid-twentieth century. Whereas only 6 percent of a youth cohort entered upper secondary education in 1955, this figure had increased to 32 percent in 1975 (Figure A.2.20). These entry rates continued to increase, and by 1996 close to half (45 percent) participated in upper secondary education.

Along the trend of increasing participation in upper secondary education, the share of the Danish population who completed long-cycle education also rapidly increased over the course of the twentieth century, and
especially so during the past four decades. Figure A.2.21 shows that the percentage of the population having a long-cycle education as their highest completed educational attainment level increased from 3.2 percent in 1987 to 7.7 in

2010. Moreover, as the share of the population with long-cycle education has increased, the percentage distribution of men and women holding a long-cycle education as their highest completed level of educational attainment displays a strong converging trend. Whereas in 1987 men made up 72 percent of the population holding a long-cycle education as their highest completed level of educational attainment, by 2010 that share had declined to 53 percent (Figure A.2.22).

The increasing trend of Danish women participating in higher education relative to men has in recent decades also translated into not only completed graduate degrees, but also an increasing relative share of women being granted PhD stipends. Whereas in 1995 34 percent of those being granted a PhD stipend were women, this share was 44 percent by 2010 (Figure 2.23).

Employment. The structure of the Danish labor market has roots in the late nineteenth century and is characterized by the relatively high level of union organization of both employees and employers and the central role of collective agreements. In addition, the Danish labor market is often cited because of its distinctive so-called flexicurity model (Andersen & Svarer, 2007). In short, flexicurity refers to the simultaneous presence of rather flexible hiring and firing rules and a generous social safety net (ibid.).

In Denmark, as in many other countries, women from all social backgrounds started to migrate out of the home and into the labor market in great numbers during the 1960s, and over the course of the second half of the twentieth century the share of Danish women in paid labor showed a remarkable increase. In 1960 42 percent of all Danish women (age 15 to 69) participated in the paid labor market (Emerek, 1997), and already by 1977 this percentage among Danish women age 15 to 74 had increased to 56 percent (Figure A.2.24). This share continued to increase during the 1980s, and by the late 1980s it stabilized at about 76 percent of all women age 16 to 66 participating in paid employment. Differences in age categories aside, this increase in women's labor force participation sets the latter half of the twentieth century apart from earlier times.

Looking at the share of all employed Danish men and women, the gap between the percentage distribution of men and women has indeed narrowed

from the 1950s and onwards. Whereas in 1950 the Danish labor force consisted of 76 percent men and 24 percent women, by 1981 these shares were 56 percent and 44 percent respectively (Figure A.2.25). However, as several scholars have pointed out, the interesting issue about the increase in women's participation in paid employment during the twentieth century is the increase in married women being active in the labor force (Blossfeld & Hakim, 1997; Esping-Andersen, 2009; Goldin, 2006). That is, unmarried women have always shown fairly high levels of labor force participation, but until the 1960s this participation rate would drop sharply subsequent to marriage and childbirth (Esping-Andersen, 2009). In Denmark, the share of employed married women more than doubled between 1950 and 1970. In 1950 30 percent of Danish women in paid employment were married women, and by 1970 this share was 64 percent (Figure A.2.26). In addition, a significant cross-over between the relative shares of married and unmarried women in paid employment occurred between 1960 and 1970 (Figure A.2.17).

This remarkable increase in women's employment in general and married women's employment in particular also coincides with a large expansion of the public sector. Whereas the public sector employed 10 percent in 1960, by 1990 this share had increased to 30 percent. Leth-Sørensen and Rohwer (1997) show that the public sector is the main source of employment in Denmark; on average 45 percent of employed women are employed in the public sector (Leth-Sørensen & Rohwer, 1997).

As discussed above, part-time work is widespread in Denmark and the work-family balance among Danish women with young children may be dependent on this availability of part-time work. Nonetheless, during the past few decades the percentage share of female part-time workers relative to male part-time workers has declined considerably. In 1981 the percentage of all part-time workers being women was 87 percent, whereas in 2007 it was only 53 percent (Figure A.2.28). There may be various reasons for this decline in women's part-time work (or increase in men's part-time work), and several of them may not be linked to the work-family balance.

Shanahan (2000) emphasizes the importance of understanding how, for example, opportunities in the labor market (or lack thereof) are distributed (Shanahan, 2000). That is, regardless of levels of unemployment, there will be

groups of individuals for whom finding a job or engaging in further education will always be difficult. For example, because young adults often have less experience and smaller networks, the experience of unemployment can be particularly problematic for this group (Ball, 2009; Kerckhoff, 1993). In addition, finishing education and entering the labor market may coincide with forming a family. Although internationally Denmark has experienced relatively low rates of unemployment (Andersen & Svarer, 2007), some periods over the course of the latter half of the twentieth century have been characterized by high rates of unemployment. During the early 1990s the overall unemployment percentage increased and reached a high of 11.9 in 1993 (Figure A.2.29)3. The drastic decline in unemployment during the late 1990s and onwards was largely due to a new labor force policy with a focus on activation and upgrading of manual workers together with specific interventions targeting unemployed young adults.

An additional interesting observation is how Danish women appear to have experienced above average unemployment, while men have experienced below average throughout the late 1980s and the 1990s. However, during the 2000s this gap seems to have narrowed considerably.

2.5 SUMMARY

Denmark belongs to the group of social democratic welfare states. Policies are generally based on the principle of universal access, and are financed through taxes. In particular, the long historically rooted and extensive healthcare system together with sick and disability compensation has been instrumental in improving Danish people's health over the course of the twentieth century.

Denmark, like the other countries in the Scandinavian region, is also characterized by a relative large number of generous family-friendly policies. Many of these policies are designed to ease the work-family balance such as extensive paid parental leave and subsidized childcare. Policies as these have also been linked to the large share of dual-earner households, and more recently the higher rates of women participating in higher education and paid employment. Because of Danish women's improved footing in the educational system and on

[3] It should be kept in mind that Figure A.2.29 is also sensitive to many other factors, including population composition such as for example cohort sizes.

the labor market and the longer historical presence of divorce laws, it has been suggested that, Danish women are likely to be a stronger bargaining position and fare better financially after a divorce in comparison to women in other types of welfare regimes. Forming families in contemporary Denmark generally happen at a relative later age, and the traditional sequencing of events as first to marry and then have children are not as prevalent anymore as in the past. Today close to half of all births happen outside of marriage but to cohabiting couples, and thus it is no longer uncommon to live together, have children and then marry – if marrying at all.

The most important developments as they pertain to the present thesis are associated with developments as the happened during the 1960s and 1970s as (Chapter 5) and the 1990s (Chapter 3). Most changes related to changes in timing and sequencing of family life events came about during the 1960s and 1970s. For example the educational system was strengthened to ensure higher participation rates in secondary and upper secondary education, and women (in particular married women) entered the labor in still higher numbers during this period. As cohorts born in the mid-1950s started to come of age and form families the average ages at first birth and first marriage started to increase, and the number of children born outside of marriage began to accelerate. Similarly, unmarried cohabitation levels increased and the same did the crude divorce rate.

During the period of the 1990s the total fertility rate recovered from the low point of the previous decade although age at first marriage and first birth continued to increase. Births outside of marriage reached relatively high level we still see today with and increasing number of children being born to cohabiting parents. The share of the Danish population receiving upper secondary and higher education continued to increase, and especially so among women. The gap between men and women's participation rates in paid employment had narrowed significantly with the share of women (relative e to men) in part-time work declining. The 1990s was also a decade where Danish men and women experienced relatively high unemployment, and labor market policies changed toward a greater focus on activation and re-integration to the labor force.

In addition, even though Denmark's long historically rooted and extensive healthcare system has been instrumental in improving Danish people's health over the course of the twentieth century, research using data from the 1990 and

onwards observed increased inequality in health, which in turn has led to question the efficiency of the policies related to health and well-being.

2.6 REFERENCES

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2.7 APPENDIX

Figure A2.2
Danish population growth, full Danish population 1769 to 2012. Generated from Statistics Denmark, Table FT.

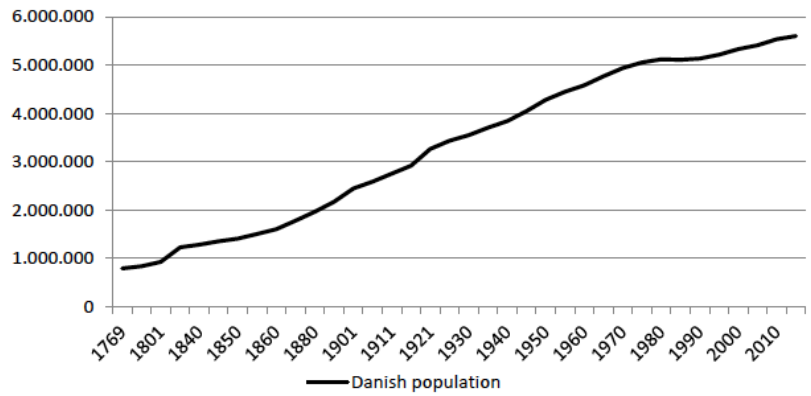


Figure A2.3
Infant mortality per 1000 live births (actual numbers), full Danish population 1901 to 2009. Generated from Statistics Denmark, Table HISB3.

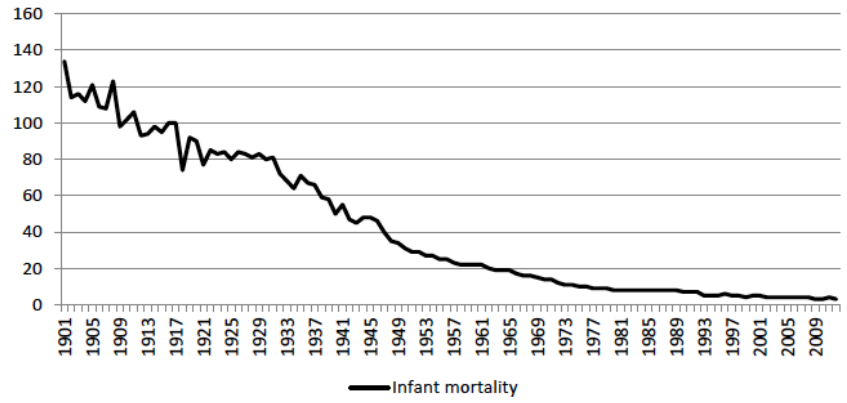


Figure A.2.5
Period total fertility rate (TFR), full Danish population 1901 to 2012. Generated from Statistics Denmark, Table FOD3.

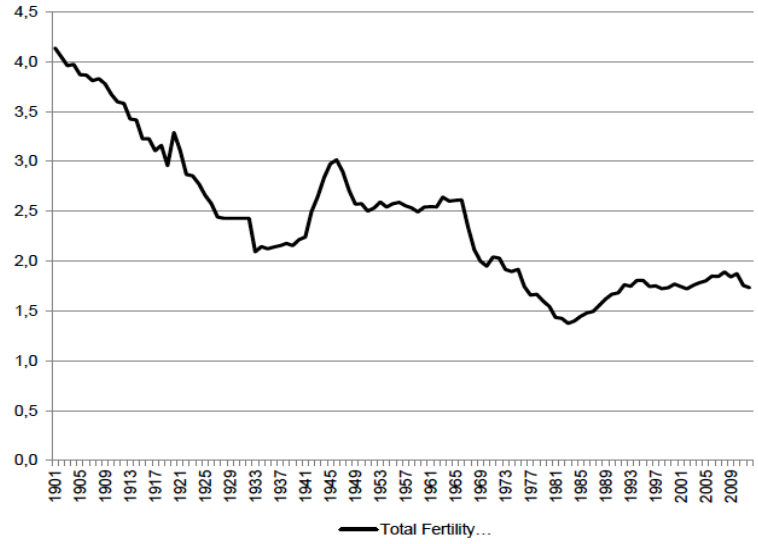


Figure A.2.6
Period total Fertility rate (TFR), selected countries 1960 to 2010. Generated from UNECE Statistical Database.

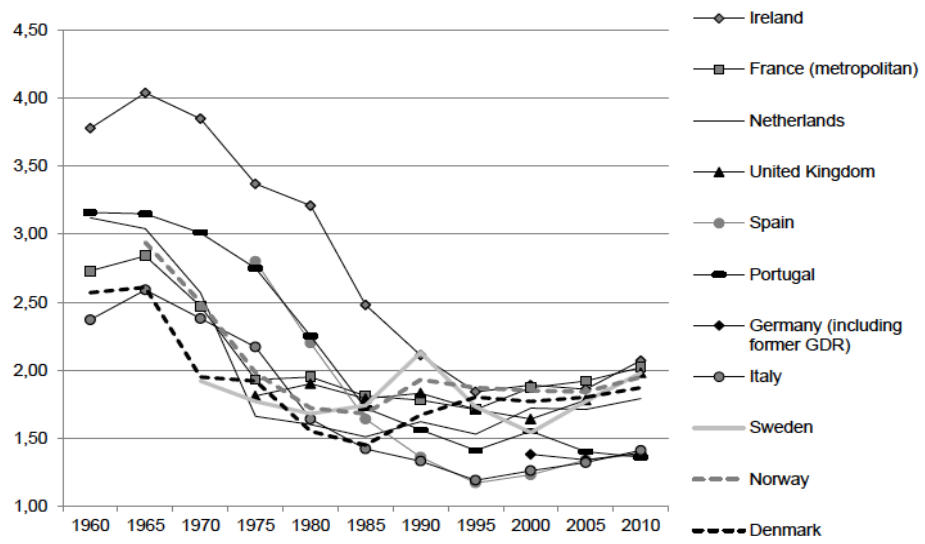
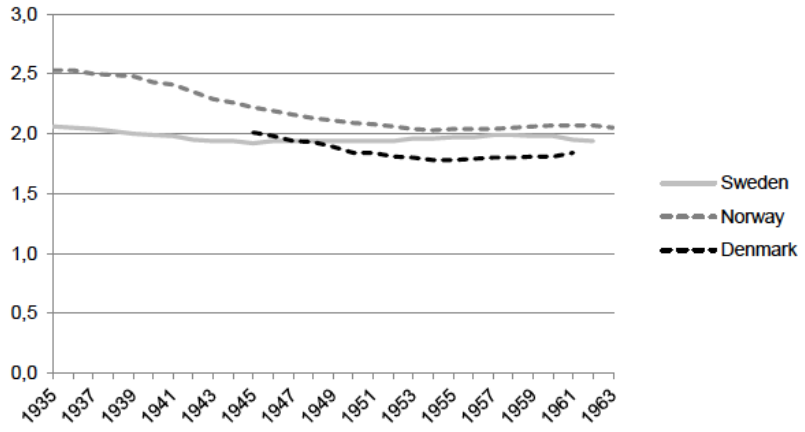


Figure A.2.7
Completed cohort fertility (CTFR) at age 40 by for single-year birth cohorts of Swedish, Norwegian and Danish Women. Adopted from Andersson and Colleagues 2008, page 35.



Note: Unfortunately no data was available for Danish women born prior to 1945

Figure A.2.8
Average ages at birth, full Danish population 1901 to 2009. Generated from Statistics Denmark, Table FOD11.

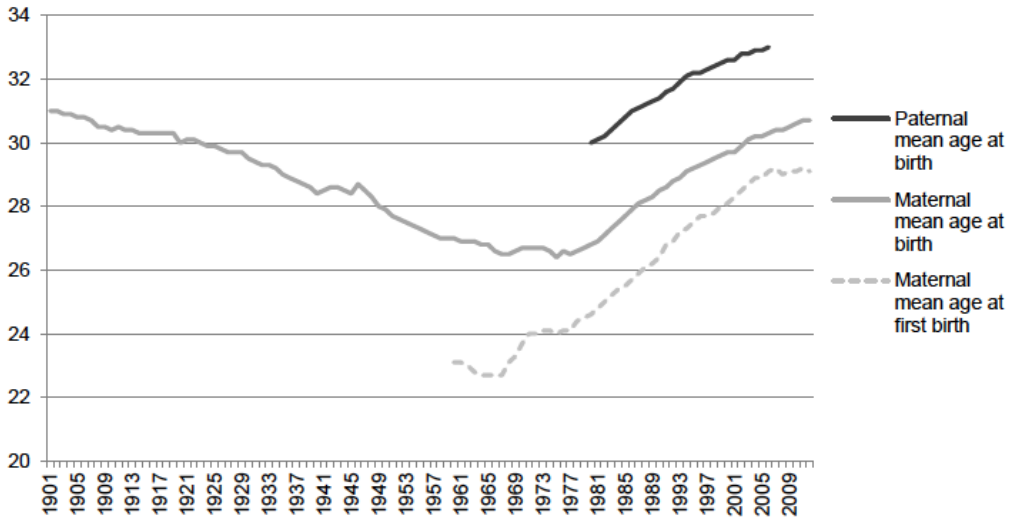


Figure A.2.9
Average ages of women at first birth, selected countries 1980 to 2010. Generated from UNECE Statistical Database.

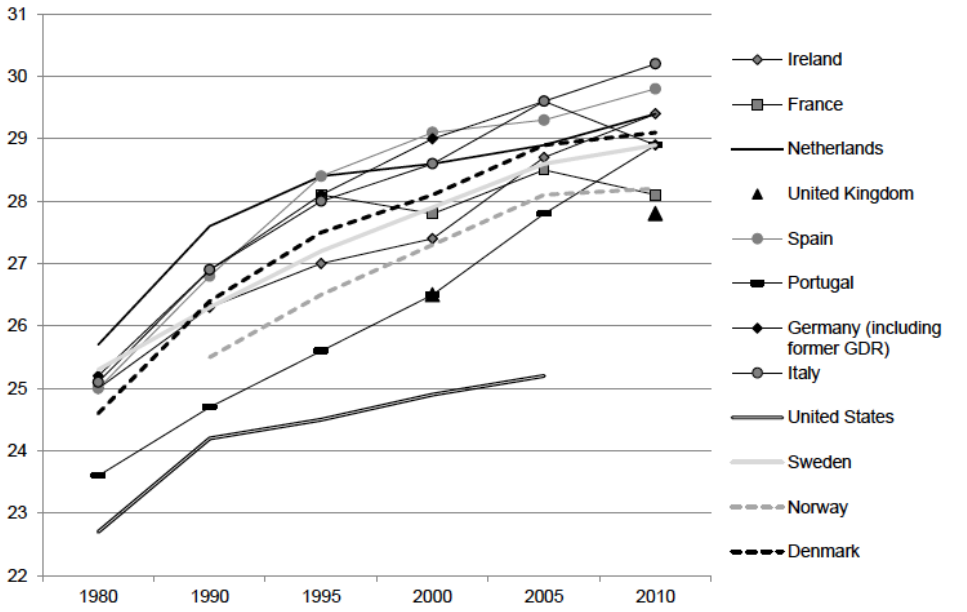


Figure A.2.10
Average ages at first marriage, full Danish population 1901 to 2009. Generated from Statistics Denmark, Table VIE1.

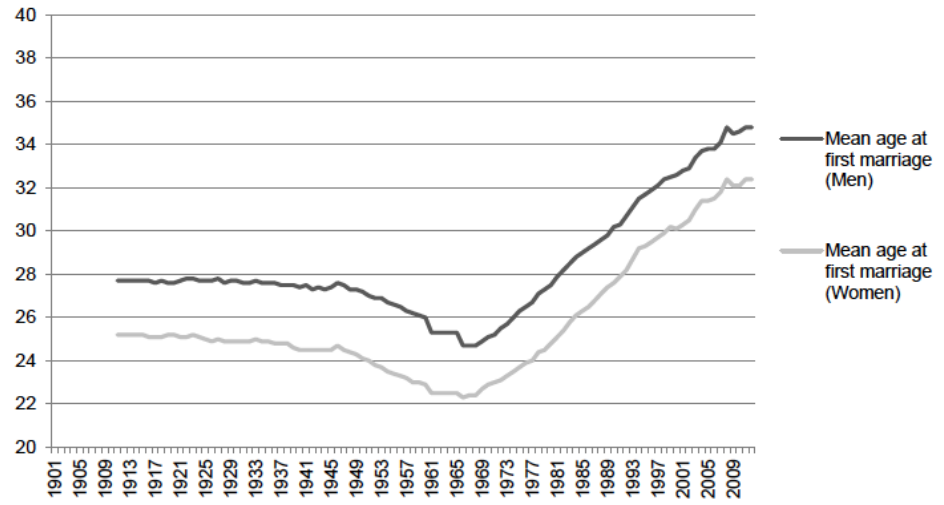


Figure A.2.11
Average ages at first marriage among women and men, selected countries 1980 to 2010. Generated from UNECE Statistical Database.

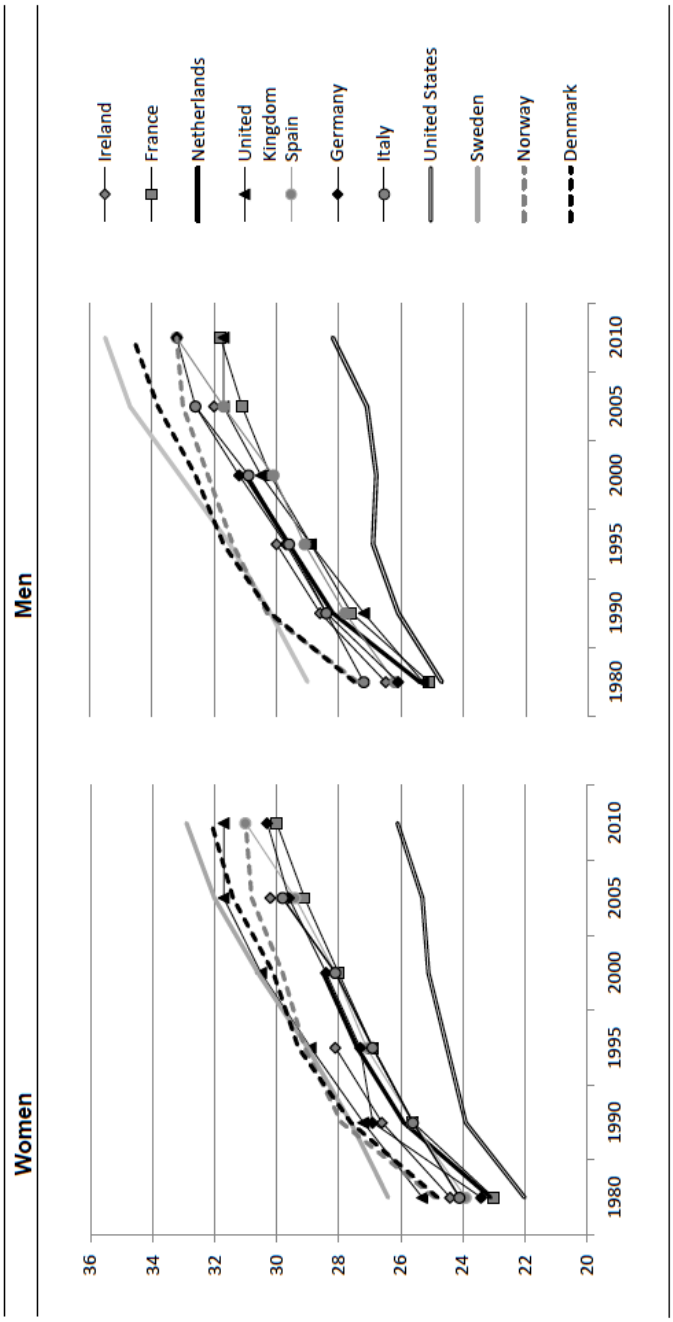


Figure A.2.12
Percentages of births outside marriage, full Danish population 1901 to 2006. Generated from Statistics Denmark, Table HISB3.

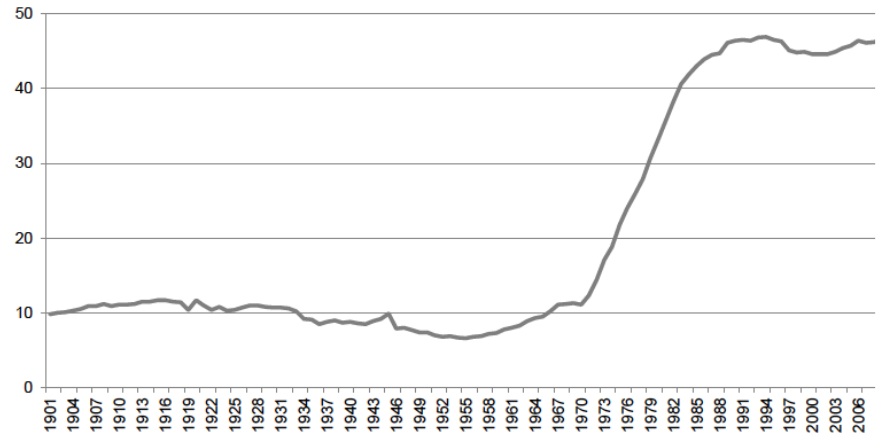


Figure A.2.13
Percentages of births outside marriage in selected countries 1960 to 2010. Generated from EuroStat Statistics, Demographic Database.

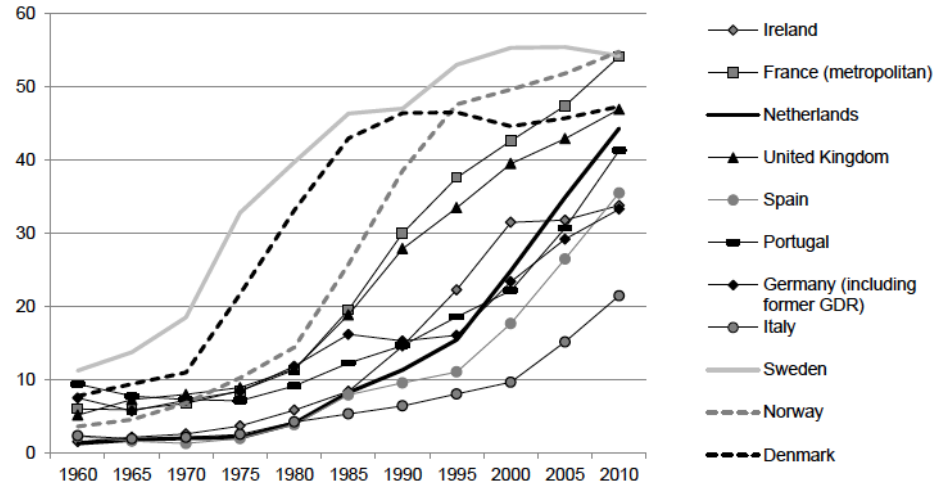


Figure A.2.14
Living arrangements of children less than 1 year old, full Danish population 1986 to 2009. Generated from Statistics Denmark, Table FAM111N.

