

Relationship trajectories and their connections to the completed number of children: a sequence analysis for women born between 1924 and 1966

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Tiivistelmä – Referat – Abstract  <p>Previous studies have indicated that short cohabitation spells are associated with childlessness. However, there is little detailed knowledge of relationship trajectories and their implications to the completed number of children other than childlessness in Finland. In addition, previous studies mainly focused on residential relationships, and non-residential relationships were seldom studied. This study provides an overview of different relationship trajectories for women born in 1924-1966 and explores the connections between the complete trajectories and the number of biological children.</p> <p>The relationship trajectories were established using longitudinal retrospective data. This study utilized sequence analysis that visualizes the relationship stages on the life course forming a relationship trajectory. The trajectories were clustered to reveal prominent patterns in the data, and the connection between the clusters and the number of children was explored. Additionally, the changes that occurred in the different cohorts were investigated to reveal historical patterns.</p> <p>The results indicate that most women born between 1924 and 1966 dated, cohabitated, and married before the age of 30 and stayed with the same partner, resulting in a steady pattern of 2 or more children. If a divorce occurred, the number of children depended on whether the individual married again. Long-term cohabitation was connected with a lower number of children. Lack or postponement of long-term relationships often resulted in a significantly smaller number of children. The connection between the first relationship and the first marriage got weaker over time, and the trajectories marked by more complex partnership histories and long-term cohabitation increased.</p> <p>Relationship trajectories shape childbearing outcomes in distinct ways. The study increases knowledge about the processes of relationships and childbearing in the changing landscape of family formation.</p>			
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## Introduction

This thesis studies the relationship histories of women born between 1924 and 1966 and how different patterns on their life course affected the number of children they had. Some might have married young and stayed in the same relationship for the entire duration of their life, whereas others might have had short and casual relationships in youth while settling down later, if at all. The study explores these different relationship trajectories on the life course from 15 to 45 and examines their implications for the completed number of children. Additionally, the thesis will describe when different relationship events occurred on the life course: when individuals entered courtship or marriage and how the timing of these events changed depending on the cohort. The data of relationship trajectories will be analyzed using sequential analysis (Cornwell, 2015), an emerging method in sociology and demography.

Relationship trajectories and childbearing patterns underwent significant changes in Finland and elsewhere in Europe during the latter half of the 20<sup>th</sup> century (Koskinen et al., 2007, Van Winkle, 2018). After the Second World War, many married early and followed a relatively standardized life course of marriage and childbearing, which was challenged around the 1960s and 70s with new ideas of romantic self-actualization and the decreasing importance of marriage (Mayer, 2004, Haavio-Mannila et al., 2001). Much of the research has focused on the cross-sectional comparisons of cohabitation and marriage and the changing childbearing patterns on the level of populations (Koskinen et al., 2007, Kiernan, 2001). Some scholars have only focused on relationship trajectories without connection to childbearing (Van Winkle, 2018, Elizinga & Liefbroer, 2007, Fulda, 2016). Little is known about the entire relationship processes of individuals from teenage years until the end of childbearing years and the connection of that trajectory on the number of children.

Childlessness and relationship trajectories have been studied in Finland with sequential analysis using register data by Jalovaara and Fasang (2017). They established the connection between short cohabitation spells and childlessness for women (for a similar study in Germany, see Raab & Struffolino, 2020). Their results point out the deep interconnectedness of relationship trajectories and childbearing and the need for joint examination of the processes. Most children are born in co-residential relationships (Kiernan et al., 2001), and as such, the processes are likely to influence each other to a high degree. To research the topic further on a more detailed level, longitudinal data are needed to establish the trajectories and find connections with childbearing outcomes. As SHARE data infrastructure (Börsch-Supan, 2019, Börsch-Supan, 2013) became available in Finland with retrospective modules on partner history, the analysis of non-residential relationships,

marriages, cohabitation partnerships, and single periods became possible. To my knowledge, this study is the first one to combine detail-level relationship trajectories and childbearing behavior using sequential analysis in a life course perspective.

Married individuals have been more likely to achieve the number of children they wished for, while the childbearing period for divorced individuals has sometimes been “cut short” with separation from the spouse (Morgan & Rackin, 2010). These findings indicate an interesting hypothesis for the study: individuals in intact married relationships would be more likely to have a higher number of children than individuals with varied trajectories. Sequence analysis offers the opportunity to explore the relative diversity between and inside life courses. While many might have followed culturally prevalent life course scripts, some had a varied life course with multiple transitions (Settersten, 2003). Focusing the analysis only on the average relationship transitions or average childbearing outcomes would result in a limited understanding of the phenomenon since subsets of less prevalent trajectories would stay hidden.

The study will first explore theoretical viewpoints on relationship trajectories and childbearing to provide a framework for the research questions presented afterward. Data and methods are then explored on a more detailed level to provide grounds for sequential analysis and the following descriptive statistics on the number of children and the differences in cohort behavior. Finally, after presenting the results, the study will reflect on the research questions and past research as well as uncover the limitations and potential future questions for sociology and demography.

## Theory and research questions

The following chapter will introduce theoretical perspectives and previous scientific results on life courses, concepts of family, and changes in relationship practices, childbearing, and re-partnering. The end of the chapter includes the research questions based on the conceptualizations defined by previous research.

### **Relationships and childbearing in theoretical perspective**

The concept of relationships and family are academic sources of interest, as the definitions and ideas of relationships and childbearing practices have varied across time and place, and relationship practices have a major impact on people's everyday lives. The following paragraphs discuss different types of relationships: non-residential relationships, cohabitation, and marriages, and their different social implications and changing definitions. The chapter also includes a description of socio-sexual lifestyles to contextualize the longitudinal exploration of relationship trajectories. The childbearing chapter includes descriptions of typical practices in childbearing and how they relate to relationships.

#### Theoretical perspectives on relationships

The structural frameworks for relationships change across time and location, affecting the types of relationships formed and making the concept elusive and difficult to define. However, a common denominator for all relationships, including short-term informal relationships, is an aspect of perceived intimacy or closeness (be it physical or emotional) (Sassler, 2010), often coupled with some level of conscious commitment (Kontula, 2009, 10-13). As such, they might sometimes be called intimate or romantic relationships to differentiate them from other important social ties. This study concerns both non-residential relationships as well as residential unions such as marriages and cohabitation. What separates these different types of intimate relationships from each other is the perceived commitment to the relationship on a social level.

Becker (1960) conceptualizes commitment in the following way: “Commitments come into being when a person, by making a side bet, links extraneous interests with a consistent line of action.” He calls “side bets” the extrinsic rewards or punishments that come from participation in certain social action. For example, by getting married, a person might link expectations of children or a common household to the relationship and expect financial difficulties in the event of a divorce. The marriage is often not only an intimate relationship, but it is deeply interlinked with other social consequences. Therefore, a commitment could be described as the step where the private intimate



relationship becomes social in nature. The steps towards commitment can be made based on a variety of different motives. Surra (1997) argues that relationship commitment, “a conception of a future with the partner in relation to the structural forces surrounding the relationship,” can be driven by either events or the relationship itself. In relationship-based commitment, the partners assess their compatibility based on their interaction in the relationship. In contrast, in event-based commitment, the locus of the commitment is outside of the relationship, based on external circumstances (such as housing arrangements, financial needs, and other contextual factors). The driver of commitment is indicative of relationship satisfaction and stability, as relationship-focused commitment results in higher satisfaction and less conflict between the couple.

In addition to structural and emotional forces, commitment is also shaped by perceptions of morality (Carter, 2012). For many, the concept of commitment is closely related to monogamy, and the commitment is agreed on mutually in the beginning stages of the relationship, either verbally or non-verbally (Konstam et al., 2019, Carter, 2012). Even if destandardization of relationships has arguably occurred in the latter half of the 20<sup>th</sup> century (Giddens, 1992, Beck & Beck-Gernsheim, 1995), the meaning of monogamy and fidelity as a belief and a practice remains strong. While societal beliefs might be becoming more reflexive, many believe their own long-term relationship should be adhering to the ideals of monogamy (Green et al., 2016).

Sassler and Lichter (2020) define *unions* as co-residential intimate relationships which are supported and reinforced through psychological, social, and economic processes that facilitate the relationship. Compared to non-residential relationships, they often involve a higher level of commitment and shared social responsibilities. In other words, unions do not only require intimacy or mutual emotional commitment, but also some level of sharing of adulthood responsibilities such as caring for children, keeping up a household, or managing a common financial situation (Kontula, 2009, 10-13).

Therefore, co-residential unions, marriages or cohabitation, are deeply societal in nature and, to a large degree, determined by factors and functions in the society. Göran Therborn (2004) defines marriage as a “socio-sexual institution” and contextualizes it as a part of the family institution that is deeply intertwined with other institutions of society. He distinguishes five different functions for marriage that have played a role in individuals’ lives throughout history. The institution, according to him, is for (1) regulating sexual behavior, (2) for the care and defining of legitimate offspring, (3) for social integration and division, (4) for social status, and (5) management of funds and housing. Depending on the location and historical timepoint, the importance of these aspects

has varied. Interestingly, they do not include needs for emotional intimacy, which according to Giddens (1992), has been present in cultural discourse for a long time, yet not as an integral part of established long-term relationships before the de-standardization development.

Even if cultural values have emphasized the role of marriage, the prevalence of cohabitation as a co-residential union has been rising in Western societies and Finland (Kiernan, 2001). For some people, it came to replace marriage as a lower-commitment alternative. In many ways, the attributes of cohabitation are similar to those of marriage, except that it lacks formal recognition (Landale, 2002). Cohabiting is not a new phenomenon, but it has rarely been documented. The origins of modern cohabitation have been traced both to university students (cohabitation as a childless exploratory phase) or to unemployed individuals (cohabitation as a result of financial constraints or union dissolution, often involving childbearing)(Kiernan, 2002.). The meanings attached to cohabitation have been reflecting these differing histories and the complex interactions between the narratives. In many North European countries, cohabitation started to grow rapidly in the 1960s and 1970s. In the latter half of the 20<sup>th</sup> century, cohabitation was usually brief, and most of the couples married or broke up within five years, reflecting a narrative of a short exploratory phase before marriage (Kiernan, 2002). Cohabiting couples have been more likely to slide into the relationship rather than making an active decision to commit to the partnership (Stanley et al., 2006), causing the partnership often to be less stable. The meaning of cohabitation has been changing in society, and it might change over time for the couple itself. Growing numbers of couples had children in cohabitation in the last decades of the 20<sup>th</sup> century, possibly reflecting a higher commitment to the partnership (Kiernan, 2002).

As the changing definition of cohabitation shows, the ideas surrounding intimate relationships were in a state of change in the latter half of the 20<sup>th</sup> century. The changes have been famously explored by Anthony Giddens (1992, 53-58). In *The Transformation of Intimacy*, he describes a historical distinction between the separation of domestic married life and reproduction from *amour passion*, a romantic sexual relationship. According to him, in late modernity after the Second World War, marriage transformed from a formal union defined by external factors to a field of tension wherein romantic love and traditional structural forces together shape individuals' narratives, and especially the narratives of women. Whereas previously marriage was a structure for economic stability, childbearing and female domestic activity, the meaning had changed by the end of the century. According to him, a start of a relationship can be seen both as a moment of self-fulfillment and as a step into a traditionally confined structure. This tension between the traditional and the non-traditional has become the center of late modern understanding of relationships. Additionally,

he points out the importance of contraceptive medications for cultural shifts in the latter half of the 20<sup>th</sup> century.

Famously, Giddens notes that even the term ‘*relationship*’ is a relatively recent phenomenon, a relation that is separate from the roles and responsibilities of marriage but also separate from the emotion-focused concept of love (Giddens, 1992, 53-58). He introduces the idea of “pure relationship” as a late modern cultural practice that is slowly replacing the traditional ways of constituting socio-sexual relationships and committing to them. He defines ‘pure relationship’ in the following way:

*“It [pure relationship] refers to a situation where a social relation is entered into for its own sake, for what can be derived by each person from a sustained association with another; and which is continued only in so far as it is thought by both parties to deliver enough satisfactions for each individual to stay within it.” (Giddens, 1992, 58)*

His view has sometimes been criticized as overly idealistic and lacking awareness of the everyday reality of long-term relationships. Despite cultural shifts towards individuality and equality, they often depend on differentiated roles for domestic work and emotional labor (Jamieson, 1999). Even though Giddens’ view is limited, he describes an important shift in the concept of relationship. A relationship has become a concept of its own that is entirely separate from marriage, and they are often formed with an expectation of individual fulfillment.

In a similar vein, Beck and Beck-Gernsheim (1995) argue that the downturn of standardized family life can be explained by individualization and a will to break free from tradition.

*“Biographies are removed from the traditional precepts and certainties, from external control and general moral laws, becoming open and dependent on decision-making, and are assigned as a task for each individual.” (p.5)*

Therefore, they see relationship practices varying from individual to individual based on the choices they make on their life course. According to Giddens, Beck, and Beck-Gernsheim, these changes have led to an increase in divorce rates and relationship destandardization, as individualized agents navigate in the world looking for emotional fulfillment and mutually satisfying relationships. Both Giddens and Beck & Beck-Gernsheim have been challenged by Gross (2005), who argues that only the “regulative” extrinsic framework for marriage and monogamy has changed with fewer social repercussions for union breakdown or re-partnering. Meanwhile, the social practices live on in the “meaning-constitutive” traditions – that is, in the beliefs and values resulting in linguistic and cultural practices of individuals.

These meaning-constitutive traditions and the resulting socio-sexual lifestyles have been explored by Haavio-Mannila et al. (2001). While ideals of monogamy determined the goals and aspirations for many individuals, people ended up living different relation trajectories in Finland (2001, p.15-17). They researched the subject with a sample of over 100 detailed self-biographies from Finns born between 1930 and 1970. The biographies detailed all the intimate relationships of the respondent until the research, and the researchers inspected them for coherent narratives. They named commonly occurring self-narrated lifestyles as (1) Monogamy, (2) Consecutive relations, (3) Searching, and (4) Parallel relations and devitalized unions. Moreover, they divided the respondents by three main generations based on the prevailing sexual practices and norms in their youth: Generation of sexual restraint (1916-1937), Generation of sexual revolution (1937-1956), and Generation of gender equalization (1957-1973).

Monogamy narratives were the most usual trajectories, and they focused on a lasting love with one individual throughout the respondent's life. Monogamy narratives were divided into two groups. The first narrative was *traditional monogamy* that emphasized tradition, religion, and family unity over personal fulfillment as the main drivers behind the lifestyle. In the later generations, monogamy often changed its form to *chosen monogamy*, maintained by the relationship itself without outside factors. If infidelity occurred, it called the lifestyle into question. Monogamy was equally prevalent in all of the generations. However, the traditional type was more frequent in the earlier generations. One-fourth of the autobiographies had a narrative of consecutive relations, a series of monogamous relationships, which was more prominent among younger women. A Searching for love -narrative was more usual among younger demographics, whereas biographies revealing a narrative of parallel relations or experiences of unfulfilling relationships was more prominent with men from older generations (Haavio-Mannila et al., 2001).

Finnish relationship practices can be seen as relatively similar to other contemporary Western cultures, with high regard for individual determination and gender equality (Haavio-Mannila et al., 2001, p.xiv). However, there might be some interesting differences in practices that should be kept in mind when examining the perceptions of people of their own relationships. Poutiainen (2009) notes that the term "dating" often appearing in American discourse to describe non-residential relationships does not have a Finnish equivalent in speech. Instead, the term "seurustella" is somewhat similar to "going steady" or "becoming exclusive," indicating a higher level of commitment. As language composes meanings and creates possibilities for lines of action, even the first stage of recognizing an intimate relationship in Finland may be perceived more seriously. Anything happening before exclusivity is only "meeting up" or "observation" etc. ("tapailu,"

“kattelu” jne.) (Poutiainen, 2009). On a similar note, the importance of fidelity might be pronounced in Finnish relationships (Kontula, 2009). Finns are among the strongest to believe that faithfulness is essential in a relationship compared to other European countries.

### Theoretical perspectives on having children

Deciding to have children is both dependent on the values of the society (Thornton, 2001), external socioeconomic factors (Sanders, 2012), and on the childbearing intentions and hopes of the individuals in a relationship (Hayford, 2009, Schoen et al., 1999). For most people, a relationship is a prerequisite for having children (Kiernan, 2001). Morgan and King (2001) have argued that the individual intentions to have children are often affected by “biological predisposition, social coercion, and rational choice.” In other words, childbearing intentions are affected by the biological will to have children, the happiness resulting from building a family, the social constraints and expectations given by society, the individual’s assessment of the environment, and the pros and cons of having a child or children. In an agricultural society such as Finland in the 1940s and 1950s, children might have been an economic advantage. As late as in the 1950s and 60s, children were still sometimes used for workforce in small-scale family farms in Finland, a practice which ended by the 1970s (Rahikainen, 2019).

