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Pathways of family change. A typology of multipartnered fertility life courses in five Northern European countries

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Abstract

This study investigates the heterogeneity of multipartnered fertility (MPF) trajectories in the Northern European context, where transformations in family formation patterns and in the partnership context of childbearing, together with high social acceptance for new family behaviours, result in a large degree of family life course differentiation. Applying sequence and cluster analyses to high-quality partnership and fertility histories of men and women who experience MPF from the Swedish, Norwegian, Danish, Estonian, and Finnish Generations and Gender Survey Round II collected between 2020 and 2022, we provide a timely description of how MPF trajectories unfold, and identify a typology of these family life courses. Our findings reveal that in the five countries, various trajectories of MPF co-exist that differ substantially in terms of the order and timing of union formation and dissolution, and the partnership context of births. Furthermore, we investigate gender and socioeconomic inequalities, and reflect on the potential vulnerabilities nested within MPF life courses and the additional layer of disadvantage that childbearing can represent for mothers *vis-à-vis* fathers in the context of family complexity.

Keywords: Multipartnered Fertility; Family Life Course; Gender Inequalities; Sequence Analysis; Northern Europe

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1. Introduction

Family change is a leading force driving contemporary demographic shifts in Western societies. These transformations entail new behaviours at the intersection of childbearing and its timing, as well as union instability, and changes in partnering and re-partnering. This intersection makes it particularly interesting to study the diverse ways through which “family happens” in contemporary Western societies. Multipartnered fertility (MPF) is prominent among these new family forms. It is defined as having biological children with different partners across the life course, and fully encompasses changes in the timing and context of childbearing, and the diversity and stability of unions in which children are born (Thomson, Dahlberg and Svallfors, 2021).

Today, MPF is integral to the demographic landscape in Western countries. In the United States, a context characterized by high levels of union instability and non-marital childbearing, 10% of the entire adult population experience MPF (Monte, 2019). In Australia, 12.2% of all mothers have children across partnerships (Thomson et al., 2014). MPF mothers represent around 16% of multiparous women in Norway and Sweden, and 21.7% in Estonia (Thomson et al., 2021). Similarly, 14% of women with two children experience MPF in Finland (Jalovaara and Kreyenfeld, 2020). Given the high prevalence of MPF, the potential repercussions of childbearing across partnerships for both the children and the parents warrants attention.

In this work, we take a step in this direction by investigating how MPF life courses unfold in five Northern European countries, and whether and how they differ from each other among the cohorts currently experiencing family change. The intersection of (new and complex) partnership and fertility behaviours, which are often conceptualized as integral to the *second demographic transition* (SDT) paradigm (Lesthaeghe, 2010, 2020; Lesthaeghe and Van de Kaa, 1986), can indeed result in a variety of MPF life course patterns. However, these patterns remain largely unexplored, hindering our understanding of the potential outcomes of MPF. Our study is the first to address heterogeneity in MPF life courses.

In addition, existing research does not fully consider that inequalities can be reproduced within these complex family behaviours (for an exception, see Andersson, 2021). This gap in the literature is relevant considering McLanahan published her influential work on the stratified consequences of the SDT almost 20 years ago (McLanahan, 2004). She reshaped the concept of the SDT toward a more inclusive definition that considers that family change often benefits affluent people more, widening the gap between social strata. Because of these patterns, it is necessary to reflect on the role of social stratification in family complexity and in how MPF unfolds. Indeed, MPF follows a marked social gradient in many countries, and heterogeneity in family formation patterns between social strata may be associated with substantial variation in how MPF life courses unfold, also mirroring SES differences in current fertility trends (Billari, Liefbroer and Philipov, 2006)

Furthermore, it is well known that parenthood produces and reproduces gender inequalities. In addition, persistent gender differences in the patterns of family formation can result in variations between MPF life courses, or in some being predominantly experienced by men and others by women. For these reasons, the interaction between gender and MPF needs to be addressed.

In this study, we describe how the intersection of partnering, re-partnering, and fertility during early and mid-adulthood is associated with different MPF trajectories. We focus particular attention on the combination of partnerships and parenthood across the life course stages characterized by high parenting demands, when children are of pre-adolescent age. In addition, we examine how MPF reflects persistent SES and gender inequalities, and how it can exacerbate disparities between fathers and mothers.

To answer our research questions, we employ sequence and cluster analyses that provide a comprehensive description of MPF life courses in the Northern European context. Among the advanced methods commonly used in life course research, sequence analysis is a particularly powerful tool for identifying groups of individuals who share similarities based on a defined set of behaviours. This technique allows us to identify similarities and differences in the succession of both partnership and fertility transitions associated with MPF, and hence to capture the intersectionality that MPF entails.