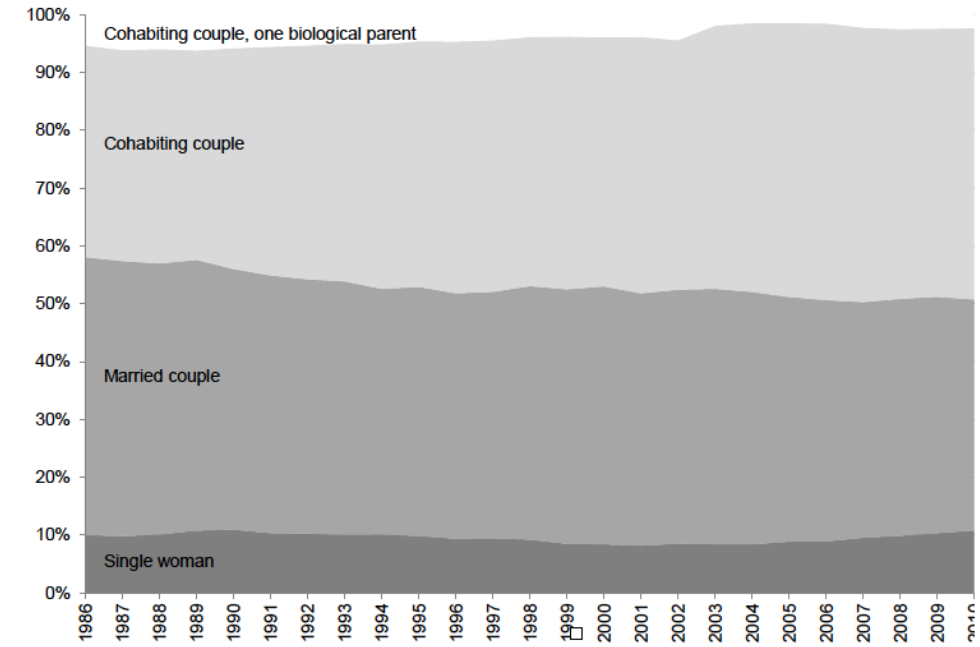


Figure A.2.15
Percentage of all married and cohabiting couples in Denmark being cohabiting couples, full Danish population 1974 to 2010. Generated from Manniche 1989 and Statistics Denmark, Table FAM44N.

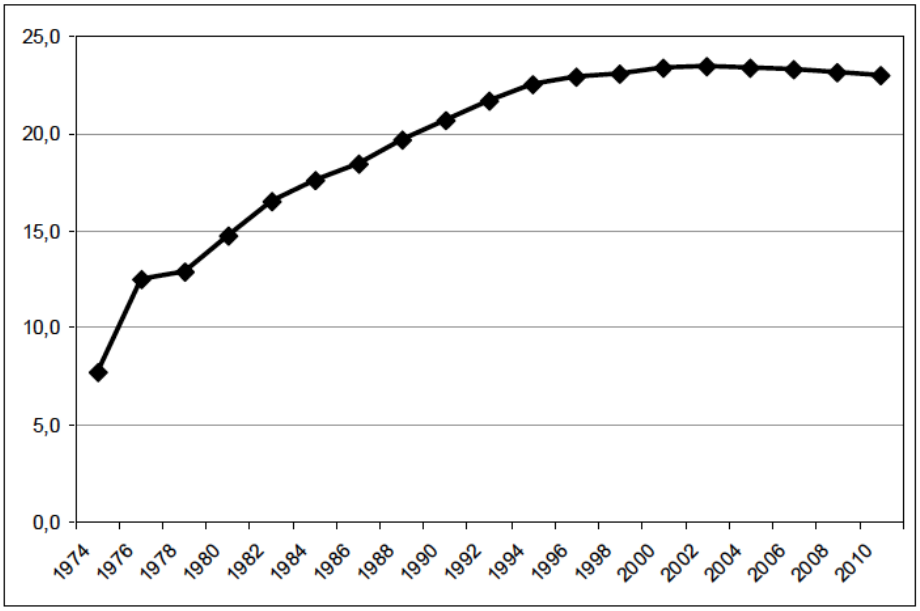


Figure A.2.16

Percentages cohabiting couples of all married or cohabiting couples in Denmark by age group, full Danish population 1986 to 2010. Generated from Statistics Denmark, Table FAM44N.

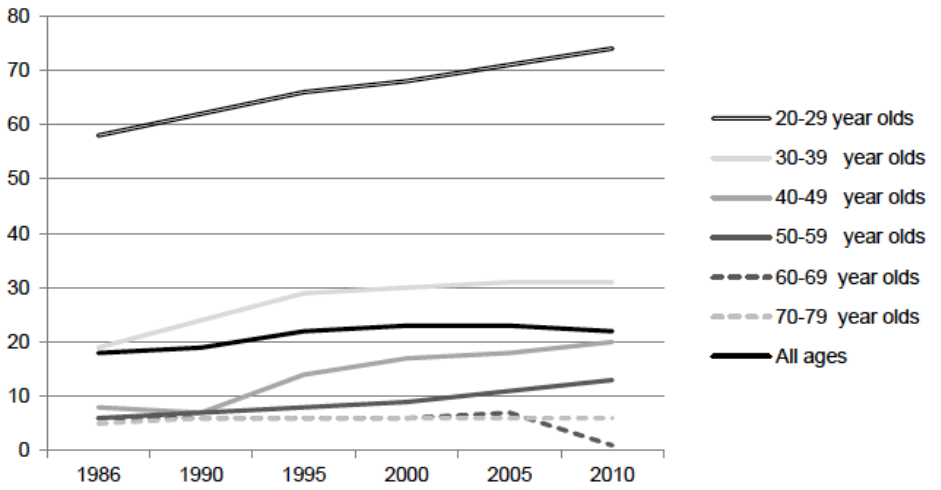


Figure A.2.17
Crude divorce rates in selected countries 1960 to 2010. Generated from EuroStat Statistics, Demographic Database.

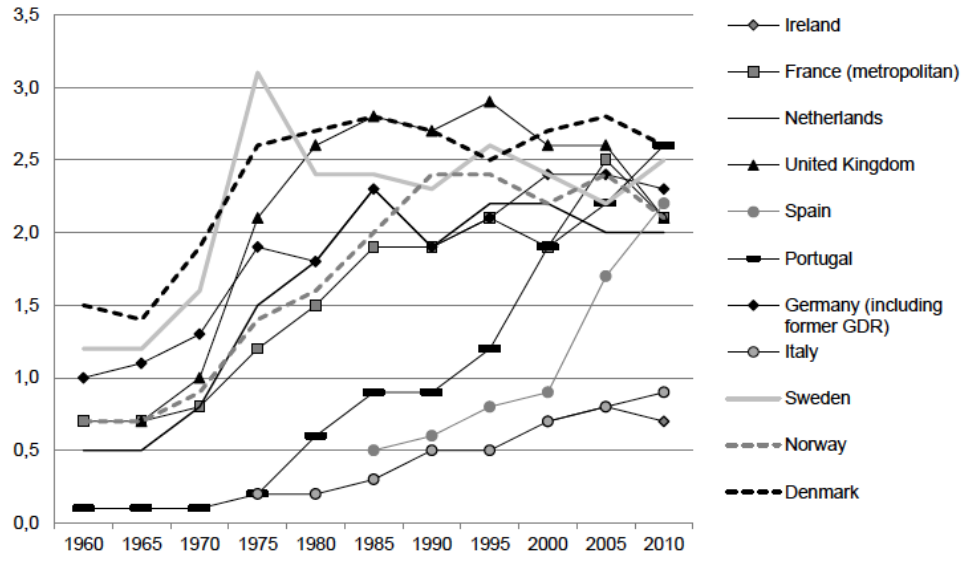


Figure A.2.19
Percentage of 15 to 19 year-olds participation in secondary education, full Danish population 1910 to 1995. Generated from The Danish Ministry of Education 1998.

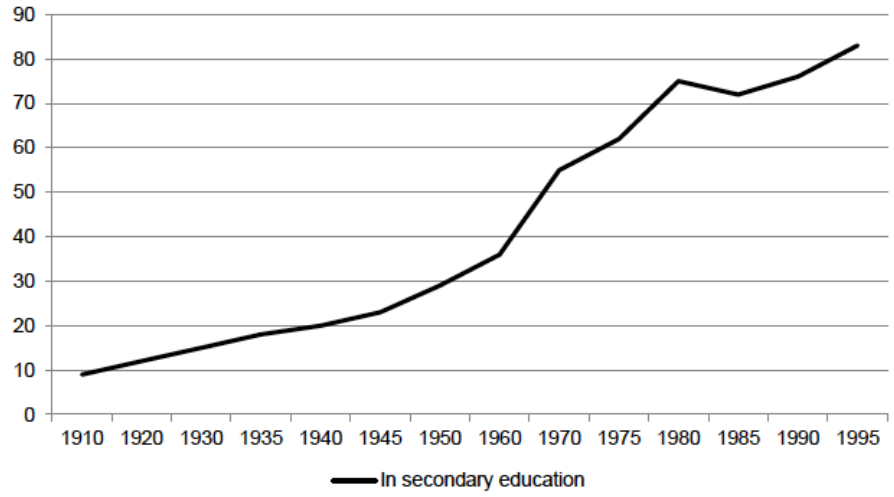


Figure A.2.20

Participation percentage in upper secondary education, full Danish population 1955 to 1996. Generated from The Danish Ministry of Education 1998.

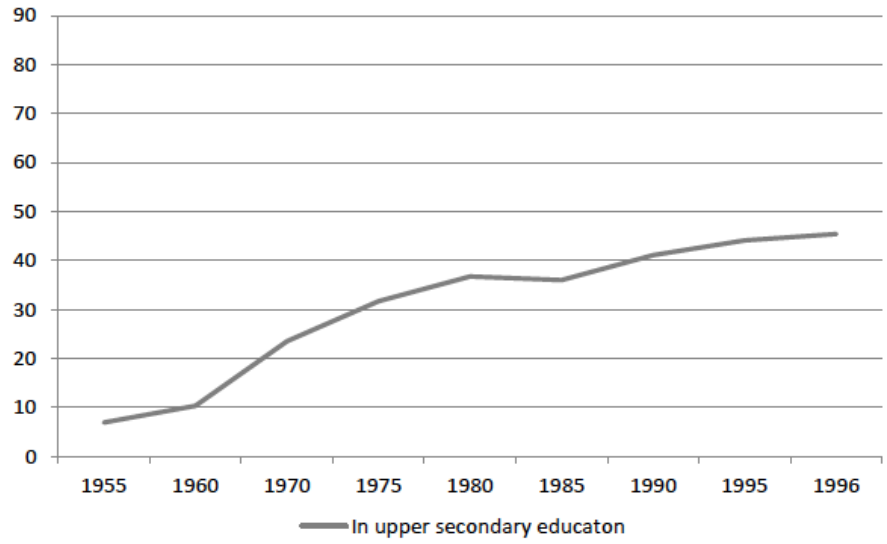


Figure A.2.22

Percentage share of men and women age 20 to 64 who have completed long-cycle education as highest educational attainment, full Danish population 1987 to 2010. Generated from Statistics Denmark, Table HFU1 and KRHFU2.

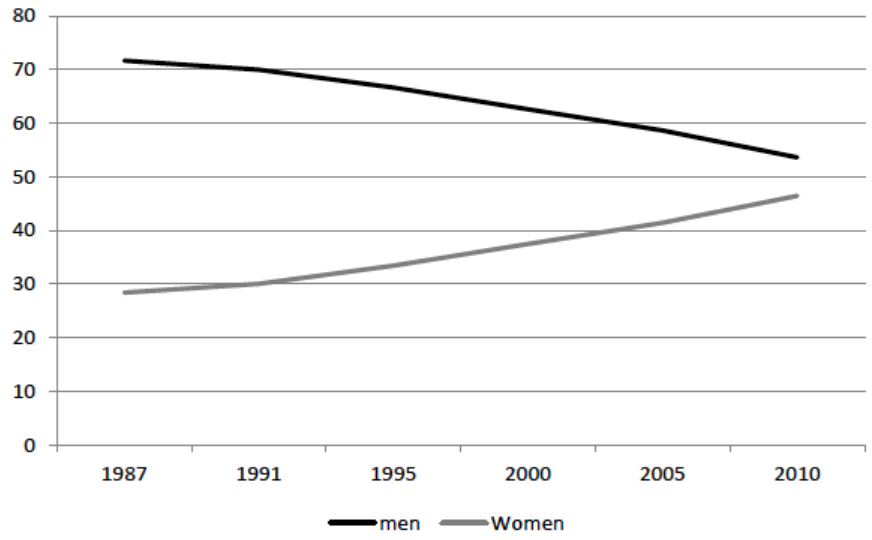
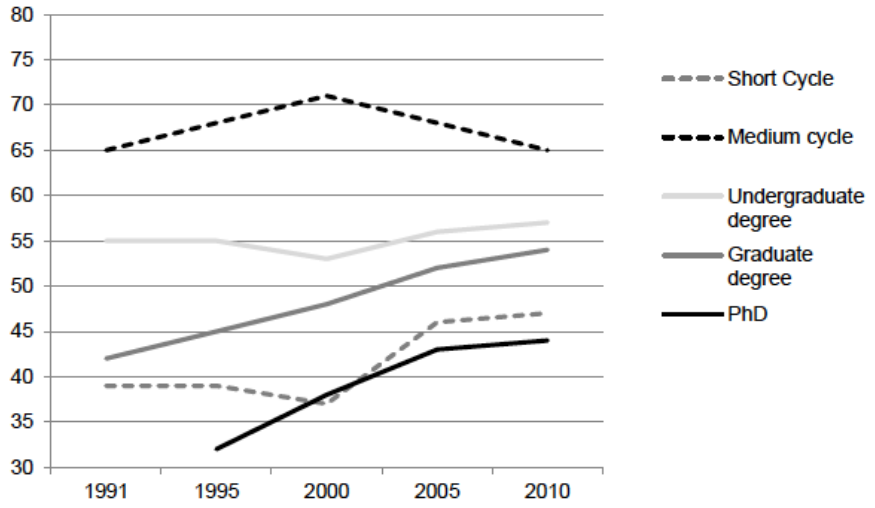


Figure A.2.23

Percentage of women (relative to men) completing each type of degree in Denmark 1991 to 2010. Generated from Statistics Denmark, Table U35, U36, U37, U38, and PHD2.



Note: PhD is stipend granted, not necessarily completed

Figure A.2.24
Employment percentages by sex, full Danish population 1977 to 2011. Generated from Statistics Denmark, Statistisk Tiårsoversigt 1972, 1987, 1997, 2001, and 2012.

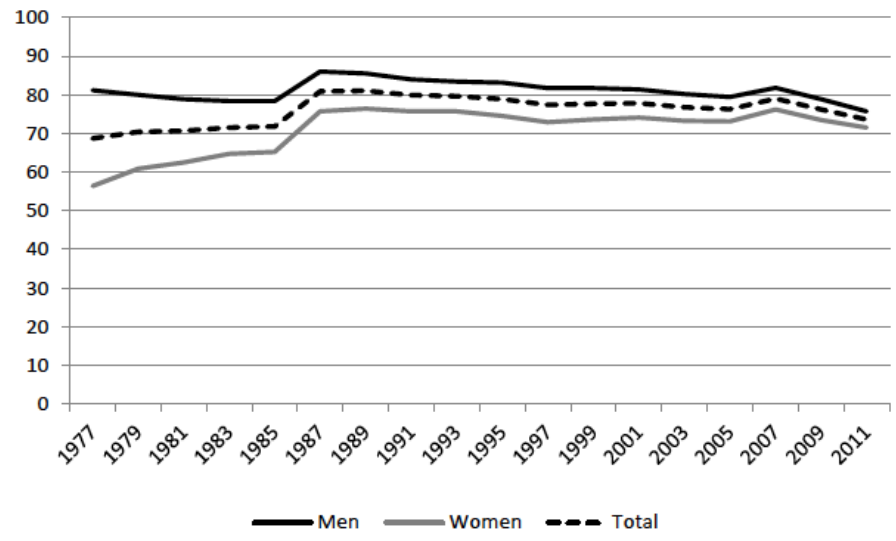


Figure A.2.25
Percentage distribution men and women in the Danish labor force, full Danish population 1950 to 1981. Generated from Statistics Denmark, Statistisk Tiårsoversigt 1972 and 1987.

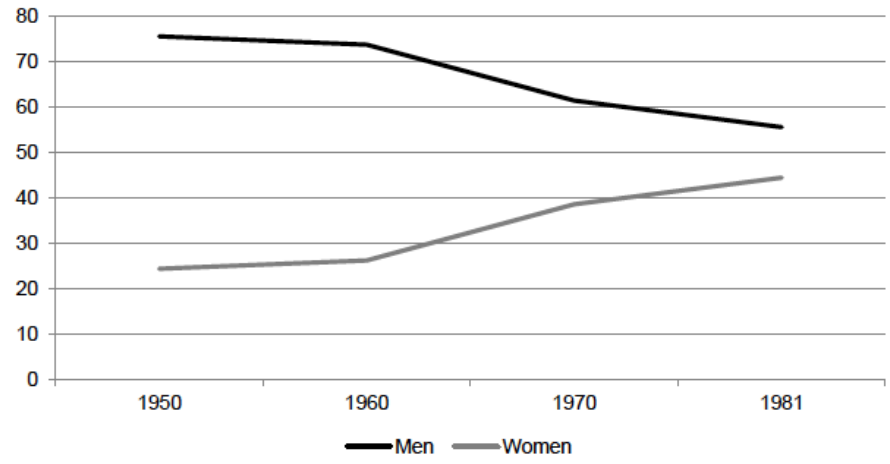


Figure A.2.26
Percentage of women in the Danish labor force being married women, full Danish population 1950 to 1981. Generated from Statistics Denmark, Statistisk Tiårsoversigt 1972 and 1987.

Figure A.2.27
Percentage distribution of men, unmarried women and married women in the Danish labor force, full Danish population 1950 to 1981. Generated from Statistics Denmark, Statistisk Tiårsoversigt 1972 and 1987.

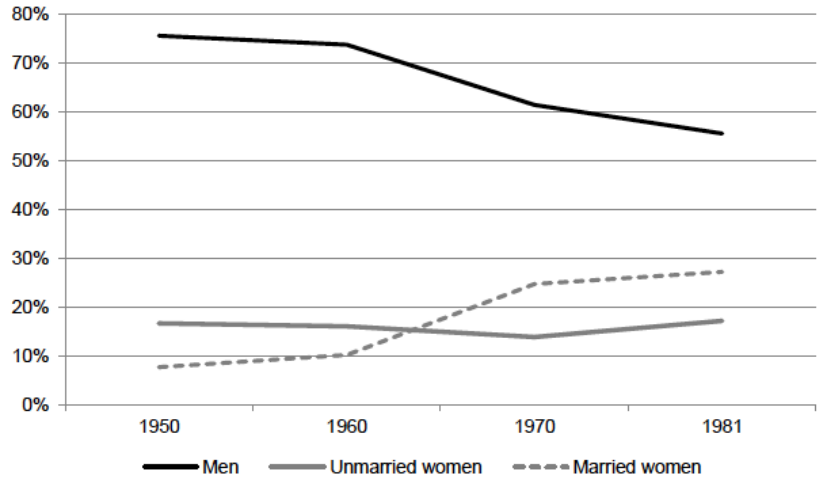


Figure A.2.28
Percentage of women relative to men in part-time employment, full Danish population 1977 to 2011. Generated from Statistics Denmark, Statistisk Tiårsoversigt 1987, 1997, 2001, and 2010.

Figure A.2.29

Unemployment rates by sex, full Danish population 1979 to 2021. Generated from Statistics Denmark, Statistisk Tiårsoversigt 1987, 1997, 2001, and 2010.

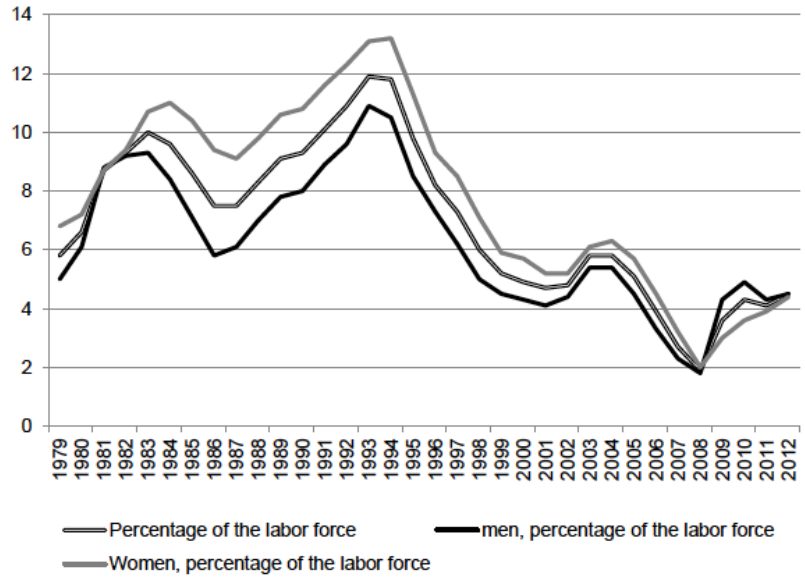
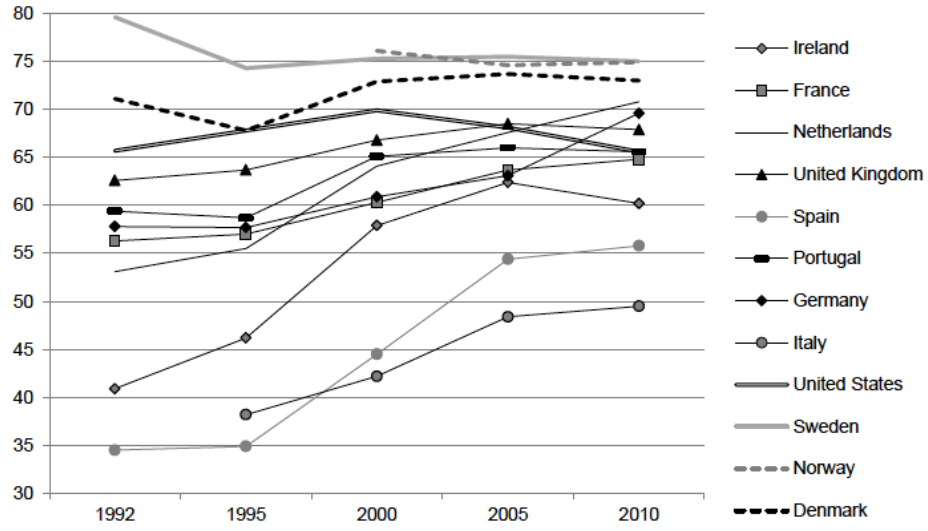
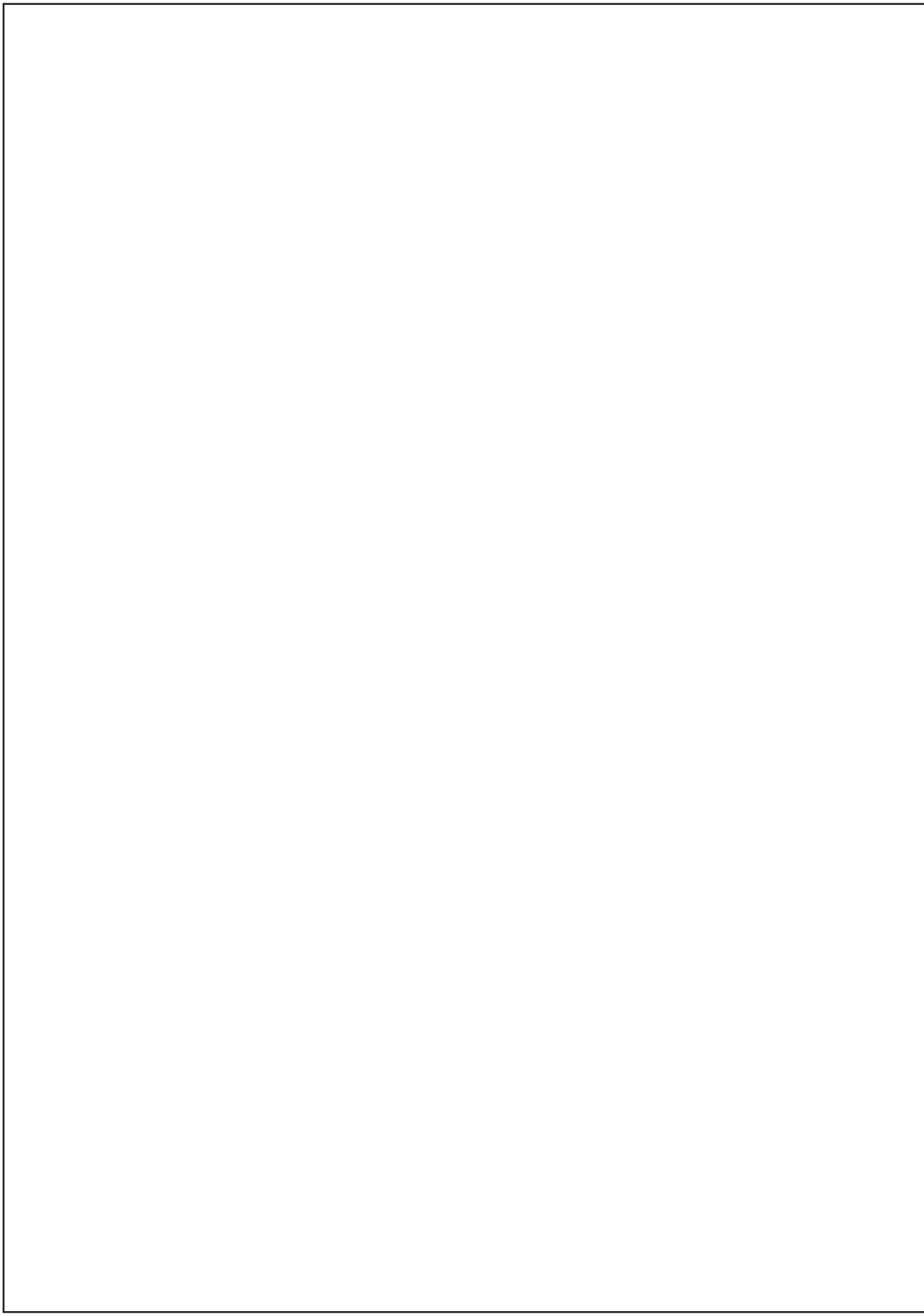


Figure 2.21
Employment percentages of women age 15 to 64 in selected countries 1992 to 2010. Generated from EuroStat Statistics, Labor Market and Employment Database.