This thesis studies the completed number of children, which is affected by individuals' childbearing intentions. Numerical childbearing intentions affect realized fertility behavior (Hayford, 2009, Schoen et al., 1999), but the intentions might shift along life course based on different life experiences. Hayford describes the process as dynamic and time-bound – changing with external conditions – yet not entirely fluid. She argues that young women especially might report their intentions based on society's expectations since they have no information about their future partnership, education, or employment trajectories. For most women, the intentions stay similar, but some change their intentions along the life course. Not all people have a certain number of children in mind when they think of their childbearing intentions. The conscious choice of having a certain number of children versus a certain spacing of children or certain genders of children is a relatively new concept even in Western societies. Having a numerical goal is intertwined with lower parity ideals (van de Walle, 1992).

In Finland and almost everywhere in Europe, the ideal of having two children has persisted for decades (Nikander, 1992). Two children was perceived to be the ideal number because many hoped to have one child of each sex, or they thought that an only child needs a sibling for company. However, many did not want a large family that would have compromised child well-being or adult

self-actualization (Mayer, 2004, Leathage, 2014). Some have theorized that there might have been a will to fit a social norm while subconsciously ensuring that the other would still survive even if something happened to one of the children (Sobotka & Beaujouan, 2014). Among Finnish respondents (Rotkirch, 2017), many believed that an only child would lack essential interpersonal competencies and the company of other people. Furthermore, many thought that parents would expect too much from a singleton or that an only child could face a larger burden of taking care of their parents when they get old.

Morgan and Rackin (2010) point out forces that might cause people to have more children than intended or less than intended. The forces that cause women to have more children than previously envisioned are (1) lessened “competition” and increased pull to domesticity, meaning environments that support childbearing over other activities, or (2) unwanted births. On the other hand, the processes that cause women to have fewer children than intended are (1) the physical inability to have children, the prevalence of which grows with age, (2) absence of a partner, or (3) increased “competition,” meaning environments such as jobs that do not encourage childbearing (Morgan & Rackin, 2010). He notes that the intended number of children is usually slightly higher than the final number of children (Morgan & Rackin, 2010).

Most couples arrive at a joint decision of making a first child together. Both partners usually have an equal say in the decision, and disagreement results in delaying the pregnancy (Bauer & Kneip, 2014, Miller & Pasta, 1996). Bauer and Kneip argue that having the first child differs from having a second or third child, as the family context changes the most after the first child's birth. Higher parity births are more often the woman's decision while the man has a veto right, as housework responsibilities still often pile up on the shoulders of women. Some adjustments to the intended number of children were caused by the experience of having the first children: while some enjoyed parenthood, others decided not to have any more offspring (Iacovou & Tavares, 2011). Childbearing intentions and the realizations of those intentions are deeply interlinked to marriage, and the childbearing intentions of single respondents might be highly dependent on the expected marriage or union (Schoen et al., 1999, Iacovou and Tavares, 2011).

Union instability tends to shorten the childbearing period and lessen the likelihood of higher-parity births for women, at least in France (Thomson et al., 2012) and in Italy (Meggiolaro, 2010). However, those who had a union breakdown but found a new partner adjusted their intentions to have more children in the future, and the gap was often mended (Iacovou & Tavares, 2011, Thomson et al., 2012). Thus, variability within life courses can have an effect in two different

directions: it can cut the childbearing period short or offer new possibilities for childbearing with another partner. The lower number of children born in cohabitation unions compared to marriages might be explained by the higher instability of the unions (Amato, 2010).

### Changes in theoretical perspectives

Different theories have guided the discussion forward in the latter half of the 20<sup>th</sup> century. According to Jallinoja (2014), grand theories of functionalism and universal family structures dominated the discussion after the Second World War, while new theoretical frameworks were being investigated and constructed (White, 2015, 58-59). A nuclear family was at the forefront of the research, and family was seen as more children-centric than couple-centric: socialization was the main interest of most esteemed theorists of the era (Jallinoja, 2014).

Theory on family took a turn in the 1980s with the rise of symbolic interactionism, constructivism, and feminist theorists. These emphasize the construction of the family with language, the diversity between families, and the power structures present in the family unit (Kuronen, 2014, Forsberg, 2014). At the same time, some theoretical frameworks adopted a rational choice approach where individuals were seen as decision-makers that weighed their choices with the possible rewards and costs for different actions in each social setting (White et al. 2015, 63-92). White et al. calls this period the time of theoretical pluralism, signifying the multiple different theoretical trends that affected family research (White et al. 2015, 60).

Contemporary family theories are deeply influenced by the recognition of diversity in society and the interplay of previous theories. The advances in methodology and data analysis have led to new possibilities. Some recent research sees family as an interrelated network, and some new perspectives are offered by evolutionary frameworks that see humans as a part of a larger biological sphere. There is little overarching theoretical ground that would combine all major viewpoints, except for the notion that family and relationships are seemingly simple yet multifaceted, interconnected, and deeply influential to both the human experience and the make-up of societies (White et al., 2015).

In this thesis, I have focused heavily on life course analysis as a theoretical framework and as a basis for the analysis. In the following paragraphs, I intend to offer a description of the life course framework and how it structures entry into relationships and childbearing.

## Life Courses

Life course has been conceptualized both in social sciences that use the term “life course” and psychology that uses the term “life span.” Ruoppila (2014) describes the life course as a “developmental trajectory over a lifetime of an individual” and notes that the theoretical framework has emerged in the past three decades, beginning from the 1980s and gaining traction in the social sciences. Similarly, White et al. (2015, 120) describe life course theory as a study of “changing form and structural development of the individual and the factors that affect that development.” The naming of life course to be a developmental trajectory seems fitting, as it partially stemmed from the socialization research conducted after WWII (Elder, 1994). Life course analysis adopted significant modifications to socialization paradigms: it understood biographies in a way that was not limited to socialization or experiences of youth (Ruoppila, 2014), but allowed changes of direction throughout the life course and explained continuity in a coherent way (Elder, 1994, Ruoppila, 2014).

Life course theory as a theoretical perspective has been described as an “interweave of age-graded trajectories, such as work careers and family pathways that are subject to changing conditions and future options, and to short-term transitions ranging from leaving school to retirement” (Elder, 1994). The research paradigm sees temporal aspects, contextual frameworks, and social processes at the center of theoretical exploration (Elder, 1994). In one of the earliest accounts before the emergence of life course theories, Mills (1959/2000, 225) calls for sociologists to “work out and revise your views of the problems of story, the problems of biography, and the problems of social structure in which biography and history intersect,” prompting social scientists to take into account temporal aspects in addition to structural ones and their interconnected nature. However, even if the goal is to look at individual trajectories, the framework prompts exploration on the level of populations, considering multiple interdependent pathways that lead to similar outcomes (Elder, 1994).

Key dimensions in life course examination have been named by Elder (1994). The life course perspective calls for research on (1) the effect of historical events on human lives, (2) the timing of different life events, (3) linked or interdependent lives, and (4) human agency and its effect on the outcomes of the life course. Ruoppila (2014) additionally notes that there is randomness inside the life course outside of the individual agency and structural factors. These considerations encourage research to explore how life already lived affects future outcomes, to create links between related events, and to study the processes that lead to different outcomes.



The timing of different activities on the life course is at the core of the theoretical approach. Already Durkheim noted the importance of time in social processes and the need to order time to structure collective social activity. “The calendar expresses the rhythm of collective activities, while at the same time its function is to assure their regularities” (Durkheim 1912:29). As social beings, we form an understanding of our surroundings by ordering life events on a previously specified timespan. The “calendar” or “script” – as I prefer to call it – is shared by our social consciousness and enforced collectively through formal or informal structures. Life course theory distinctively points out that events (be they historical or on the level of the individual) that happen on the life course are not independent of their context and that their effect is deeply related to the age and situation of the individual (Elder, 1994). For example, a divorce at different stages of life might have different outcomes.

The individual’s age is often the best predictor of different lifetime periods. For example, times of schooling, paid work, child care, and retirement are all closely age-related, even if societies do not officially tie these life stages to specific ages (Settersten, 2003). The general Western model first has a period of training or education, then a time of continuous work activity, and finally a retirement period. However, family formation is not standardized in the same way, and there is more diversity in the relationship trajectories than employment trajectories, even if most events occur around the same ages. Often, generational position defines the family-focused identity rather than age (Settersten, 2003). Through different trajectories, such as employment and relationship processes, individuals form their identity by using narratives of their lives. They place events in relation to each other on the life course, thereby creating an understanding of themselves in relation to the society they live in (McAdams, 2001).

The consensus in the scientific society used to be that life courses had become less predictable and more complex with increased mobility, job uncertainty, and family structure plurality. In addition, they were seen to have become highly individualized, supporting the individualization hypothesis by Beck and Beck-Gernsheim. It has been suggested that the claims of having the complete life course unraveling were not entirely founded with evidence when one looks at the 20<sup>th</sup> century, as education and employment trajectories have remained relatively similar, with increasing homogeneity as women entered the workforce (Kohli, 2007, Brückner & Mayer, 2005). While staying in one job might have become less usual, people have still opted for relatively similar ways of organizing their lives. In contrast to occupational trajectories, relationships and especially the institution of marriage are in a state of change, with most variability occurring for female cohorts born after the 1950s (Brückner & Mayer, 2005, Buchmann & Kriesi, 2011). While relationship

trajectories have not necessarily become more turbulent (meaning more changes along the life course), there is less similarity between individuals. The differences are caused by the rise of cohabitation as a prominent relationship status and individuals choosing between various relationship options (Elzinga & Liefbroer, 2007). Van Winkle argues that turbulence has increased as well, and fast-paced changes in society have created more complexity inside life courses. Still, cultural surroundings often determine the life course model more than individual choices (Van Winkle, 2018).

Many terms have been used to describe complexity *inside* the life courses of individuals and *between* the life courses of different individuals. For example, Brückner and Mayer (2005) have identified the term *differentiation* to describe the increase of life course stages such as marriages, divorces, or location changes during an individual's life course. However, between individuals, variation is called *institutionalization* or *standardization* (or rather, de-standardization) due to the increasing similarity that life courses gained throughout mid-century western countries. Extended periods of education, long career paths, and welfare policies shaped possibilities for new families in the 20th century and standardized them with the structures of newly formed institutions (Brückner and Mayer, 2005).

De-standardization developments are often linked to the Second Demographic Transition theory, a paradigm in development since the mid-1980s (Leathaege, 2014). While the First Demographic Transition witnessed declines in mortality and subsequent decline in fertility, in the 1970s, many scholars assumed that Western societies would settle on replacement-level fertility and a nuclear family structure. However, the Second Demographic transition theory argued that the future would hold subreplacement level fertility, plurality in family structures, non-coupling of marriage and childbearing as life stages, and that the status quo would not hold. Lestaege (2014) points out that while the prime motivator for the first transition was child well-being, the second transformation is instead driven by adult self-actualization. Some scholars have criticized the theory, pointing out that the trend has been chiefly prominent in Northern and Western Europe, therefore not proving useful in the greater demographic examination. According to them, the theory assumes a one-directional developmental trajectory that might well be reversed (Zaidi & Morgan, 2017). Still, in the Finnish context, the changes described by the theory have become more prominent through the 20<sup>th</sup> century.

### Entry into adulthood and partnering as a life stage

Life course analysis has assumed that the entry to adulthood goes through different stages: leaving the parental home, finishing training or education, union formation, financial independence, and finally entry into parenthood. The transition has been traditionally seen as complete once one has gone through all the events (Buchmann & Kriesi, 2011). In the early cohorts of the 20<sup>th</sup> century, the entry into adulthood was uniform, with different transitions happening in a specified sequence and at predictable ages (Model et al., 1976). For the children born from 1950 onwards, the transitions were already more de-standardized. Demographic changes have changed the entry into adulthood, as these hallmarks of adulthood have been extended on a longer period of time, and the variance between individuals has increased (Settersten, 2007). How individuals manage the changing circumstances and destandardized processes is ever more dependent on the personal characteristics and resources available (such as health or family support). While there is increased flexibility in the formation of adult life, there is also a higher chance of hopes not being fulfilled (Settersten, 2007). Therefore, individuals have been structuring their entry into adulthood in increasingly varying ways, depending on the social environment. As a result of differentiation inside the life course, Arnett (2000) has conceptualized *emerging adulthood* as a new life stage of role exploration before completing all 'adulthood' events.

In the development from adolescence to adulthood, transition events happen at tight intervals, marking ending points or starting points of trajectories. For example, someone might have finished high school in the same year as they started to date their future spouse and started to work for a future employer. These beginnings and endings have a long-lasting effect on the later life course (Buchmann & Kriesi, 2011). As part of the Northern European welfare regime, Finland has prioritized individual freedom of young people, encouraging early independence and higher education, which has delayed entry into adulthood and placed high importance on institutions as transition markers of the life course (Buchmann & Kriesi, 2011). For example, cohorts born around the 1960s usually left the parental home before marriage – either cohabiting with a partner or living alone before committing to any union. The process of moving from parental home was noticeably homogenous, possibly a result of an institutionalized entry into adulthood through education (Billari et al., 2001, Nikander, 1992). The move from parental home was also homogenous for the earlier cohorts, but they more often moved as a result of marriage rather than education (Nikander, 1992).

Sassler argues (2010) that the relationships formed in adolescence and emerging adulthood are significant not only for the time of them occurring but also for the remaining life course, as the types of relationships people have in their youth affect the behaviors in their adulthood. Moreover, finding a mate for the long term is likely to be one of the central endeavors of emerging adults. Forming the first coresidential union in Finland usually has happened around the age of 22 for women, with age remaining relatively similar despite the changes in the institution of marriage (Rotkirch, 2017). The behavior of individuals is likely to vary based on their intentions of marrying at a given time: people who are not looking for marriage in their twenties are more likely to form multiple romantic relationships in their emerging adulthood and marry later, and they are likely to select different partners compared to those looking for commitment (Sassler, 2010, Gaughan, 2002).

Not everyone marries or forms a long-term partnership. Those who stay single are more likely to encounter stigmatization, difficulties navigating in a couple-oriented culture, and feelings of uncertainty while enjoying higher independence and perceived personal growth (Sharp & Ganong, 2007). According to Sharp & Ganong (2007), staying single can be described both as a choice and a forced decision. Individuals might not have found anyone they wanted to marry, indicating that they have a choice to forego some potential partners. However, not many decided consciously to stay single. Marriage as a part of the life course is an important transitional event for most, and the cultural scripts concerning marriage shape life course outcomes (Settersten, 2003).

### Childbearing as a life stage

According to Settersten (1996), many life course transitions have a perceived deadline, but the structure is especially pervasive in childbearing. The deadline is tied to biological constraints and to the idea that things should happen in a certain order (sometimes called sequencing). The focus on sequencing highlights that many people do not consider life changes to happen in isolation, but through a culturally scripted pathway. For childbearing, forming a union is the critical transition that many believe should happen before having a first child (Kiernan, 2001), and children born outside of all partnerships are rare despite the decline in marriage. There are differences in the timing of childbearing depending on the socioeconomic status of the individuals, as more educated people tend to give birth to their first child later (Rotkirch, 2017), perhaps indicating a will to finish tertiary education before getting children. It has also been suggested that early childbearing itself interrupts educational trajectories, which might account for the higher number of children for less-educated individuals (Umberson et al., 2010).

After forming a coresidential union, having children is the ‘next step’ in the life course script. According to Nikander (1992), a sizable portion of women around the 1950s might have even had their first children within seven months of marriage, indicating that the child was conceived before the wedding. Otherwise, many had their first child within two years of getting married. The time between forming a union and getting the first child has increased from a relatively short amount of time to multiple years dedicated to self-actualization (Rotkirch, 2017). There is a lack of data on the length of the cohabitation relationship before childbearing, as they were rarely documented.

Hopes for childbearing affect relationships, and consequently, the time spent in the relationship before having the first child depends on the age at entering the relationship. The socially acceptable time for getting children is perceived as rather limited and affected by the average timing in society (Rotkirch, 2017). In Finland, the interval between births has often been between 2 and 3 years. However, the interval has been shortening in the younger cohorts depending on the mother's age at first birth, with older mothers having the children at a tighter interval (Berg & Rotkirch, 2014). Most women perceive childbearing to have a social ‘deadline’ wherein children should be had before age 40, regardless if having children would still be biologically possible (Billari et al., 2011). Specifically, in Finland, the mean for the social limit was 42,6 years for women, while for men, it was over 50 years. Finland had the largest difference in the perceived deadlines in Europe (8 years) (Billari et al., 2011).

Jalovaara and Fasang (2017) have found that for childless individuals, their varied relationship history often includes either not partnering at all or short cohabitating periods. Similar results have also been observed later on, as childlessness for women was connected to a late transition from the parental household, indicating later union formation and short partnerships (Saarela & Skirbekk, 2020).