We conduct our analyses using data from the Generations and Gender Survey Round 2 (GGG-II) collected for a sample of $n=33,762$ women and men aged 18-50 from Denmark, Estonia, Finland, Norway, and Sweden. We focus on Northern European countries because they represent the benchmark for the diffusion of new family forms, while also having the highest gender equality levels in Europe: they are an ideal context for exploring the diversity of MPF life courses, and for reflecting on their implications for inequalities. While Estonia is not usually considered a Nordic country, we decided to include it in our analyses because of its geographical and longstanding cultural proximity to the Nordic countries. Moreover, Estonia experienced similar transformations in family formation patterns, which continued under the Soviet regime and accelerated after its dissolution (Katus, Puur and Sakkeus, 2008). Thus, even if the overall gender equality levels are lower in Estonia than in the other four countries (Gender Equality Index, 2022), we expect MPF life courses and their level of heterogeneity to be similar across these contexts.

2. Background

Family life courses in Western societies are increasingly diverse due to deep transformations of partnership and fertility behaviours. Family trajectories diverged between older and younger cohorts, resulting in a departure from the pattern of fertility within stable married unions that characterized the “golden age of marriage” of the 1950s and 1960s (Andersson, 2023a). At the same time, the diversification of the family life course extends to differences within birth cohorts (Elzinga and Liefbroer, 2007). The shifts in values and attitudes toward individualization and self-actualization often associated with the SDT (Surkyn and Lesthaeghe, 2004) have diversified the ways in which unions are formed and dissolved and decisions around childbearing are made, especially through prolonged cohabitation, non-marital childbearing, and step-parenting relationships. Northern European countries have been the trendsetters for these transformations in recent decades. Because these changing demographic trends interact strongly, we expect MPF to be highly heterogeneous. At the same time, four of the five countries we study are placed at the forefront of the “gender revolution” (Goldscheider, Bernhardt and Lappegård, 2015:207). For this

reason, we can interpret any gender difference in the unfolding of MPF stemming from disparities in the family formation process as a parsimonious measure of how new family forms represent additional layers of disadvantage for women.

2.1. Heterogeneity in MPF due to changing union formation and fertility patterns

MPF results from the succession of different transitions that are all affected by the family life course being deinstitutionalized and differentiated. This is the case for fertility, and especially for the transition to parenthood, which is evidently a stepping-stone toward MPF. We can conceptualize becoming a parent as a formative transition in the family life course, and patterns of family change affect it deeply. First, the growing number of children born out of wedlock changes the partnership context of childbearing: fertility takes place also outside the institution of marriage. At the same time, childbearing also occurs outside co-residential unions. Research shows that while a substantial number of individuals who experience MPF have their first child within cohabitation and marriage, a large share of women and men who ultimately experience MPF enter parenthood while not living with a partner (Guzzo, 2014; Thomson et al., 2021). Second, variations in the timing of the transition to parenthood affect how MPF takes shape over the life courses of women and men. While many MPF parents from different countries have their first child at a relatively young age (Carlson and Furstenberg Jr., 2006; Guzzo, 2014; Jalovaara and Kreyenfeld, 2020; Thomson et al., 2014), postponement of fertility strongly affects Northern European societies (Hellstrand et al., 2021). Given these opposing trends, we expect to observe substantial differences in first birth timing between MPF parents.

The deinstitutionalization and the differentiation of the family life course associated with the SDT also affect union formation. Cohabitations rose, reducing the centrality of marriage as the stepping stone in family formation typical of post-Second World War societies (Zaidi and Morgan, 2017). Indeed, the SDT paradigm asserts a value shift toward individualization and self-realization that leaves people more freedom to decide whether, when, and how to establish relationships, and to base these decisions more on personal desires and the opportunities to realize them, and less on the social norms that governed the transition to adulthood in post-war Western countries (Lesthaeghe, 2010). Therefore, we expect to find substantial heterogeneity in union formation behaviours associated with MPF, reflecting the pluralization of family desires and differences in the ability to achieve family goals.

Changing family formation patterns affect re-partnering as well. In Western societies, individuals are more likely to enter successive unions after a separation or break-up, in part due to the greater social acceptance of these behaviours (Rijken and Liefbroer, 2012). In addition, re-partnering is obviously dependent on exiting previous partnerships. The desire and the ability to form new unions after relationship dissolution are influenced by both personal and social factors. For example, the psychological toll that a previous separation may have on men and women can influence their willingness to enter new partnerships, or prolong the time it takes them to feel committed enough to move in with a new partner. Moreover, having children with a former partner affects the likelihood of entering a new union, even in the relatively egalitarian context of Norway

(Ivanova, Kalmijn and Uunk, 2013). Thus, we expect heterogeneity in both the rate and the pace at which people enter multiple unions —of which MPF is often the result— and thus in substantial heterogeneity in MPF life courses.