3 FAMILY LEVEL CONSEQUENCES

3.1 Child Health and Parental Relationships

Examining relationship termination among Danish parents with and without a child with disabilities or chronic Illness

Note to the reader:

The empirical investigations presented in the two study articles of this chapter are based on the same sample and to some degree similar measures, and therefore it might seem a bit curious that some measures are not identical across the two studies. For example, the sample size is not the exactly the same in the two studies because in the first study the families are followed until 2007 whereas in the second study they are only followed until 2002. This is also the reason why the share of children with disability or illness is slightly greater in the first study. In addition, it should be noted that there is no substantive difference between chronically ill children and long-term ill children. The use of two different terms is due to one journal preferring to use chronic illness, whereas another journal encouraged me to use long-term illness. Also, the editing done by the journal before publication of the first study article decided to, for example, use risk and chance interchangeably, and to be a little less conservative with words such as 'effect' and not necessarily using it in the strict sense of causality. Finally, the second study article was written after the first, and during the time between the two investigations I had gained access to the register data.

More generally, journal specific guidelines pertain to all four study articles included in the present dissertation with regard to wording as well as set-up, maximum length of the manuscript etc.

3.1.2 ABSTRACT

Using longitudinal national level representative data from Denmark, this study considers the link between child disability or chronic illness and parental relationship termination as measured by the point in time at which one parent, following the break-up of the relationship, no longer resides in the household. By means of event history techniques, I examine whether a Danish family's experience of having a child diagnosed with a disability or chronic illness affects the chance of parental relationship termination. My findings suggest that families with a child with disabilities or chronic illness do have a higher risk of parental relationship termination, when compared to families where no diagnosis of child disability or chronic illness is reported.

3.1.3 INTRODUCTION

Denmark is a universal and child-oriented welfare state. It has some of the world's most generous policies in place to secure wellbeing of individuals and families experiencing disability or chronic illness. Yet, the most recent nationally representative study of Danish children's and adolescents' wellbeing shows a remarkable correlation between family-type and report of child disability or chronic illness (Ottosen et al. 2010). Children and adolescents age 3 to 19 who live with both their parents are significantly less likely to report any disability or chronic illness compared to those who live in stepfamilies or with a single parent (ibid., 71). Although some American studies have indicated that child disability or chronic illness is associated with an increased risk the parents will divorce or separate, the direction of this relationship remains unclear in the Danish context. The present study considers this paradox by determining whether a Danish family's experience of having a child diagnosed with a disability or chronic illness affects the chances of parental relationship termination.

3.1.4 BACKGROUND

Child Health and Parental Relationship Termination

When a child is diagnosed with a disability or a long-term illness many families adjust well, but some families do not. Although there has been some controversy about whether raising a child with disabilities or chronic illness brings the family closer together or pulls it apart (Swaminath, Alexander, and Boulet 2006), it is clear that children with disabilities or chronic illness are more likely to live with their mother alone (Cohen and Petrcu-Prahova 2006; Ottosen et al. 2010), and that caring for an infant with disabilities or low birth weight is associated with an increased risk of parental divorce or separation (Mauldon 1992; Reichman, Corman, and Noonan 2008). The question remains, however, as to whether diagnosis of a child's disability or chronic illness exhibits an independent effect on the chances of parental relationship termination in a broader population perspective, and in national contexts other than the American one.

The concern that disabled or chronically ill children are more likely to grow up in single-parent families is fueled by the fact that single-parent families are more likely to be low-income households. These households are more likely to be headed by a young mother with relatively little education, and more likely

to experience parental unemployment (McLanahan and Sandefur 1994). Children growing up in low-income families are also more likely than children from more-affluent families receive low scores on school achievements and emotional well-being scales (Duncan 1999). Thus, children already in poor health raised in single-parent families are potentially at risk of experiencing double jeopardy, that is, to experience the presence of multiple marginalized statuses (Corman and Kaestner 1992; Reichman, Corman, and Noonan 2004). Research indicates young people with disabilities are more often members of racial, ethnic, or disadvantaged economic groups that often experience difficulty in access to social resources and advancement over the course of their lives (Hogan, Rogers, and Msall 2000; Hogan, Shandra, and Msall 2007; Ottosen and Bengtsson 2002; Ottosen et al. 2010; Shandra and Hogan 2009).

Raising a child who has disabilities or chronic illness might result in severe financial or emotional strain on the parents, and this can reduce their capacity to improve conditions for the child (Reichman, Corman, and Noonan 2004). When studying the effect of child health on parental relationship status, it is important to distinguish between direct and indirect effects. A direct effect of having a child diagnosed with a disability or chronic illness is the (often shocking) experience of the diagnosis itself, which is likely to foster emotional response that immediately puts the parental relationship under unusual emotional strain. Indirect effects result from the long-term strain that raising a child with disability or chronic illness potentially puts on family resources such as time, money, and enduring psychological resources (Corman and Kaestner 1992). For example, mothers of children in poor health are likely to increase the attention given to the child's care and special needs (ibid.). The mother's increased time and emotional investment in the child with disabilities or chronic illness might decrease attention otherwise given to other family members or to the realization of her own expectation of human capital accumulation through participation in further education, or in the labor force, or to the family's decision of whether or not to have an additional child (Corman, Reichman, and Noonan 2004; Joesch and Smith 1997; Lukemeyer, Myers, and Smeeding 2000; MacInnes 2008; Powers 2001). Any and all of these are likely to negatively impact the parents' relationship.

In this study I hypothesize that the presence of child disability or chronic illness does positively affect the chances of termination of relations between Danish parents.

Protective Processes

Studies on parental relationship termination have for many years been plentiful within the United States and across most of Europe. Various socio-economic resources, parents' individual experiences, and demographic characteristics have all been established as being related to the risk of parental divorce or separation (Teachman 2002). In general, parents who report having known each other longer, having more economic resources available, having more years of schooling, having grown up with both parents, and being in good health, are generally considered less likely to experience termination of their married or cohabiting union (see e.g. Amato and DeBoer 2001; Burgess, Propper, and Aassve 2003; de Graaf and Kalmijn 2006; Kalmijn, de Graaf, and Portman 2004). Nonetheless due to contrasting cultural norms, some protective factors may be more pronounced in some national settings compared to others. For example, today more than half of all firstborn Danish children are born to cohabiting parents (Christensen and Ottosen 2002), whereas this is only the case for about one in eight American children (Bumpass and Lu 2000). Today in Denmark premarital cohabitation is the norm. For many couples, it is best described as a long-term commitment, likely to function as an alternative to marriage (Kiernan 2004); whereas in the United States cohabitation remains a rather short-lived experience (Smock 2000). Thus, in comparison to being born to married parents, being born to cohabiting parents in Denmark may not inevitably put the child at a greater risk of experiencing parental relationship termination - or at least at as great a risk as that found in, for example, the United States.

A growing body of literature within the field of family studies and health has paid increasing attention to families' reactions to adversity following the diagnosis of child disability or chronic illness drawing on a resilience framework (see e.g. Armstrong, Birnie-Lefcovitvh, and Ungar 2005; Bayat 2007; Patterson 2002). Central to this framework is the recognition that "families engage in active processes to balance family demands with family capabilities

as these interact with family meanings to arrive at a level of family adjustment or adaptation" (Patterson 2002a: 350). Both demands and capabilities can emerge from individual family members, the family unit, or the community surrounding the family. Related to the present study, the diagnosis of a child's disability or chronic illness would be perceived in this framework as an individual-level demand, parental conflict about how to manage the child's condition would be a family-level demand. Traditional buffers of parental relationship termination such as longer parental education and good personal health are individual-level capabilities. The degree of relationship quality and consensus with regard to core family functions, such as child upbringing and division of household labor, would be family-level capabilities.

Unfortunately, sociological and demographic research examining parental relationship termination often only has data related to either individual-level capabilities available, even though the outcome they are looking at is, in fact, at the family level. In order to understand the underlying protective processes within the family as a unit, it is important to also consider family level mechanisms associated with the broad of variety roles, rules, and relational patterns present in families today. In the present study, a general family-level approach is possible as the data includes information gathered from both parents, not just the mother.[1] One explicit family-level explanatory variable in particular is integrated in the analyses presented here, namely, a measure of parental consensus with regard to child upbringing and the division of household labor. This measure of family consensus is conceptually important in that it directs the attention to family meanings concerning how families themselves perceive their organization internally as a cohesive unit.

The Danish context

Denmark, which has a population of about 5.6 million people, is one of Europe's smaller countries. Generally, the wellbeing of Danish children is rated among the highest in the world, as Danish children have very good economic and material circumstances, and on average child health is excellent (Ottosen et al. 2010:8). Because Denamrk is a child and family welfare-oriented country (see e.g., Gilbert 1997), it is therefore worrisome that recent studies have found that neither Danish children with disabilities or chronic illness nor their families

fare as well as might be expected (Bengtson 2008; Bengtson and Middelbor 2001; Egelund and Lautsen 2009; Ottesen et al. 2010).

The exact number of Danish children living with disabilities or chronic illness is difficult to establish. The Danish National Centre for Social Research (SFI) has estimated that one in four Danes has a disability or chronic illness that limits everyday functioning (Bengtson 1997, 2008). This statistic has remained relatively stable since the mid-1960s. In a nationally representative sample of Danish children under the age of sixteen, Nielsen (2006) found that 16 percent of the sample experienced at least one long-term or chronic illness.

Previous research has shown that the additional costs of and access to appropriate care are among the key concerns for most families experiencing poor child health (Brandon 2000; Newacheck and Halfon 1998). However, in the Danish context, the welfare-state focus on equal rights to medical treatment, a universal health-care reimbursement scheme, and a variety of additional interventions work to reduce such concerns. Through right-based (as opposed to need-based) distribution policies, the Danish state aims to overcome social differences by providing compensation for expenses. Examples of such expenses include all levels of education, child allowances, maternal or parental leave, access to high-quality state-subsidized day care, and universal health care based on free and equal access to treatment irrespective of marital status, residence, age, health, lifestyle, and income. Furthermore, everyone living in Denmark is entitled to benefits from a health-care reimbursement scheme that includes visits to practicing specialists as well as reimbursement of part of the cost of medicine, physiotherapy, chiropractic treatment, respite care, and psychological assistance. However, the fact that policies are in place to help families experiencing child disability or long-term illness do not necessarily mean that they match the needs of these families or that they are used to the extent intended.

Danish children generally fare well. The Danish welfare state has a broad variety of policies in place to secure a high level of social equality and family well-being. However, recent research has pointed to a potential discrepancy, in that children with disability or chronic illness seem more likely to experience parental relationship termination. This study investigates this potential discrepancy moving beyond previous descriptive assessments to answer whether a Danish family's experience of having a child diagnosed with a disability or

chronic illness affects the chances of parental relationship termination. In addition, as I approach this research question, detailed attention is allocated to both individual- and family-level protective indicators.

3.1.5 METHOD

Data and Sample

Data from four waves of the Danish Longitudinal Survey of Children (DALSC) are used to explore the potential role of child disability in parental relationship termination. DALSC is an ongoing prospective survey designed to provide representative information about family conditions and child development among Danish children born in Denmark in 1995. Besides collecting information on child development and health, the survey includes information from both biological parents related to health, education, employment, relationship, and fertility. The DALSC is an ideal data source for the type of study presented here, as the baseline family understood as the child and both biological parents (i.e., not only the observed child and its biological mother) can be utilized as a true unit of analysis.

Conducted by the SFI, DALSC is collected as a random sample of 6,011 children born between September 15 and October 30, 1995, in Denmark, to mothers registered as Danish citizens at that time. The four waves of DALSC data collection currently available, were gathered in: (1) 1996, when the observed child was about six months old; (2) 1999, when the observed child was about three years old; (3) 2003, when the observed child was about seven years old; and (4) 2007, when the observed child was between eleven and twelve years old. The observed child in DALSC is not necessarily the firstborn but can have any number of older siblings. Although not used in the present study, it should be noted that the DALSC data have been matched to the Danish Central Population Registers at Statistics Denmark and that future studies will be able to take advantage of such data as well.

For the analysis, I select families in which both biological parents of the observed child report living together in a cohabiting or married relationship at the time of the birth of the observed child in 1995 and who are still together in 1996 at the time of the first interview. The baseline year in this study is 1996.

The analytical baseline sample consists of 5,063 families (84 percent of the initial sample).

As often experienced, response rates are greater among mothers than fathers and missing data have been replaced using multiple imputation. The findings presented here are robust to analyses that do not use imputation as well as analyses that impute missing data at the mean and model the missing data with a dichotomous variable.

Analysis

In order to examine whether Danish parents who have a child diagnosed with disability or chronic illness have a significantly different risk of relationship termination compared to parents who do not experience poor child health, I estimate a discrete-time hazard regression model that includes all families in the analysis sample (n = 5,063).

An exclusive benefit of event-history modeling is that it allows easy incorporation of time-varying covariates—that is, variables that change their values over time. Specifically, in the DALSC data, I am able to construct an indicator that assesses the occurrence of child diagnosis as it changes over time (i.e., moves from no diagnosis of child disability or chronic illness to a diagnosis of less severe or severe child disability or chronic illness).

Time in this study is observed as discrete intervals and the time unit is years. Thus families contributes family-years to the analyses from the time of the baseline interview in 1996 until they (a) leave the survey, (b) are censored due to parental relationship termination, or (c) the end of the eleven-year window of observation (from 1996 to 2007) is reached.

Measures

The outcome of the analysis is the risk of parental relationship termination. Previous studies often include only married couples; therefore the most commonly used marker of parental relationship termination is formal divorce. However, recalling that in Denmark cohabitation is often described as an alternative to marriage, in this study relationship termination is measured as the point in time (year) when one parent, following the break-up of the relationship, is no longer residing in the household.

Disability and chronic illness can be defined broadly to include most types of physical, developmental, and emotional disorders or it can be defined more narrowly in terms of specific conditions or degrees of severity. Initially, three different indicators of child disability or chronic illness were constructed, each representing a point on the continuum from broadly defined to narrow definitions. Each indicator was tested individually in the aforementioned analytical approach. As all three measures yielded very similar results, the analysis for only one of them is presented here, namely, disability and chronic illness measured with respect to the perceived level of severity based on the actual medical diagnosis.

In each wave of the DALSC data the mothers were asked to report: (a) whether the child had been diagnosed with any physical or psychological disabilities; (b) whether the child had ever been diagnosed with a disability or chronic illness; (c) which disability or chronic illness; and (d) the month and year of the diagnosis. The measure of child disability or chronic illness used here considers diagnoses such as Down syndrome, autism, blindness, cancer, missing limbs, muscular dystrophy, epilepsy, or cerebral palsy severe disabilities or chronic illnesses. Diagnoses such as pronounced asthma or allergies, [2] diabetes, dyslexia, and hypermobility are treated as less severe disabilities or chronic illnesses. Using this measure, 15 percent of the observed children are reported to be diagnosed with a less severe disability or chronic illness at some point in time before their twelfth birthday and 13 percent fall into the category of severe disability or chronic illness. The immediate reaction might be that this share of Danish children experiencing poor health is surprisingly high, and indeed it is so as compared to previous Danish studies (e.g., Ottosen et al. 2010). Yet the measure constructed here includes not only disabilities but also chronic illnesses, some of which may be better characterized as long term rather than chronic, in the sense that the condition might improve as the child grows older.

On the assumption that family demands and family capabilities interact with family meanings to arrive at adjustment to a given situation, I include a predictor indicating family-level capabilities in the study. This indicator measures the level of concurrence between the parents with respect to child upbringing and household labor (two central family functions); it is constructed

in order to determine the degree of consensus with respect to family meaning present within the family. Both the father and the mother of the observed child are asked: (a) whether they agree with the mother or father of the observed child on how the household tasks are divided among them; and (b) whether they agree with the mother or father of the observed child on how to bring up the child. Responses to both questions are measured on Likert scales ranging from 1 (completely agree) to 5 (completely disagree). The constructed variable indicates whether both the father and mother report that the couple agrees completely on the division of labor and child upbringing, or both the father and mother report that the couple agrees completely on either the division of labor or child upbringing, or if no concurrence of complete agreement exists.

Variable definitions and expected direction of all variables included in the empirical models are available in the Appendix.

3.1.6 RESULTS

Sample characteristics

From the descriptive sample characteristics presented in Table 3.1.1, we see that in the DALSC sample one out of every four couples terminated their relationship before the observed child turned twelve years old. Danish register data display astable trend in which it took about twelve years for 25 percent of Danish marriages entered in 1970, in 1980, and in 1990 to be dissolved (Christoffersen 2004: 104). Thus this result from the DALSC must be considered realistic, particularly in light of the fact that Danish cohabiting relationships most often function as an alternative to traditional marriage. The descriptive findings of Ottosen et al. (2010) that Danish children with a disability or chronic illness experience parental relationship termination more often are replicated in the data presented here. Parental relationship termination is slightly more common among children with less severe or severe disabilities

Table 3.1.1
Selected sample characteristics by relationship termination status. The Danish Longitudinal Survey of Children, 1996 – 2007

Variables	Relationship not terminated (*n* = 3,804)%	Relationship terminated (*n* = 1,259)%	All families (*n* = 5,063)%
Parental relationship termination			
Relationship terminated	-	-	25
Child disability or chronic illness status in any given year			
No diagnosis in any given year	74	67	72
Diagnosis of less severe disability or chronic illness	14	17	15
Diagnosis of severe disability or chronic illness	12	16	13
Family consensus 1996			
No consensus	34	44	36
Consensus on division of labor *or* child upbringing	40	39	40
Consensus on division of labor *and* child upbringing	26	17	24
Relationship quality 1996			
Argue weekly or daily	13	20	15
Unemployment experience in any given year			
Father experience of unemployment	18	36	22
Mothers assessment of family economy 1996			
Only somewhat satisfactory or not satisfactory	25	36	28
Parental well-being 1996			
Mother reports symptoms associated with depression/stress	22	30	24
Father reports symptoms associated with depression/stress	16	23	18
Parental childhood experience			
Mother did not live with both parents growing up	15	25	17
Father did not live with both parents growing up	17	23	18
Mothers education 1996			
Mother has no additional education beyond 7th grade	20	37	24
Union status 1996			
Parents are cohabiting	39	53	42
Length of relationship 1996			
Less than 4 years	16	30	19
4 to 7 years	37	39	37
More than 7 years	47	31	43
Number of children present in the household 1996			
Observed child only	41	45	43
One child in addition to observed child	39	38	39
Two children or more in addition to observed child	20	17	19
	Mean/Median	Mean/Median	Mean/Median
Mother's age at childbirth	30/30	28/28	29/29

or chronic illnesses, in comparison with those who never experience a diagnosis of disability or chronic illness.

About one in four of all families hold high levels of family consensus, that is, the parents completely agree on child upbringing and the division of household labor. However, those who do completely agree on both child upbringing and division of household labor are more often found among the group of families that did not experience parental relationship termination. Having no family consensus as a baseline is also more common for families in which the parents terminated their relationship.

Although these descriptive results are intriguing, we must use caution in interpreting them. The trends do not allow any inference about causal direction. For example, parental relationship termination and poor child health are likely to influence one another: A child who experiences parental relationship termination might be more likely to suffer the disadvantages of having fewer resources available, causing the child to develop a chronic condition. Yet the increased resource demands associated with raising a child with poor health or functional limitations may also destabilize a relationship.

Risk of parental relationship termination

The discrete-time hazard model presented in Table 3.1.2 predicts the risk of parental relationship termination considering the occurrence, timing, and severity of the observed child being diagnosed with a disability or chronic illness, while controlling for a range of relevant covariates.

In comparison with parents who report no occurrence of child disability or chronic illness, parents of children with less severe as well as severe disabilities or chronic illness have significantly higher odds of relationship termination in any given year. When covariates are added to the model (Model 3) the main effects of the diagnosis of child disability or chronic illness decreases but remains fairly prevalent and significant. This finding denotes that the significantly higher risk of parental relationship termination among parents of children in poor health cannot be attributed to differences in terms of family consensus, relationship quality, family's socioeconomic resources and demographic characteristics, or the parents' individual experiences. Echoing findings in American studies (see, e.g., Corman and Kaestner 1992; Joesch and Smith 1997; Mauldon 1992; Reichman, Corman, and Noonan 2004), a child's diagnosis of a disability or chronic illness matters as an independent factor in the Danish context, too.

Turning to the effects of the other covariates included in the models we find that these operate largely as expected. The presence of family consensus works as a protective factor. In comparison with families in which no consensus is present, parents who are in complete agreement with regard to either child upbringing or division of household labor or both are less likely to end their relationship. This is an exciting finding because it demonstrates the

Table 3.1.2

Hazard ratios for discrete-time hazard models predicting parental relationship termination. All families, The Danish Longitudinal Survey of Children, 1996 – 2007.

	Model1 Restricted Model Odds Ratio	Model2 Restricted Model Odds Ratio	Model3 Full Model Odds Ratio	Model4 Full Model Odds Ratio
Child disability or chronic illness status (TVC)				
No diagnosis (ref.)	1	1	1	1
Diagnosis of less severe disability or chronic illness	1.33***	1.45***	1.22***	1.34***
Diagnosis of severe disability or chronic illness	1.29**#	1.45**#	1.16*#	1.43**#
Family consensus 1996				
No consensus (ref.)			1	1
Consensus on division of labor *or* child upbringing			0.80**	0.80**
Consensus on division of labor *and* child upbringing			0.60***	0.60***
Relationship quality 1996				
Argue never or rarely (ref.)			1	1
Argue weekly or daily			1.32***	1.32***
Unemployment experience (TVC)				
Father did not experience unemployment (ref.)			1	1
Father did experience of unemployment			2.69***	2.68***
Mothers assessment of family economy 1996				
Only somewhat satisfactory or not satisfactory (ref.)			1	1
Very satisfactory or satisfactory			0.79***	0.79***
Parental well-being 1996				
Mother reports no regular symptoms (ref.)			1	1
Mother reports regular symptoms			1.23***	1.23***
Father reports no regular symptoms (ref.)			1	1
Father reports regular symptoms			1.31	1.31
Parental childhood experience				
Mother did not live with both parents growing up (ref.)			1	1
Mother did live with both parents growing up			0.79***	0.79***
Father did not live with both parents growing up (ref.)			1	1
Father did live with both parents growing up			0.85*	0.85*
Mothers age at childbirth			0.81***	0.81***
Union status 1996				
Cohabiting (ref.)			1	1
Married			0.81***	0.81***
Mothers education 1996				
Mother had no education beyond 7th grade (ref.)			1	1
Mother had education beyond 7th grade			0.71***	0.71***
Length of relationship 1996				
Less than 4 years (ref.)			1	1
4 to 7 years			0.69***	0.69***
More than 7 years			0.52***	0.52***
The arrival of an additional sibling (TVC)			0.63***	0.63***
Duration	0.96***	0.97***	1.02*	1.02*
Child disability or chronic illness status *duration		0.98†		0.98†
df	3	4	18	19
Number of family-years	49,283	49,283	49,283	49,283
Number of families	5,063	5,063	5,063	5,063
Number of imputations	10	10	10	10

importance of allowing for family-level indicators. More important, this measure does not describe whether traditional gender roles exist in the family but whether there is an atmosphere of general agreement and clarity about the family's organization around two of its core functions. Parents who share a sense of

internal meaning within the family are less likely to end their relationship. Preliminary analysis has shown that the family consensus measure is not correlated with how often the parents argue about the child, daily duties, or other things.

A father's experience of unemployment in any given year acts as a strong significant predictor of parental relationship termination. In families undergoing paternal unemployment, parents are more than 2.5 times as likely to split up. Jensen and Smith (1990) argue that male unemployment usually represents an unexpected event, which changes the conditions of a marital relationship.

The presence of a satisfactory economic situation at the baseline significantly reduces the likelihood of parental relationship termination. Initially, a categorical variable indicating actual household income was included in the model to assess family's economic status, but it did not display any significant explanatory power. However, economic satisfaction did. This could be a result of The fact that economic stress is not necessarily related to absolute income in the context of the Danish welfare state but, rather, to the perception of a stable economic base by the family relative to their social surroundings.

Even though the majority of previous studies only control for mothers' wellbeing and childhood experiences, the results presented here suggest that fathers' well-being and childhood experiences may also be important. If either a mother or a father reports regular symptoms of stress or depression, the family is significantly more likely to experience parental separation. Children in families in which either the father or the mother grew up with both parents are significantly less likely to experience parental relationship termination. These findings revealing that fathers' experiences also matter are not surprising, as in Denmark both the political and cultural climates are very focused on enhancing the father's social involvement in the family by actively promoting shared responsibilities (Pylkkänen and Smith 2004). Consequently, parents' individual-level characteristics are likely to affect the family in ways analogous to one another.

In lieu of the earlier stated assumption that in Denmark cohabiting unions are long-term committed relationships functioning as alternatives to marriage, it is somewhat unexpected to find that being married plays a fairly strong (odds 0.81) significant protective role in the risk of relationship termination. A probable explanation is that being married serves as a mediating variable between

relationship length and parental relationship termination. At the same time, marital status is an important predictor of birth parity. In Denmark firstborn children are as likely to be born into cohabiting relationships as into married relationships, but subsequent births are more likely to happen for married couples (Christoffersen 2004). In this analysis, being married significantly decreases the risk of parental relationship termination. If I remove the covariate indicating length of relationship from the model, the decrease in risk associated with being married becomes more pronounced. This suggests that the length of the parental relationship at the baseline (1) directly decreases the odds of parents to terminate their relationship, as well as (2) indirectly increasing the likelihood of parents to be married.

Finally, when covariates are added to the model (Model 3 and Model 4), the duration variable suggests a slight increase (odds 1.02 in any given year) over time in the risk of parental relationship termination. However, an interesting pattern emerges after the interaction between duration and child disability or chronic illness status is introduced into the model (Model 4). Although only borderline significant (keeping in mind that the overall risk of relationship termination is significantly higher for families experiencing poor child health), the addition of the interaction term to the model (Model 2 and Model 4) suggests that the risk of parental relationship termination falls slightly as the child ages (odds 0.98 in any given year) for families experiencing poor child health. Furthermore, the presence of the interaction term in the model yields a more pronounced effect of child disability or chronic illness status, indicating that over time a family is more likely to experience having their child diagnosed with a disability or chronic illness.

3.1.7 DISCUSSION

So far, most research on the link between child health and parental relationship termination has investigated it with child health as the outcome of interest. Using Danish prospective population-based data, the present study reverses this typical line of inquiry and examines whether a child's disability or chronic illness status affects the risk of parental relationship termination. Considering the occurrence, timing, and severity of a child's diagnosis of disability or chronic illness, and controlling for well-known determinants of parental divorce, my

findings indicate that child health matters as an independent factor. Parents who experience having a child diagnosed with a disability or chronic illness have an elevated risk of subsequently terminating their relationship. In addition, a small indication was present that the risk of parental relationship termination for families experiencing poor child health falls slightly as the child ages.