### Life course perspectives of relationship transitions in later life

A growing number of people either stay single for a longer time or divorce their previous partners, offering the opportunity for a new relationship after the transitionally intense youth and possible childbirth. Marrying again after a dissolution of marriage is not a new phenomenon. At the beginning of the 20<sup>th</sup> century, the death of the previous partner was often the cause of marital disruptions, and re-partnering was tied to widowhood (Koskinen et al., 2007, 149). Adult deaths decreased throughout the century, and in the latter half, dissolution by divorce than by death was already more prominent among people under 50.

Generally, women are less likely to re-partner after a relationship breakdown than their male counterparts (Sassler, 2010). The difficulty of finding a new partner is likely related to the children in the household, as childless women and men were as likely to settle into a new partnership (Di Nallo, 2019). Some choose not to marry again, possibly prompting them to look for non-residential partnerships or cohabitation after a divorce. The reasons include staying alone for the perceived good of the children, getting used to individual freedom, or having individual reservations about entering a committed relationship again while society allows more informal romantic unions (Sassler, 2010). For older adults, cohabitation serves rather as a substitute for marriage than a stepping stone to a married life, which is a more usual pattern for younger adults (King & Scott, 2005).

### **Historical context – changes in family formation practices**

To describe the different living conditions, family ideals, and realized family outcomes of women in the sample born between 1924 and 1966, it is of use to divide them into separate categories, as a lot changed in the normative framework of society between 1950 and 1990 when the women in the study were approximately 20 years old. I chose to divide them into three groups: people born before 1945 (early cohorts), 1945-1955 (baby boomer cohorts and middle cohorts), and people born after 1955 (late cohorts). The choice to extend the baby boomer cohorts with five years was because just five cohorts would have been too small of a sample size for future analyses. Additionally, Haavio-Mannila et al. (2002) roughly outline a “generation of sexual revolution” spanning from 1937 to 1956, placing them comfortably to that generation. In the earliest cohorts, the group size needed the individuals born in the early 1940s. With the guidance of these categories, I will explore realized partnering, childbearing, and divorce outcomes across time.

#### Relationships and partnering

Partnering has perhaps experienced the most dramatic changes. The earliest cohorts started dating in Finland in the aftermath of the Second World War, which affected their ideals of a good life: after the uncertainty of war, social standing, material well-being, and stability became the central goals for the generation (Mayer, 2004). Their life course was most likely standardized rather than de-standardized: they left the parental home at a young age, soon entered marriage and parenthood, and formed families that mostly resembled a nuclear family (Mayer, 2004). Some individuals would have been part of the generation of sexual restraint (Haavio-Mannila et al., 2002, p.6-17), where sexual topics were largely taboo in society, women’s sexuality was controlled, and

lacking contraception restricted sexual encounters. For the most part, the relationship trajectory of the generation could be described as monogamous, with many marrying their first sexual partners. Many might be part of a regime of unquestioned traditional monogamy, where the base for a monogamous relationship stemmed from tradition and religion. The relationship needed to be upheld even if it was not satisfying for the individuals involved, sometimes leading to extramarital relationships or searching in later adulthood. Sometimes even unfaithfulness would not lead to divorce (Haavio-Mannila et al., 2002, p.81-82).

However, children born in the early 40s were already more inclined to believe in sexual liberation and exploration. These cohorts were getting married earlier than previous cohorts, and the average age at marriage in Finland got lower (for women from 24 to 23). Some might have had a short searching phase before marriage. The number of couples getting married increased, with around 90% entering marriage before 50 (Koskinen et al., 2007, p.141-142).

The subsequent cohorts born between 1945 and 1955 would be different from their predecessors. While most baby boomers still got married, in the cohorts born after the 1950s, the number of people marrying started to decrease considerably, falling from about 90% to about 80% (Koskinen et al., 2007, p.142). The average age for marriage stayed low at around 23 years (Koskinen et al., 2007, p.141), and the prevalence of cohabitation before marriage grew (Nikander, 1992). They were more likely to have higher education than previous generations, and their life courses were shaped by the newly formed institutions of welfare society with the expansion of education, strong employment trajectories, and upward mobility (Mayer, 2004). Haavio-Mannila et al. (2002, p.19) describe them as a generation of the sexual revolution. For the first time, they had widespread access to contraceptive medications and believed sexuality was rather a source of pleasure than a duty. Women were also gaining more freedom (p. 191). More individuals in these cohorts had a life course characterized by searching in young adulthood and later having either consecutive relationships or a conscious choice to commit to monogamy, differing from the understanding of monogamy in the earlier cohorts (p.81-82). There were more accounts of infidelity, especially from men's side, which was justified by passion and sexual freedom (p.191).

For the last cohorts, the changes seemed to accelerate. Children born after 1955 entered courtship after the 1970s, during a time of rapid economic growth, and they were the generation most subject to family life course de-standardization (Mayer, 2004). Haavio-Mannila et al. (2002, p.7) describes a new turn in the mindset for the new generation: after the sexual liberation and emergence of AIDS, partnering became more conscious, casual sex was not as preferred, and women gained

equality with men in terms of partnering behavior. The institution of marriage started to experience interesting changes. The average age of marriage started to rise quickly from 24 to 26, and the proportion of women getting married fell from 80% to around 70% (Koskinen et al., 2007, 141-142), meaning a prolonged phase of exploration before commitment. These changes were most likely driven by the rise of cohabitation both as a substitute and a precursor for marriage (Kiernan, 2001), while marriage became an economic arrangement between the couple with less societal meaning (Koskinen et al., 2007, 143). Less than 20 % would get married before cohabitating first, and increasing numbers would not marry their cohabitating partner (Nikander, 1997).

These historical changes are likely to be visible in the data: as most women born in the earlier cohorts are likely to have married young and stayed with the same partner, the younger cohorts might have much more variance in their partnership trajectories, including more cohabitation. In the beginning 1940s, the standard form of a union was marriage, and by the end of the century, cohabitation was a viable option for most couples both before marriage and as a substitute for it (Kiernan, 2001). The most significant shifts in partnering practices happened in the 1970s in Finland (Statistics Finland 2010) and its close neighbor Sweden (Andersson, 2004). In cohorts born 1963-1967, 35 % of the firstborn children were born in cohabitation, while the number was below 10 % for the first cohorts. The changes seem to have happened for individuals born around 1950 and afterward (Nikander, 1992). Interestingly, even if the age at marriage and childbirth has varied, the time at which people form their first coresidential union has remained relatively stable. At 22, half of the people in the first cohorts had married, and half of the people in the last cohort had entered their first coresidential union as well. It is possible that people born in the 1950s formed their first unions slightly earlier compared to the cohorts before or after them (Rotkirch, 2017).

Kiernan (2001) draws on the example from Sweden while describing the different stages that cohabitation has had as an institution in society. Initially, cohabiting couples were a small population that deviated from the traditional norms, while most still entered directly into marriage. Later, cohabitation turned into a “testing” phase, which allowed couples to try living together before committing to a marriage, after which it turned into a socially acceptable substitute for marriage. Finally, childbearing patterns looked almost identical in marriages and cohabitation unions. All these stages of cohabitation can exist simultaneously, which makes cohabitation a complex phenomenon with a multitude of meanings both for society and the people involved. Koskinen et al. (2007, p.144-145) similarly agree that cohabitation unions were looked down upon for most of the 20<sup>th</sup> century before they started to increase rapidly in the 1970s. In a decade, they



became four times more common, and in the 1980s, approximately 10 % of all couples were cohabitating.

It is not only the cohort that is impactful for the marriage or cohabitation practices; timing also matters. People who were born in the 1940s yet who entered their first union later in the 1970s were more likely to start their first union as a cohabitation compared to earlier decades. The nature of cohabitations as short “testing marriages” started to change in the 1970s as people wished to marry later, and cohabitation and childlessness were prolonged. However, Koskinen et al. (2007, p.145) further argue that people were likely to marry when the first child was born.

### Childbearing

Over the latter part of the twentieth century, the number of children per woman decreased, and childbirth's timing shifted from the early twenties to later twenties and thirties (Koskinen et al., 2007, p.92). One of the main reasons for a lower number of children was the postponement of childbearing in modern societies. It is a trend that encompasses most modern nations (Schmidt et al., 2012), and Finland has been no exception. Nevertheless, after the initial decrease, the numbers stabilized around 1,8 children (Koskinen et al., 2007, p. 96).

In the earliest cohorts, the change in the total amount of children was the biggest. The number of children per woman in Finland started to decline quickly, as the cohort 1927 had on average 2,56 children whereas the individuals born in cohort 1945 had only 1,90 children (Koskinen et al., p.96). For the average woman, that would mean that the number of children would drop from three children to two. The developments resembled the shifts of other East-European nations after the Second World War (Koskinen et al., 2007,p.65). While the number of children decreased, there were no significant changes in the numbers that women were hoping for, as the hopes remained high, averaging at over 2,5 (Nikander, 1992). The main reason for getting fewer children was the fertility decline for over 30-year old mothers: the timing of childbearing was usually very close to getting married, suggesting that families made a conscious decision not to have any more after the first two or three children (Rotkirch et al., 2017). Interestingly, the difference in the number of children between highly educated women and their less-educated counterparts started to shrink. For less-educated women, the average number of children dropped by almost 0,5 (Nikander, 1992).

For baby boomers and the five following cohorts (1945-1955), the rate of change slowed down as most had over 1,8 children, with a slight increase to the completed number of children. However,

the postponement of childbearing started in these cohorts as the number of women having children at over 30 started to increase while the number of people having children at around 24 decreased (Koskinen et al., 2007, p.96), meaning on average, a longer phase in unions before the birth of the first child, even if many still had children right away. According to Nikander (1992), the number of hoped children remained high, with most hoping for either two or three children. As for educational attainment, there was a pattern of childbirth postponement for individuals with high education, placing childbearing in later twenties and early thirties. The intense decrease in fertility in the 1970s can be explained by simultaneous changes happening in different cohorts: while the earlier cohorts had fewer children in their thirties, the middle cohorts postponed the birth of the first child as the education level in Finland increased (Koskinen et al., 2007, p.97).

For the later cohorts (after 1955), the postponement of children became increasingly pronounced: while people still entered their first unions at a similar age, they tended to have their children later than the previous generation (Rotkirch, 2017), while still having approximately 1,9 children per woman (Koskinen et al., 2007, p.96). More people had children after 30 years of age in these late cohorts than in their twenties (Koskinen et al., 2007, p.92). The number of children born in cohabitation instead of marriage started to increase in this group considerably, while still a majority (over 60 %) had their first child while married (Nikander, 1992).

In addition to the postponement of childbearing, there was a cultural shift towards individualist values and a will to enjoy a financially stable life in times of rapid economic growth (Mayer, 2004). These value shifts changed childbearing behavior in Finland: in the 1950s, as childhood mortality was already low, parents might have focused their efforts on offering each of their children individual attention and financial assistance for them to live a life of prosperity (Morgan & Taylor, 2006). Hence, many married couples wanted to have smaller families than their parents had. According to Morgan and Taylor (2006), much of the fertility decline of the First Demographic Transition resulted from lower parity births. In other words, there were no longer many families with more than four children, whereas Leastahege (2014) and Rotkirch (2014) note that the Second Demographic Transition occurring in the later cohorts was motivated by parent self-actualization.

Some people did not have children at all. According to Dykstra (2009), childlessness has been a severely under-researched issue in the field of demographics, as the focus has often been on families and their living conditions. Throughout the 20th century, the rate of childlessness has varied. Women born at the beginning of the century were more likely to remain childless than women born in the 1940s, and again from cohorts born in 1950 onwards, childlessness started to

increase. Changes in childlessness resulted in a U-shaped curve. In Finland, women born in the 1920s had an 18% chance of being childless, whereas, for women born in 1940, the number would have been just 14%. For cohorts born in the 1960s, the percentage was again 19. (Dykstra, 2009). At the beginning of the century, if having children was difficult, fertility treatments were not widely available, and it has been estimated that between 9,5 and 13,5 percent of couples were physiologically unable to have children. For the 1960's birth cohort, fertility treatments could have lowered the number by almost 3% (Toulemon 1996). Dykstra (2009) further argues that voluntary childlessness might have been as prevalent in the early decades of the 20th century as they were in the later decades and that one of the driving forces behind voluntary childlessness might have been a will to live a certain lifestyle. The family-centric values of the mid-century western world could have been a historical anomaly rather than the most logical comparison point for current demographic trends.

#### Separation, divorce, and re-partnering

Even if most people wish for their relationships to continue, sometimes partnerships and marriages end in union dissolution. According to Amato (2010), the key risk factors for divorce are marrying as a teenager, socioeconomic disadvantages such as low income level, unemployment, and low levels of education. In addition, cohabitation before marriage and premarital births have been identified as predictors, which could be a result of event-based commitment (Surra, 1997). One must not confuse predicting variables with the actual causes of divorce: for instance, the increased risk for divorce after cohabitation might be explained by other factors than the act of cohabitating itself. People entering cohabitating relationships might have lower expectations for the union, and the level of commitment might be lower in cohabiting relationships than in marriages. In addition to demographic predictors, key causal variables for divorce or separation are domestic violence, conflict, amount of problems in the relationship, and low levels of trust and commitment between the couple (Amato, 2010).

For the earliest cohorts who married between 1950 and 1965, around 20 % of their relationships ended in a divorce, while most stayed in the relationships that they formed in youth (Koskinen et al., 2007, p.152). The divorce rate was lower in the marriages of the 1950s and 1960s, followed by a growth in the divorce rate of marriages formed after 1965, which Koskinen (2007) calls a changing point for many family practices. The divorce rate was considerably higher for the marriages formed around the time, with around 27% of marriages ending in divorce. For the middle cohorts who were likely married between 1965 and 1980, the divorce rate grew rapidly to almost 35% ending the relationship before the year 2005 (Koskinen et al., 2007, p. 152). The

numbers get increasingly close to 50% for the latest cohorts, meaning that almost half of the marriages ended in a divorce. Additionally, cohabitation unions are more fragile than marriages and might have caused an even higher number of relationship transitions for the latest cohorts.

De-standardization of the life course might become most visible in the multiple exclusive relationships (cohabitation or marriages) formed after one another. Koskinen notes (2007, p.156) that remarrying has slowly increased since 1990, and the increase seems to be a relatively recent phenomenon. While relationships have become shorter, they have become more faithful, as people report fewer parallel relationships (Kontula, 2009).

With re-partnering, some individuals had a possibility of having new children. Kreyenfeld (2011) has shown that in many cases, stepfamilies have in total more children than their nuclear family counterparts. The higher number of children might be explained by the pattern of “union commitment,” where new families want to have a new child to cement the relationship (Henz & Thomson, 2005). Jalovaara (2020) has explored multi-partner fertility and found that women tend to have children sooner than their male counterparts after forming a new partnership. Koskinen (2007, p.96) estimates that about half of the re-partnered individuals decide to have children together and that committing to a new relationship seems to have an increasing effect on the completed number of children. Women who have a new partner reported more frequently an intention to have a new child compared to those who did not get into a new relationship (Ruokolainen & Notkola, 2002).

### **Defining research questions**

In the past paragraphs, I have attempted to give an overview of relevant theoretical viewpoints related to relationships and childbearing, offer a concise description of life course perspectives and their perspective on family transitions as well as describe the different cohorts in the study and the changes in family formation practices. Based on the previous research, I will briefly mention the position of this study on various theoretical concepts and define the research questions based on the conceptualizations.

In this study, a relationship will be defined as an intimate relationship between individuals, resembling the conceptualization of Kontula (2009) and Sassler (2010), and describing the nature and the commitment level is up to the individuals themselves. While the study differentiates between different types of relationships most often found in Western societies (e.g., marriage, cohabitation, non-residential relationship), the study allows the respondents to determine the

nature of each mentioned relationship themselves within these categories. Not all relationships may be mentioned if the respondents do not understand them as worthy of recognition on the life course, which might be the case for early or short relationships of non-residential nature. Therefore, the material does not only include relationships people had but indirectly also the narratives (and the identities) which people relate to their trajectories (Haavio-Mannila et al., 2002). However, the information given by the respondents is treated as valid and truthful comparable to any other given information, and the attached meanings are not explored in this study.

Shifts in the relationship status over time are seen to form a relationship trajectory, extending over the individual's life course. These trajectories are analyzed to reveal their frequency within the sample and to explore the implications of different trajectories on the number of children. Relationships and childbearing are seen as interconnected dynamic processes spanning over several decades. In this study, the focus on the life course is limited to the years of childbearing for women, starting from age 13 to the age of 45. I chose to use the age 13 as a starting point to get the earliest mentions of relationships to the analysis to see the entire trajectory. These limits for childbearing are seen as biological and social constraints, and most women have their children within this period.

For each individual, the study looks at the ages and timings at which certain relationship changes occur. Additionally, it recognizes the historical changes that happened in the relationship formation practices throughout the latter part of the 20<sup>th</sup> century. People are seen to use their agency over the life course in relation to the expectations and structures given by society (Mayer, 2004).