So far, we have argued that MPF entails a variety of family behaviours, such as fertility outside of unions and re-partnering after union dissolutions. These behaviours intersect with and result in an additional dimension of complexity in the family life course, namely single parenthood. Indeed, most MPF parents spend some time as a single parent, either because they initially enter parenthood without a co-residential partner, or because they enter and exit unions in which children are born. Living in a single-parent family can have negative repercussions for both the parent and the children, as they lack access to the economic resources and the social and emotional support that a co-residential partner can provide (Evans, Gray and Reimondos, 2023). In addition, single parenthood can be relevant for the diverse ways in which MPF unfolds. It often represents a precarious condition, and some parents might seek to exit it by forming a new co-residential union. Meanwhile, other parents might face constraints in forming a new partnership, or they might prefer to avoid doing so to prevent further relationship turmoil for their children and themselves.

2.2. The social gradient of family life courses and MPF heterogeneity

Changes in partnership and fertility behaviours over recent decades, as well as the new family forms stemming from such changes, interact closely with patterns of persistent social inequality in Western societies.

Country-comparative research on MPF has revealed an association between childbearing across partnerships and socioeconomic status (SES). MPF is strongly linked to social disadvantage in the United States, likely because of the high union instability and unintended fertility that cluster in the lower strata of the US population (Carlson and Furstenberg Jr., 2006; Guzzo, 2014; Monte, 2019). A similar association is found in Finland, where women and men with lower SES are more likely to experience MPF than their peers with higher SES (Jalovaara and Kreyenfeld, 2020). Meanwhile, Norwegian men at both ends of the educational spectrum are more likely to experience MPF than their medium-educated peers (Lappegård and Rønsen, 2013). Lappegård and Rønsen attribute this U-shaped association between SES and MPF to both higher union instability among disadvantaged men and higher chances of entering a new union after a separation among highly educated fathers. However, MPF does not follow a social gradient in Germany (Jalovaara and Kreyenfeld, 2020) and among younger cohorts in Italy (Pirani and Vignoli, 2022). The mixed empirical evidence regarding the social gradient of MPF suggests there might be different mechanisms linking SES and MPF in different countries.

Moreover, persistent SES disparities affect more than just the likelihood of experiencing childbearing across partnerships. They represent a source of heterogeneity in family formation patterns, and can thus translate into a social gradient in how MPF unfolds over the life course. Social stratification likely affects MPF through its influence on the moment partnership and fertility trajectories start, the risk of union dissolution, and the patterns of re-partnering after a separation or break-up. The empirical evidence on the social stratification of family change

suggests that heterogeneity in these components of the family life course among MPF parents mirrors the social gradient of current demographic trends. This is, for example, the case for fertility postponement, which can result from women pursuing higher education, and for parental age differences between social strata, which represent a source of disparities in the consequences of the SDT (Billari et al., 2006; McLanahan, 2004). Second, the persistent social stratification of Western societies can interact with union dissolution and re-partnering in the context of MPF, as Lappegård and Rønsen (2013) clearly showed. One mechanism that links social stratification and heterogeneity in the life course trajectory is the decoupling of imagined lives from realized behaviours, which is more common among the lower strata of Western populations (Billari, Hiekel and Liefbroer, 2019). Individuals with lower SES face significant constraints in realizing their partnership and fertility intentions (Billari et al., 2019). This is the case for all demographic milestones in the transition to adulthood, including forming a first union and becoming a parent. As mentioned above, MPF often follows an early transition to parenthood that occurs outside of co-residential unions (Thomson et al., 2021; Thomson et al., 2014). This means that the early stages of the family life course influence the unfolding of MPF. At the same time, these stages are the moment when the “social stratification of choice” (Billari et al., 2019:1) first operates, and can thus result in the diversification of the family life course between people from different social strata. As a consequence, we expect differences in the timing and the partnership context of first parenthood to result in different MPF life courses, and to follow a social gradient. However, lower agency in *sticking to the intended plan* can also manifest itself during later stages of the life course. For example, shared births within married stepfamilies in the United States are often the result of unintended pregnancies (Guzzo, 2017). Indeed, life can be less plannable for people with fewer social and economic resources, which can affect when family transitions happen, whether they are intended, and the broader life course context in which they are embedded (on agency and planning, see Hitlin and Elder, 2006). These considerations also apply to single-parenthood. Social advantage can reduce the life time spent in single parenthood after the dissolution of a union in which children were born. Moving in with a new partner can be easier for people from higher social strata due to their greater bargaining power on the partner market. Higher SES men and women can also benefit from having more readily available social and economic resources to steer the transition to a new union, and to manage the relationships between families when the previous partner is the parent of (some of) their children. These stratified patterns of family formation can also translate into differences in the ways partnership transitions and parenting demands combine over the life course. For example, finding a (new) partner quickly can translate into entering a co-residential relationship when the children are still relatively young. By contrast, prolonged single parenthood after a union dissolution can mean that the children are older when a new co-residential union starts. This heterogeneity is important, especially because entering a co-residential union when the parenting load – at least in terms of care demand – is still high can add substantial challenges across union transitions. Moreover, the pace of (re-)partnering directly affects the spacing of births and, in turn, how long the most care-intense stages of parenthood last (see Andersson, 2021).