Research in the American context suggests that the extra time allocated to special care needs combined with the emotional and financial strain parents experience when a child is diagnosed with a disability put the parental relationship under unusual strain, leading to higher parental relationship termination rates (see, e.g., Corman and Kaestner 1992; Reichman, Corman, and Noonan 2004). This study therefore adds to a growing body of literature assessing the consequences that poor child health and disability may have for other family members who do not have disabilities (e.g., Brandon 2000; Mitchell 2007; Noonan, Reichman, and Corman 2005; Seltzer et al. 2001; Sharpe and Rossiter 2002). The findings presented here show that disability-related disparities in family-level outcomes persist in the Danish context, despite relatively generous welfare reimbursement schemes. Danish children in poor health therefore remain at risk of experiencing double jeopardy associated with having a disability or chronic illness and growing up in single-parent homes.

Future research needs to expand our focus beyond parental relationship termination and include considerations of nonresident parents' contributions as well as parents' subsequent union formation and its effect on the well-being of children with disability or chronic illness. Moreover, we need better information on the effect of different medical conditions. Often the limited prevalence of a specific condition, such as autism or blindness, hinders a condition-specific assessment of the effect. However, facilitating national register data such as those available in Denmark might work to overcome this challenge.

Beyond its contribution to our understanding of the consequences of a family's experience of child disability or chronic illness, this study also has implications for a more general understanding of family dynamics. The fact that family consensus (measured as whether both the father and the mother report that the couple agrees on the division of household labor or child upbringing) displays a strong significant protective effect against parental relationship termination directs our attention to the importance of a greater understanding of

internal meaning within families. Previous empirical work on family dynamics and parental relationship termination tend to focus on the consequences of a more or less gendered division of domestic labor as well as women's participation in wage labor. At least two implications can be derived from the significant role of family consensus demonstrated in this study. First, the level of consensus with regard to agreement about core family functions might be as important as the more typical indicator of who in the household carries out the actual task. If both parents report "they completely agree" on the division of household labor, they might both endorse a family style with the mother as the primary caretaker or a more democratic division of domestic duties. Thus the crucial point is not whether the family dynamic is dominated by traditional gender roles or a more egalitarian view. Rather, what matters is the fact that both parents agree that consensus exists with regard to their ideology on core functions of the family. Second, this finding emphasizes the importance of including fathers' attitudes when studying families: Instances in which only one parent reports that the couple is in complete agreement significantly reduce the effect of family consensus.

This study also illustrates the importance of two key methodological considerations. First, the focus in this article on the family as the unit of analysis allows the recognition of all members of the family as capable agents. Previous surveys use only the mothers' report, neglecting to move beyond the traditional view of the mother as the center of the family. Second, using multivariate methods that allow the incorporation of not only the occurrence of events but also their relative timing yields a more concise and realistic description of the link between child disability or chronic illness and parental relationship termination.

An interesting body of literature drawing on qualitative methods has emerged that suggests ways in which to improve support for families experiencing child disability or chronic illness. One example is a study by Poehlman et al. (2005) who found that among mothers of children with Fragile X or Down syndrome, support from spouses and other family members immediately after the diagnosis was instrumental in the mothers' own adjustment to the new situation. A Danish study (Bengtson and Middelboe 2001) using mixed methods found that parents of children with disabilities often felt that they needed more

information. Yet the type of information that the parents were seeking was not something obtainable within the welfare system but, rather, a need to share experiences about the everyday challenges of parenting a child with disabilities.

Future research is likely to benefit from tying together quantitative research on family-level outcomes related to child disability and chronic illness with qualitative research on processes to balance demands and capabilities as these interact with the construction of internal meaning within these families. An overall greater understanding of quantitative indicators alongside qualitative processes within this field would also help policymakers meet the needs of families experiencing child disability related to internal stressors within the family unit, as opposed to the current attention solely on external challenges. This shifted focus would also yield beneficial attention to the needs of parents and siblings beyond those of the child with disabilities or chronic illness.

NOTES

1. It could be argued that, in order to realize a complete family-level approach, information should also be collected from the children present in the families. Although that is not done in the data collected so far, information collected from the observed children as they come of age will be available in future data waves.
2. Asthma or allergies account for more than half the category of less severe disability or chronic illness.

3.1.8 REFERENCES

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3.1.9 APPENDIX

Appendix 3.1.A

Variable definitions and expected direction of the variables on the risk of parental relationship termination. The Danish Longitudinal Survey of Children, 1996 – 2007.

	Definition	Expected direction
Outcome		
Parental relationship termination	=1 if one parent, following the break-up of the relationship, is no longer residing in the household; =0 otherwise [time varying variable]	Not applicable
Covariates		
Child disability or chronic illness status	Set of indicator variables (dummies) representing the event that the child is diagnosed with a less severe disability or chronic illness; the event that the child is diagnosed with a severe disability or chronic illness; and if no diagnosis [time varying variable]	+/-
Family consensus	Set of indicator variables (dummies) for whether both mother and father report that the couple agree on either the division of household labor or child upbringing; both mother and father report that the couple agree on the division of household labor and child upbringing; otherwise.	-
Fathers unemployment experience	=1 if unemployment occurs in any given year; =0 otherwise [time varying variable]	+
Mothers assessment of family economy	=1 if mother report the family economy to be very satisfactory or satisfactory =0 if mother report the economy to be only somewhat satisfactory or not satisfactory	-
Relationship quality	=1 if parents argue weekly or daily; =0 if parents don't argue or only argue monthly	+
Mothers wellbeing	=1 if mother experience daily or weekly symptoms of depression; =0 of otherwise	+
Fathers wellbeing	=1 if father experience daily or weekly symptoms of depression; =0 of otherwise	+
Mothers childhood experience	=1 if mother grew up with both parents; =0 if otherwise	-
Fathers childhood experience	=1 if father grew up with both parents; =0 if otherwise	-
Mothers age at childbirth	Mothers age in years at the time the observed child was born, continuous variable containing values from 16 to 43	-
Union status	=1 if parents are married at the baseline; =0 if parents are cohabiting at baseline	-
Mothers education	=1 if the mother has any education beyond 7th grade; =0 if otherwise	-
Length of relationship	Set of indicator variables (dummies) for whether the parents have been in relationship with one another for less than 4 years at the baseline; the parents have been in relationship with one another for between 4 years and 7 year at the baseline; the parents have been in relationship with one another for more than 7 years at the baseline	-
Arrival of an additional sibling in the household	=1 if additional sibling arrive; =0 otherwise [time varying variable]	-
Duration	Time measured in years throughout the period of observation from 1996 to 2007. This continuous variable is equal to 1 in 1996 and increases by one across family-year intervals arriving at a maximum value of 12 in 2007.	+

3.2 The Importance of Child Characteristics in Family Life Events

Children's health and subsequent childbearing in Danish families

3.2.1 ABSTRACT

Existing literature rarely includes child characteristics as a predictor variable when investigating family life events. Using data from the Danish Longitudinal Survey of Children and data from the Central Population Registers, this study follows a representative sample of the Danish 1995 birth cohort and their families (N=5004) in order to examine the role of children's disability and long-term illness in families' subsequent childbearing. When accounting for the severity and timing of children's disability or long-term illness, results reveal children's health to be negatively related to families' subsequent childbearing. Moreover, findings suggest that different mechanisms regarding families' allocation of resources may depend on the number of children present in the family. This study demonstrates that child characteristics play a significant role in family life. Thus, to only question family life events as a function of parental characteristics neglects an understanding of the importance of dynamic connections between children and parents' lives in contemporary families. This study contributes to a growing literature on family consequences of children's disabilities. It extends previous research by investigating the roles of children's health in an alternative context, and it is the first study to use a dynamic approach to examine children's health and families' subsequent childbearing beyond transition to second childbirth.

3.2.2 INTRODUCTION

There is a strong link between children's health and their transition to adulthood. Taking their impairments into account, children with disabilities or long-term illnesses are less likely to take on independent adult roles and to develop sufficient skills and qualifications (Janus 2009; Jackson 2010; MacInnes 2008; Palloni 2006; Wells, Sandefur, and Hogan 2003). Yet, a child's disability or illness not only has consequences for the child's own life course. Evidence suggests that children's disabilities and long-term illnesses are associated with increased risks of parental relationship termination (Corman and Kaestner 1992; Loft 2011; Mauldon 1992), decreased maternal employment (Brandon 2011; Reichman, Corman, and Noonan 2004; Leiter et al. 2004; Lukemeyer, Meyers, and Smeeding 2000; Porterfield 2002; Powers 2001), decreased parental well-being (Early, Gregorie, and McDonald 2002; Garbarski and Witt 2013; Kuhlthau et al. 2010), and increased financial strain in the family (Stabile and Allin 2012). Although, it is clear that a child's disability or long-term illness often requires family adjustments, which, in turn, are likely to have long-run consequences for all family members, studies investigating social processes related to family life rarely include children's health.

In order to understand the importance of child characteristics in general, and children's health in particular, adequate measures are required. With a few exceptions, previous studies tend to define childhood as early infancy or at one or two points in time only. This approach has been useful to establish key associations and is often the only possible way to define childhood health from the data available. However, such an approach poses challenges for the study of family life events, as the timing of related events in this type of study is of crucial importance. For example, having a child with a disability or long-term illness diagnosed at birth is likely to have a different influence on parents' subsequent childbearing, than if the child's disability or long-term illness does not occur until school-age. Similarly, children's health has often been assessed in terms of whether or not disability is present, or by focusing on one particular diagnosis. Such studies do not account for the actual underlying mechanism of functional limitation. By including both timing and severity of children functional limitations, it is possible to determine variations in the extent to which

children's disability or long-term illness accelerates or decelerates the time to the specific event of interest.

Childbearing remains one of the most prominent family life events, and learning how family circumstances can influence childbearing behavior is critical in ensuring the best possible environments for raising children. This study uses rich longitudinal data to examine the relationship between children's health and families' subsequent childbearing. From a life course perspective of linked lives, I study the timing of child disability or long-term illness as a predictor of families' second or higher birth-order childbearing: whether this influence varies by the severity of the child's functional limitations, and the degree to which differences in family size explain the association.

3.2.3 BACKGROUND

Linked Lives and Child health

Inherent to the life course study of families is that family members' lives are lived interdependently. Social change, institutional context, and personal events influence individuals through the impact that such context or events have on interpersonal relationships (Elder, Johnson, and Crosnoe 2003). Family members' lives are linked together because events, behavior, and outcomes experienced by one family member often profoundly influence the course of events, behaviors, and outcomes experienced by other family members (Wu 2003). As the concept of linked lives does not assume any a priori directionality of the flow of influence (i.e. from parents to children), this concept is particularly well-suited for investigating the importance of child characteristics in family life events. Children interact with their parents and siblings to structure ongoing family relations. Therefore, just as family members and family resources may influence the life of a child with a disability or long-term illness, so too may a child with a disability or long-term illness influence family members and family resources. Indeed, MacInnes (2008) shows that mothers of first-born children with a disability have a lower rate of a second birth. Moreover, such reduction in subsequent childbearing is likely to stem from parents strategic choices in order to meet the, often more extensive, needs of their disabled child (MacInnes 2008; Hogan et al. 2012).

Studies of families with disabled children frequently discuss challenges with regard to access to and costs of appropriate care (i.e Newacheck, Inkelas, and Kim 2004). In the Danish context, however, a universal healthcare reimbursement scheme and a variety of other interventions are in place in order to minimize such concerns. Thus, this present study extends on MacInnes (2008) and Hogan's (2012) general population-based life course approach by examining the relationship between children's disability and families' subsequent childbearing in a particular institutional context. This context is distinguished by more extensive policies working to diminish the need for strategic economic choices by families raising a child with a disability or long-term illness. Thus, in the Danish context I expect differences in rates of subsequent childbearing to differ less between families who experience a child's disability and families who do not experience a child's disability.

Although childbearing patterns have received considerable attention in the sociological and demographic literature (see Balbo, Billari, and Mills 2013 for a review), only limited research exists that explicitly investigates the interplay of child health and family size beyond the transition to the second child. Based on data from the Wisconsin Longitudinal Study, Seltzer and colleagues (2001), found that in comparison to mothers with no disabled children, mothers of children with developmental disabilities and mothers of children with severe mental health issues had more children on average. Similarly, using Tennessee birth records, Burke and colleagues (2011) found that families of children with Down syndrome and Spina bifida were more likely to be larger than families with no disabled children. However, common between these studies was the fact that children with developmental disabilities and Down syndrome were born to older parents and later in the birth order. In order to understand how birth-order may play a role in linking children's health and families' subsequent childbearing, analyses must be dynamic in nature and include families where the disabled child is not an only child. Thus, the present study further advances previous research by adding families where the disabled child is the second, third, or higher birth-order child in a dynamic model of subsequent childbearing. It is expected that the number of children present in the family to be negatively related to subsequent childbearing.

Childbearing and Socioeconomic Resources

Childbearing decisions are closely intertwined with socioeconomic resources. Historically, women with more education have been the least likely to marry and have children, but recent studies suggest that as patterns of family formation have, changed together with gender roles and attitudes, so too has the relationship between maternal education and childbearing (see Isen and Stevenson 2010 for a review). Although, women's higher level education is associated with a postponement of family formation (i.e. Glick et al. 2006), the childbearing recuperation in the Nordic countries has been described as quite remarkable (Frejka and Calot 2001). Therefore, it may be less surprising that education has been found to have a positive effect on second and third birth rates net of age in the Scandinavian setting (Gerster et al. 2007; Kravdal 2001; Kravdal and Rindfuss 2008; Oláh 2003). Given this, maternal education is expected to be positively related to subsequent childbearing.

Dual-earner households are the norm in the Danish context, even when young children are present, and research suggests Danish families have found ways to combine work and childrearing (Brewster and Rindfuss 2000). Thus, the experience of a parent's unemployment spell may generate feelings of an uncertain future, and, therefore, have a negative effect on subsequent childbearing rates. Although only limited research is available on the relationship between unemployment and childbearing, evidence indicates lower rates of higher-order births among the unemployed (Kravdal 2002). Hence, parental unemployment experience is expected to be negatively related to subsequent childbearing.

Not only individual feelings of uncertainty about future prospects may negatively influence decisions about subsequent childbearing. An extensive research tradition, rooted in the notion of a general inverse relationship between income and childbearing (Becker 1993), exists. A vast number of studies have been dedicated to the relationship between women's earnings and childbearing, commonly finding that an increase in female wages delay time to childbearing and reduce the total number of children (i.e. Heckmann and Walker 1990). Accordingly, it is expected that higher levels of disposable income will be negatively related to subsequent childbearing.

Recent research on income and childbearing has emphasized the need to distinguish between objective and subjective measures of economic uncertainty (Kreyenfeld 2010). Whereas wages and disposable income quantify actual household economic resources, a subjective evaluation of a family's financial situation describes psychological aspects of economic well-being. Given the low level of economic inequality in Denmark (GINI among the lowest in the world), mothers' subjective assessment of the family economy is of particular importance in the Danish setting. It is expected that mothers' assessment of the family economy will be positively related to subsequent childbearing.

Childbearing, Well-being, and Demographic Factors

Evidence indicates that subjective well-being is better described as a personal trait, as opposed to a temporary state, and that factors such as schooling, occupation, income, marital status, or religious commitment cannot account for variance in measures of well-being (Kohler, Behrman, and Skytthe 2005; Lykken and Tellegen 1996). Although only limited research exists on subjective well-being and subsequent childbearing, Perelli-Harris (2006) show in her study of second or higher-order births, that subjective personal well-being is positively related to wanting and having more children. Also, Billari (2009) demonstrates that happier people are more likely to intend to have children, and Parr (2010) finds life satisfaction a significant predictor of childbearing. Thus, it is expected that maternal well-being will be positively related to subsequent childbearing.

Changes in childbearing dynamics during the past decades have been closely linked to an unprecedented rise in unmarried cohabitation. Because cohabitation, in comparison to marriage, tends to have a higher dissolution rate and shorter duration, research suggests that cohabitation is a less integrated type of union (Bumpass and Sweet 1989; Andersson 2003).

Therefore, although births in cohabiting couples account for a large share of non-marital births (Bumpass and Lu 2000) cohabiting couples generally have fewer children than married couples (Raley 2001; Rindfuss and VandenHeuvel 1990). Given this, cohabitation is expected to be negatively related to subsequent childbearing.

Another element of the changes in childbearing dynamics is the fact that most western countries have experienced a shift in childbearing to older ages (see Morgan and Taylor 2006 for a review). Because later childbearing leaves fewer years to experience another pregnancy, increases the risk of infecundity, and provides a longer period for women to develop competing interests, previous studies have found that later age at entry into motherhood reduces subsequent childbearing (Morgan and Rindfuss 1999; Kohler, Billari, and Ortega 2002; Quesnel-Vallée and Morgan 2003). Therefore, it is expected that maternal age at first childbirth will be negatively related to subsequent childbearing.

The Danish Context

Denmark is a child welfare-oriented country (Gilbert 2012). Generous universal policies, such as paid parental leave and access to high quality low cost childcare, have been cited as key elements for Denmark to recover from a total fertility rate of only 1.38 children per woman in 1983 to a total fertility rate of 1.8 children per women in 1995 (Statistics Denmark). Likewise, Danish second birth-rates and third birth-rates decreased until early 1980s and subsequently increased between 1984 and 1995 (Andersson 2004). In comparison to other western societies, Danish women initiate childbearing at later ages. In 1995, the average age at first birth among Danish women was 27.5, and in 2000, it was 28.1. In the United States, these figures were 24.5 and 24.9 respectively (UNECE Statistical Database).

The number of individuals with disabilities or long-term illnesses varies depending on the definition of disability and illness used (Altman 2001; Altman and Bernstein 2008; Fujiura and Rutkowski-Kmitta 2001). For example Bengtson (1997) estimated that one in four Danes has a disability that limits their daily functioning. A statistic that has remained stable since the 1960s (Bengtson 2008). In a nationally representative sample of Danish children under the age of sixteen, Nielsen and colleagues (2006) found that 16 percent of the sample experienced at least one long-term or chronic illness. In comparison, LaPlante and Carlson (1996) estimated that approximately one-fifth of the non-institutionalized U.S. population has some form of physical or developmental disability. Westat (2000) found that approximately between 12 and 15 percent of American children have some type of disability. Despite different definitions

and strategies of estimation, it remains clear that children with disabilities or long-term illness and their families constitute a considerable share of contemporary families.

Previous research has found that additional costs and access to appropriate care are central concerns of families experiencing child disability or long-term illness (Brandon 2000; Newacheck and Halfon 1998; Stabile and Allin 2012). In Denmark, however, a number of policies are in place to circumvent such concerns. The Danish welfare state has a long history of equal opportunity resulting in redistribution policies ensuring universal access to all levels of education, child allowances, medical treatment, and health care reimbursement irrespective of marital status, residence, age, health, lifestyle and income. The majority of Danish disability-specific policies focus on cash benefits, education, and employment (Bengtson 2000).

The Current Study

The Danish setting provides a constructive framework for examining the importance of child health characteristics in mothers' rate of subsequent childbearing. Specifically, I study children's disability or long-term illness as a predictor of families' subsequent childbearing, accounting for the timing as well as the severity of the disability or illness. That is, I determine whether families of less severe or severe disabled or long-term ill children experience subsequent childbearing at a slower pace in comparison to families of children without any disability or long-term illness. I do not aim to understand intergenerational transmission of health disparities or to explain the link between socioeconomic status and health outcomes. These are important questions that have already received substantial attention in the literature on child health. This study, however, focuses on a better understanding of the relationship between children's health as an independent factor in family outcomes such as subsequent childbearing from a perspective of the family members' interdependently lived lives.

Building on previous work on child disability and parents' decision to have another child (Hogan et al. 2012; MacInnes 2008) and considering the Danish context, I expect to observe a more moderate relationship between child health and families' subsequent childbearing than observed in the American

context. Extending existing work, I expect differences in the severity of children's disability or long-term illness and the number of children already present in the household to play a part in explaining the influence of children's health. Thus, this study takes account of the timing of children's disability and long-term illness, distinguishes less severe and severe types of disability and long-term illness, and examines whether the influence of child health varies by the number of children already present in the household.

Accounting for the timing of and severity of children's disabilities and long-term illnesses affords a more concise understanding of how and when children's health may have consequences for their parents' subsequent childbearing. In addition, theoretical considerations associated with previous research on the link between children's health and subsequent childbearing have typically been applicable to families in which a disabled or long-term ill child is a first-born child. Thus, including families in which a disabled or long-term ill child is not an only child is a vital step in moving the study of family consequences of children's health forward.

3.2.4 METHOD

Data and Sample

Data from the first four waves of the Danish Longitudinal Survey of Children (DALSC) combined with records from the Central Population Register (CPR) was used to investigate the role of child health in families' subsequent childbearing.

DALSC is an ongoing prospective longitudinal survey designed to provide representative information about family conditions and child development among Danish children born in Denmark in 1995. Besides collecting information on child development, the survey also includes information on childbearing, health, parental relationships, and well-being. DALSC is collected as a random sample of 6,011 children born between September 15 and October 30, 1995, in Denmark, to mothers registered as Danish citizens at that time. In order to build family life event histories for this study, I used four waves of the DALSC data collection. These four waves were collected in: (1) 1996, when the 1995-child was about six months old; (2) 1999, when the 1995-child was about three years old; (3) 2003, when the 1995-child was about seven years old; and

(4) 2007, when the 1995-child was about eleven years old. The 1995-child in DALSC is not necessarily the first-born, but can have any number of older siblings. In addition to the collected survey data, the DALSC was linked with data from the CPR, which enables the inclusion of measures from national administrative records. By using CPR data, I avoid problems with pre-coded income measures, as well as potential sources of error associated with self-reporting. For example, detailed information on actual income and earnings is obtained from employers, and information on educational attainment comes from institutional records rather than from self-reports. Moreover, information registered in the CPR at time *t* has no influence on the information registered at time *t*+1. In order to add socioeconomic measures to the DALSC family life event histories, I used data from CPR on maternal education, parental unemployment, and parental disposable income.

For the analysis, I selected families in which both biological parents of the 1995-child report living together in a cohabiting or married relationship at the time of the birth of the 1995-child. The analytical sample consisted of 5,004 families (83 percent of the initial sample). Missing data was less than 2% on all included variables. Time-invariant covariates were imputed with the mode (mean), and time-varying covariates (TVC) were imputed with the previous year's value.

Measures

Dependent variable. The outcome of interest in this study is mothers' first subsequent childbearing with the father of the 1995-child. In each round of DALSC data collection, all mothers were asked to report the ages (birth year) of all the children present in the household, and their relationship to each of the reported children (if it was a full sibling to the 1995-child, mother's child only, father's child only, adopted child, or a child placed in out-of-home-care). In this study, I focused on the mother's first childbearing experience with the father of the 1995-child after the birth of the 1995-child. A competing event for the parents of the 1995-child having another child together was for the parents to dissolve their relationship. Information on parental relationship histories, including relationship termination, was also immediately available in the DALSC data. Both cohabiting and married parents were included for analysis. Thus, parental

relationship termination was not defined in terms of formal divorce, but as the point in time (year) when one parent, following a break-up of the relationship, was no longer residing in the household. That is, the dependent variable could take three values: 0) the parental relationship remained intact and the family experienced no subsequent childbearing, 1) the parental relationship remained intact, and the family experienced a subsequent childbearing, and 2) the parental relationship was terminated.

Independent variables. Whereas earlier studies often operationalize children's health in terms of formal disability only or focus on a specific diagnosis (for example Down syndrome), this study includes both disability and long-term illness. Following Hogan and colleagues (Hogan et al. 1997; Wells and Hogan 2003), I review the severity of all reported medical diagnoses, the degree to which the child experienced limited daily functioning, and the degree of comorbidity. In each wave of the DALSC data mothers were asked to report: (a) whether the child had ever been diagnosed with any physical or psychological disabilities or long-term illness by a doctor or a specialist; (b) which disability or long-term illness; and (c) the month and year of diagnosis. In addition, all mothers were asked (d) if the child was limited in daily functioning due to disability or long-term illness; (e) if special arrangements had been made at the child's school due to disability or long-term illness; and (f) if the child was able to engage in normal play with other children. These reports were combined into a final measure of child disability or long-term illness in which diagnoses such as Down syndrome, autism, blindness, cancer, missing limbs, muscular dystrophy, or epilepsy were typically considered severe disabilities or long-term illnesses. Diagnoses such as pronounced asthma or allergies, diabetes, dyslexia, and hypermobility were typically considered as less severe disabilities or long-term illnesses. The measure of child disability or long-term illness could take on three values: 0) no disability or long-term illness, 1) less severe disability or long-term illness, and 2) severe disability or long-term illness.

All but one of the measures of the socioeconomic resources was directly available in the CPR data. Mothers' highest educational attainment in any given year was measured in terms of 1) compulsory schooling, 2) high school, 3) vocational training, 4) short cycle education, and 5) university education.

Mothers and fathers' unemployment experiences in any given year were defined as a binary measure of 1) being unemployed for a minimum of six months within that year, and 0) otherwise. Mothers and fathers' disposable incomes in any given year were continuous measures and reported in Danish currency with index-year 2000. In the first wave of the DALSC data collection, all mothers were asked to evaluate the family's overall financial situation. This evaluation was used to generate a binary measure of mothers' assessment of the family's economic situation indicating whether she found it 0) not satisfactory or somewhat satisfactory, or 1) good or very good. The correlation between unemployment experience, disposable income, and mothers' assessment of the family economy was low (less than .3). A finding perhaps best attributed to the Danish welfare system's redistribution policies.

The measure of mothers' personal wellbeing was generated from a series of five questions related to stress and depression asked to all mothers in the first wave of the DALSC data collection. Answers to these questions were combined to a binary measure indicating if the mothers 1) experienced daily or weekly symptoms of depression or stress, and 0) otherwise.

All measures of the demographic factors were directly available in the DALSC data. Parental relationship status was defined as a binary measure of whether the parents were 0) married or 1) cohabiting. In order to obtain the mothers' age at first childbirth, mothers' reports on children present in the household were used. However, as all a mother's children may not necessarily be present in her current household, the information provided by mothers in the DALSC was validated with CPR records on all mothers and fathers' children. In cases of discrepancy (less than 2 percent), the information from the CPR was used. The mother's age at her first childbirth was included as a continuous variable. The number of siblings present in the household was also based on mothers' reports of all the children present in the household. This variable was coded 0) if no child in addition to the 1995-child was present in the household, 1) if one older child in addition to the 1995-child was present in the household, and 2) if two or more older children in addition to the 1995-child were present in the household.