In short, the study will answer the following research questions:

1. a) Which relationship trajectory clusters emerge for women on the fertile life course (13-45)?  
b) How do the patterns change in relation to the cohort?
2. How does the biological number of children relate to the relationship trajectory?

The questions will be answered using retrospective longitudinal data and sequential analysis, described in the following chapter.

## Data and methods

This study will use the data infrastructure SHARE (Survey of Health, Ageing, and Retirement in Europe), which covers around 2000 respondents in Finland born between 1924-1966, along with respondents in 28 countries of the European Union and Israel (Börsch-Supan, 2019). More specifically, the data is provided by the Retrospective Partner histories (RP) module, which includes longitudinal data on major life events, such as marriages, divorces, births of children, and other events, which people will themselves describe to the interviewers. To analyze the data, I will use sequential analysis, an emerging methodology in the field of social sciences, which is often used to study life courses with longitudinal data sets (Cornwell, 2015). The following text will describe the structure and origin of the data and provide insight on the statistical methods and highlight some examples of academics who have used the method before in a setting of social research.

### Structure of the data

SHARE is an initiative of the European Council to understand better the living conditions of older Europeans and the demographic changes in Europe. The data projects started in 2004 in some countries, and since then, new data (waves) have been gathered every second year. SHARELIFE - the retrospective interview of the life course - was conducted in 2017 in countries and areas that were not included in wave 3, which was the original data gathering on retrospective data (Börsch-Supan, 2019). As Finland joined the data infrastructure in 2017, the data used in this thesis is entirely based on wave 7 and, more specifically, the first data release 7.0.

The retrospective interview contains several modules, including children, pregnancies, adoptions, relationships, accommodation arrangements, employments, health, childhood circumstances, finances, and other general life events. RP module includes information on non-cohabiting relationships, living arrangements, marriages, divorces, separations, and deaths of partners. The childbearing histories of the respondents are gathered in a separate module, which differentiates between the children of the spouse and the biological children of the respondent. In my study, I will only be looking at the biological children of respondents.

Longitudinal observations provide information about the same respondents over a period of time. The study uses longitudinal data instead of making cross-sectional comparisons between populations, which allows the researcher to look at trajectories spanning over time and the outcomes of those trajectories (Farrington, 1991). This approach supports this study of relationships and childbearing outcomes as dynamic processes, not as static differences between

individuals. I will narrow the scope down to Finnish women since there is visible variation in the relationship trajectories and childbearing patterns of different areas around Europe (van Winkle, 2018). The data on relationship histories are gathered in one retrospective interview, not over multiple years.

Gathering retrospective data and prompting respondents to recall events reaching back decades is not entirely simple. Environmental circumstances and the individual characteristics of the persons can significantly affect the ability to remember life events correctly (Bergmann, 2019). Retrospective interviews have been criticized as too unreliable for detecting causal patterns. However, if the retrospective interview focuses on key life events, even retrospective data is reliable enough for pattern detection. In SHARELIFE, the data has been gathered in an event history calendar, allowing the respondent to retrieve memories in a multidimensional way (Bergmann, 2019).

A chronological approach, where the respondents would simply place life events on the life course, would be too simplistic and not allow the respondents to place the events in relation to each other. Belli (1998) describes the recall process to be a hierarchical and interrelated network. Autobiographical memory consists of extended events (such as job placements or vacations) and specific events (such as a party at Susanne’s or a lecture at a University). Grouped extended events constitute lifetime periods that are often represented by *key* events of a person's life (such as getting married or getting a job). SHARELIFE gives the respondent an opportunity to remember a significant life event such as the birth of a child, a marriage, or a divorce, and to anchor other memories to the same lifetime period, allowing for a better recollection (Bergmann, 2019). In the interview, the respondent simply fills in the calendar with the interviewer, but the data is later on separated into different modules.

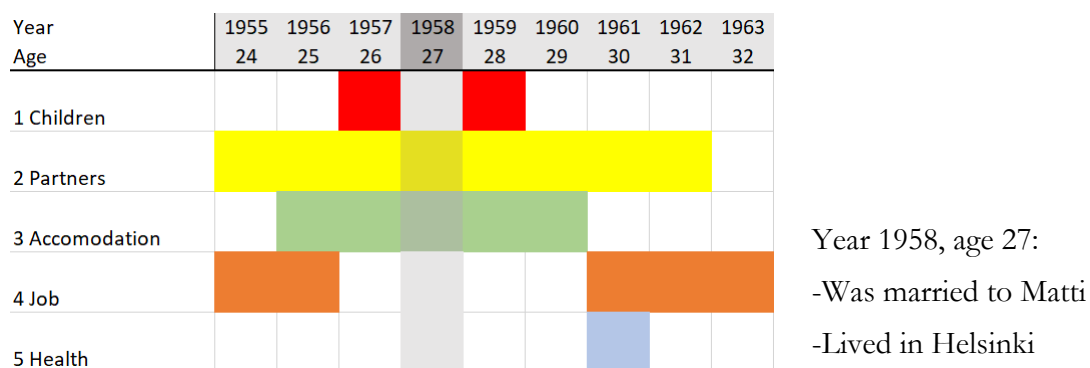


Figure 1: Illustration of life events calendar, according to Bergmann, 2019

Register data could well be used to study a similar subject (see, for example, Jalovaara & Fasang, 2017). However, it does not include non-cohabiting relationships, and cohabiting partnerships have to be assumed based on the living arrangements of couples. Retrospective data is free of issues related to accuracy other than recollection failures, even if the number of observations is not as high as in register sources. For this reason, I have decided to use SHARELIFE as my source of information. In addition, it allows better comparability with other European studies of a similar subject, which have often been using SHARE data in the lack of national register sources (e.g., van Winkle, 2018).

Key ethical considerations of the study concern the informed consent, gathering and the safety of the data provided by the respondents as well as the age and condition of the respondents (Israel & Hay, 2006). The data gathering process has been approved by the Ethics Council of Max Planck Society (2020), and the considerations have been implemented by Population Research Center and their partner in the process. The respondents have given their consent to participate in the study in writing before the interview process, and they have been informed about the data handling practices. The data gathering was done with face-to-face interviews with possible assistants or proxies present for some respondents, and the interviewers were educated on ethics in the interview process. For personal questions, the proxies were not present in the interview. The personal details and the contact information such as the name and address of the respondents have been stored separately from the data, and the anonymized data is accessed only by researchers that the Max Planck Institute gives permission.

From the researcher's part, one of the most important ethical considerations in quantitative analysis is the handling of anonymized data. Even if the names of the respondents are not included, by combining different data sets and merging different information together, some respondents might be recognizable (Israel & Hay, 2006). For example, in this data set, individuals with three or more marriages on their life course are few, and thus taking them as examples might compromise the anonymity of the respondents. The information given by the respondents is treated as legitimate and truthful, and the respondents who wished not to give information on their relationship histories have been removed from the data.

Data had been initially gathered in a wide format, where respondents listed out the key life course stages that were then coded by giving each relationship episode a number as follows and the year it started: "Relationship 1: 1976" and "Marriage 1: 1978". The relationship status variable was formed by naming the married episodes, cohabiting episodes, and non-cohabiting relationship



episodes. Relationship status was assigned to 0 if the respondent didn't inform about a relationship for a given period. The relationship information was ignored if there was no information about the year of birth of the person or knowledge when the relationship started. Based on these types of relationships, seven different states were created: (1) No relationship, (2) First marriage, (3) Second or higher marriage, (4) Cohabitation, (5) Divorced, (6) Non-cohabitating (dating) and (7) Widowed. After assigning labels to different relationship types, the starting points and the ending points of the relationships were established, after which the data was expanded into a panel, where each year had its corresponding relationship status.

Id	Age 25	Age 26	Age 27	Age 28	Age 29	Age 30	Age 31	Age 32	Age 33
1	Married	Married	Married	Married	Divorced	Divorced	Divorced	Dating	Dating
2	Single	Single	Dating	Married	Married	Married	Married	Married	Married
3	Dating	Dating	Cohabiting	Cohabiting	Cohabiting	Cohabiting	Married	Married	Married

*Figure 2 Illustration of the data structure*

The data structure did not allow for multiple parallel relationships at the same time, and overlapping episodes were ignored. The decision to keep just one relationship at a time for each respondent might not give an accurate description of the relationship trajectories of some individuals. However, the chosen method of analysis required relationship statuses to be organized in one long sequence, with each year having just one assigned relationship status. If a new relationship started before the previous one ended, the ending date was adjusted to a year prior to the new relationship. In all cases, married relationships were given priority over cohabitating and non-cohabitating relationships. If two relationships were named to start at the same time, but one of them ended before another, the priority was given to the longer relationship, or finally, to the relationship that started first. The final number of life course trajectories analyzed was 1078 complete trajectories of Finnish women.

Detailing if the marriage episode was the first marriage for the respondent or if it was a second or higher-order marriage was to correctly identify different married episodes from another. Due to the analysis method, sequence analysis would otherwise confuse these two trajectories to be grouped as similar states. While the civil status would be similar, the individuals themselves would

experience the two lifetime periods, marriage 1 and marriage 2 as qualitatively very different. Thus, the childbearing patterns of the re-partnered individuals would have been left unnoticed, as they would have been grouped together with long intact marriages.

### **Sequential analysis as a method**

To understand life course processes and the interrelatedness of different life course events, it is necessary to have an overview of the entire life course. With the rise of the life course theories in the 1980s and in the 1990s (Elder 1994), it became more important to order the different events on the life course and to analyze the trajectories and events in relation to each other. Thus, social sequence analysis emerged to fill the gaps.

Sequence comparison methods were originally developed in biological sciences, where they were used to examine DNA sequences. In the 1980s, sociologists started to incorporate the method to explore careers, hierarchy formations, and other historical processes (Abbott & Forrest, 1986, Cornwell, 2015, 3). Early on, analyzing large datasets of individual sequences was difficult, but with the advancement of technology and software programs, the analysis has become possible with widely used programs, such as R and Stata. According to Cornwell (2015, 21), a sequence is a “set of ordered things - states, events, activities preferences or other phenomena.” Sequence analysis is often based on the idea that the time at which certain things occur matter to the end result, i.e., the times at which different relationship stages occur, have an effect on the number of children a woman has throughout her life. Social structure becomes visible through sequences, and people have expectations on how certain relationships should be structured. In the case of this study, most people have an expectation of starting with non-residential dating, forming a union such as marriage, and finally dealing with a union dissolution. With a similar mental script, people are inclined to move through different stages of life with resembling choices (Cornwell, 2015, 25). As sequence analysis has been inspired by DNA classifications, it has been criticized for implying similarity between biological and social processes, which obviously would be a faulty conclusion: social processes are much too different from biological processes to be represented with a similar logic. Still, quantifications of the processes are important for getting objective information of large data sets, which otherwise would not be possible (Cornwell, 2015).

Sequential analysis does not assume a theoretical background around which it creates the clusters, but they are computed by grouping together sequences that have a sufficient resemblance to each other. In contrast to most linear statistical models, variance and different patterns are expected: they are not proof of a poorly working statistical model, but they create the core of sequential

analysis (Cornwell, 2015). As the grouping is not dictated by previous theories or human biases, sequential analysis provides grounds for exciting theoretical exploration backed by data. After finding the patterns, the researcher has the opportunity to name the clusters with descriptive names and to use standard statistical methods if needed to study the relationship between the groups and some other variables.

There are some baseline assumptions in sequential analysis. Perhaps the most notable assumption is as follows: out of these sequences, similar patterns should emerge for the analysis to make sense (Cornwell, 2015, 32). Therefore, the analysis first calculates the sequence for each individual life course, after which it organizes similar life courses in recognizable clusters with similar patterns. The aim is to create typologies or ideal types, with each having a recognizable pattern. Therefore, the calculations are based on (1) a dissimilarity measure that calculates the difference between two individual sequences and (2) a clustering solution. Notable dissimilarity measures include Optimal Matching method as one of the earliest and widely used methods for sequence analysis (Abbott & Forrest, 1986), after which many different dissimilarity measures have emerged (Studer & Ritschard, 2016).

Dissimilarity measures work by assigning a value to each state in a sequence (for example, “Married” gets value 1), after which they compare the values of different sequences against each other. For example, Person 1 might have a sequence of 1-1-1-3, and Person 2 might have a sequence of 1-3-3-3. The dissimilarity measure quantifies how different these sequences are when compared. In other words, the dissimilarity measure calculates the differences between individual sequences, which makes clustering possible later in the analysis (Studer & Ritschard, 2016). Different sequences (i.e., personal trajectories) can differ from another on the following dimensions: experienced states, distribution, timing, duration, or the order (sequencing) of the states. Each of the dissimilarity measures puts a differential emphasis on these different dimensions, and as such, choosing the dissimilarity measure is not entirely trivial (Studer & Ritschard, 2016).

This study uses dynamic hamming costs (DHD) instead of more frequently used Optimal Matching, as classic OM is not well-suited to calculating differences of timing or sequencing (in which order the states are in). In other words, OM does not place as much importance when the individual married or if they dated before or after marriage. Rather, it places more importance on the duration of the different states, such as the overall duration of dating (Studer & Ritschard, 2016). While the measure might be well suited for researching, for example, employment

trajectories, it is not well adjusted for the purposes of relationship trajectories. In contrast, dynamic hamming places importance on the timing of the different states (i.e., if someone had married at age 21 or 35). Dynamic hamming costs can be defined as a “sum of mismatches with positionwise state-dependent weights,” which lessens the measure’s sensitivity to the duration and makes it more sensitive to timings of particularly short sequences on the life course. (Studer & Ritschard, 2016). These properties make the calculation method better suited for the analysis, where especially short durations and timings of differing relationship events might indicate influential life course events such as divorce.

The dissimilarity matrix in Dynamic Hamming Matching was constituted by Lennards (2010) as such that it uses time-varying substitution costs that are inversely proportional to transition weight and uses only substitution operations (no insertion and deletion). The sequences should all have a similar length for the analysis to be successful. The substitution cost is calculated as follows:

$$s_t(a, b) = \begin{cases} 4 - [p(X_t = a | X_{t-1} = b) + p(X_t = b | X_{t-1} = a) + \\ p(X_{t+1} = a | X_t = b) + p(X_{t+1} = b | X_t = a)] & \text{if } a \neq b \\ 0 & \text{otherwise} \end{cases}$$

Where  $[p(X_t = a | X_{t-1} = b)]$  is the probability of moving from stage  $b$  to  $a$  between timepoints  $t - 1$  and  $t$ , and subsequently  $[p(X_{t+1} = a | X_t = b)]$  is the probability of moving from stage  $b$  to  $a$  between timepoints  $t$  and  $t + 1$ . (Lennards, 2010).

After calculating the substitution costs for the sequences, it is possible to divide the sequences into meaningful clusters. Creating the typologies from the sequences gives the final structure for the analysis and organizes the observations to meaningful groups. This study uses Ward’s clustering (Ward, 1963) to find groups of similar sequences. The clustering method is agglomerative, which means that the clustering assumes that each individual belongs in their own cluster, after which it starts combining similar sequences. The method does not assume the number of clusters the process produces, and the clustering aims to keep clusters at a relatively similar size.

I have conducted the sequential analysis and data wrangling in cooperation with the researchers at the Population Research center of the Family Federation of Finland. I used Stata to organize the data and R to conduct my analysis. In R, I used the TraMineR package (Gabardin et al., 2011) that has been developed for the needs of sequential analysis.

## Results

The results chapter first explores the relationship trajectories of Finnish women with sequential analysis, answering research question 1a. After that, it will present how the number of children varied with the different clusters, answering research question 2. Finally, the last paragraphs will extend the exploration of relationship trajectories to how they varied based on the cohort of the respondent, answering question 1b.

The sample consisted of Finnish females with a total sample of 1085. For sequential analysis, complete life courses with no missing data points between 13 and 45 formed a sample of 1078 respondents. The primary respondent age distribution spans from 1924 to 1966. A small number of women ( $n=31$  out of which 9 are born in 1967) that are born later are also included in the data set because they have been interviewed as partners of male respondents.

### Sequential analysis of relationship trajectories

Visual analysis was conducted with an index plot and a percentage plot of the sequences. In the index plot, each vertical line represents one relationship trajectory, where the color specifies the relationship status of the individual. Even though examining the entire index plot visually is rarely informative before clustering, it can give an overview of the diversity inside the sample. All individuals seem to start without mentions of relationships, and at the beginning of the twenties, there's a lot of movement, as people are either single, dating, or first getting married. After that, while most people stay in the first marriage, there is a considerable amount of people who cohabit, get divorced, or get married again, but the episodes get longer.

The percentage plot can offer us an overview of the relationship trajectories present in the sample. Before turning 20, most people were still single did not report relationships.

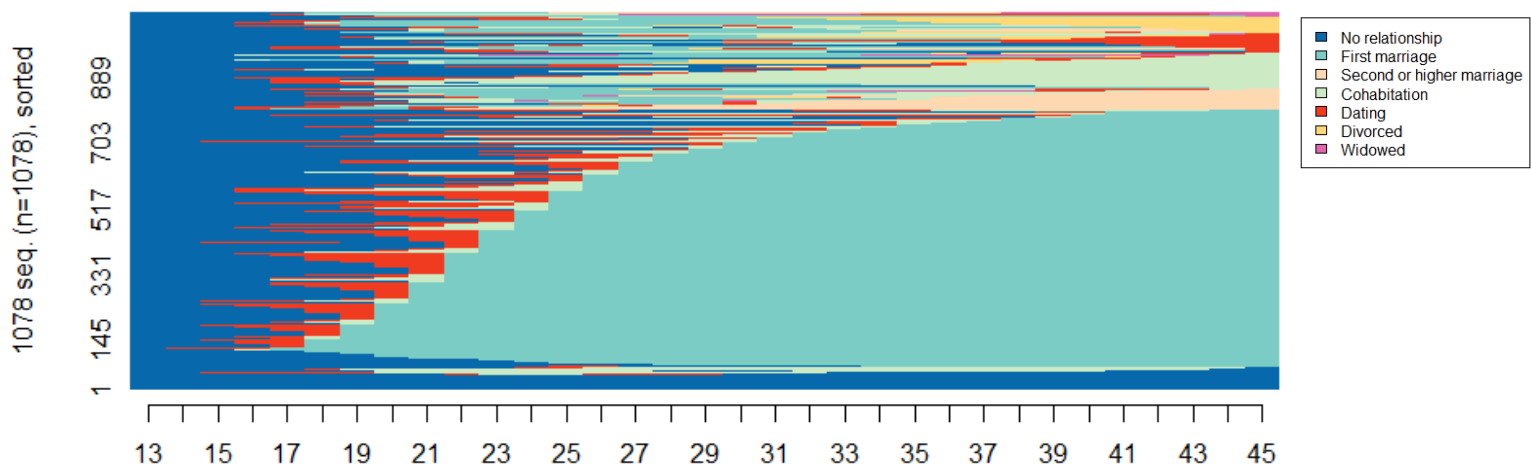


Figure 3: Index plot of relationship trajectories, ordered from the end

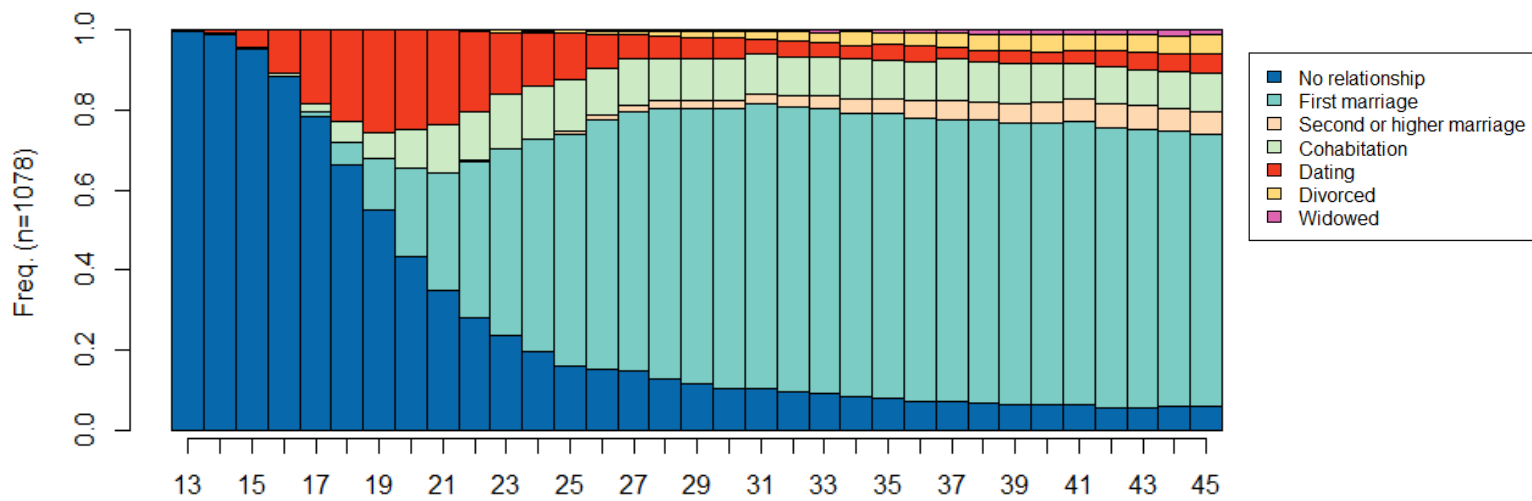


Figure 4: Percentage plot of the sequences.

The first dating relationships emerged at age 15, and they were most common at 19 and 20, after which they started to decrease, giving way to cohabitating relationships and marriages. Approximately half of the women were married by the age 24, and about 15 % of the individuals were cohabitating in their early twenties, while the number of people who were dating slowly decreased. After 25, the number of divorced and re-partnered individuals started to slowly grow, yet stabilized around 30. At 35, the proportions of different relationship stages were fairly stable until the end of the trajectory, other than the very slim group of widowed respondents that grew with age.

The solutions for different cluster combinations were calculated and then visualized. In the clustering tree (Figure 5), the solution was first calculated from 1 cluster to 10 clusters, after which visual analysis and choice of the number of clusters was possible. I chose to use the solution with 7 clusters, as it enabled the most detailed analysis with the least dissimilarity between the  $n$  of individuals in each cluster. Additionally, the qualitative interpretations of the clusters were consistent with previous literature. I could have also chosen 6 clusters, but qualitatively a relationship with late union formation and no union formation at all were qualitatively so different that I wanted to keep them separate from each other. If I had chosen to use a higher number of clusters, some of the clusters would have been too small to perform any meaningful numerical analysis on them.

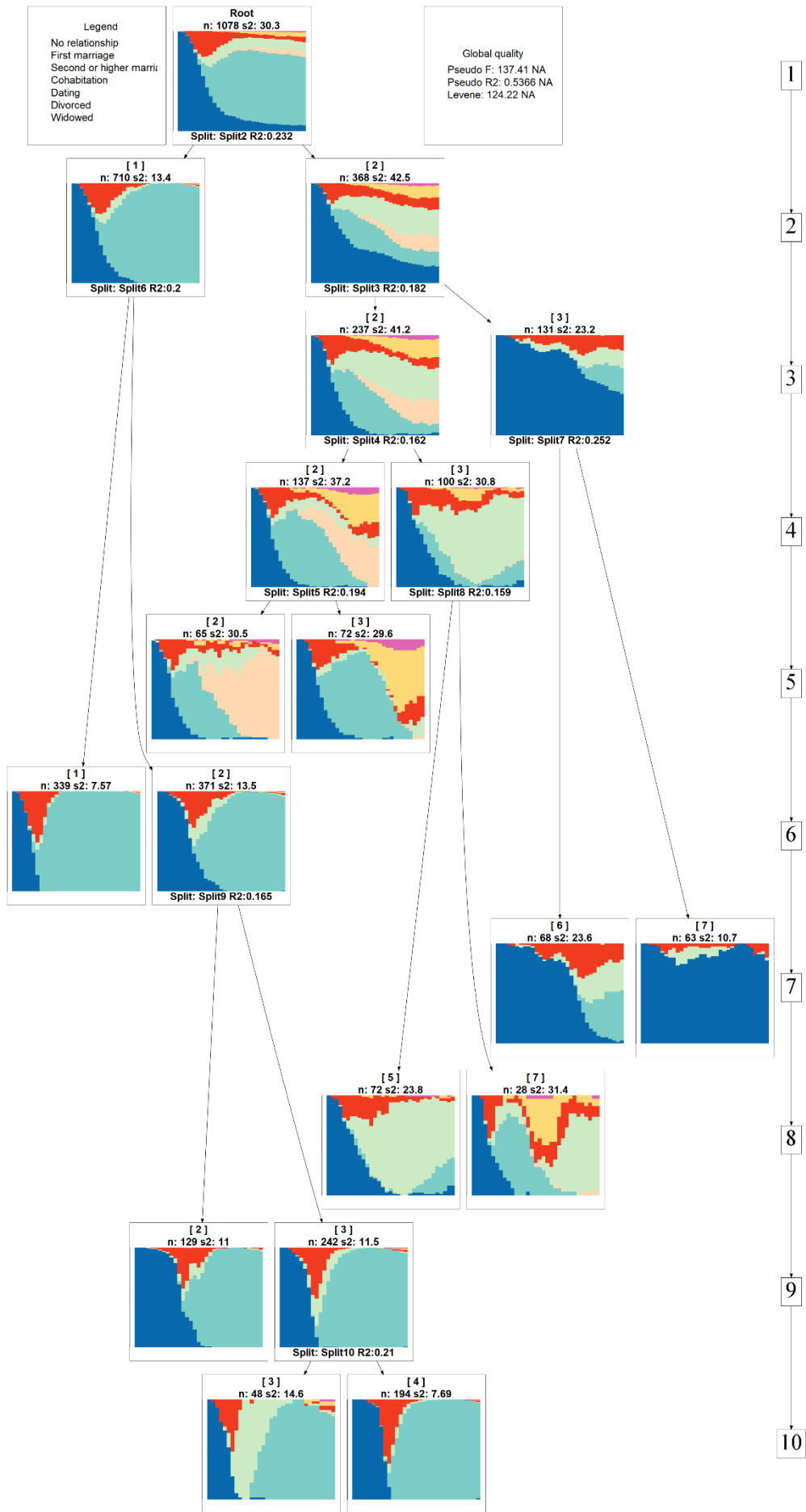
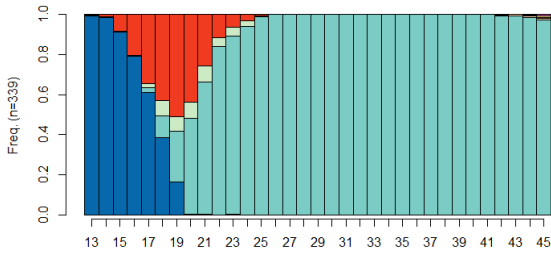
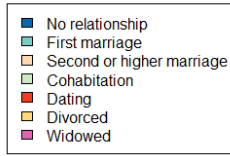
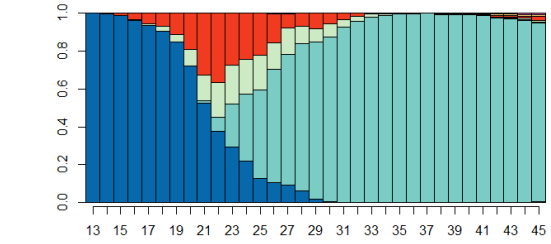
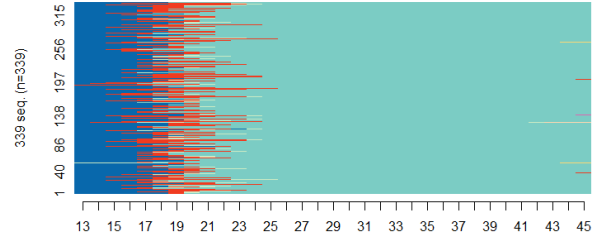


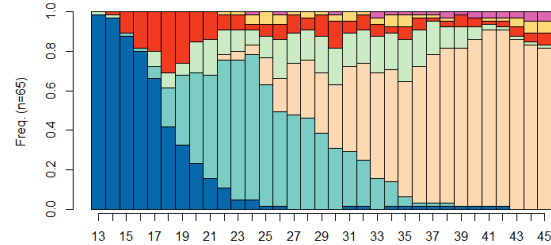
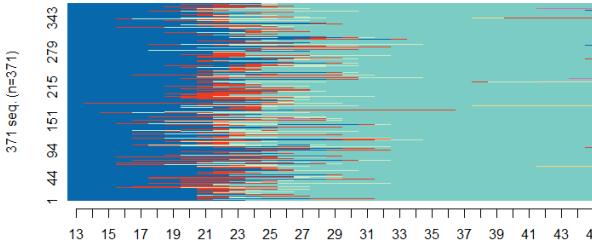
Figure 5: Clustering tree of the relationship trajectories



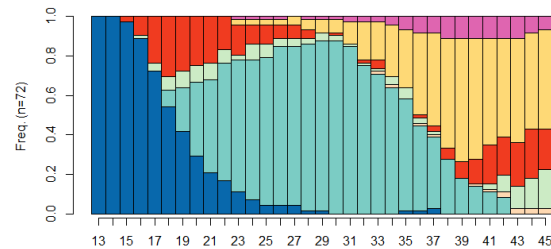
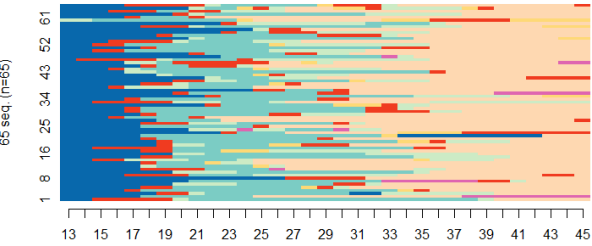
Cluster 1: Marriage before age 25



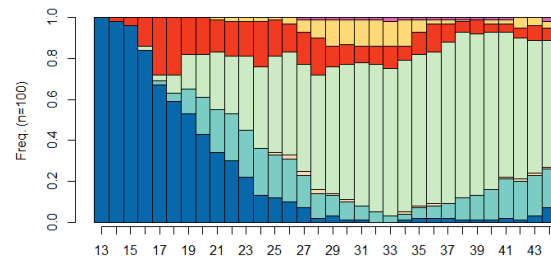
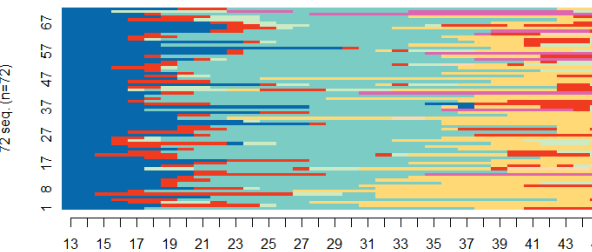
Cluster 2: Marriage after age 25, cohabitation



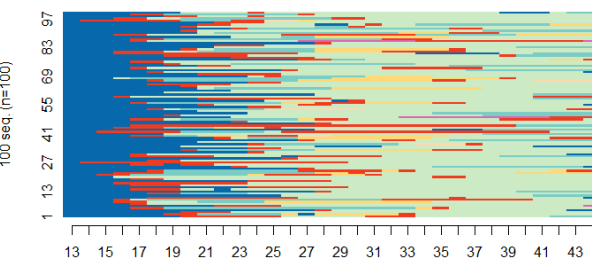
Cluster 3: Divorce, new marriage(s)



Cluster 4: Divorce, no new marriage(s)



Cluster 5: Long-term cohabitation





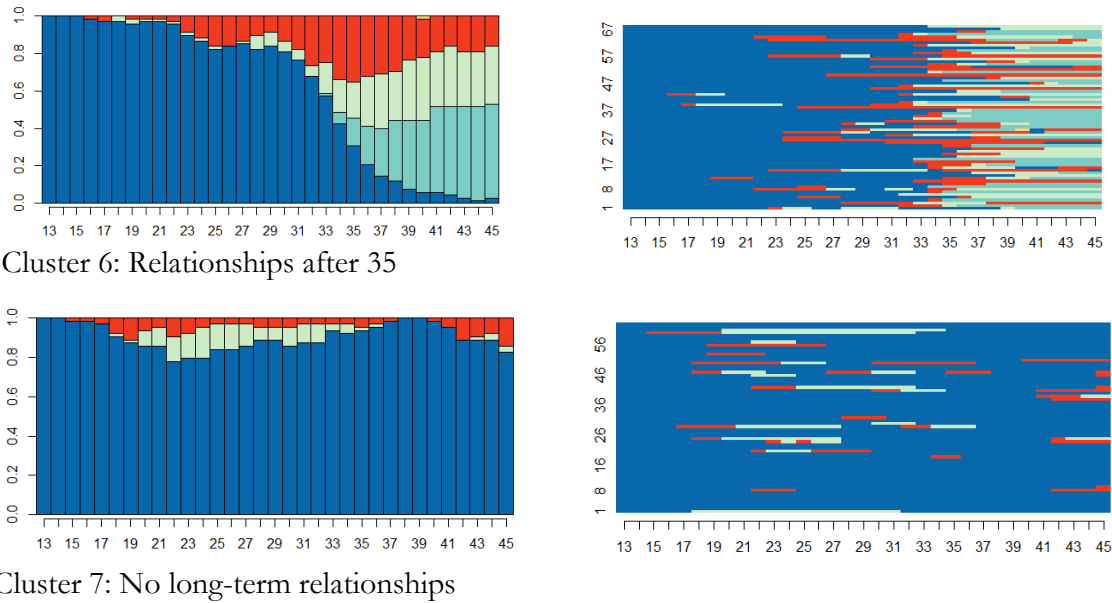


Figure 6: Percentage plots and index plots of the relationship trajectory clusters

The clusters were named with descriptive names. I chose to name the clusters according to the longest union and the type of union the individual had, as most individuals formed long-term partnerships such as marriages. To distinguish long marriages from each other, the timing of the marriage was another important dimension in the naming of the clusters, as timing is influential in childbearing practices. It might also affect the nature of the relationship, as relationships formed in youth before 20 years of age might be less serious than those formed in the later years. As people move across their life with a certain mental script of when different life stages are supposed to occur, having the focus on relationship timing, rather than relationship duration, is more meaningful to the final relationship trajectory.