Terminology. In this study "subsequent childbearing" refers to a mother's first childbearing experience with the father of the 1995-child, following the birth of the 1995-child. Because the study focuses on mothers' subsequent childbearing together with the father of the 1995-child, the results are interpreted in terms of "families' subsequent childbearing." Finally, "family size" is understood as the number of children reported present in the household. Although some children may only be present in the household part-time, a child is counted as present in the household if the child has been listed as present in the household.

Analytical Strategy

To examine the role of child health in families' subsequent childbearing, I used discrete-time event history analysis. Because the distinction between purely discrete-time and purely continuous-time processes is not so clear-cut in practice, discrete-time models are good approximations of underlying continuous-time processes (Box-Steffensmeier and Bradford 2004). In addition, as parental relationship termination was assumed to preclude mothers' subsequent childbearing with the father of the 1995-child, the model was formulated in terms of competing risks. Fine and Gray's (Fine and Gray 1999) approach to estimation of the sub-distribution hazard for a competing risk model allows for direct interpretation of the estimates in terms of the cumulative incidence function, and is what is presented here.

Time in this study was observed as years. Thus, families contributed family-years to the analysis from the time of the baseline interview until they (a) left the survey, (b) were censored due to subsequent childbearing, or (c) the end of the window of observation (year 2002) was reached. Because less than 5 percent of the families experienced subsequent childbearing after seven years (year 2002), the window of observation was ended in 2002.

An advantage of using event-history techniques is that it allows incorporation of time-varying covariates (variables that change their values over time). For example, I was able to construct a set of indicators that considered the occurrence of a child's disability or long-term illness as it changed over time (i.e., moved from no child disability or long-term illness to a less severe child disability or long-term illness, or to a severe child disability or long-term illness). Similarly, mothers' level of education, mothers' experience of unemployment,

fathers' experience of unemployment, mothers' disposable income, and fathers' disposable income were all included in the model as time-varying covariates.

Because we should be careful with interpreting interaction-terms in this type of modeling procedure (Ai and Norton 2003) and to further investigate the interplay of child health and family size beyond the transition to the second child, I estimated three separate models. The first model (Table 3.2.3, Model A) included all 5004 families. The second model (Table 3.2.4, Model B) included only families in which the 1995-child was an only child (n = 2114) and therefore examined the transition to a second birth only. The third model (Table 3.2.4, Model C) included merely families in which the 1995-child was not the only child present in the household (n = 2890) and thus examined the transition to subsequent childbearing for households with two or more children present.

Table 3.2.1 provides an overview of variable definitions, data sources, and the direction of the expected relationship with subsequent childbearing for each independent variable.

3.2.5 RESULTS

Descriptive findings

In this study, I focused on the relationship between children's health and mothers' first subsequent childbearing while still married or cohabiting with the father of the 1995-child. To examine the prevalence of these families' subsequent childbearing and children's health issues, Table 3.2.2 presents descriptive statistics for the entire analytical sample (*N* = 5004). Within the first seven years following the birth of the 1995-child, almost half of the families in the sample (46%) experienced subsequent childbearing, and close to one fifth (18%) experienced dissolution of the parental relationship before any subsequent childbearing took place.

How prevalent was children's disability or long-term illness? Among children born in 1995 in Denmark 12 percent were diagnosed with a less severe

Table 3.2.1
Variable definition, data sources and expected relationship to subsequent childbearing.

	Definition	Data source	Expected relationship
Outcome			
Families' subsequent childbearing	=0 if the parental relationship remained intact, and the mother experienced no subsequent childbearing; =1 if the parental relationship remained intact and the mother experienced first subsequent childbearing; =2 if the parental relationship was terminated.	DALSC	N/A
Covariates			
Child health			
Child disability or long-term illness status	Set of indicator variables (dummies) representing the event that the child was diagnosed with a less severe disability or long-term illness; the event that the child was diagnosed with a severe disability or long-term illness; and if no diagnosis occurred within the window of observation (TVC)	DALSC	-
Socio-economic resources			
Mothers education	=1 compulsory schooling; =2 high school; =3 vocational training; =4 short cycle higher education; =5 university education (TVC)	CPR	+
Mothers unemployment experience	=1 if mother experienced minimum 6 months of unemployment within a given year ; =0 of otherwise (TVC)	CPR	-
Fathers unemployment experience	=1 if father experienced minimum 6 months of unemployment within a given year ; =0 of otherwise (TVC)	CPR	-
Mothers disposable income	Continuous variable measuring mother's disposable income. Currency was DKK measured in 1000s and index year =2000 (TVC)	CPR	-
Fathers disposable income	Continuous variable measuring father's disposable income. Currency was DKK measured in 1000s and index year =2000 (TVC)	CPR	-
Mothers assessment of family economy	=1 if mother reported the family economy to be very satisfactory or satisfactory at baseline; =0 if mother reported the economy to be only somewhat satisfactory or not satisfactory at baseline	DALSC	+
Well-being			
Mothers wellbeing	=1 if mother experienced daily or weekly symptoms of depression or stress; =0 if mother experienced no daily or weekly symptoms of depression or stress	DALSC	+
Demographic factors			
Union status	=1 if parents were married; =2 if parents were cohabiting	DALSC	-
Mothers age	Continuous variable measuring mothers age at her first childbirth	DALSC	-
Number of children present in the household	=0 if 1995 child was an only child; =1 if one older child in addition to the 1995-child was present in the household; =2 if two or more older children in addition to the 1995-child were present in the household	DALSC	-

Table 3.2.2
Descriptive statistics.

Variables	Year	Percentage or Mean	SD
Subsequent childbearing	1996-2002		
No subsequent childbearing		36	
Subsequent childbearing		46	
Parental Relationship termination		18	
Child health	1996-2002		
No child disability or long-term illness		76	
Less severe child disability or long-term illness		12	
Severe child disability or long-term illness		12	
Socio-economic resources			
Mothers education[a]	1996-2002		
Compulsory schooling		22	
High School		11	
Vocational training		38	
Short cycle higher education		22	
University degree		7	
Mothers unemployment	1996-2002		
Mother did not experience unemployment		78	
Mother did experience unemployment		22	
Fathers unemployment	1996-2002		
Father did not experience unemployment		92	
Father did experience unemployment		8	
Mothers average disposable income[a b]	1996-2002	126	39
Fathers average disposable income[a b]	1996-2002	156	79
Mothers assessment of family economy	1996		
Somewhat satisfactory or not satisfactory		28	
Good or very good		72	
Well-being			
Mothers personal wellbeing	1996		
No symptoms of depression or stress		76	
Symptoms of depression or stress		24	
Demographic factors			
Union status	1996		
Married		57	
Cohabiting		43	
Mothers average age at her first birth	1996	26	4
Number of children present in the household	1996		
No child in addition to 1995-child		42	
One child in addition to 1995-child		39	
Two children or more in addition to 1995-child		19	

Notes: [a] shown for year 1996 only. [b] Currency=DKK, measured in thousands, and index year =2000.(N=5004)

disability or long-term illness before their seventh birthday, and 12 percent were diagnosed with a severe disability or long-term illness during the same period. To find that close to one in four members of a birth cohort were diagnosed with a disability or long-term illness during early childhood may seem a large share at first glance. However, we should keep in mind that this measure includes both disability and long-term illness. Furthermore, women engage in

childbearing at a relatively late age in Denmark. Moreover, because the Danish health care system provides universal access to high quality health care (including prenatal care), and the presence of a universal and extensive home-visit nursing scheme, there is a greater possibility of a) relatively successful outcomes of difficult pregnancies, b) children's disability and long-term illness being detected and diagnosed in general, and c) this detection and diagnosis happening relatively early in the child's life in particular.

Findings from Event History Analysis

In what follows, I present two sets of results, corresponding to the analysis of the full sample of all families, and the analysis of the sample split by the number of children present in the household. Results are discussed in terms of sub-distribution hazard ratios (SHR). That is, if the regression coefficient for a covariate is positive (i.e. a sub-distribution hazard ratio greater than 1) then higher values of a covariate imply a constant relative increase of the sub-distribution hazard, and hence a higher predicted cumulative incidence rate at every time point. Correspondingly, if the regression coefficient for a covariate is negative (i.e. a sub-distribution hazard ratio less than 1), then higher values of a covariate imply a constant relative decrease of the sub-distribution hazard, and hence a lower predicted cumulative incidence rate at every time point.

Due to the problem of unobserved heterogeneity in logit-based models (Allison 1999; Mood 2010), the results presented here only allow interpretation in terms of within group differences: a) among all families, b) among families where the 1995-child was the only child present in the household when born, and c) among families where the 1995-child was not the only child present in the household when born.

The Principal Role of Children's Health. To examine the principal role of children's health in families' rate of subsequent childbearing, Table 3.2.3 shows the results from the first event history analysis that includes all 5004 families (Model A). It is clear that, in comparison to families who did not experience child disability or long-term illness, families who did experience less severe and severe child disability or long-term illness also experienced subsequent

Table 3.2.3

Event history analysis of families' subsequent childbearing.

	Model A All Families	
	Coeff.	SHR
Child health		
Child disability or long-term illness status (TVC)		
No child disability or long-term illness[a]		1
Less severe child disability or long-term illness	-.15**	.86
Severe child disability or long-term illness	-.18***	.83
Socio-economic resources		
Mothers level of education in (TVC)	.14***	1.15
Mothers unemployment (TVC)		
Mother did not experience unemployment[a]		1
Mother did experience unemployment	-.45***	.64
Fathers unemployment (TVC)		
Father did not experience unemployment[a]		1
Father did experience unemployment	.08	1.09
Mothers disposable income[b] (TVC)	-.01***	.99
Fathers disposable income[b] (TVC)	-.01***	.99
Mothers assessment of family economy		
Not satisfactory or only somewhat satisfactory[a]		1
Good or very good	.12***	1.12
Well-being		
Mothers wellbeing		
No symptoms associated with depression or stress[a]		1
Symptoms associated with depression or stress	-.10**	.91
Demographic factors		
Union status		
Married[a]		1
Cohabiting	-.12***	.88
Mothers age at her first birth	-.03***	.97
Number of children present in the household		
No child in addition to 1995-child[a]		1
One older child in addition to 1995-child	-1.01***	.36
Two or more older children in addition to 1995-child	-1.56***	.21
Number of families	5004	
Number of family-years	40032	

Notes: Relationship termination is treated as a competing risk. SHR = Sub-hazard ratios. (TVC) = time-varying covariate. [a] = Reference category. [b] Currency = DKK, measured in thousands, and index year =2000.
*p<0.05; **p<0.01; ***p<0.001, two-tailed tests.

childbearing at a significantly lower rate (.86 and .83 respectively). Specifically, families of children with less severe disability or long-term illness had a 14 percent reduction in the likelihood of subsequent childbearing, and families of children with severe disability or long-term illness had a 17 percent reduction in the likelihood of subsequent childbearing. Although results from this type of

model are not comparable across samples or model specifications (Allison 1999), we can with caution note that to some degree these results mirror MacInnes (2008) findings that American families with a disabled child experienced a 20 percent reduction in the likelihood of subsequent childbearing. As expected, the influence of children's health in the Danish context was slightly less in terms of magnitude than what was found in the American context. However, given the substantial differences between the Danish and the American contexts with regard to the costs of care, the differences between the two countries would most likely be greater if the reduction in subsequent childbearing alone was due to formal economic constraints.

In addition, we might ask why is the difference between having a child with a less severe and a severe disability or long-term illness not greater? Again with caution in interpreting the substantive effects (Mood 2010), we might note that perhaps the emotional turbulence associated with experiencing poor child health does not necessarily differ according to severity of illness, but rather according to whether the child experiences disability or long-term illness at all.

In line with previous research, families in which the mother had higher levels of educational attainment experienced a significantly higher rate (1.15) of subsequent childbearing relative to families in which the mother had lower educational attainment. Similarly, relative to families in which the mother did not experience unemployment, families in which the mother did encounter unemployment had a significantly lower rate (.64) of subsequent childbearing. Moreover, families in which the mother assessed the economy to be very good or good had a significantly higher rate (1.12) of subsequent childbearing in comparison to families in which the mother assessed the economy to be only somewhat satisfactory or not satisfactory.

The findings in this study were also in line with previous research with regard to well-being and demographic factors. Relative to families in which the mother did not report symptoms of depression or stress, families in which mothers reported symptoms of depression or stress had a significantly lower rate (.91) of subsequent childbearing. In comparison to families in which the parents were in a married relationship, families in which the parents were in a cohabiting relationship had a significantly lower rate (.88) of subsequent childbearing. Also, families in which the mother experienced her first childbirth

at a later age had a significantly lower rate (.97) of subsequent childbearing relative to families in which the mother experienced her first childbirth at younger ages. Finally, in comparison to families in which the 1995-child was an only child, families with one older child in addition to the 1995-child present in the household, experienced a significantly lower rate (.36) of subsequent childbearing, as did families with two or more children in addition to the 1995-child present in the household (.21).

Taken together, these results suggest that the significantly slower pace of subsequent childbearing in families who experienced child disability or long-term illness cannot be solely ascribed to variation in socioeconomic resources, maternal wellbeing, or demographic factors. Although the presented model is logit-based, it is instructive to note that the predicted differences in subsequent childbearing according to child disability or long-term are similar in magnitude to those according to key components in the family life course, such as mothers education, the family's economy, mothers wellbeing, and the parent's union status. Children's health is an important and independent factor in family life events, such as the decision to have another child. This finding concurs with the life course perspective on linked lives, and reminds us that the lives of family members are linked because events experienced by one family member, such as a child's disability or long-term illness, often profoundly impacts the course of events, behaviors and outcomes experienced by other family members, such as the parents' decision to have another child together.

The Role of Child Health by Number of Children Present in the Household. In order to further understand the dynamic interplay of child health and subsequent fertility with regard to family size, I divided the analytical sample into two sub-samples and estimated an event history model for each of these two sub-samples. That is, one model for families in which the 1995-child was the only child present in the household when born (one child present), and one model for families in which the 1995-child was not the only child present in the household when born (two or more children present). Descriptive statistics for these two sub-samples are available in the Appendix. Table 3.2.4 presents the results from this second event history analysis.

Table 3.2.4
Event history analysis of families' subsequent childbearing by number of children present in the household.

	Model B One child present		Model C Two or more children present	
	Coeff.	SHR	Coeff.	SHR
Child health				
Child disability or long-term illness status (TVC)				
No child disability or long-term illness[a]		1		1
Less severe child disability or long-term illness	-.17**	.84	-.09	.92
Severe child disability or long-term illness	-.16**	.85	-.24*	.79
Socio-economic resources				
Mothers level of education in (TVC)	.14***	1.15	.14***	1.15
Mothers unemployment (TVC)				
Mother did not experience unemployment[a]		1		1
Mother did experience unemployment	-.42**	.66	-.60*	.55
Fathers unemployment (TVC)				.53
Father did not experience unemployment[a]		1		1
Father did experience unemployment	.29	1.33	-.64	.53
Mothers disposable income[b] (TVC)	-.01***	.99	-.01***	.99
Fathers disposable income[b] (TVC)	-.01**	.99	-.01*	.99
Mothers assessment of family economy				
Not satisfactory or only somewhat satisfactory[a]		1		1
Good or very good	.12***	1.12	.10	1.10
Well-being				
Mothers personal wellbeing				
No symptoms associated with depression or stress[a]		1		1
Symptoms associated with depression or stress	-.12***	.88	-.06	.94
Demographic factors				
Union status				
Married[a]		1		1
Cohabiting	-.11***	.90	-.13	.88
Mothers age at her first birth	-.01	.99	-.08***	.92
Number of children present in the household				
Two older children in addition to 1995-child	N/a	N/a		1
Three or more older children in addition to 1995-child	N/a	N/a	-.62***	.54
Number of families	2114		2890	
Number of family-years	19912		23120	

Notes: Relationship termination is treated as a competing risk. SHR = Sub-hazard ratios. (TVC) = time-varying covariate. [a] = Reference category. [b] Currency=DKK, measured in thousands, and index year =2000. N/a = not applicable to this model.
*p<0.05; **p<0.01; ***p<0.001, two-tailed tests.

Among families with one child present (Model B), less severe or severe child disability or long-term illness was associated with a significantly lower rate of subsequent childbearing (.84 and .85 respectively). That is, families of first-born children with less severe disability or long-term illness had a 16 per-cent reduction in the likelihood of subsequent childbearing, and families of first-born children with severe disability or long-term illness had a 15 percent reduction in the likelihood of subsequent childbearing. A somewhat different trend was revealed among families with two or more children present (Model

C). Among families with more children present, only those families that experienced their second- or higher birth-order child having a severe disability to long-term illness, had a significantly lower rate of subsequent childbearing (.79). Specifically, among these families second- or higher birth-order children's severe disability or long-term illness was associated with a 21 percent reduction in the likelihood of subsequent childbearing in comparison to families in which second- or higher birth-order children did not experience any disability or long-term illness.

Both among families with one child present in the household and among families with two or more children present in the household, higher levels of maternal educational attainment were associated with a significantly higher rate of subsequent childbearing (1.15 and 1.15 respectively) relative to lower levels of maternal educational attainment. Moreover, both among families with one child present in the household and among families with two or more children present in the household, families in which mothers' experienced unemployment had a significantly lower rate of subsequent childbearing (.66 and .55 respectively). Nonetheless, subjective assessment of family economy (1.12), mothers' well-being (.88), and parental union status (.90) were only significant factors among families with one child present (Model B). In contrast, an increased age at mothers' first birth (.92) was only a significant factor among families with two or more children present (Model C). Finally, among families with two or more children present, families with two or more older children in addition to the 1995-child had a significantly lower rate (0.54) of subsequent childbearing, relative to families with only one older child in addition to the 1995-child present in the household (Model C).

These results stress the interplay between child health, family size, and subsequent childbearing. This additional analysis of subsequent childbearing by the number of children present in the household suggests that the initial findings in the full sample of families (Model A) may, to some extent, be primarily driven by families with only one child (the disabled or long-term ill child) present in the household. Moreover, these results underscore that different dynamics are likely to be at play in different types of families. Among families in which the disabled or long-term ill child was a second or higher birth order child, family members possibly allocate resources differently or have different

expectations associated with subsequent childbearing than among families in which the disabled or long-term ill child was a first-born.

3.2.6 DISCUSSION

Children with disabilities or long-term illness and their families constitute a considerable minority of contemporary families. These families often make substantial efforts to accommodate the disabled or ill child. Because family members' lives are lived interdependently, a child's disability or long-term illness is likely to be a factor not only in the child's own life course, but in the life course of parents and siblings too. Nonetheless, research on families has been reluctant to incorporate children's health as a dynamic and independent predictor for outcomes beyond those of the disabled or ill child itself. This study adds to a growing literature documenting the influence of children's health on the lives of their parents and siblings.

Even though numerous studies have modeled childbearing patterns, these studies have generally not included the health status of children already present in the household. This study shows that children's disability or long-term illness is an independent factor in families' subsequent childbearing. The fact that children's disability or long-term illness is significantly negatively related to subsequent childbearing is likely to reflect the special needs faced by families with disabled children. Previous studies of challenges in raising a child with a disability note the substantial direct and indirect costs of having a child with a disability (Stabile and Allin 2012). While, this study examined the influence of children's health in a Danish context, known for its' generous family policies and universal care reimbursement schemes, the results were more similar than expected to findings from the American context (MacInnes 2008). Moreover, qualitative work has indicated that parents of children with disabilities expressed concerns that an additional child may also have a disability and thus stretch the family's resources to a breaking-point (Hogan et al. 2012). Taken together, this suggests that, although policy interventions and reimbursements schemes are essential in helping these families manage the economic challenge of raising a child with a disability or long-term illness, non-economic costs are likely to also play a large role in relation to subsequent childbearing than we have previously assumed. In line with Frejka and colleagues (2008), we may

conclude that the availability of economic-based policies does not solely shape the timing of childbearing, but that the broader culture and attitudes present in a society must also be considered.

The interplay of children's health and family size profoundly influence families' subsequent childbearing. Among families with two or more children present in the household, only families of children with severe disability or long-term illness had a significantly lower rate of subsequent childbearing. This indicates that different mechanisms may be at play with regard to the decision to have additional children beyond number two. Two competing hypotheses are present in the literature on childbearing: whether completed fertility is determined by early preferences for a specific number of children, or whether childbearing decisions are made in a sequential manner based on a family's present circumstances (Udry 1983). Even if my additional analysis of family size revealed that different dynamics regarding the families' allocation of resources perhaps are at play among families with two or more children present the household, the data available in this study did not allow me to examine these two hypotheses further. However, it is likely that among parents that wish for a large family, only a child suffering from severe disability or long-term illness would make them postpone or avert subsequent childbearing. This would indicate that completed fertility may be partly driven by preferences and partly driven by a family's current situation. Indeed more research into this particular area of children's health and families' subsequent childbearing decisions would yield intriguing results. In addition, future studies on the relationship between children's health and their parents' re-partnering and subsequent childbearing with new partners would add essential knowledge about family consequences of children's disability and long-term illness.

The findings of this study support the idea that family members' lives are lived interdependently, and that the broader study of social processes should consider children's health as an independent factor. The persistent association between children's disability or long-term illness and families' subsequent childbearing suggests a role for children health in processes related to family life events. It is equally suggestive that the predicted differences in subsequent childbearing according to child disability or long-term illness are similar in magnitude to those according to key components in the family life course, such

as mothers' education, the family's economy, mothers' wellbeing, and the parents' union status. The consequences of children's characteristics, such as their health, are therefore both meaningful and relevant to consider when studying social processes related to individual life courses, as well as family life events.

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3.2.8 APPENDIX

Appendix 3.2.A

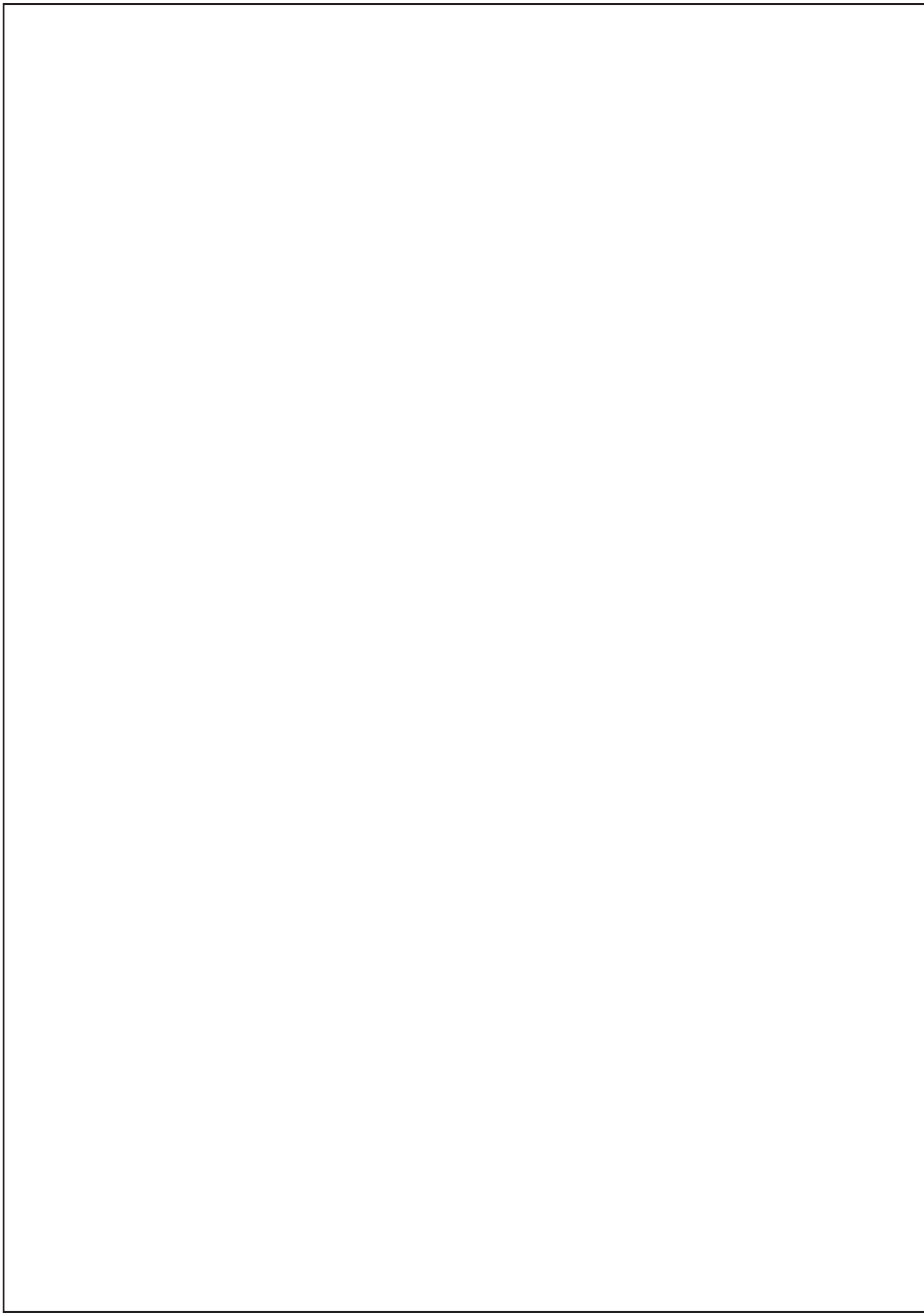
Variables	One child present		
	Year	Percentage or Mean	SD
Subsequent childbearing	1996-2002		
No subsequent childbearing		10	
Subsequent childbearing		76	
Parental Relationship termination		14	
Child health	1996-2002		
No child disability or long-term illness		79	
Less severe child disability or long-term illness		11	
Severe child disability or long-term illness		10	
Socio-economic resources			
Mothers education[a]	1996-2002		
Compulsory schooling		21	
High School		14	
Vocational training		38	
Short cycle higher education		19	
University degree		9	
Mothers unemployment	1996-2002		
Mother did not experience unemployment		77	
Mother did experience unemployment		23	
Fathers unemployment	1996-2002		
Father did not experience unemployment		91	
Father did experience unemployment		9	
Mothers average disposable income[a b]	1996-2002	117	34
Fathers average disposable income[a b]	1996-2002	151	70
Mothers assessment of family economy	1996		
Somewhat satisfactory or not satisfactory		26	
Good or very good		74	
Well-being			
Mothers personal wellbeing	1996		
No symptoms of depression or stress		77	
Symptoms of depression or stress		23	
Demographic factors			
Union status	1996		
Married		41	
Cohabiting		59	
Mothers average age at her first birth	1996	26	4
Number of children present in the household	1996		
No child in addition to 1995-child		100	
One child in addition to 1995-child		0	
Two children or more in addition to 1995-child		0	

Notes: [a] shown for year 1996 only. [b] Currency=DKK, measured in thousands, and index year =2000. (*n* = 2114).

Appendix 3.2.B

Variables	Two or more children present		
	Year	Percentage or Mean	SD
Subsequent childbearing	1996-2002		
No subsequent childbearing		55	
Subsequent childbearing		25	
Parental Relationship termination		20	
Child health	1996-2002		
No child disability or long-term illness		75	
Less severe child disability or long-term illness		12	
Severe child disability or long-term illness		13	
Socio-economic resources			
Mothers education[a]	1996-2002		
Compulsory schooling		22	
High School		9	
Vocational training		39	
Short cycle higher education		24	
University degree		6	
Mothers unemployment	1996-2002		
Mother did not experience unemployment		79	
Mother did experience unemployment		21	
Fathers unemployment	1996-2002		
Father did not experience unemployment		92	
Father did experience unemployment		8	
Mothers average disposable income[a b]	1996-2002	132	42
Fathers average disposable income[a b]	1996-2002	159	85
Mothers assessment of family economy	1996		
Somewhat satisfactory or not satisfactory		29	
Good or very good		71	
Well-being			
Mothers personal wellbeing	1996		
No symptoms of depression or stress		75	
Symptoms of depression or stress		25	
Demographic factors			
Union status	1996		
Married		69	
Cohabiting		31	
Mothers average age at her first birth	1996	27	4
Number of children present in the household	1996		
No child in addition to 1995-child		0	
One child in addition to 1995-child		67	
Two children or more in addition to 1995-child		33	

Notes: [a] shown for year 1996 only. [b] Currency=DKK, measured in thousands, and index year =2000.
(n = 2890).



4 THEORY FAMILY AND POLICY

4. Does Care Matter?

Care capital and mothers' time to paid employment[4]

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4.1 ABSTRACT

This study examines mothers' entry or return to employment during the first 36 weeks following a birth and its association with nonparental child care use before labor force entry. Using data from the Early Childhood Longitudinal Study, Birth Cohort (N = 10,400 mothers), results from discrete-time hazard models reveal that use of nonparental child care prior to employment was positively associated with the rate of employment entry. This finding applies both to first-time mothers (n = 3,800) and to mothers of multiple children (n = 6,600). These results suggest that mother's experiences with nonparental child care, understood as a form of capital alongside economic and human capital, should be considered in future studies of maternal employment.

4.2 INTRODUCTION

This paper develops the idea of care capital – the nexus of available, accessible, and experienced resources for child care – as a complement to the importance of human and economic capital on mothers' employment following birth. A variety of studies demonstrates that access to higher-quality, lower cost child care, as well as more intensive state supports for children, lower the overall cost of child care (see Blau & Currie 2003 for a review). This paper posits that child care-related resources, which we call "care capital," complement the importance of mothers' human and economic capital and influence mothers' labor force participation following birth. This paper develops the concept of care capital to better understand the employment and family decisions of young mothers, and as a device for international comparison.

Increased maternal labor force participation has radically changed how women navigate work and family as well as how young children spend their time (Cohen, 2001). Today 56% of mothers with a youngest child under age 1 are engaged in paid employment (Bureau of Labor Statistics, 2011). Furthermore, a recent study showed that among employed mothers, 13% of children under age 1 had no regular child care arrangement; among unemployed mothers this figure was 74 % (Laughlin, 2010). Accordingly, it has been broadly recognized that mothers' labor force participation poses profound challenges for women to balance work and family responsibilities (Nomaguchi, 2009; Voydanoff, 2004). In addition, as employment of mothers of infants has become common, the timing of mothers' labor force entry following the birth of a child and these mothers' use of nonparental child care in order to balance work and family responsibilities has become a central issue not only to family scholars, but also to policymakers and care providers.

Studying the use and timing of nonparental child care among mothers of infants is important because it is a key factor in these women's ability to combine employment with the intensive care of young children (Baum, 2002). This intersection of child care and paid employment has been the subject of considerable research in the past decade, expanding our knowledge concerning demographic trends, policy impacts, the work-family dilemma, and child outcomes (see Bianchi & Milkie 2010 for a review). The process underlying employment transitions faced by mothers following the birth of a child, however, remains

less well understood. This study introduces the concept of care capital, highlighting the need to isolate child care as a resource women are likely to use to support them as they pursue dual roles as mothers of infants and as workers. It examines nonparental child care as a form of capital that should be considered alongside economic and human capital, as these are all associated with rates of maternal employment during the first 36 weeks after a birth, the time period during which most mothers will enter or return to the labor force following childbirth (McGovern et al. 2000).

4.3 BACKGROUND

Previous literature has long demonstrated the influence of household income on women's employment. Economists have argued that the general motivation for a woman to engage in the labor force is dependent on her spouse or partner's income (Becker, 1991). The greater income of a present spouse or a partner, the lower likelihood for a woman to participate in paid employment (Ibid). Nonetheless, more recent research has indicated a diminishing effect of other sources of household income on women's labor force participation (Cohen & Bianchi 1999). In this framework, the cost of child care reduces the net benefit of maternal employment. In addition, child care costs are likely to make up a larger share of low-income families' earnings than of high-income families' earnings. Studies have shown that in comparison to mothers with more adequate earnings, the cost of child care constitutes a greater barrier to employment for low-income mothers (Baum, 2002; Han & Waldfogel 2001).

Women's education and employment history has also been established as associated with maternal employment. Literature suggests that, compared with their less-educated counterparts, mothers with higher levels of education are more likely to be in the labor force (Cohany & Sok 2007; Hofferth, 1996; Waldfogel, Higuchi, & Abe, 1999;). Moreover, research has shown that mothers' participation in paid employment before a child's birth strongly increases the rate of post-birth employment (Han, Ruhm, Waldfogel, & Washbrook, 2008).

At the general level, evidence suggests that public and private policies, such as paid or unpaid leave, also strongly influence mothers' time to employment following childbirth (Berger & Waldfogel 2004; Hofferth & Curtin 2003).

The 1993 Family and Medical Leave Act (FMLA) guarantees a woman up to 12 weeks' unpaid leave without loss of employment, seniority, or reductions in hourly wage, in order to facilitate care of a newborn child or an ill family member (Ruhm, 1997). Consequently, the unfunded nature of such leave policies requires mothers to not only have alternative income or savings available (economic capital), but also to have a certain level of attachment and leverage in their workplace (human capital) in order to invoke their right to this type of unpaid leave (Palley & Shdaimah 2011).

Research has found that mothers who had a child after FMLA was introduced returned to work more quickly than those who had a child before FMLA, and that mothers' years of work experience had a positive and significant association with this return (Hofferth & Curtin 2003). Generally, mothers with access to public and private policies (e.g., flexible spending accounts, liberal leave policies, and onsite child care) have been found to return to work sooner (Hofferth, 1996).

A variety of socio-demographic background characteristics also affect the timing of a mothers' labor force entry following child birth. Not only does the presence of a spouse or partner increase the likelihood of additional available income, as mentioned above, it also provides an additional source of caretaking. In addition, a new mother may also consider the preferences of her spouse or partner regarding her formal employment. Whereas the vast majority of research has suggested that single mothers, due to financial pressure, return to paid employment at a faster rate than their non-single counterparts (Gould, 2004), Han and colleagues (2008) found few real differences in employment rates between married, cohabiting, and single mothers until 8 or 9 months after childbirth. Age, as well as race and ethnicity may also affect mothers' employment entry after child birth. Generally, older mothers have been found more likely to be experienced labor force participants (Hofferth & Curtin 2003; Marshall, 1999), and Black mothers have been found to return to work more quickly after a birth than White women, in line with evidence showing that Black mothers have historically been employed at higher rates (Hofferth & Curtin 2003). Mothers of infants with unexpected health problems detected at birth or shortly after, have significantly more unpaid leave days (MacGovern, Bowwd,

Gjerdingen, Moscovice, Kockevar and Murphy 2000) and reduced labor force participation (Corman, Noonan & Reichman 2005).

Finally, caring for unexpectedly ill infants may reduce mothers' overall labor force participation (Cormac, Noonan, & Reichman, 2005), as may caring for more children. Because the cost of staying home declines and the cost of engaging in paid employment rises with the number of children present in the family, mothers are likely to return at a faster rate after the first birth than after the second or higher-order births (Hofferth, 1996). Baum (2002) found that the presence of multiple children had a decreased probability that the mother was employed and paying for child care, as did the additional number of infants.

Conceptualizing Child Care

Due to the high care demands of a newborn child, maternal work-family role incompatibility is likely to intensify immediately after the birth of a child. Particularly during this period, mothers may capitalize on nonparental care capital to navigate the work-family dilemma. We define care capital as formal and informal supports available to mothers of infants as they make decisions about child care and their own participation in the labor force, including employment, public welfare programs, and access to low-cost and high-quality child care.

Finding stable qualified child care arrangements remains difficult in the U.S., and evidence has suggested that different types of child care arrangements such as familial, non-familial, and center-based care should not be viewed as mutually exclusive (Blau & Robins 1998; Johnson, 2005). Some families may deliberately patch together multiple child care arrangements in order to fulfill ideals of child development, whereas other families combine several child care arrangements out of necessity to cover parents' employment hours (Morrissey, 2008). Such differences in intentions using multiple child care arrangements are difficult to assess, but important to recognize. A recent study showed that 39% of children in care experienced a change in their care arrangement within the first 15 months of life, and 46% experienced multiple and concurrent changes (Tran & Weinraub 2006). In this study we specify care capital as nonparental care provided by a relative, a nonrelative, or center-based care. That is, for the purpose of examining the association of care capital and the timing of maternal employment, care capital is conceptualized as the use of any nonparental care

arrangement occurring in any week between the birth of a child and the week prior to mothers' labor force entry or return within the first 36 weeks after childbirth.

This paper examines how mothers' time to paid employment in the first 36 weeks following childbirth is driven by care capital, as well as economic capital, and human capital, controlling for socio-demographic characteristics. As mothers' employment and child care capital are both individual time-varying entities, a dynamic approach that takes advantage of the exact history of these events, is preferable to static cross-sectional studies of the effect of nonparental child care on maternal employment. Such a dynamic approach can show how nonparental child care use influences mothers' work decisions as well as the timing of their entry into the labor force following childbirth. Knowing the degree to which child care capital impacts mothers' decision to work within the first 36 weeks after child birth is important because the majority of all mothers are working by the time their infants are of this age.

Care capital was expected to be negatively associated with mothers' time to employment, and this association is expected to remain stable as economic capital, human capital, and socio-demographic characteristics are introduced in the model. Economic capital was expected to be positively associated with mothers' time to paid employment. Human capital was expected to be negatively associated with mothers' time to paid employment. As the study focuses on the timing of maternal employment relative to the use of nonparental childcare, event history techniques were applied to empirically evaluate our hypotheses.

4.4 METHOD

Data from the first wave of the Early Childhood Longitudinal Study, Birth Cohort (ECLS-B) were used to investigate the research questions using discrete-time event history analysis. The initial sample of ECLS-B consisted of a nationally-representative sample of approximately 14,000 children with diverse socioeconomic and racial or ethnic backgrounds born in the United States in 2001. Some subpopulations were oversampled, including Asian and Pacific Islander children, American Indian and Alaska Native children, Chinese children, twins, and low and very low birth weight children. Children whose mothers were younger than age 15 at the time of the focal child's birth were exclud-

ed from the initial sampling frame. The first interviews were done when the focal child was 9 months old. The survey instruments also included a parent interview (usually the focal child's mother); these parent interviews formed the data for this study. For further details on the survey see Flanagan & West 2004. The response rate for the 9-month parent interview was 76% (*N*=10,700), and for the current investigation, we excluded 150 cases (1%) where the mother was not the biological mother of the focal child (i.e. case deletion). Moreover, due to missing data on one or more of the measures of interest, an additional 150 cases (1%) were deleted. The final analytical sample consisted of 10,400 mothers. It should be emphasized that the focal child was not necessarily the mother's only or first child. Furthermore, no distinction was made between whether mothers were entering employment or returning to the same job held prior to the birth of the focal child – they were all included in the analysis as entering paid employment.

Dependent Variable. Using a retrospective question asking the mothers "How old was [the name of the focal child] when you first went [back] to work a job?" we obtained information on whether the mother had entered paid employment by the time of the interview (9 months after birth of the focal child), and if so, in which week following the birth of the focal child the employment had started. From this information we generated a binary measure of whether each mother had entered paid employment in each of the 36 weeks between the birth of the focal child and the time of the interview. Because child care is required for any type of out-of-home employment, no distinction was made between part-time or full-time employment.

Care capital. The key independent variable in the analysis was a time-varying measure of the use of any nonparental child care up to one week prior to a mother's entry into paid employment. Mothers were asked to report the focal child's age when the child first began any nonparental care. From this information we calculated a binary measure indicating whether the use of any nonparental care occurred in any given week during the 36 observed weeks following the birth of the focal child. In the ECLS-B data it is possible to distinguish between three different types of nonparental child care: child care provided by a

relative of the focal child, child care provided by a nonrelative of the focal child, and center-based child care. An early intention of this study was to assess the different effects associated with each of these three types of child care. But in line with previous literature suggesting that different types of care should not be viewed as mutually exclusive (Johnson, 2005; Morrissey, 2008), the survival curves for rate of employment following birth for each of these three types of care were not significantly different from one another. Thus, no empirical support existed for distinguishing between different types of child care in our analysis. Therefore, the measure of child care capital refers to the use of any type of nonparental child care up to one week before a mother's entry into paid employment.

Economic capital. To account for economic capital a set of indicator variables for household income in the previous year was included. 900 (9%) of the mothers either did not know or refused to answer questions about household and individual income. Nonetheless, the ECLS-B dataset also included a constructed variable, classifying households into socioeconomic quintiles, which was used to categorize those who responded in this way. Together these income reports and constructed income values were recoded to create indicators of whether a mother's household income in the previous year was *less than $15,000* (reference), *$15,001 to 35,000*, *$35,001 to $50,000*, *$50,001 to 100,000,* or greater than *$100,001*. Unfortunately, no measures that exclude mothers' wages are available in the ECLS-B data. Therefore, in this study, this household income variable was included as a proxy for household economic capital, and is in this study referred to as income.

Human capital. Human capital was operationalized as mothers' education and work experience. Based on mothers' reports of highest grade or level of education completed, a set of indicator variables was generated assessing whether the mothers' education was best described as *less than high school* (reference), *high school or equivalent*, *some college or equivalent*, *bachelor's degree or equivalent*, or *beyond bachelor's degree*. A second human capital indicator of recent work experience was also included in the analysis. Three questions from the survey were used in order to generate this measure. Mothers were asked if they

worked during the 12 months before the focal child was born, to which they responded yes or no. Those who responded affirmatively were then asked if they had taken any maternity leave, either paid or unpaid, from their jobs while they were pregnant or right after the focal child was born, to which they responded yes or no. An affirmative response to that question then prompted a question about how many weeks of paid leave they received from their job while they were on maternity leave. This last question was recoded as whether mothers had had any paid leave or not. This information was combined into a set of indicator variables of whether mothers *did work and had no maternity leave* (reference), *did not work prior to birth, did work and had unpaid maternity leave,* and *did work and had paid maternity leave*.

Socio-demographic characteristics. The analysis also included controls for relevant background factors related to family characteristics. First, the analysis included a binary measure indicating whether the focal child was singleton or twin. This information is directly available in the data. In order to account for the presence of a spouse or a partner in the household, information from two survey questions was used. Mothers were asked if they had a spouse or partner who lived in their household, to which they responded yes or no. Those who answered that they did have a spouse or a partner in the household were then asked if that spouse or partner had always lived with them since the focal child was born, to which they responded yes or no. This information was combined to form a binary measure of spouse/partner presence in the focal child's household from birth to 36 months. With regard to child health, mothers were asked if, as a newborn, the focal child had to stay longer in the hospital as a newborn because of medical problems, to which the mothers responded yes or no. This question was also then used to generate a binary measure of the child's early health.

Based on a continuous measure of mother's age directly available in the data, a set of indicator variables was generated assessing whether mothers were *age 24 or younger* (reference), *age 25 to 34,* or *age 35 or older*. The analysis also includes indicator variables for mothers' race and ethnicity: *White non-Hispanic* (reference), *Black non-Hispanic, Hispanic, Asian,* or *Other.*

Additional children. Models were estimated separately for mothers where the focal child is their first child (n = 3,800) and mothers who already had one or more children when the focal child was born (n = 6,600). Therefore, the model estimating the entry into employment for mothers of more children included a measure of how many additional children were present in the household when the focal child was born. A count variable of the number of siblings the focal child had present in the household was directly available in the data, which this study recoded into a set of indicator variables measuring whether *one additional child* (reference), *two additional children*, or *three or more additional children* were present in the household.

Analytic Strategy

First we explored descriptive statistics for all measures included in the study by examining means and standard deviations. It should be emphasized that a qualification for this study was the fact that child care use typically preceded maternal employment by 4 weeks or more (87% among mothers of one child and 84% among mothers of more children). Next, we created a person-week file from the data and analyzed it using discrete-time hazard models using mothers' entry into paid employment as the observed event. Time was observed as discrete intervals and the time unit was weeks. The window of observation was 36 weeks and the defining moment for mothers' first exposure to the 'risk' of entering paid employment was the birth of the focal child. From the point at which a mother reported having first experienced paid employment after the child's birth, that mother was censored from the data and not enrolled again at any subsequent point in time. Because we expected the hazard of entering paid employment to increase with infant's age and therefore change over time, duration was included in the estimated models. The duration measure equaled 1 at the time the focal child was born and increased by 1 across each person-week interval (up to 36, which is the number of weeks in our window of observation).

4.5 RESULTS

Descriptive statistics are shown in Table 4.1. The average time to paid employment was 15 weeks among mothers of one child as well as among mothers

of more children. Both mothers of one child and mothers of more children used, on average, 15 weeks of child care prior to employment.

Table 4.1

Reports of employment variables, child care use variables, economic capital variables, and human capital variables: descriptive statistics for mothers of one child (n = 3800) and for mothers of more children (n = 6600).

Variables	Mothers of One Child			Mothers of More Children		
	%	M	SD	%	M	SD
Entry into paid employment[a]		15.51	9.22		14.92	8.95
Child care use prior to employment[a]		14.85	10.90		14.77	11.19
Economic capital						
Income $15,000 or less	25.66			21.99		
Income $15,001 to $35,000	29.97			27.39		
Income $35,001 to $50,000	12.61			14.66		
Income $50,001 to $100,000	21.61			24.50		
Income $100,001 or more	10.16			11.46		
Human Capital						
Less than high school	27.79			25.47		
High school or equivalent	20.18			20.65		
Some collage or equivalent	18.79			20.81		
Bachelor degree or equivalent	22.11			22.81		
Beyond bachelor degree	11.13			10.26		
Did not work prior to birth	25.13			31.61		
Did work and no maternity leave	27.68			23.86		
Did work and unpaid maternity leave	15.53			14.89		
Did work and paid maternity leave	31.66			29.64		
Additional Children[b]						
One additional child				54.10		
Two additional children				29.11		
Three or more additional children				16.79		

Note: All values are unweighted. [a]Measured in weeks (range 1 to 36). [b]Only relevant for mothers of more children.

The results from the discrete-time event history analysis of mothers' entry into paid employment are provided in Table 4.2. Mothers of one child have higher odds (e^B= 4.11) of returning to employment compared to mothers of one child who did not use child care after birth and prior to employment. Likewise, in comparison to mothers who also have older children who do not use child care after birth and prior to employment, mothers of more children have higher odds (e^B=3.78) of returning to work if they use child care for their new child prior to returning to employment.

Table 4.2

Summary of event history analysis for variables predicting entry into paid employment within thirty-six weeks following a childbirth for mothers of one child (n = 3800; person-weeks = 84334) and mothers of more children (n = 6600; person-weeks = 152617).

	Mothers of One Child			Mothers of More Children		
	B	*SE B*	e^B	B	*SE B*	e^B
Care Capital						
Child care use[a]	1.14***	.17	4.11	1.33***	.14	3.78
Constant	-4.14			-3.33		
χ^2		398.97			795.79	
df		5			5	
% employed by week 36		61.1			54.9	

Note: Duration controls are duration, duration squared, interaction between child care use and duration, and interaction between child care use and duration squared (omitted from the table). e^B = exponentiated *B*. [a]Time-varying variable.
*$p < .05$. **$p < .01$. ***$p < .001$.

As economic capital, human capital and background factors were added to the model (Table 4.3). The effects of child care use after birth on the rate of employment are reduced somewhat, but remain relatively stable and statistically significant (e^B=3.56 for mothers of a first child and e^B=3.10 for mothers of a second or higher order birth). This indicates that child care use is an independent factor in the rate of employment following the birth of a child.

Compared to mothers of more children with household income of $15,000 or less prior to birth, mothers of more children with an income of $15,001-35,000, $35,001-$50,000, and $50,001-$100,000 all have significantly greater odds (20%, 23%, and 32% respectively) of entering paid employment, but economic capital does not affect the rate of return to work for first-time mothers.

Among mothers with one child, those with a high school education or equivalent as well as mothers with education beyond a bachelor's degree have significantly higher odds (24% and 25% respectively) of entering paid employment as mothers with less than high school education. Among mothers with more children, mothers with a high school education or equivalent as well as mothers with some college education or equivalent have significantly higher odds (20% and 14% respectively) of entering paid employment as mothers with less than high school education.

Table 4.3

Summary of event history analysis for variables predicting entry into paid employment within thirty-six weeks following a childbirth for mothers of one child (n = 3800; person-weeks = 84334) and mothers of more children (n = 6600; person-weeks = 152617), controlling for background factors.

	Mothers of One Child			Mothers of More Children		
	B	***SE B***	e^B	**B**	***SE B***	e^B
Care Capital						
Child care Use[a]	1.27***	.17	3.56	1.13***	.15	3.10
Economic Capital						
Income $15.000 or less[b]						
Income $15.001 to $35.000	-.03	.06	.97	.18***	.06	1.20
Income $35.001 to $50.000	-.03	.08	.97	.21**	.07	1.23
Income $50.001 to $100.000	.07	.08	1.07	.28***	.07	1.32
Income $100.001 or more	-.05	.09	.95	.12	.08	1.13
Human Capital						
Less than high school[b]						
High school or equivalent	.21**	.07	1.24	.18***	.05	1.20
Some collage or equivalent	.11	.07	1.12	.13*	.06	1.14
Bachelor degree or equivalent	.09	.08	1.09	.08	.06	1.08
Beyond bachelor degree	.22**	.10	1.25	.07	.08	1.08
Did work and no maternity leave[b]						
Did not work prior to birth	-.60***	.07	.55	-1.02***	.06	.36
Did work and unpaid maternity leave	1.30***	.07	3.66	1.33***	.05	3.80
Did work and paid maternity leave	1.46***	.06	4.33	1.47***	.05	4.33
Additional children[c]						
1 additional child[b]						
2 additional children				-.07	.04	.93
3 or more additional children				.00	.05	1.00
Constant	-4.99			-4.66		
χ^2		1860.29			4004.10	
df		25			25	
% employed by week 36		61.1			54.9	

Note: Controls are whether the child are singleton or twin, presence of spouse or partner, child health, mothers age, and mothers race (omitted from the table). Duration controls are duration, duration squared, interaction between child care use and duration, and interaction between child care use and duration squared (omitted from the table). e^B = exponentiated *B*.
[a] Time-varying variable. [b] Reference group. [c] Only included in model for mothers of more children.
*p < .05. **p < .01. ***p < .001.

In comparison to mothers of one child who did work prior to the birth and had no maternity leave, mothers of one child who did not work have a significantly lower likelihood (45% lower odds) of entering paid employment. This trend is even more pronounced among mothers of more children, where this figure is a 64 % reduction in the odds ratio. Still, in comparison to mothers of one child who did work prior to the birth and had no maternity leave, mothers of one child who did work and had unpaid maternity leave are 3.66 times as likely to enter paid employment, and mothers of one child who did work and had paid maternity leave are 4.33 times as likely to enter paid employment. A

similar result is found among mothers of more children, where these figures are 3.80 and 4.33 respectively.

4.6 CONCLUSION

This research was motivated by the desire to develop the concept of care capital in understanding mothers' employment and child care behaviors following birth. We examined one aspect of care capital – whether mothers who have experience using child care are more likely to enter employment in the 36 weeks following a birth. Research typically has treated the decision to use child care and return to work as simultaneous decisions. This study, however, was initiated by evidence that child care typically precedes employment by 4 weeks or more. Experience with nonparental child care is a resource – care capital – that mothers can draw on as a complement to human capital and economic capital in employment decisions following birth. The association of care capital with a high rate of employment following birth does not appear to be due to economic resources in the household, mothers' human capital, nor with socio-demographic characteristics. The magnitude of the relationship between care capital and an earlier rate of employment following birth is true of both first-time mothers and mothers with one or more older children.

The findings of this study are limited by inadequate measures of a few key variables. The measure of employment before and after birth did not distinguish between mothers who entered the labor force for the first time, entered a new job, or returned to the same employer. Nevertheless, the multivariate models did control for the greater probability that women who worked prior to the birth would have a higher rate of entering paid employment following the birth. Particularly problematic is that our measure for economic capital included mothers' income, and thus household income net of mothers' contribution is unknown. Overall data limitations prevented us from specifying the usual labor force equations for women's work. Nonetheless, we do not think these weaknesses negate our findings about the importance of care capital in mothers' rate of employment during the first 36 weeks after birth. The overall association of the child care experience variable was largely unchanged by the introduction of control variables and also when examined for mothers with first births and subsequent births, indicating that the relationship is stable under a variety of alter-

native specifications. Finally, although we cannot demonstrate a causal relationship between child care experience and the rate of return to work, we have demonstrated that there is a strong and persistent association between the two.

It has proven useful to conceptualize different aspects of economic well-being (wealth, home ownership, income, health insurance etc.) as components of economic capital, so too is it useful to conceptually group factors related to child care under the rubric of care capital. Viewed this way it is possible to understand substitutability and complementarity among types of care capital and identify elements of care capital that are essential for particular economic or social outcomes, including mothers' labor force participation.

Care capital is higher when child care is more affordable and high quality care is readily available. Variations in care capital can be found at the individual level, at the community level, in administrative divisions, or national levels, and may differ according to social class, marital status, race and ethnicity, or cultural group. There may also be substantial variations in care capital across counties and states because of differing level of child care subsidies, the licensure of child care centers, regulations of child care quality, and the functioning of local markets (e.g., Blau & Tekin 2007).