The first cluster, “Married before age 25,” was the second biggest cluster with 339 members and more prominent in the first cohorts present in this study. The cluster is characterized by marriage early in the 20’s and the first marriage continuing throughout the years until age 45. The average time spent single before the first relationship was 4,8 years ( $\sigma = 1,6$ ), after which dating before the marriage lasted on average 2,5 years, with the standard deviation of 1,97 years. Not all respondents mentioned a dating period.

The second cluster, “Marriage after age 25, cohabitation,” was relatively similar to the first one, with the important difference of the timing of the marriage and more variation between the respondents. This cluster has the largest number of respondents, with 371 individuals. They spent

a longer time single 9,2 ( $\sigma = 3,0$ ) after the age of 13 yet dated for an approximately similar amount of time (2,5 years,  $\sigma = 2,3$ ). The period of cohabitation before marriage was on average 1,7 ( $\sigma = 2,8$ ) years, which means that not all respondents in the cluster cohabitated, while some cohabitated for a considerable amount of time.

The third cluster was characterized by the individuals entering a new marriage after the breakdown of the first one, and so it was named “Divorce, new marriage(s).” Most did not enter more than two marriages. This cluster seems to have become more prominent with younger cohorts (Figure 10). They had a shorter period of no relationships compared to the second, biggest cluster with an average of 5,8 years ( $\sigma = 3,0$ ), and dated throughout their life course on average a slightly longer time than the previous clusters ( $\mu=2,8$ ;  $\sigma = 2,1$ ), which might be explained the first marriage breakdown and the new dating period after the divorce. The average time of staying in the first marriage was 7,2 years, which varied a lot depending on the person ( $\sigma = 4,6$ ). For most, the second marriage lasted throughout the life course a longer time than the first one ( $\mu=12,4$ ;  $\sigma = 5,2$ ), but the individual differences in this cluster are far more pronounced than in the previously explored. The time spent in cohabitation was logically longer with 3,5 years ( $\sigma = 3,4$ ), as cohabitation periods preceded both or all marriages. Time spent as a divorcee was relatively short, with the average setting at less than a year ( $\mu=0,7$ ;  $\sigma = 1,5$ ), due to not all respondents detailing a divorce period between the first and the second marriage.

The clustering method differentiated the relationship trajectories of individuals who had a new marriage after divorce and those who did not. Overall, it seems that from the sample, only 12% experienced a divorce before age 46, and approximately half of the individuals entered a new marriage(s). Those who did not enter a new marriage got their own cluster. I named the resulting Cluster 4, “Divorce, no new marriage(s).” This cluster seems to be slightly less prominent in the youngest clusters as opposed to the individual who found a new partner after divorce. These respondents stayed a longer time outside all relationships with an average of 6,6 years ( $\sigma = 3,1$ ), and stayed a longer time in their first marriages with almost double of years compared to the ones that got in a new relationship afterward ( $\mu=13,2$ ;  $\sigma = 5,7$ ), but the differences between individuals were high. Time spent in cohabitation was a little shorter than the ones who stayed in their first marriage (“Marriage after age 25, cohabitation) or the ones who found a new partner ( $\mu=1,6$ ;  $\sigma = 2,3$ ), which might suggest that not many respondents formed new cohabitating relationships after their divorce. Interestingly, their average time in non-cohabitating relationships is somewhat longer than all previously described clusters with an average of 3,6 years ( $\sigma = 2,3$ ), with the number of dating individuals increasing after age 40. Total time spent without any new partners as a divorced

person averages at 6,6 years with high variation between individuals ( $\sigma = 5,6$ ). Most widowed individuals were assigned to this cluster, which suggests that it is usual not to get in a new marriage after the death of a spouse.

Cluster 5, Long-term cohabitation, was characterized by high individual differences and long-term cohabitation. This cluster was also interestingly most prevalent in the youngest cohorts born after the 1960s, who would turn 15 after the year 1975. The time spent outside all relationships was relatively high compared to previously described clusters ( $\mu=7,7$ ;  $\sigma = 4,0$ ), and the time spent dating was the highest with the average of 3,8 years ( $\sigma = 4,1$ ), though there were high individual differences. The average time spent in cohabitation was at 16,0 years. However, individual differences were highly pronounced with a standard deviation of 6,5. Some had a marriage before or after the cohabitation period, with the average years spent in marriage settling at 3,9 ( $\sigma = 4,2$ ). Not many individuals had second or higher marriages. The ones who divorced spent, on average a longer time without a new partner compared to the members of cluster “Divorce, new marriage(s).” In this sample, there were fewer respondents in a long-term cohabitation relationship than respondents who had divorced at some point between 13 and 45 years.

Moving onto Cluster 6, “Relationships after age 35”. This cluster was one of the smallest and somewhat evenly distributed between different cohorts. The average time spent without a reported relationship was high with 20 years on average ( $\sigma = 4,19$ ), and most individuals found their first relationships after age 30. Time spent in non-cohabitating relationships was 4,7 years on average, which was higher than in any previously described cluster ( $\sigma = 5,6$ ). Even if this group is characterized by forming a union after age 35, some individuals formed long non-cohabitating relationships already in their 20’s, while others stayed single throughout their twenties. Time spent in marriage was 4,1 ( $\sigma = 4,5$ ) years on average, with high individual differences, and some others chose to cohabit with an average of 4 years ( $\sigma = 4,9$ ).

Last but not least, the smallest cluster was formed of individuals that did not enter any long-term relationship throughout their life course between 13-45. While some might have had long non-cohabitating relationships followed by cohabitating periods lasting several years, no one married throughout the life course. The average time spent without any reported relationships was 30 total years ( $\sigma = 5,2$ ), with the average time spent cohabitating with someone was 1,6 years ( $\sigma = 13,2$ ) and dating someone 1,5 years ( $\sigma = 8,1$ ). These individuals did not group to any particular age category. There were more individuals from the earliest cohorts, who might have reported a full

absence of relationships in case there was no marriage, but as the total number of respondents in this cluster was so low, the variation might be caused by chance.

### **Connections between the number of children and relationship trajectories**

After describing the relationship trajectories of the respondents and presenting the key characteristics of each cluster, let us now turn to the average number of children for each cluster. In the whole sample, we can discover a pattern of 40 % of women having two children, while somewhat equal parts had fewer children or more children. There were approximately 10 % of respondents who did not have children at all throughout their life course. However, when one differentiates between the clusters, a different picture emerges.

The first two clusters are closest to the distribution of the total population, with the important exception that both of them have a higher percentage of women who had two children in total, and especially in cluster “Marriage after age 25, cohabitation” the effect was noticeable. What is interesting, the cluster “Marriage before age 25” had less occurrence of only children or no children at all compared to the total population, whereas the individuals who had married later had a lower chance of having no children at all, but were almost as likely to have just one child. Logically, in the group of earlier marriage proportion of 3 or 4+ children is higher compared to the total population, whereas in the group that married later, the proportions are lower and fairly close to the average. As together, these clusters form over half of the respondents, it is logical that they would be closest to the average distributions.

Moving onto clusters with a marriage breakdown, different patterns emerge. Interestingly, if the individual married again after the divorce, there seemed to be a considerable amount of people who had high numbers of children, especially 4+ children was more typical in this cluster than it was in any other one, and on the other hand, there were fewer families with two children than on average and significantly less than in the clusters where there was no occurrence of a divorce. Childlessness does not seem to differ from other married clusters considerably. Where there was a divorce, yet a new marriage was not formed, the pattern was considerably different, with a higher likelihood of having just one child compared to the clusters with no divorce. Two children seemed to be somewhat more likely in the cluster of “Divorce, no new marriage” than in the “Divorce, new marriage(s).”

Number of children	Marriage before age 25 (N=339)			Marriage after age 25, cohabitation (N=371)		
	n	%	Conf. int (95% level)	n	%	Conf. int (95% level)
No children	6	1,7	0,8-3,9%	17	4,6	2,9-7,3%
1 child	35	10,3	7,5-14,0%	60	16,2	12,8-20,3%
2 children	148	43,7	38,5-49,0%	186	50,1	45,1-55,2%
3 children	89	26,3	21,8-31,2%	76	20,5	16,7-24,9%
4+ children	61	18,0	14,2-22,4%	32	8,6	0,6-11,9%
Number of children	Divorce, new marriage(s) (N=65)			Divorce, no new marriage (N=72)		
	n	%	Conf. int (95% level)	n	%	Conf. int (95% level)
No children	3	4,6	1,5-13,4%	4	5,6	2,1-13,9%
1 child	8	12,3	6,3-22,7%	19	26,4	17,5-37,7%
2 children	13	20,0	12,0-31,5%	26	36,1	25,9-47,8%
3 children	17	26,2	16,9-38,1%	20	27,8	18,6-39,2%
4+ children	24	36,9	26,1-49,2%	3	4,2	1,3-12,1%
Number of children	Long-term cohabitation (N=100)			Relationships after age 35 (N=68, missing=1)		
	n	%	Conf. int (95% level)	n	%	Conf. int (95% level)
No children	16	16,0	10,0-24,5%	24	35,3	24,9-47,3%
1 child	28	28,0	20,1-37,6%	26	38,2	27,5-50,3%
2 children	37	37,0	28,1-46,9%	12	17,7	10,3-28,6%
3 children	12	12,0	6,9-20,0%	2	2,9	0,7-11,0%
4+ children	7	7,0	3,4-14,0%	3	4,41	1,4-12,8%
Number of children	No long-term relationships (N=63, missing=3)			Entire population (N=1078, missing=4)		
	n	%	Conf. int (95% level)	n	%	Conf. int (95% level)
No children	40	63,5	51,0-74,4%	110	<b>10,2</b>	8,5-12,1%
1 child	13	20,6	12,4-32,4%	189	<b>17,5</b>	15,4-20,0%
2 children	3	4,8	1,5-13,8%	425	<b>39,4</b>	36,5-42,4%
3 children	1	1,6	0,2-10,4%	217	<b>20,1</b>	17,8-22,6%
4+ children	3	4,8	1,5-13,8%	133	<b>12,3</b>	10,5-14,4%

Table 1: Completed number of children in relationship trajectory clusters

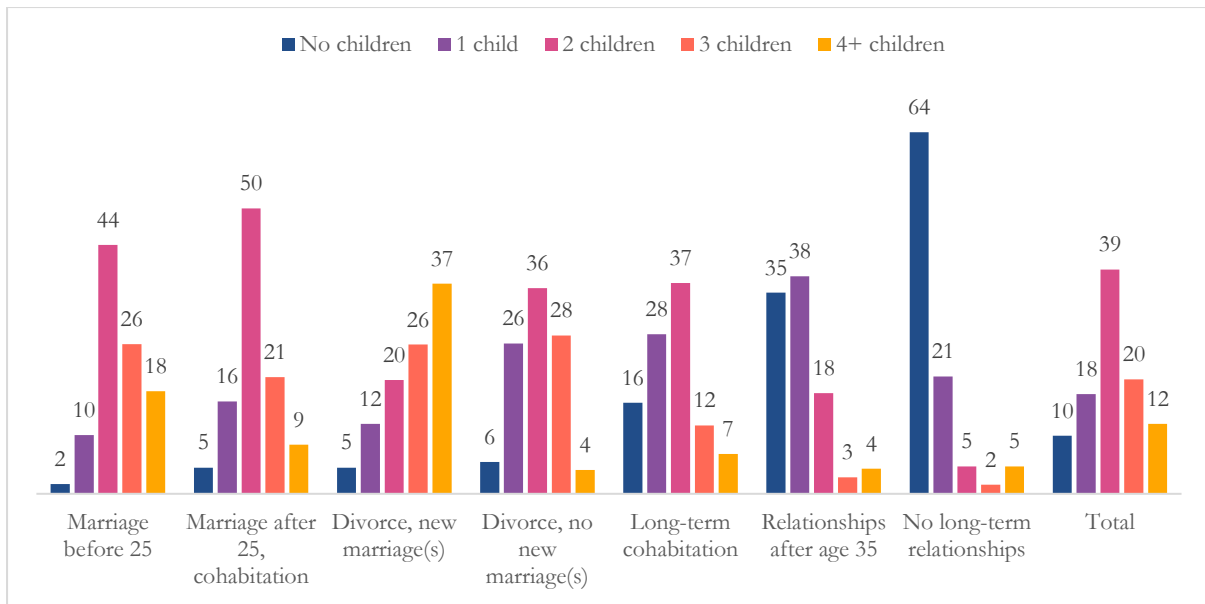


Figure 7: Completed number of children in relationship trajectory clusters

When examining clusters with no long-term marriage present on the life course until age 45, there was a clear change of pattern, where having no children or having just one child became more likely. In the case of “Long-term cohabitation,” there was a clear increase in childlessness compared to the intact marriage clusters and some possible increase compared to the clusters with a first marriage breakdown. Having two children is still the most likely number of children, but the number of individuals having 3 or 4+ children drops significantly compared to the cluster “Married before age 25”, and there is a somewhat of a drop compared to the other clusters as well. However, the confidence intervals seem to overlap in these cases a bit. Having an only child becomes more likely in “Long-term cohabitation” than in both married clusters with no marriage breakdown or in the cluster with new marriage(s) after a divorce.

If no marriage or cohabitation relationships were formed in young adulthood, there was a clear increase in both childlessness and having an only child. Individuals in the “Relationships after age 35” -cluster had a higher likelihood of having one child compared to both clusters within first marriage or the cluster with new marriage(s) after a divorce. The likelihood of having two, three, or four children decreased compared to other clusters. Still, in this cluster, it was more likely to have a child than remain childless. In contrast, individuals with no reported long-term married or cohabitation relationships were most likely not to have children.

## **Relationship transitions and trajectories by cohort**

For easier theoretical and statistical analysis, I have divided the sample into three groups: respondents born before the year 1945, respondents born between 1945-1954, and respondents born in 1955 or later. As the transition from the first relationship to the first marriage is a life stage transition most respondents experienced, I explored the connection between the two and the differences in the cohort experiences in the transition. Finnish register data does not provide information on informal relationships, and therefore, the knowledge of relationships prior to marriage or cohabitation have not been studied quantitatively. This exploration has been conducted with a total sample of 1085 respondents before data cleaning as a part of the sequence analysis. The changes across the decades are explored with Kernel density curves and statistical characteristics of the distributions.

In the first cohorts born 1924-1944, the entry into relationships and marriages seemed to be rather uniform: there was an approximate gap of two years between the two, as the mean age for the first relationship was 21,5 years and the mean age for the first marriage was 23,7 years. It is noticeable how the mean does not accurately reflect the most usual ages at which people got into relationships, as the mean is slightly leaned towards the older ages. The median for starting the relationship is lower at 20 years of age and for getting married at 22 years of age. Most of the respondents (75 %) had their first relationship by 24 and had gotten married by 25. The standard deviation was about 5 years for both starting the relationship and getting married. Visual analysis provided an interesting suggestion that the first reported relationships seem to have become the first marriages as well since the density curves follow each other with a uniform shape. There were 261 individuals who reported getting married and 256 individuals who reported a relationship.

The pattern was altered by the following cohorts born between 1945-1954, which includes the baby boomer cohorts of Finland. The mean age for starting the first relationship seemed to have been getting earlier by a year with the mean of 20,5 of age, while the mean age for marriage shifted earlier by 0,4 years. Interestingly, there was less variation for getting married and for getting in the first relationship, with both having a standard deviation of 4,4 years. The median for starting the relationship has shifted earlier as well with 19 years of age, but the median age for getting married has stayed the same with 24. By age 22, the majority (75 %) of the group had had their first relationship, which is two years earlier than the previously born cohorts. Compared to the previously described group, there has been an interesting shift, with more people reporting getting in a relationship (328) compared to the number of people getting married (326).