The concept of care capital is also useful for international comparative studies of variations in the rate of employment of mothers with young children. Notably but perhaps unsurprisingly, care capital for women in the United States is relatively poor compared to other nations. In some societies care capital is quite high. In the Nordic countries, family-friendly policies promote high standards for child care services, and child care subsidies, and the use of formal child care is socially accepted, all factors that combine to increase the likelihood women will become employed after the birth of a child (Rønsen & Sundström 2002).

Demographers have described changes in the employment, family, and fertility behaviors of couples in the western world as becoming increasingly individualized in recent decades, with a consequential shift towards a new demographic era (Lesthaeghe & Neidert 2006). This 'second demographic transition' involves a multitude of living arrangements, including cohabitation, marriage, and divorce as well as childbearing outside of marriage. In addition, women's employment is common but often remains more or less incompatible

with traditional homemaker and mother roles, and many women remain childless or have only one child (Ibid). At the national level, this leads to both a fertility rate well below replacement level and rapidly aging societies. Generally speaking, societies typified by this second demographic transition are characterized more by similarity in regard to economic and human capital than by variation. Care capital, in contrast, differs extensively across nations in terms of the availability, quality, and cost of child care. In fact, it is only when nations that have undergone the second demographic transition dramatically increase care capital to support mothers' employment through flexible work schedules, extensive paid family leave, and guarantee of return to their previous job without penalty that the low fertility of the second demographic transition is reversed (Goldstein, Sobotka, & Jasilioniene, 2009).

Care capital is a concept that encompasses the variety of child care indicators in other research, draws attention to excluded child care variables, and provides a framework to compare national child care policies.

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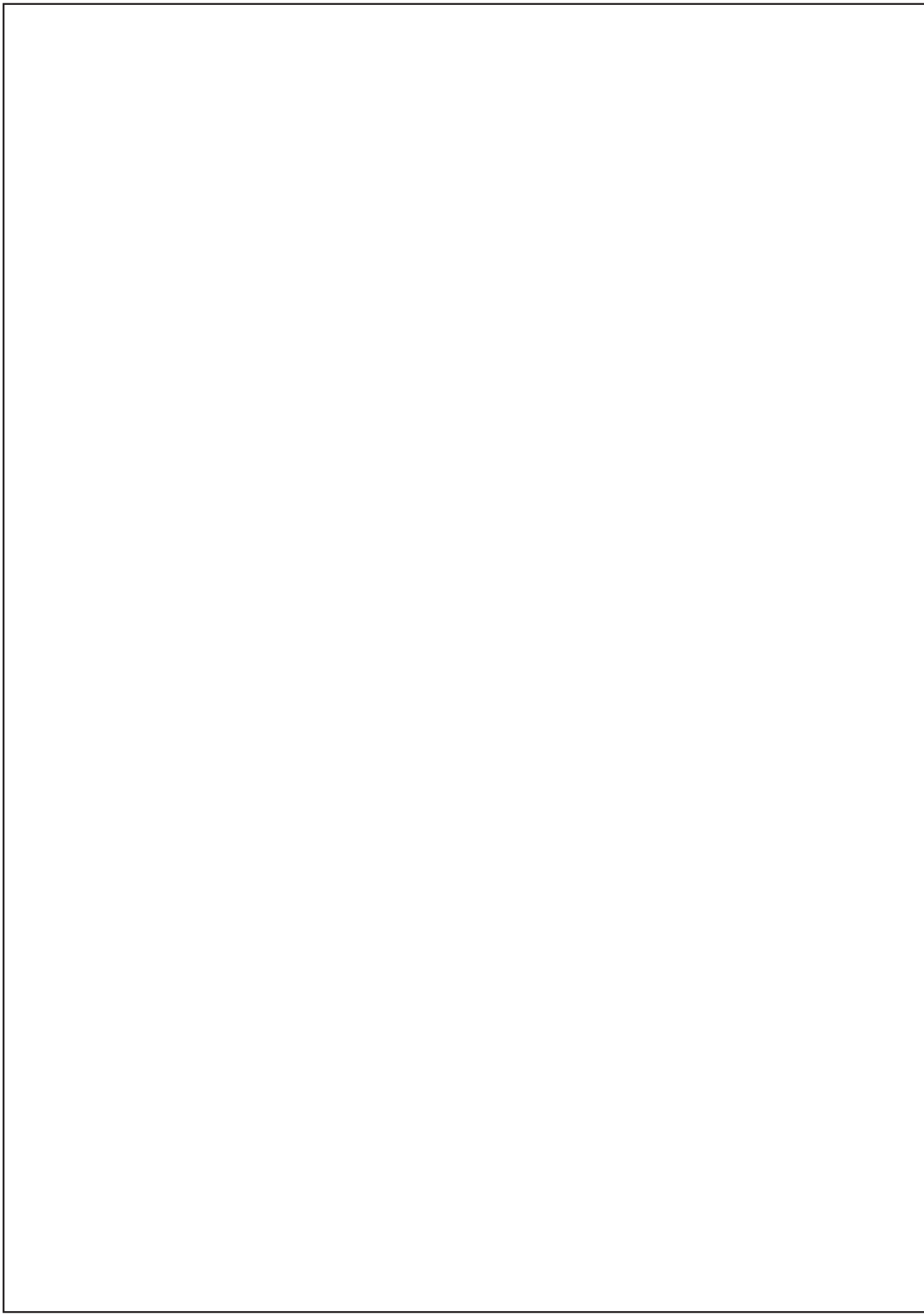


5 SOCIAL CHANGE AND FAMILY FORMATION

5. Family Formation in Denmark

Pathways and precursors

5.1 ABSTRACT

Using data from The Danish Longitudinal Survey of Youth and by means of latent class analysis, this study generated probabilistically distributed family formation pathways for men (n = 1,147) and women (n = 1,226) between the ages of 18 and 30. Latent class indicator variables included leaving the parental home, participating in further education, formal employment experience, union status (cohabiting or married), and parenthood. Four latent pathways were identified for both genders: Traditional (51% among men, 60% among women), Cohabiting (21% among men, 20% among women), Educated Traditional (15% among men, 11% among women), and Late Start (13% among men, 9% among women). Although the pathways of family formation were similar for men and women, women generally initiated family formation about two years earlier than did men. Multinomial regression analysis further revealed that personal preferences, individual abilities, and sociodemographic factors distinguished the sorting of men and women into each pathway.

5.2 INTRODUCTION

Changes in how romantic unions are formed, the meaning of first partnership, and a growing acceptance of alternative living arrangements happened in close connection with a number of changes in economic, demographic and social structures that took place in the wake of World War II (Cherlin, 2004). Although an extensive literature has discussed how family formation has changed over the course of the late the 20th century (Furstenberg Jr, 2010), these changes did come about in diverse ways and at various times in different national settings (Buchholz et al., 2009; Buchmann & Kriesi, 2011; Hareven, 2000). Patterns of family formation vary between countries, because each country follows specific trajectories in relation to their different starting points, particular historical contexts, and institutional settings (Mills & Blossfeld, 2012). Thus, in order to further our understanding of the ways in which individuals form families, it is useful to advance our knowledge with regard to specific national settings (Evans & Baxter, 2012; Mason & Jensen, 1995). In recent years the literature on family formation has become intertwined with the literature on the transition to adulthood, and researchers have established the need for family studies to integrate individual experiences in other life domains (Elzinga & Liefbroer, 2007). Drawing on the life course perspective and understanding family formation as an interplay of multiple trajectories and transitions unfolding over time, a growing body of literature has explored family formation as pathways of role configurations associated with independent living, education, employment, partnering, and parenthood (see e.g. Amato et al., 2008; Macmillan & Copher, 2005).

Taken together, changes in institutional opportunity structures have been widely associated with a normative shift that, in turn, is believed to have altered the timing and sequencing of role transitions over the course of individual lives (Bengtson & Allen, 1993; Bumpass, 1990). Sociocultural conditions may directly influence patterns of family formation, while also indirectly influencing the social mechanisms sorting individuals into specific family formation pathways. To understand the unfolding of individual lives in a context of significant social change, the present study uses unique longitudinal data on one of the first cohorts to come of age in a well-established Danish welfare state. By means of latent class analysis I identify family formation pathways among men and women with respect to leav-

ing the parental home, formal employment, educational attainment, cohabitation, marriage, and parenthood. In addition, I examine variations in precursors sorting individuals into specific family formation pathways. Extending existing literature on precursors of family formation behavior, the present study investigates whether following a specific family formation pathway is associated with personal preferences, individual abilities, socio-economic background, and gender. This investigation moves beyond prior research because it is first to study individual family formation pathways and their precursors in an alternative national context such as the Danish welfare-state. Furthermore, to the author's knowledge, no previous study of family life pathways has simultaneously included data on both men and women, their cohabitation experiences, generated pathways over an extended age span (age 18-30), and investigated social mechanisms sorting individuals into specific pathways.

A deeper understanding of family formation pathways is important because the interplay of family, education, and work experienced in young adulthood have fundamental implications for individual outcomes later in life (Shanahan, 2000). Moreover, consideration of the interdependency of individual trajectories and transitions in relation to the family in an alternative social and historical context is valuable for several reasons. First, theories on family formation often mark this period as essential in bringing about new ways of family life (Cherlin, 2004). Second, the Scandinavian social-democratic welfare state is frequently cited for its general focus on equality through universal access to education, its regulated labor market, and the role of its universal, generous and family-friendly policies (Esping-Andersen, 2009). Third, the Scandinavian setting, and especially Denmark, is noted as a vanguard nation with regard to non-marital cohabitation, non-marital childbearing, and postponement of family formation (Kiernan, 2001; Lesthaeghe, 2010).

5.3 BACKGROUND

The life course perspective is a useful theoretical approach to study family life over time, because it involves a contextual, process-oriented, and dynamic approach to the study of individual lives (Bengtson & Allen, 1993; Hogan & Astone, 1986). As a concept, the life course is defined as *"Pathways through the life span*

involving a sequence of culturally defined, age-graded roles and social transitions enacted over time" (Elder, 1985). Roles refer to the positions that individuals occupy within social institutions (for example being a student, a worker, a partner, or a parent), and mostly individuals occupy multiple roles simultaneously (Macmillan & Copher, 2005). In this study, pathways are defined as the interconnectedness of such role configurations, and pathways are assumed to aggregate in a given society in order to define the overall structure of the timing and sequencing of transitions in the life course (Macmillan & Eliason, 2003).

Although gender is less explicitly theorized in the life course perspective, the implicit acknowledgement of diversity of life span transitions allow for identification of individual variability between men and women in the relative timing and sequencing of transitions (Hogan, 1985). Research suggests that changes in the general structure of the life course in the latter part of the twentieth century have been more prevalent for women than for men (Brückner & Mayer, 2005). Especially, transitions between school, higher education, and work have become less differentiated by gender as societies have moved away from the male-breadwinner family towards a model of higher gender equity (Esping-Andersen, 1999). Nevertheless, even if men and women's life courses may have become more similar with regard to educational attainment and paid employment, the life course is still likely to differ with regard family roles (Fussell & Furstenberg Jr, 2005; Oesterle, David Hawkins, Hill, & Bailey, 2010). For example, relative to men, women have consistently been found more likely to experience marriage and childbearing at earlier ages and to raise children outside of marriage (Seltzer, 2000)

Family Formation Pathways

Over the course of the 20th century the social norms associated with family formation have undergone considerable changes, as reflected in new patterns in the timing and sequencing of family life transitions (Billari & Liefbroer, 2010). Marriage and parenthood were postponed, and non-marital childbearing and repartnering became more prevalent (Brückner & Mayer, 2005; Shanahan, 2000). A transformed opportunity structure also led to increased educational requirements and higher expectations of social mobility in the labor market. As a consequence, the 1950s Fordist era's clearly age-graded and distinct life phases of schooling or

training, stable employment, early marriage, and early childbearing, became less applicable for understanding more recent patterns of family formation (Smock & Greenland, 2010). Instead, recent research has proposed studying family formation in a non-linear manner, emphasizing the existence of various pathways (Macmillan & Eliason, 2003).

As opposed to studying only one family transition at a time (for example, timing of entry into first marriage), a growing body of literature has explicitly drawn on the life course perspective's emphasis on interconnectedness of roles and role configurations, and investigated the diversity of family formation at the individual level from a pathway approach. Like the present study, such studies have used latent class analysis. Macmillan and Eliason (2003) used data from the National Longitudinal Survey of Youth 1979 (NLSY79) on school involvement, employment, marital status, and parenthood transitions between age 15 to 32, and identified three distinct pathways among these men and women born between 1957 and 1964. In a more detailed analysis of the NLSY79 data, Macmillan and Copher (2005) expanded this research and focused on women between age 17 and 25 and racial diversity in these pathways. By separating the analyses by race, Macmillan and Copher were able to describe how a larger share of Hispanic women was concentrated in a pathways distinguished by a rapid school to family transition, whereas African American and White women tended to be spread more evenly among a variety of different pathways. Also focusing on women, but using data from National Longitudinal Study of Adolescent Health and including cohabitation as a distinct feature of family formation, Amato and colleagues (2008)found seven pathways through the young adult years (age 18 to 23) for women born between 1976 and 1984. These seven pathways corresponded well with the six pathways (age 18 to 24) identified by Osgood and colleagues (Osgood, Ruth, Eccles, Jacobs, & Bonnie L. Barber, 2005) for men and women born in 1972 using the Michigan Study of Adolescent Life Transitions (MSALT). Although the MSALT data did not make it possible to build life histories, both studies found a larger share of these young adults in a pathway typified by education and no family formation, and a smaller but considerable share to be in pathways characterized by limited educational attainment and relatively early family formation. Using data from National Educational Longitudinal Study (NELS) and

the High School and Beyond Study (HBS), Sandefur and colleagues(Sandefur, Eggerling-Boeck, & Park, 2005) focused on men and women's' transitions during the young adult years (to age 28 in the HBS, and to age 26 in the NELS) for the 1964 and 1974 birth cohorts. Although unable to include cohabitation, this study advanced previous research by recognizing the issue of gender differences in the life course and estimate pathways among men and women separately. Among both men and women four pathways were identified; however, whereas one of the pathways among women included non-marital childbearing, this role configuration was absent among men. Also focusing on gender, Oesterle and colleagues(Oesterle et al., 2010) used data from the Seattle Social Development Project to estimate pathways between age 18 and 30 for men and women born in 1975. Three pathways were identified among men and among women. Again the pathways were similar for men and women with the exception of one of the pathways among women being dominated by early non-marital childbearing. Once more, early non-marital childbearing was not a significant factor in any of the pathways identified among men.

All of these studies described the timing, ordering, and general diversity of family formation over the course of the early and young adult years for one or more cohorts born in the 1950s, 1960s, 1970s, and 1980s. In order to characterize family formation pathways these previous studies included relationship histories and fertility histories, as well as information on residence, education and employment. In particular, the timing and context of parenthood was shown to be of significance to the overall interplay of life trajectories. Another common factor in these studies was that educational attainment and employment careers operated as key dividing factors between those who initiated family formation relatively early compared to those who began family formation relatively late. Moreover, the inclusion of cohabitation contributed to a more complete picture of family formation, and the focus on gender showed that although men and women's educational and work trajectories has become more similar, men and women's life courses still differ with regard to family formation. The larger number of pathways identified in more recent birth cohorts correspond well with the observation in cross-national studies that, in most Western countries, family trajectories have

become less similar to one another and the variation in types of family trajectories has increased over time (Elzinga & Liefbroer, 2007).

Precursors of Family Formation

As family formation is a result of both structural and personal opportunities and constraints, it is important to understand the social mechanisms sorting individuals into specific family formation pathways. Research has identified personal preferences in early adolescence to be associated with family formation behavior (Hakim, 2000, 2011). For example, preferred extension of educational attainment has been found to delay family transition, and especially so among women due to the alignment with normative expectations that young women in school are not ready for marriage and motherhood (Blossfeld & Huinink, 1991). Moreover, adolescents' expectations of continued education may decrease the likelihood that they invest in romantic relationships during adolescence, and thus delay union formation by increasing the prospect of higher educational attainment (Raley, Crissey, & Muller, 2007). Also preferences in relation to gender ideology have been shown to have consequences for family formation. Research has found that men with more egalitarian gender ideologies had higher fertility aspirations and were more likely to become fathers relative to their more traditional counterparts (Kaufman, 2000). Nonetheless, these aspirations were not likely to be realized until later in the life course, such as by the end of the 30s or in the early 40s (Puur, Oláh, Tazi-Preve, & Dorbritz, 2010). Among women, studies have suggested that whereas a traditional gender ideology lowered the age at entry into motherhood, an egalitarian ideology positively influenced the duration of independent living, delayed marriage (but not cohabitation), and the timing of first marital birth (Kaufman, 2000). In addition, gender ideology has been linked to women's' rational planning in combining work and family life (Corrigall & Konrad, 2007). As work has become an integral part of both women and men's lives, having a preference for a more demanding type of job has also been investigated as influential on family behavior. Hakim (Hakim, 2003) showed that in comparison to home centered and adaptive women, work oriented women were the least likely to marry and the most likely to remain childless.

The transition to adulthood and family formation are developmental stages that also require cognitive ability and social capacity. Such areas of competence might be referred to as 'agency' and denote individuals capability to shape their life course transitions (Settersten Jr., 2007). Individuals with strong abilities have been found to be less likely to be involved in risky behaviors such as early pregnancy and parenthood, drug use, and criminal activity, and more likely to enhance their educational achievements and occupational aspirations (Kerckhoff, 1993). Agency also entails the ability to decide on paths across life spheres by anticipating and reflecting on actions and their future consequences (Shanahan, 2000). Such planful individuals believe that they can act effectively in a goal oriented manner, and thus through planning they can influence their life course trajectories, including educational and occupational achievements and family stability (Shanahan & Elder, 2002).

An extensive literature has established a strong link between sociodemographic background and one's own family life course. Previous studies have demonstrated that adolescents growing up in families of lower social status initiated financial independence, romantic relationships, and parenthood earlier, and were less likely to participate in postsecondary education, in comparison to adolescents from families with higher social status (Sandefur et al., 2005). Likewise, family structure in the origin family has been associated with early family formation. Adolescents growing up in one-parent households or in stepfamilies have been found less likely to participate in postsecondary education and more likely to start own families at an earlier age (McLanahan, Tach, & Schneider, 2013; Oesterle et al., 2010). In addition, adolescents from one-parent households are more likely to enter cohabiting relationships as opposed to married relationships (Ryan, Franzetta, Schelar, & Manlove, 2009) (Ryan, Franzetta, Schelar, & Manlove, 2009). Research has also established that early intentions influence later family outcomes. In particular, fertility intentions have been found to be predictive of actual childbearing behavior. Individuals who expressed intentions to have children were more likely to have children relative to individuals that did not express such intentions (Schoen, Astone, Kim, Nathanson, & Fields, 1999).

5.4 METHOD

Data and Sample

Data for the present study's analyses come from The Danish National Longitudinal Survey of Youth (DLSY). The DLSY is a longitudinal survey of a nationally representative sample of Danish men and women born in or around 1954 (83% were born in 1954, 12% in 1953 and 5% in 1955). The survey was introduced in 1968 by the Danish National Centre for Social Research, and respondents were sampled as a cohort of 7th graders (a total of 152 7^{th} grade classes were selected). A total of 3,151 primary respondents were interviewed for the first time in 1968 when they about were about 14 years old, and additional interviews have been carried out in 1970, 1973, 1976, 1992, 2001, and 2004. The DLSY includes comprehensive information on relationship histories, fertility histories, family background, health, abilities, interests, and preferences. The analyses undertaken in the present study used data collected in 1968, 1992, and 2001, resulting in a national representative sample of 2,373 respondents (1,147 men and 1,226 women) equal to 75% of the 3,151 primary respondents. The analytical sample mirrors the original sample, in that 83% of the respondents were born in 1954, 12% in 1953, and 5% in 1955. Although birth cohort and period effects are essential when investigating the life course, these three birth cohorts are relatively close in age and share institutional experiences with regard to schooling. Thus I refer to my analytical sample as a cohort, with the understanding that they may or may not share the same birth year, but nonetheless having all attended 7th grade at the same point in time (1968). For further information on DLSY data please visit www.sfi.dk/dlsy.

Analytical Strategy

The empirical approach of the present study falls in two steps. First, I used latent class analysis (LCA) to estimate probabilistically distributed family life pathways by means of age-graded role configurations. In these models all configurations of leaving the parental home, union status (cohabitation and marriage), parenthood, educational attainment, and experience of first formal employment were examined at discrete two-year intervals (age 18, 20, 22, 24, 26, 28, and 30). This strategy allowed me to consider which configurations each respondent occupied at each age point, and to connect these configurations over time (pathways). In order to

explicitly consider differences with regard to gender, I estimated all LCA models separately for men and women. Second, I used multinomial regression analysis to examine the sorting of respondents into each of the identified family formation pathways. Specifically, I investigated the role of personal preferences, individual abilities, and sociodemographic background factors. Because the respondents were sampled as clusters (7^{th} grade classes), all analyses in the present study were adjusted for clustering.

Missing Data

The main source of missing data in the present study was wave non-response (25%, n = 778). Regression analyses were used to locate variables associated with wave non-response. Only one variable was identified as significant: area of residence. In the DLSY data an analytical geographical weight is available, and thus this weight was used in the analyses presented here. Given the general inability to predict wave-nonresponse any further, I assumed that missing data was missing at random. Another, minor, source of missing data was item non-response. Among the variables included in the LCA each variable had less than 1% (n = 14) missing values, and among the variables used as predictors in the multinomial regression analysis each variable had less than 5% (n = 116) missing values. Consequently, missing values due to item non-response were imputed with mean(mode) values.

Measures

Indicator variables of latent class pathways. To generate family formation pathways I relied on seven indicator variables from questions repeated in wave 6 and wave 7 of the DLSY: leaving the parental home, attending education, experiencing first formal employment, being in a cohabiting relationship, being in a married relationship, and having a child. A binary measure was constructed indicating whether each respondent occupied each of these statuses at age 18, 20, 22, 24, 26, 28, and 30.

To determine if the respondents had left the parental home (irreversible status) at any given age point, respondents were asked: “When did you move away from home? (Please indicate year).” This information was used to define the year in which each respondent left the parental home. Respondents reporting to have

left the parental home at any given age point is coded 1 for that age onwards and 0 otherwise. That is, for each of the six age points it is observed whether each respondent has left the parental home. To establish if respondents were attaining education (dynamic status) at any given age point, full education histories were constructed. The respondents were asked to chronologically order and describe all formal education with regard to (a) type of education, (b) the year each type of education began, and (c) the year each type of education ended. Respondents reporting to be attaining education at any given age point is coded 1 for that age and 0 otherwise. Because complete employment histories only were available from 1981 and onwards (respondents age ~27), I relied on an indicator describing whether respondents had experienced first formal employment (irreversible status). Formal employment was defined as having a paid job that lasted at least six months. Respondents were asked: (a) "Did you ever have a paid job which lasted at least six months?" and (b) "Which year and month did you begin your first paid job that lasted at least six months?" Respondents reporting to have experienced first formal employment at any given age point is coded 1 for that age onwards and 0 otherwise.

Indicators for being in a cohabiting or married relationship were obtained from complete union status histories (dynamic status). Respondents were asked to chronologically order and describe all their romantic unions with regard to (a) whether they only lived with the partner or got married, (b) the year each relationship began, (c) the year the relationship ended, and (d) the reason why each relationship ended. This information was used to generate an indicator variable, observing at each age whether a respondent was single (coded 0), cohabiting (coded 1), or married (coded 2). Because experiencing a first birth is an irreversible event and this study focused on family formation, only the first birth (transition to parenthood) was included. Respondents were asked to chronologically report the year and month in which they had a child. Respondents reporting to have had a child at any given age point is coded 1 for that age onwards and 0 otherwise. All questions used to generate indicator variables of latent classes, were asked at least in two waves (wave 6 and wave 7). However, the majority of these (or similar) questions were asked in several of the earlier waves as well. Due to the risk of

recall error, answers to the same (or similar) questions were cross-referenced across each wave of data collection. Virtually no recall error was detected.

Determinants of pathways. In order to capture social mechanisms associated with family formation, I relied on twelve variables from wave 1 of the DLSY. To assess personal preferences with regard to expected schooling, gender ideology, and future job type, I used the respondents expected years of schooling (1 = *7th or 8th grade*, 2 = *9th or 10th grade*, 3 = *lower secondary,* 4 = *A-levels*), the degree to which respondents agreed with the statement " above all what most girls want, above all, is to get married, stay at home and watch the kids" (1 = *completely agree*, 4 = *completely disagree*), the degree to which respondents agreed with the statement "a man's work is always more valuable than a women's work." (1 = *completely agree*, 4 = *completely disagree*), and the degree to which respondents agreed with the statement "you should have a job where you don't have to think very much" (1 = *completely agree*, 4 = *completely disagree*). To capture individual abilities, I included results from the DLSY's extensive assessments of verbal comprehension, inductive reasoning and spatial understanding. Results from these three assessments were directly available in the DLSY dataset as three individual-level test scores, reflecting each respondent's relative verbal, inductive, and spatial intelligence. A judicious or plan-oriented character was included as a very crude indicator, measured by the degree to which respondents agreed with the statement "There is no reason to think years into the future" (1 = *completely agree*, 4 = *completely disagree*). To address sociodemographic factors, I included The Danish National Centre for Social Research's 5-category classification scheme, which is based on a combination occupation, occupational prestige, education, and income. In the DLSY dataset, a variable is available identifying which of the five socioeconomic status groups each respondent's parents belong to (ranging from 1 = *highest status*, to 5 = *lowest status*). Also included were if respondents lived with both parents growing up (0 = *no*, 1 = *yes*). Fertility intentions were measured by the number of children each respondent desired (0 = *no children*, 1 = *one or two children,* 2 = *three or more children*). Descriptive statistics are available in Table 5.1.

Data Reduction: Principal Component Analysis

To reduce complexity of the multinomial regression model, I conducted two principal component analyses (PCA) of known determinants of family formation pathways (results not shown). The first PCA included the four variables associated with preferences, and the second PCA included the four measures of abilities. Each group of variables had a Kaiser-Meyer-Olkin measure of .70 or greater, indicating that the variables had a fair amount in common to warrant the PCA (Kaiser, 1974). Because the analysis included both categorical and numeric variables, the CATPCA procedure implemented by SPSS statistical software was used. The PCA of preferences revealed one component with an eigenvalue above 1 explaining 63% of the variance in the four variables, and the PCA of abilities revealed one component with an eigenvalue above 1 explaining 55% of the variance in the four variables. Thus a total of two principal components were generated. The first component, labeled *Modern preferences*, was defined by expectations of educational attainment (.69), the view on a man's work being of more value than that of a woman (.66), the view on that most girls want above all want to get married, stay at home and watch the kids (.56), and the view on wanting a job that requires more thought (.65). Respondents with a high score on this first component tended to expect higher educational attainment, to subscribe to a more egalitarian gender ideology, and to be orientated towards a more demanding job. The second component, labeled *Cognitive abilities*, was defined by the verbal test score (.84), the inductive test score (.76), the spatial test score

Table 5.1

Descriptive statistics for precursor of latent family formation pathways (N = 2,373).