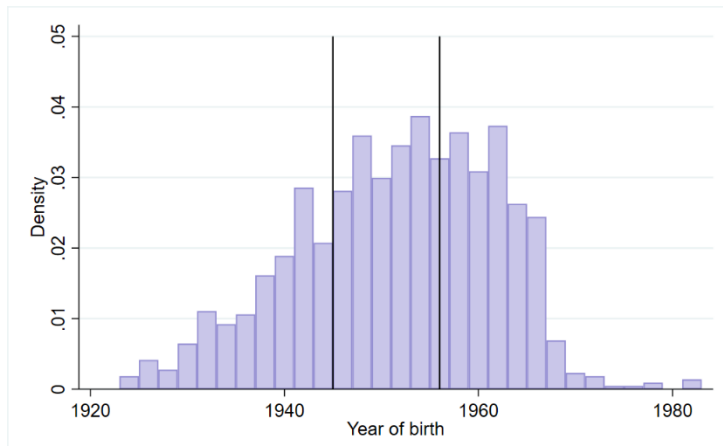
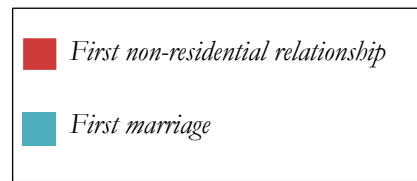
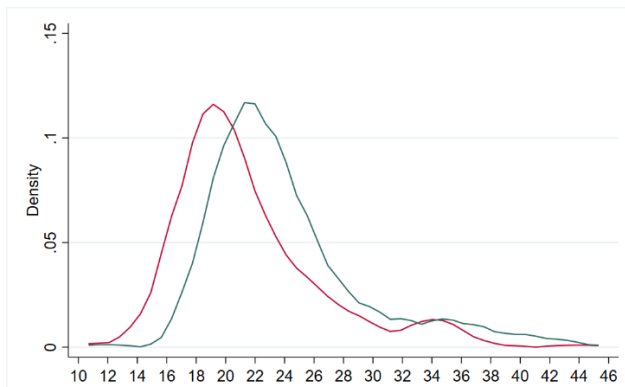
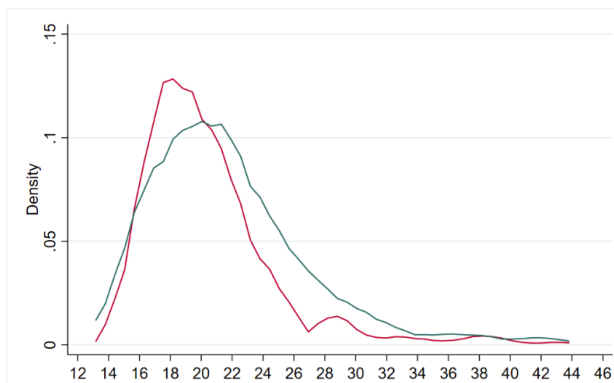


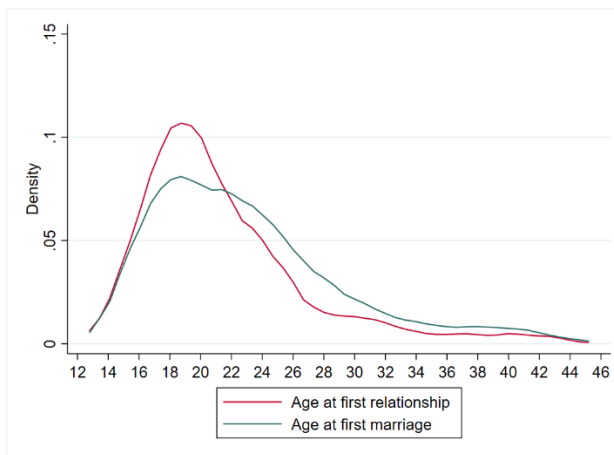
Figure 8: Age distribution of the respondents



Respondents born between 1924-1944



Respondents born between 1945-1954



Respondents born in 1955 and later

Figure 9: Density curves of timing of first relationships and first marriages



With people born in 1955 or afterward, this pattern was strengthened, with 373 people reporting having a first relationship while just 364 reporting getting married. There was also a shift towards a later marriage. The mean of starting the first relationship returned to the age of 21,5, and the median returned back to age 20. In contrast, the mean age for marriage reached 25,3 years of age, and the median was 24. The majority of people (75%) got into the first relationship by 24 years of age but got married by 28. The degree of variation grew especially in the age at marriage with a standard deviation of 5,8 years, while the entry into a relationship had a standard deviation of 5,5 years.

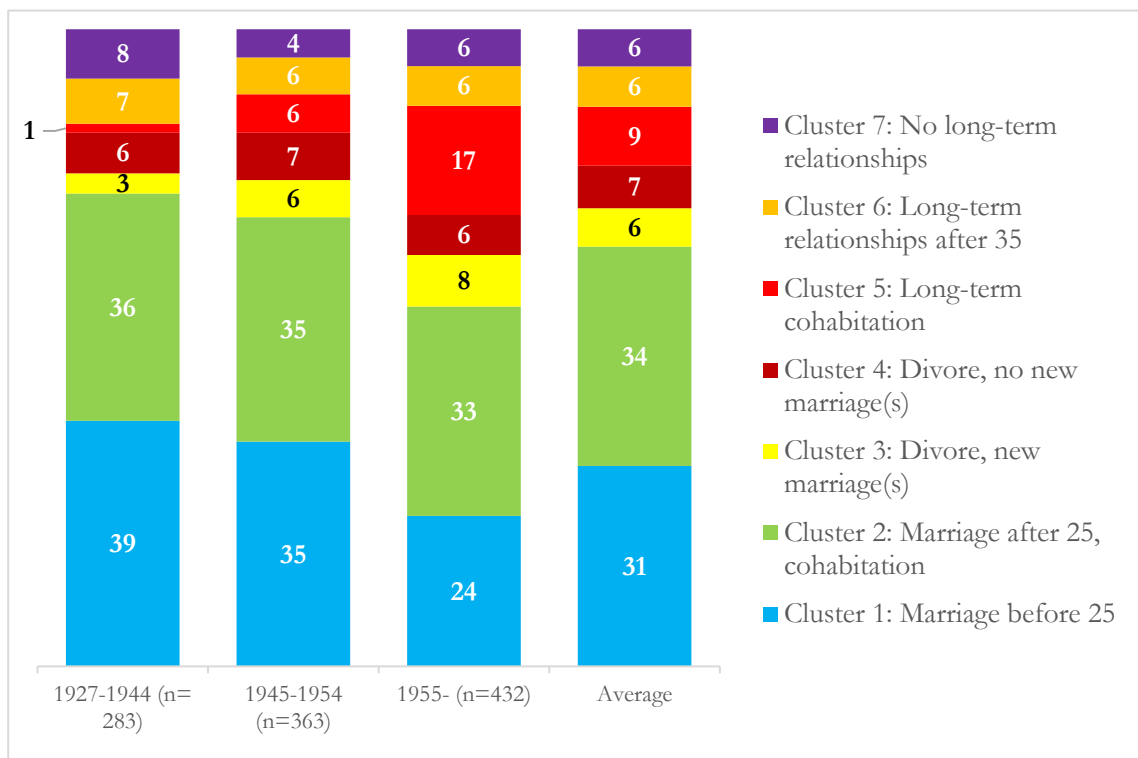


Figure 10: Proportions of relationship trajectory clusters in cohorts

The proportions of trajectories also varied by cohort. In the earliest cohorts born before 1945 the prevalence of clusters 1 & 2 were the highest (Marriage before age 25 & Marriage after age 25, cohabitation), with about 74 % of the women forming a somewhat monogamous relationship throughout the fertile life course. Interestingly, there were slightly more individuals with no long-term relationships at all (cluster 7) during the life course compared to younger cohorts even though confidence intervals do not allow for a definitive judgment, and there were fewer individuals who re-marry after a divorce (cluster 3). For cohorts 1945 to 1954, the proportion of early marriages

without cohabitation (cluster 1) started to drop (though not significantly), and the number of people in long-term cohabitation (cluster 5) rise. Additionally, there was an increase in the number of people who re-married after a divorce (cluster 3) and a decrease in the number of people who did not have a long-term relationship between ages 13 and 45. In the final cohorts born in 1955 or afterward, the proportion of individuals in the “monogamous” married trajectories decreased to 56 %, and the proportion of individuals with long-term cohabitation increased to 17 %, and the trajectories with re-partnering after a divorce have increased since the first cohorts.

*Table 2: Proportions of relationship trajectory clusters in cohorts*

Cluster	1924-1944			1945-1954			1955-		
	%	Conf.int. 95%		%	Conf.int. 95%		%	Conf.int. 95%	
Cluster 1: Marriage before 25	38,5	33,0	44,3	35,3	30,5	40,3	23,6	19,8	27,9
Cluster 2: Marriage after 25, cohabitation	35,7	30,3	41,4	35,3	30,5	40,3	32,9	28,6	37,4
Cluster 3: Marriage breakdown, new marriage(s)	3,2	1,7	6,0	5,8	3,8	8,7	8,1	5,9	11,1
Cluster 4: Marriage breakdown, no new marriage(s)	6,4	4,0	9,9	7,4	5,1	10,6	6,3	4,3	9,0
Cluster 5: Long-term cohabitation	1,4	0,5	3,7	6,1	4,0	9,0	17,1	13,9	21,0
Cluster 6: Long term relationship after age 35	7,1	4,6	10,7	5,8	3,8	8,7	6,3	4,3	9,0
Cluster 7: No long-term relationships	7,8	5,2	11,5	4,4	2,7	7,1	5,8	3,9	8,4

## Discussion

The results indicate similar ways of structuring the life course for women born in 1924-1966. Most women dated, cohabitated, and married before the age of 30 and stayed with the same partner, resulting in a steady pattern of 2 or more children. For many, the relationship trajectory closely resembled the idea of a monogamous relationship preceded by a time of “searching” or casual dating in adolescence or young adulthood. These average trajectories are most visible in the first two subgroups. The first subgroup included the women who married early (often before age 25), preceded by a short dating period. They stayed with the same partner until age 45. The second subgroup was relatively similar. However, they started non-residential relationships later and dated or cohabitated for a longer time before marrying. They, too, stayed with the same partner.

Even if a majority of trajectories followed culturally scripted pathways, researching different subgroups allows broader exploration. Some of the trajectories included a divorce and the subsequent relationship changes. For example, the third subgroup started similarly to the two previous ones, but they divorced their first partner and married again. In the fourth group, they stayed within their first marriage longer and did not marry again after the divorce. Some trajectories did not include marriage at all, or it occurred only later in the life course. For example, the fifth subgroup had women who had long cohabitation relationships instead of a marriage. In the sixth group, marriage was postponed until after 35 years of age. Finally, in the seventh group, women did not marry or form other lasting co-residential unions. None of the life courses included trajectories marked by only non-residential dating. Most intimate partners formed a co-residential family unit, either marriage or cohabitation, and the pattern did not change substantially throughout the latter part of the 20<sup>th</sup> century.

This study has explored the impact of different relationship trajectories on the childbearing of women. However, as relationship practices influence childbearing, childbearing influences relationships as well. Social and biological time limits for childbearing (Settersten, 1997) affect the kind of expectations people have for their relationships happening at different ages (Sassler, 2010), directly influencing the relationship outcomes. For example, someone at 17 might not be looking to marry or have children with their first partner, so she does not continue the relationship for longer than six months. A woman in her late twenties, on the other hand, might be expecting to have children, and therefore is looking for different attributes from the partner, and she might wish to marry within a shorter timeframe. Hence, the interaction between relationship histories and the completed number of children is deeply intertwined, and one cannot be separated from the other. In an attempt to describe the different relationship trajectories and their childbearing

behavior, the following paragraphs summarize the information and provide possible explanations based on previous literature.

### **Trajectories with a long, uninterrupted marriage**

The people who got married early (before 25) after a relatively short dating period formed the second largest group. They followed an expectation of a lifelong monogamous marriage that started in youth and continued throughout the childbearing years with the same partner. The prevalence of dating started to grow at around 15 years of age –aligning to the Evangelic Lutheran confirmation, which has been associated as a cultural step towards adulthood (Niemelä, 2002) – and reached its peak at about 19 years of age when half of the people were in a non-residential relationship. The average time spent in a non-residential relationship before a marriage lasted for less than three years, possibly followed by a short period of cohabitation. The short duration indicates that the first serious relationship often led to marriage (Haavio-Mannila, 2002, p.52).

Interestingly, no individuals seemed to stay single after 19 years of age. This finding is consistent with Sessler (2010), who notes that adolescents' non-residential relationships have contributed to a higher likelihood of adult intimate relationships. Individuals in this group might have expected to marry sooner rather than later, guiding them in the early union commitment and homogenous entry into dating and marriage. Moreover, on average, the women had larger families of 3 or 4+ children, marking a life course with more periods of childcare. Based on these observations, comparatively more individuals might have followed a life course guided by traditional values. This, however, cannot be said conclusively, as the data does not include information about the intentions or the wishes of the respondents. There are multiple possible reasons for early marriage: it is also possible that some individuals ended up marrying young due to an unexpected pregnancy. Apart from early years, their remaining relationship trajectory included a long marriage without remarkable changes, reflecting the idea that the phase of relationship exploration belonged to youth, and adulthood was marked by a stable, monogamous relationship (Haavio-Mannila et al., 2002).

The “Marriage before age 25” trajectory was most prominent in the earliest cohorts (1924-1944). The popularity of this trajectory has been declining as the numbers dropped, especially in the latest group born after 1955, perhaps reflecting changes in expectations and ideals in society. In the 40s and up until the 60s, the family was often seen as an institution above individual fulfillment (something Haavio-Mannila et al. 2002, might call traditional monogamy). However, at the turning point of 1965 (Koskinen et al., 2007), relationship frameworks experienced changes that

emphasized the individual, possibly making an early entry into marriage and early childbearing less lucrative.

The second subgroup did not differ substantially from the first one in the relationship stages they experienced but in their timings of relationship transitions. Individuals in the “Marriage after 25” -trajectory started dating later (peaking at 22), and the levels of cohabitation were higher. The postponement might have indicated other dissimilarities between the two groups, such as a possible difference in educational attainment, as the later timing of marriage might suggest (Nikander, 1992). The differences might mirror different approaches to society’s expectations. While trajectory “Marriage before 25” prioritized early marriage and early family formation, “Marriage after 25” was more focused on a longer period of staying single, dating and cohabitation, possibly finishing studies, and entering working life before forming a family. The suggestion is supported by Buchmann & Kriesi (2011): especially in Scandinavian countries, education trajectories have influenced the entry into adulthood and the subsequent family transitions.

“Marriage after 25, cohabitation” -group included over a third of all respondents, making it the most prominent relationship trajectory. They had a higher prevalence and a longer period of cohabitation than “Marriage before 25”. It is possible that they substituted the early entry into marriage with a lighter co-residential relationship and got married once having children became timely after the age of 25. The idea is supported by Rotkirch et al. (2017), who note that the age at entry into the first union has remained relatively similar despite the postponement of marriage and childbearing. Culturally the connection between marriage and childbearing has been strong (Kiernan, 2001), and the timeliness of childbearing might be why marriage occurred around and after 25. Individuals with a “Marriage after 25” -trajectory often had exactly two children. Here they differ from the early marriage trajectory, suggesting a shorter period of childcare and longer periods of employment. As the number of at least two children has been a usual wish of most women (Nikander, 1992, Rotkirch et al., 2017), the results suggest that the women with long intact marriages usually reached the hoped number of children.

Interestingly, the proportion of individuals with a “Marriage after 25, cohabitation” -trajectory has not substantially grown or diminished throughout the cohorts, making it almost as usual in the first cohorts as in the last. Perhaps this relationship trajectory best reflects the expectations for the life course throughout the latter part of the 20<sup>th</sup> century – combining family values, facilitating employment trajectories and individual fulfillment in a way that closely resembles the more

traditional model, yet allows for longer periods of exploration in youth and employment in adulthood.

### **Trajectories with a divorce**

The third trajectory type was called “Divorce, new marriage(s),” and it was significantly less frequent in the data. However, the prevalence grew noticeably from the first cohorts (1924-1944) to the second one (1945-) and stayed higher in the youngest cohorts. The growth might be due to the lessened social costs of divorce and re-partnering after a breakup. Haavio-Mannila et al. (2002) point out that as enjoyment and personal fulfillment have become more important aspects of the relationship, leaving an unhappy marriage has no longer been as heavily socially sanctioned. The shift is closely related to the emergence of a “pure relationship” (Giddens, 1992), a relationship in which people stay for the reason of fulfillment from the relationship *itself*, not to satisfy the demands of others or to keep up an economic arrangement.

On average, they seem to have started dating at a relatively young age and gotten married. Young age at marriage has been associated with a higher chance of divorce (Abbott, 2010). In the re-partnering cluster, the marriage lasted a relatively short amount of time (on average seven years), with many having their divorce around the age of 30. The likelihood of a woman marrying again after a divorce has been correlated with age, as younger women have re-married more frequently than older women (Tilastokeskus, 2016). The results of this study supported the finding, as individuals with re-partnering trajectories seemed to end their first marriage earlier than the individuals with “Divorce, no new marriage(s)” -trajectory. Many transitioned to a new marriage through only a short period of singlehood, often involving a short dating period and a cohabitation period. A cohabitation period before a new marriage might have been used to test the waters before committing again.