Variables	*M*	SD	Range
Preferences			
Expected educational attainment	2.66	0.87	1 – 4
Most girls want, above all, to get married …	2.04	0.98	1 – 4
A man's work is always of more value…	2.97	1.19	1 – 4
Have a job where you don't have to think…	2.14	1.05	1 – 4
Abilities			
Verbal test score	37.17	7.67	6 – 62
Inductive test score	23.08	7.17	1 – 39
Spatial test score	23.14	8.12	1 – 40
Planning-oriented view of the future	2.57	1.11	1 – 4
Sociodemographic background factors			
Parental social status group	2.51	1.09	1 – 5
Family structure[a]	0.10	0.29	0 – 1
Fertility intentions[b]	1.12	0.61	0 – 2
Respondent gender[c]	0.52	0.50	0 – 1

Notes: aFamily structure: 0 = lived with both parents, 1 = did not live with both parents. bFertility intentions: 0 = no children, 1 = 1 or 2 children, and 2 = 3 or more children. cRespondent gender: 0 = man 1 = women.

(.85), and the view on whether there is reason to think years into the future (.42). Respondents with a high score on this component tended to have better cognitive abilities and to associate with a more planning-oriented view of the future. All component scores were computed as standardized measures (z-scores).

5.5 RESULTS

Role Configurations by Gender

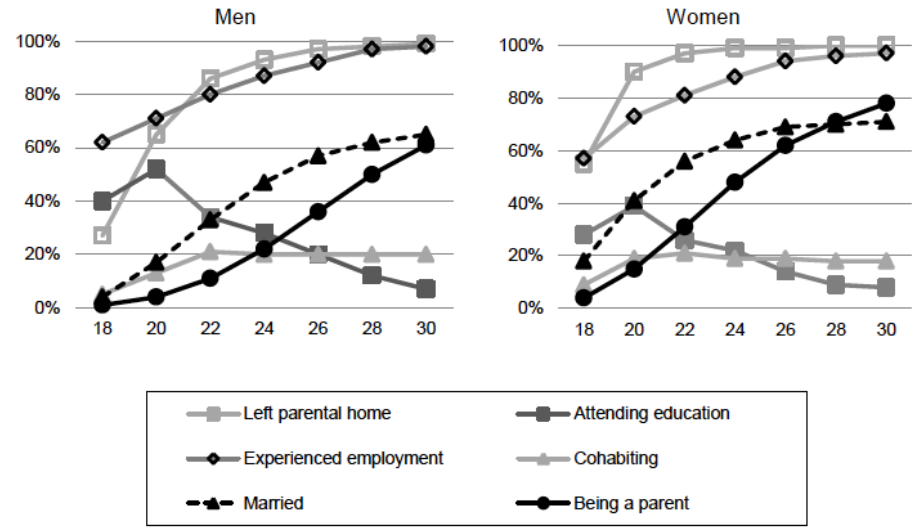
Figure 5.1 presents the proportion of men and women occupying each role (having left the parental home, attending education, experienced employment, being in a cohabiting relationship, being married, and being a parent) at each age point (age 18, 20, 22, 24, 26, 28, and 30). For this cohort, men and women's participation in education after age 18 was only moderate and declined after age 20. Both among men and among women about 60% had experienced first formal employment by age 18, and the trend of steadily increasing employment experience was close to identical for men and women. By age 26 more than 90% of men and women in the sample had been involved in formal employment, and only 20% of the men and 14% of the women were attaining an education. The pattern of cohabitation was remarkably similar for men and women. The share of men in a

cohabiting relationship increased from age 18 and at age 22 it reached a plateau at 20%. A similar trend is present among women, with the exception that the 20% plateau was reached at age 20. The greatest difference between men and women was with regard to timing of marriage and childbearing. As expected, women overall tended to be married and have children at a higher rate at earlier ages. By age 20 only 17% of the men had married, whereas among women this figure was 41%. This gap in the proportion of being in a married relationship diminished as the cohort aged. Among women the proportion of those being married reached a plateau at age 26 at about 70%, whereas for men the proportion of those in a married relationship continued to slowly increase during the late 20s, and by age 30 65% of the men were married. The proportion of men and women entering parenthood also increased during the early 20s, and again much more so for women than for men. At age 20 only 4% of the men had entered parenthood, whereas for women that number was 15%. By age 30 61% of the men had become parents whereas among women 78% percent had become parents.

Latent Family Formation Pathways by Gender

In order to investigate the interconnectedness of the age-graded role configurations over time, I used LCA as implemented in LatentGold statistical software. Latent class models were specified with 1 to 10 latent classes, and I relied on three methods to determine the optimal solution. Namely the Baysian Information Criterion (BIC), the index of dissimilarity, and class distinctiveness and class sizes (for further information model selection see Amato et al., 2008). Both for men and for women a model with 4 classes had a relative low BIC value and the index of dissimilarity indicated a parsimonious model, and this model had clearly distinct classes, and class sizes greater than 5% of the sample (not shown). Thus, for

Figure 5.1
Proportion of men (n = 1,147) and women (n=1,226) occupying various roles by age.



this cohort of Danish men and women, I found support for four distinct latent family formation pathways among men and four distinct latent family formation pathways among women. Respondents were assigned to the pathway in which they had the highest probability of membership. Each pathway's probability profiles for having left the parental home, attending education, having experienced employment, being in a cohabiting relationship, being married, and being a parent is presented in Figure 5.2.

The first family formation pathway was labeled *Traditional* (men n = 587, 21%; women n = 248, 20%). This pathway was distinctive for the high probability of employment experience already by age 18 both among men and among women. Whereas the probability of having left the parental home was low at age 18 but increasing during the early 20s among men, women had a high probability of having left the parental home already by age 18. Both among men and among women,

Figure 5.2

Four-class solution of latent family formation pathways among men (n = 1,147) and among women (n = 1,226).

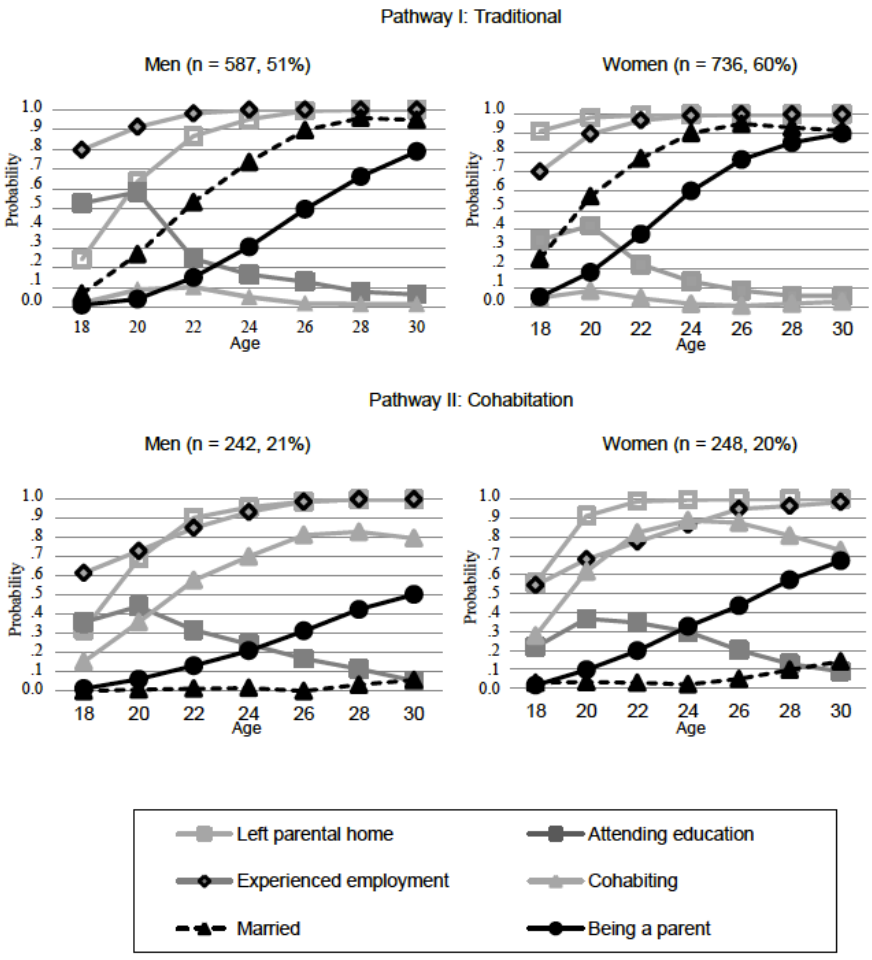
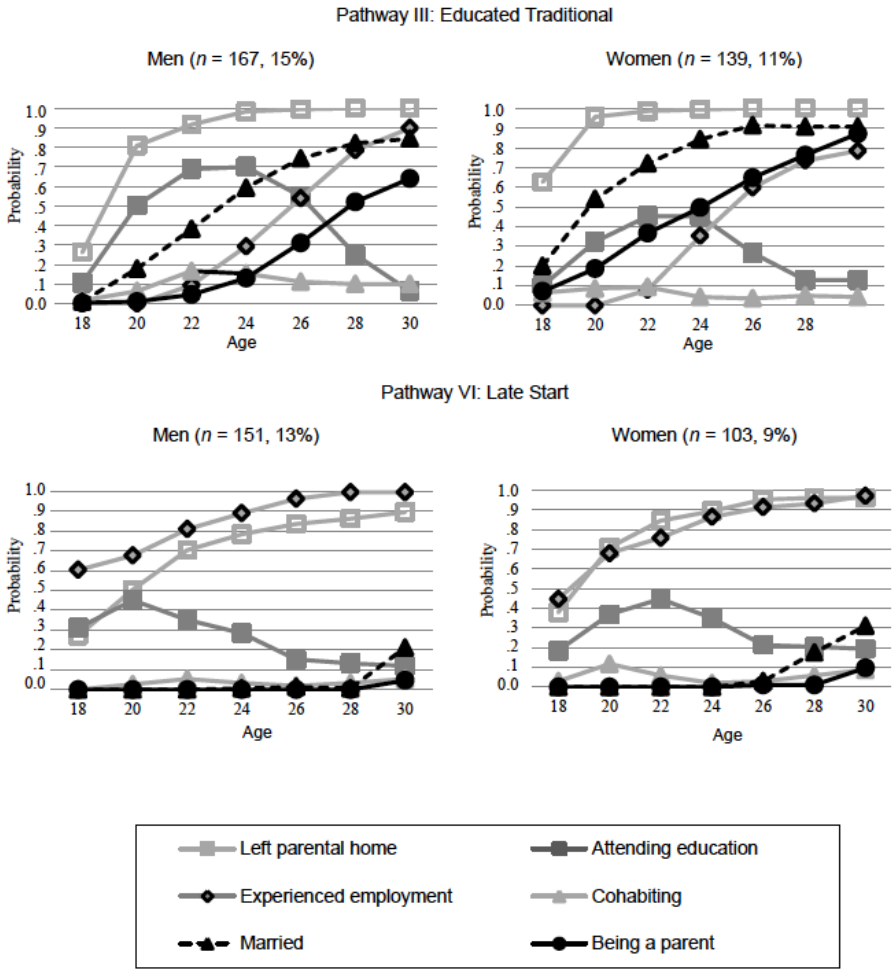


Figure 5.2 – *Continued*



the probability of attaining education was moderate or low, peaking at age 20, and the probability of cohabitation was never really prevalent. Instead, this pathway was typified by a high probability of marriage already by age 24 with a parallel probability of having entered parenthood. In many respects this first pathway describes the traditional model of family formation; leave the parental home, engage in formal employment instead of continued education, and transition into marriage and become a parent within a year or two of marriage.

The second family formation pathway was labeled *Cohabitation* (men n = 242, 21%; women n = 248, 20%). Although women in this pathway gained experience of formal employment and transitioned out of education at a somewhat lower rate during the early 20s, this pathway was primarily distinguished by both men and women's high probability of cohabitation and the virtually nonexistent probability of marriage. In addition, there was a moderate probability of having entered parenthood by age 30. This second pathway describes family formation in which cohabitation plays a central role; not only as an alternative to being single or as a prelude to marriage, but also as an alternative to marriage in which childbearing takes place (Raley, 2001; Seltzer, 2000).

The third family formation pathway was labeled *Educated Traditional* (men n = 167, 15%; women n = 139, 11%). This pathway was characterized by a very low probability of employment during the early 20s, mirrored by a high or moderate probability of spending those years attaining education. Among men there was a crossover between attaining education and experiencing employment at age 26, and among women this crossover occurred at age 24. With regard to union formation and the transition to parenthood, this pathway was very similar to the Traditional pathway. This pathway may mirror the choices of a more privileged or capable group of men and women.

The fourth family formation pathway was labeled *Late Start* (men n = 151, 13%; women n = 103, 9%). Both among men and among women this pathway was typified by a high probability of having left the parental home and employment experience similar to that of the Traditional pathway and the Cohabitation pathway. Moreover, there was a moderate probability of attaining education, peaking at age 20 among men and at age 22 among women. Although only a small differ-

ence, it is worthwhile to note that after age 22 the overall probability of attaining education was higher at all age points for women relative to men. The most distinctive feature of this pathway was that virtually no union formation or transition to parenthood is initiated until late 20s. Among men there was a slight increase in the probability of getting married at age 30, and among women a similar slight increase was initiated at age 28. In many respects this fourth pathway describes an extended period of independence from, to some degree, parents, and indeed from a partner or the standard age-graded norms associated with traditional family formation within this cohort.

Precursors of Latent Family Formation Pathways

In order to understand the multifaceted nature of the family formation process within this cohort of Danish men and women, precursors sorting respondents into each pathway was assessed using multinomial logistic regression with the two component variables and the five measures of socio-demographic background included as predictors (independent variables). Because the family formation pathways identified in the LCA analysis were remarkably similar for men and women, I tested to see if results from separate regression models produced significantly different estimates for men and women. None of the produced estimates among men differed significantly from those produced among women (not shown). Consequently, the regression analysis presented here was a combined analysis of men and women. Results from this combined regression analysis are presented in Table 5.2 and discussed in terms of relative risk ratios.

Expectations of further education, a more egalitarian gender ideology, and prospects associated with a more demanding job, as indicated by a higher score on the Modern preferences component, was indeed associated with men and women's family formation pathways. In comparison to the Traditional pathway, men and women with a higher score on this component were significantly more likely to cohabit instead of marry and, thus follow the Cohabitation pathway (1.26); or to invest in further education and postpone formal employment experience and thus follow the Educated Traditional pathway (1.61); or, to a somewhat lesser degree, not engage in family formation and thus follow the Late Start pathway (1.17).

Table 5.2
Multinomial logistic regression estimates for variables predicting latent family formation pathway membership for men and women (N=2,373). Latent pathway reference category: Traditional

	Traditional Pathway vs. Cohabiting Pathway			Traditional Pathway vs. Educated Traditional Pathway			Traditional Pathway vs. Late Start Pathway		
	B	*SE B*	*RRR*	B	*SE B*	*RRR*	B	*SE B*	*RRR*
Preferences									
Modern preferences	.23***	.07	1.26	.48***	.08	1.61	.16*	.08	1.17
Abilities									
Cognitive abilities	.06	.06	1.06	.37***	.09	1.45	.01	.08	1.01
Sociodemographic background									
Parental social status group	.09	.05	1.10	.27***	.06	1.31	.21**	.07	1.23
Family structure	.41*	.17	1.50	-.17	.26	0.85	-.29	.28	0.75
Fertility intentions	-.34***	.09	0.71	-.07	.11	0.93	-.30**	.12	0.74
Respondent gender	-.30**	.11	0.74	-.55***	.13	0.57	-.66***	.14	0.52
Constant	-5.22			-6.20			-3.03		
$\chi 2$				202.90					
df				24					
% in each latent class pathway	21			14			11		

Note: RRR = Relative Risk Ratio. Family structure coded as 1 for did not live with both parents and 0 for lived with both parents. Fertility intentions coded as 0 for no children, 1 for 1 or 2 children, and 2 for 3 or more children. Respondent gender is coded as 1 for women and 0 for men. Pathway sizes: 1,323 for Traditional (reference category), 490 for Cohabitation, 306 for Educated Traditional, and 254 for Late Start. Model controlled for respondents' age in 1968 and geographical weight.
*p < .05. **p < .01. ***p < .001.

A higher score on the Cognitive abilities component (verbal, inductive, and spatial test scores and planful-orientation), was significantly associated with being more likely to follow the Educated Traditional pathway (1.45) relative to the Traditional pathway. Generally, parental social status was a significant predictor of men and women's family formation pathways. Men and women from families with higher social status were significantly more likely to follow the Educated Traditional pathway (1.31) and the Late Start pathway (1.23), relative to the Traditional pathway. Family structure in the origin family was also a factor in these young men and women's own family formation pathways. Men and women who had experienced family disruption (not to live with both parents) growing up, appeared somewhat reluctant to engage in formalization of their partnerships, and were significantly more likely to be in the Cohabitation pathway (1.50) in comparison to the Traditional pathway. Men and women that anticipated having a greater number of children were less likely to engage in less traditional relationships such as cohabitation, or to delay or avoid family formation. Men and women's fertility intensions were significantly and negatively related to being in the Cohabitation pathways (0.71) or to be in the Late Start pathway (0.74). As the presentation of the pathways and their distribution indicated (Figure 2), gender played a significant role in sorting individuals into specific pathways. Relative to the Traditional pathway, women were significantly less likely to be in the Cohabitation pathway

(0.74), the Educated Traditional pathway (0.57) and the Late Start pathway (0.52). In other words, women were overall more likely to follow the Traditional pathway.

In order to further investigate the magnitude of these differences, predicted probabilities (Long, 1997) are made available in Table 5.3. From Table 5.3 it is clear that, with all other characteristics held constant at their means, men and women with a score in the highest quintile on the Modern preferences component were associated with a 17% lower probability of being in the Traditional pathway (.48 vs. .65), relative to a score in the lowest quintile on the Modern preferences component. This difference was distributed with a 5% greater probability of being in the Cohabitation pathway (.24 vs. .19), a 9% greater probability of being in the Educated Traditional pathway (.16 vs. .07), and a 3% greater probability of being in the Late Start pathway (.12 vs. .09). Similarly with regard to abilities and the Educated Traditional pathway; men and women scoring within the highest quintile of the Cognitive abilities component had a 9% higher probability of being in the Educated Traditional pathway relative to respondents scoring within the lowest quintile of this component (.16 vs. .07). With regard to socioeconomic background, being from a more affluent family was related to a 17% lower probability of being in the Traditional pathways in comparison to men and women with parents from the highest social status group (.48 vs. .65). This lower probability was

Table 5.3
Predicted Probabilities Derived from Multinomial Logistic Regression Estimates for Variables Predicting Latent Class Pathway Membership (N=2,373).

	Pathway I Traditional	Pathway II Cohabitation	Pathway III Educated Traditional	Pathway VI Late Start
Preferences				
Modern Preferences (highest quintile)	.48	.24	.16	.12
Modern Preferences (Lowest quintile)	.65	.19	.07	.09
Abilities				
Cognitive abilities (highest quintile)	.51	.22	.16	.11
Cognitive abilities (lowest quintile)	.62	.20	.07	.11
Sociodemographic background				
Socioeconomic status group (highest)	.46	.22	.17	.15
Socioeconomic status group (lowest)	.63	.20	.08	.09
Did live with both parents	.67	.21	.11	.11
Did not live with both parents	.54	.29	.09	.08
Respondent didn't want children	.50	.27	.10	.13
Respondent wanted 1 or 2 children	.56	.22	.11	.11
Respondent wanted 3 or more children	.63	.17	.11	.09

Note: Probabilities are computed from estimates reported in Table 4. For each predictor value all other variables in the model are held constant at their means.

translated into men and women with parents belonging to the highest social status group having a 9% higher probability of being in the Educated Traditional pathway (.17 vs. .08) and a 6% higher probability of being in the Late Start pathway (.15 vs. .09). The importance of family structure was most pronounced for men and women being in the Cohabitation pathway. Men and women who did not live with both their parents growing up had an 8% higher probability of being in the Cohabitation pathway relative to their counterparts growing up in intact families (.21 vs. .29). In contrast, the association regarding fertility intentions was reflected in men and women who did not want children having a 10% lower probability to follow the Cohabitation pathway relative to men and women who wanted 3 or more children (.27 vs. .17). With regard to the Late Start pathway this figure was a modest 4% (.13 vs. .09).

5.6 DISCUSSION

From a life course perspective, the present study identified family formation pathways between age 18 and 30 among Danish men and women born in or around 1954. In addition, the role of Modern preferences, Cognitive abilities, and sociodemographic background factors in the sorting these men and women into each of the identified family formation pathways were estimated. Investigating the interconnectedness of latent role configurations related to leaving the parental home, attending education, being in a cohabiting relationship, being in a married relationship, and becoming a parent across time, led to the identification of four latent pathways for both men and women. For both men and women participation in educational attainment and paid employment together with the presence or absence of family formation roles distinguished the four pathways. In addition, the type of romantic union formed, cohabitation or marriage, also differentiated one pathway from the others. The first pathway (Traditional) was characterized by a standard pattern of early employment experience and relative early family formation through formal marriage and parenthood. This pathway was the most common pathway both for men and women (51% of men and 60% of women). The next pathway (Cohabitation) was the second most common (21% of men and 20% of women) and involved family formation through relatively early and continued cohabitation and somewhat later employment experience and parenthood.

The third pathway (Educated Traditional) was typified by a relatively early pattern of marriage and parenthood, but differed from the Traditional pathway by the higher rate of educational attainment (especially among men) and a considerably later labor market entry. This pathway included 15% of the men and 11% of the women. The final pathway (Late Start) was defined by the absence of family formation during this period of young adulthood and described 13% of men and 9% of women.

Half or more of the Danish men and women in the present study experienced a traditional pattern of early employment experience and relative early family formation through formal marriage and parenthood. On the one hand, this suggests that the majority of the first young adults to come of age in a well-established Danish welfare state continued to form families in a traditional standard manner. This result is in line with Thomson and colleagues (2012) finding that across countries such as the U.S., France, and Sweden, about half of men and women born during the 1950s experienced a standard family life trajectory. Nonetheless, the remaining half of these Danish men and women did experience family formation pathways substantially different from a traditional or standard life course pattern. The three alternative pathways identified differed from the Traditional pathway with regard to the role of cohabitation as an alternative type of union, with regard to the number of years spent attaining an education, and with regard to postponement or withdrawal from family roles. This underscores that in order to sufficiently understanding family formation behavior, attention to the type of role (married or cohabitating partner), the intersection with other roles (more years spent in education), and timing (presence or absence of roles at given ages) are of particular importance.

Common for all four identified pathways was that, although men and women followed similar patterns of family formation, women initiated the majority of the core family transitions (leaving the parental home, enter cohabitation or marriage, and becoming a parent) around two years earlier than men. This partly mirrors findings from American studies, showing that women tend to form romantic unions and become parents at a higher rate and at earlier ages. Nonetheless, whereas American studies have found that living with children outside of marriage to be a distinct feature of women's family formation pathways in more recent cohorts

(Oesterle et al., 2010; Sandefur et al., 2005), this element was not present in the Danish setting. Although about one-fourth of Danish men and women in the cohort examined in the present study experienced a transition to parenthood outside of marriage, these men and women became parents within the context of a cohabitating relationship. This finding corresponds well with Kiernan's (2001) observation that even in more recent birth cohorts in European countries characterized by high prevalence of cohabitation (such as Denmark), having a child outside partnership remains a minor practice.

The cohort included in the present study is of particularly sociological interest, because it was one of the first cohorts to come of age in a well-established Danish welfare state characterized by offering men and women of this study an enhanced opportunity structure. New opportunities were formulated in terms of improved access to higher education, and a more insured and regulated labor market prepared young adults for the increasing demand for educational requirements and the higher expectations of social mobility through labor market participation. Men and women in the Educated Traditional pathway are likely be frontrunners in taking advantage of the opportunities given, and, thus, be better prepared to navigate a the new expectations associated with a successful life course. In addition, the changed opportunity structure facilitated independence from the family as an economic contract, which men and women in the Late Start pathway may have been likely to respond to by postponing or withdrawing from family formation as a central component in their life course during the young adult years. Specifically, among women in the Late Start pathways the rate of participation in education was as high as among women in the Educated Traditional pathway, which may indicate a preference for gaining intellectual and economic independence before forming a family.

The present study also found well known social mechanisms to play a role in the sorting of these young men and women into specific family formation pathways. Modern preferences, cognitive abilities, sociodemographic background factors, and gender were important precursors of latent family formation pathways. These precursors best differentiated the Traditional pathway from the three alternative pathways, and especially so with regard to the Cohabitation pathway and the Educated Traditional pathway. Modern preferences, cognitive abilities,

and parental social status were strongly associated with being in the Educated Traditional pathway, and family structure in the origin family and individual fertility intentions were strongly associated with being in the Cohabiting pathway. Whereas American research consistently has found that cohabiting individuals tend to come from more disadvantaged backgrounds (Rose-Greenland & Smock, 2013), parental socioeconomic status was not a key component in sorting Danish men and women in this cohort into the Cohabitation pathway. This finding may suggest that the Danish experience is more in line with what Blom (Blom, 1994) described in the Norwegian setting; that modern cohabitation in the Scandinavian context is likely to have developed from each end of the socioeconomic continuum.

Although the multidimensional and individual level approach to the study of interconnectedness of social roles across time allowed for a comprehensive description and rich examination of family formation behavior, the present study also had limitations. In particular, full employment histories may have enabled a more concise description of the interplay of family roles and subsequent transitions within the labor market. Nevertheless, the findings suggested that the timing of labor market entry may be among the most essential distinguishing features of family formation pathways during the young adult years. Another issue involves the crude measure of "planfulness." Indeed this measure was too simple to draw conclusions regarding the concept of planful competence as developed by the life course perspective. Future studies using a pathway approach may benefit from developing the 'agency' related measures further.

In conclusion, the present study provides a useful investigation of family formation in an context such as the Danish welfare state at the onset of significant social change. The results suggest that social mechanisms operating through preferences, abilities, sociodemographic resources, and gender jointly shape patterns of family formation during the young adult years. We know that patterns of family formation reflect social origin and access to resources, but they may also play a key role in later life outcomes. An important objective for future family research is to take advantage the contextual, process-oriented, and dynamic understanding offered by the pathway approach, and further examine how family formation pathways may influence or mediate later life outcomes.

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