The study's findings suggest that individuals with a “Divorce, new marriage(s)” -trajectory had, on average, a higher number of children. The finding is consistent with the literature (e.g., Ruokolainen & Notkola, 2002). However, the high incidence of 4+ children might be due to random variation in the sample. There is evidence that after forming a new partnership, about half of the women expected to have new children with the new spouse (Koskinen et al., 2007, p.96). Nevertheless, the number of new children is likely not as high as indicated by the results of this study. Still, the story told by data is intriguing, and it supports the idea of new children as a token of “union commitment,” which might result in higher parity for women who enter into a new marriage (Henz & Thomson, 2005).

“Divorce, no new marriage(s)” -trajectories tell a different story of divorced individuals. Their first marriages visibly lasted for a longer time, and they only divorced after 30, and usually after 35 years of age. Even if they did not get into a new marriage, they seemed to cohabit and date near the end of the fertile life course, which is supported by the results of King & Scott (2005), who showed how divorced individuals have rather used cohabitation as a substitute for marriage than as a transitional stage. Some might have wanted to avoid the complexity of a new committed relationship (Sassler, 2010), or they had more difficulty finding a new partner to marry, but it was easier to find someone to date. For example, if the children were still young and living with the mother, starting new relationships may have been difficult. In contrast, after the children were older and more independent, it might have been easier to start intimate relationships again (Anderson & Greene, 2005). Most widowed individuals were associated with this trajectory, perhaps indicating that they, too, did not find a new partner, as the spouse's death is likely to happen later on the life course.

“Divorce, no new marriage(s)” -trajectory was only slightly more usual than “Divorce, new marriage(s),” and the proportions have stayed surprisingly similar throughout the different cohorts. The childbearing pattern corresponded expectedly to the suggestions provided by literature. The likelihood of having just one child in “Divorce, no new marriage(s)” -trajectories was higher than in intact marriage trajectories (Morgan, 2010), indicating that some are likely not to get the envisioned number of children (Nikander, 1992). Either the childbearing period has been cut short at the event of divorce, or people in a strained marriage have been more likely not to want children (Coppola & DiCesare, 2008). However, people have been adjusting their expectations and wishes along the life course based on their experiences, whereas young women often have reported wishes that resemble the norms of society as they have no first-hand experience of children (Hayford, 2009). Therefore, claiming that the individuals with a “Divorce, no new marriage(s)” -trajectory would have unfulfilled childbearing wishes might be questioned, but the difference compared to the intact marriage trajectories is noticeable.

### **Trajectories with long-term cohabitation**

“Long-term cohabitation” -trajectories were the most diverse with their life course transitions. While the transitions in intact marriages seemed to happen at differing times, the relationship stages themselves were predictable, following the basic pattern of single - non-residential relationship – (cohabitation) – marriage trajectory. Even the divorce trajectories seemed to follow that path until the divorce, after which the transitions were more varied, yet ultimately resembling the ones in their group.

The cohabitation trajectories, however, broke this predictability. The life courses seem to be much more varied on the whole: many entered their first unions at the same time as in the previously discussed trajectories. However, the dating period seemed to be remarkably more varied, and some unions started already before age 19. At the beginning of the twenties, the proportions of married individuals and cohabitating individuals were rather similar, but over the course of the twenties, the proportion of cohabitating individuals grew. The married ones entered the union at young ages and divorced around age 30 (resembling “Divorce, new marriage(s)”- trajectory), supporting the notion that individuals who marry young are have been likely to divorce (Amato, 2010). After a divorce, they did not marry again but to entered into a long-term cohabitating relationship that lasted throughout the thirties (Sassler, 2010).

However, the ones who started their union history with cohabitation might have had a varied life course with multiple cohabitation periods in youth and settling to a longer cohabitating relationship, which might have acted as a substitute for marriage. In many ways, cohabitating unions have been recognized to be more volatile and subject to higher rates of union breakdown compared to marriages (Amato, 2010): it might not be the cohabitating union itself that causes more frequent breakups but how cohabitation intertwines with socioeconomic trajectories and lower levels of conscious commitment. Cohabitating unions have been noticed to correlate with people “sliding” into relationships without making a conscious commitment, which over time can manifest itself with a lower commitment to the relationship (Stanley et al., 2006). Sometimes the commitment to cohabitation is driven by the convenience of living arrangements and other contextual factors rather than the relationship itself (Surra, 1997), which connects long-term cohabitation with lower socioeconomic status. All these factors together might cause more strain to the relationship. At the relative end of the fertile life course, the number of individuals getting married for the first time started to rise again, indicating that maybe some cohabitators married their partner after a long time. Overall, the trajectory tells a story of cohabitation as a *substitute* for marriage rather than a precursor to it.

Due to the high variability in this trajectory, nothing very conclusive can be said about the individual narratives of the women. The results only show that the trajectory has likely included a longer period of cohabitation (either after a marriage or before one) and more complexity. This complexity is reflected in the number of children. They were the first trajectory in which the likelihood of having no children increased compared to the intact marriage trajectories. While two children still seemed to hold as the most usual number, the likelihood of having an only child was



noticeably higher than average. The smaller number of children is consistent with the findings of Jalovaara & Fasang (2017), who have linked childlessness and serial cohabitation trajectories.

As expected, the prevalence of this cluster increased across the different cohorts. While there are very few respondents in the first cohorts, the relationship trajectory was fairly prevalent in the cohorts born after 1955. The lower prevalence in older cohorts may be partially explained by survivorship bias. After all, the people in the oldest group were 73-93 years old at the time of the data gathering. Intact marriage trajectories have been associated with lower rates of disease, and respectively varied histories may be connected with poorer health outcomes (Ploubidis et al., 2015). Despite that, a considerable increase in the number of cohabitation of trajectories has also been noticed by other literature (Koskinen et al., 2007, Nikander, 1992).

The rise of cohabitation poses interesting questions for the research of fertility decline of the latter part of the 20<sup>th</sup> century and early 21<sup>st</sup> century. If these respondents had fewer children and the prevalence of a more varied and cohabitation-oriented relationship trajectory is increasing, the result in later cohorts might be lower numbers of children. On the other hand, little can be said about fertility trends and relationship trajectories today, as the social meanings of cohabitation and marriage are in the process of change. For many of the respondents in my study, children were expected to be born in marriages, and hence, cohabiting couples with children might have been a non-normative choice (Kiernan, 2001).

### **Trajectories with late marriage or no long-term relationships**

Individuals in the “Relationships after 35” -trajectory did not start partnering at a young age. Some had dating relationships in their twenties and some short-term cohabitation, but they found a long-term relationship at an older age, usually after 35. When discussing the postponement of fertility and marriage in society (Schmidt et al., 2012), it is interesting that the prevalence of this cluster did not increase (or decrease) throughout the cohorts. Generally, only a small proportion of the population had their relationship trajectories categorized in this cluster, indicating that forgoing long-term relationships altogether until after 30 was not part of the expected or encouraged life course even in the younger cohorts. Postponement or the forgoing marriage was instead a movement from “Marriage before 25” -trajectory to “Marriage after 25, cohabitation” and “Long-term cohabitation” -trajectories. Partnering in itself did not occur noticeably later (Rotkirch et al., 2017).

As Schoen et al. (1999) have argued, it is possible that for this trajectory, childbearing intentions were tied to the expected marriage or union that did not emerge until after age 35 when having children had become biologically more difficult (Schmidt et al., 2012). The difficulty was reflected in the number of children by having either an only child or not having children at all. Then again, the low number might have been intentional for some individuals, and the expected family size decreased throughout the years (Hayford, 2009). Hayford notes that individuals, who at age 40 have expected only to have one child or no children at all, make up a fifth of the population, and they often have been awaiting fewer children already around age 24.

Finally, the last cluster included individuals who did not have a long-term relationship pattern in their life course. Their trajectories included mostly no mentioned partnerships, while some mentioned non-residential relationships of a few years usually occurring in their twenties or a short cohabitation relationship. Interestingly, these “single” respondents did not seem to increase but somewhat decrease over the cohorts. It is possible that, especially in the earliest cohorts, if the individual did not marry, the life course was rather marked by no partner at all than having multiple casual partnerships (as could be the case for some respondents with a “Long-term cohabitation”-trajectory).

The rates of childlessness were logically higher for this trajectory than for others, highlighting the social practice of forming a relatively stable partnership as a prerequisite for childbearing (Kiernan, 2001). Interestingly, there were still more non-childless women than there were cohabitating relationships to be counted from the index plot. The result indicates some children were born out of co-residential relationships, perhaps as a result of dating or as a result of casual sex, not tied to any relationship. If that were the case, caring for the child would have most likely been the woman's responsibility, which could have made it more difficult to form a partnership later on. Interestingly, in this predominantly childless cluster, no pattern of multiple short-term cohabitation relationships was found like Jalovaara & Fasang (2017) did. The reason lies most likely in the age of the women: while their sample was register data for younger women, the data used in this study included older respondents.

### **Changes between cohorts**

The transition from casual dating relationships to marriage was one of the key transitions in the life course that differentiated between the trajectories. For some, the transition was early and homogenous, and it included no cohabitation, while for others, it occurred later, and cohabitation replaced some of the earliest years of marriage. For a smaller proportion of the women, the

transition did not take place, or it happened clearly later. The trajectory types were deeply intertwined with the historical period in which the transitions occurred, and examination based on cohort brought about some exciting notions.

For the respondents born between 1924-1944, the transition to marriage seemed to be relatively predictable. Most individuals had a gap of 3 years from starting the first relationship at 18 or 19 to marriage at 22. Not everyone reported having a relationship before marriage, which might reveal attitudes about relationships at the time: it might not have been considered “official” outside marriage, which might tell about the importance of marriage at the time. For example, if relationships occurred in adolescence before intentions of marrying, it might have been considered “fooling around” – not a serious relationship. Judging from the similar density curves at short distances from each other, the connection between the first relationship and the first marriage was strong. Many married their first partners, which is a suggestion backed by qualitative data (Haavio-Mannila et al., 2002).

The pattern changed in the following cohorts. Rotkirch et al. (2017) have reported that after the standardization of the first cohorts, the baby boomers and the following five years (1945-1955) have been starting their first intimate relationships earlier, which is an interesting phenomenon and backed up by the data in my study as well. The answer could potentially lie in the increased use of contraceptive medications (Koskinen et al., 2007) which allowed people to start sexual exploration younger. The attitudes related to sexuality and relationships were going through changes at a rapid pace. Enjoyment and sexual fulfillment were getting more attention in society, and social norms no longer demanded a monogamous marriage to be the only outlet of intimacy (Haavio-Mannila et al., 2002), allowing especially young people to explore and search for a partner. Many might have started their first relationships before adulthood. As a result, the age at marriage seemed to shift earlier, but the connection between the first relationships and first marriages seemed weaker compared to the first cohorts. Not everyone married their first partners, and marrying later seemed to become more normal, while first relationships were usually experienced between 15 and 20.

The last cohorts went back to having their first relationships later, which perhaps tells from increased carefulness after the emergence of STDs, risen divorce rates of their parents, and longer periods of education (Haavio-Mannila, 2002). The relationship between the first relationship and marriage got even weaker over the years: while some married early on, right after forming the first relationship, generally the findings suggested a later marriage with someone who was likely not the

first partner, and not everyone married at all. The new patterns of relationship formation left thus more time for people to date or cohabit before marrying.

In conclusion, relationship trajectories shape childbearing outcomes in distinct ways, indicating that long-term relationships and especially intact marriage trajectories facilitated a higher number of children. The trajectories marked by more complex partnership histories and long-term cohabitation increased over time.

## **Reflection**

This study, adopting a processual approach to relationship trajectories and combining the processes with childbearing, is one of the first ones in Finland (along with Jalovaara & Fasang, 2017) to discuss the connections holistically and use sequence analysis to structure longitudinal data. The need for processual relationship research that considers historical developments, childcare histories, and partnering at different ages has been called for by Sassler (2020) to answer the questions of the changing landscape of partnering and family formation. This study contributes to the existing research by using methodologies and approaches that are yet to be widely adopted in Finland and offers more detail to the existing register-based knowledge of these cohorts (Nikander, 1992).

The key advantage offered by this study compared to previous approaches lies in its data structure. The extensive questionnaire data makes it possible to study non-residential relationships in addition to marriage and cohabitation. It is interesting how the timing of dating and its relation to marriage changed across the cohorts. To my knowledge, these results have not been observed previously in quantitative sociology or demography. This study offers the first window into the de-coupling of first relationships and marriages as life course stages across the cohorts. The changes in the relationship practices of these cohorts provide an intriguing possibility to study the period when many family practices were changing in Finland. As the data is available for all other European countries, the analysis conducted in this study can be compared internationally. Additionally, the respondents had the opportunity to define their relationship history themselves, which meant that fewer assumptions had to be made based on the living arrangements of individuals.

Another advantage of the study is social sequence analysis (Cornwell, 2015) that allows visual exploration of the trajectories by typology creation and clustering of the trajectories. The researcher can choose a qualitatively and quantitatively justifiable solution that describes the

different life paths of the respondents. This study adopted an approach where a suitable number of clusters was chosen based on the qualitative interpretation and the similar size of the clusters. The choice could also have been made with different indicators, which would have altered the outcome. Therefore, the researcher has the freedom of qualitative interpretation and the responsibility that comes with it. One key benefit of sequence analysis is that it recognizes the variability within the data and studies the implications of such variability, which would not be possible in the same way in cross-sectional research.

The study has nonetheless some limitations that need to be taken into account. Firstly, as the data is gathered with a survey, there is a possibility of low levels of selection bias. Register data allows research with bigger populations, and the results are not altered by the selection of the respondents. In questionnaires, some respondents are not capable or willing to answer the questionnaire, which might skew the results, usually to better reflect the experiences of individuals who are healthier and who have a higher socio-economic status. In the case of this study, that might mean more respondents with an intact marriage trajectory and fewer divorce and cohabitation trajectories (Amato, 2010).

Second, the clustering solution needs large datasets to create coherent clusters. In the case of this study, the clusters were intriguing and qualitatively in line with previous literature. However, the cluster of cohabitation trajectories showed high levels of variability within the cluster. That is most likely caused by high variability within the trajectories themselves and a low level of respondents reporting such life course. The issue could be avoided with a larger sample of data. Finally, the data tells only about what happened, not necessarily what the respondents hoped or expected. Thus, the data does not allow for examination of whether their childbearing or relationship wishes were fulfilled or whether they had hoped for something else. It is not possible to tell if the resulting trajectories were rather a result of deliberate choice or surrounding circumstances. However, taking these limitations into account, the data reveals an overarching connection between relationship trajectories and childbearing processes that has not previously been established in Finland. It is not simply childlessness that is affected by relationship trajectories (Jalovaara & Fasang, 2017), but the completed number of children is dependent on the relationships that facilitate childbearing.

## Conclusion

This study aimed to describe what relationship trajectories emerged for women born between 1924 and 1966, how the prevalence of the trajectories varied across cohorts and how the trajectories related to the number of children they had. Using retrospective data to construct relationship trajectories and sequence analysis to create clusters, seven different trajectories were established. The trajectories were (1) Marriage before age 25, (2) Marriage after age 25, cohabitation, (3) Divorce, new marriage(s), (4) Divorce, no new marriage(s), (5) Long-term cohabitation, (6) Relationships after 35, and (7) No long-term relationships. Out of the different trajectories, “Marriage before age 25” and “Marriage after age 25, cohabitation” were the most prevalent in the sample. Across cohorts, “Marriage before age 25” -trajectory decreased while “Long-term cohabitation” increased especially for women born after 1955. Additionally, the connection between the first relationship and the first marriage lost importance in the latest cohorts compared to the earliest ones.

While the trajectories with intact marriage had a steady pattern of 2+ children, for the trajectories involving a divorce, the complete number of children depended on if the individual got married again. Those who married again had a higher prevalence of over two children, while those who did not marry again often had fewer children than average. Long-term cohabitation trajectories were also more likely to have just one child compared to the intact marriage trajectories. The women with “Relationships after 35” -trajectory were more likely to have just one child, and individuals with no long-term relationships were more likely not to have children at all.

The topic calls for further research, as similar analysis could be conducted with different sections of the population that have been under-researched. For example, a similar study of childbearing and relationship trajectories could also be conducted for men. Additionally, the research could be directed specifically towards cohabitation trajectories to explore the apparent variability within them. While some had long and stable cohabitating relationships, some had more complexity, which is likely reflected in the number of children. Researching these distinctions and the variability between cohabitation relationships would provide fruitful research for the future. Similarly, research on relationship trajectories could be conducted with younger cohorts to compare with the older generations. Such research would not yet be possible with questionnaires, but register data would be available to conduct analysis on cohabitation and marriage trajectories. Besides new topics, relationship trajectories could be more frequently taken into account in studies of childbearing practices, as they predict realized fertility behavior.

This study contributed to the knowledge of temporal patterns of relationships, including non-residential relationships in Finland, and visualized the changes in relationship patterns across the 20<sup>th</sup> century and their relation to the number of children. Additionally, the study added to the understanding of relationships and childbearing as an interconnected process, illustrated de-standardization processes in Finland, and highlighted the need for longitudinal research on different life course events.

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