2.3. Gender inequalities in fertility and partnerships

Persistent gender disparities in the family formation process affect how new family forms take shape. Many of the transformations and trends described so far are gendered. As a consequence, we expect differences between men and women in the partnership context of first parenthood and in the choice and the opportunities to re-partner after a union dissolution to result in gendered patterns of MPF.

For example, we have discussed the prevalence of early single parenthood among MPF parents. However, we also expect single *motherhood* to be more prevalent than single *fatherhood* at the start of the family life course. Failed contraception might affect single women more than single men, especially when unintended pregnancies happen outside living-apart-together (LAT) or other types of romantic relationships. Additionally, fathers can more easily decide to not socially father children who are born outside a union or are conceived within casual relationships. Moreover, single pregnant women – especially low SES women, who are more likely to be single during a pregnancy than their high SES counterparts (Koops, Liefbroer and Gauthier, 2017) – face more constraints in finding a male partner before giving birth because they have less bargaining power on the partner market (Koops, Liefbroer and Gauthier, 2021).

However, previously partnered mothers can also face challenges in finding a (new) partner. As they tend to be their children's primary caregiver, they are less likely than previously partnered fathers to form second- and higher-order unions in many European countries – although higher levels of gender equality seem to reduce the constraints faced by mothers on the partner market in Norway (Di Nallo, 2019; Ivanova et al., 2013). Re-partnering patterns might also differ between men and women because starting a new co-residential relationship entails a risk of further dissolutions and additional stress for both parents and children. Women are often responsible for managing family relationships and for most of the emotional labour (Dean, Churchill and Ruppner, 2022; see also Strazdins and Broom, 2004). Therefore, women might take on the additional psychological stress associated with moving in with a partner, which may entail more considerations about entering a co-residential union. Women might also decide to shield their co-residential children from additional relationship turmoil. Single mothers in Germany often give this reason for not moving in with a new partner, despite the financial, social, and emotional resources cohabitation or marriage could offer them (Bastin, 2019). This reluctance can also help explain why men still enter new unions overall more frequently than women, even though women have a higher rate of entering successive unions at younger ages (Andersson, 2023b).

Persistent gendered patterns of family formation can thus result in substantial heterogeneity in how MPF unfolds among women and men. Moreover, these patterns might represent sources of additional gender inequality reverberating across the life course. For example, single mothers' constraints in finding a (new) partner or their reluctance to move in with a partner can mean that women spend more life time than men in single parenthood, resulting in a longer spacing of births occurring in successive unions. These disparities combine with an unbalanced division of childcare following union dissolution, even in the relatively egalitarian Scandinavian context (Andersson, 2021). As a consequence, MPF patterns characterized by more time spent in single parenthood or

longer birth spacing, in which we expect women to be more prevalent, are also likely to be associated with a higher childcare intensity, representing an additional layer of disadvantage for mothers in the context of MPF.

3. Data and Sample

3.1. The data

We base our analyses on data from the Generations and Gender Survey Round 2 (GGS-II) from Norway, Sweden, Estonia, Denmark, and Finland (n=33,762). The survey provides cross-national comparable information on a wide range of topics related to intergenerational relations, family formation, and household dynamics, which can be used to study contemporary demographic change and new family forms. Collected between 2020 and 2022, the data contain detailed retrospective partnership and fertility histories of respondents aged 18-59¹, which allow us to observe how partnership transitions and parenthood interact across the life courses of women and men in the context of MPF. Most importantly, the GGS-II questionnaire includes questions that allow linking each child to either the current partner or a previous partner of the respondent, as well as a question asking the respondents if they ever had children with someone they never cohabited with. This rich information allows us to identify women and men who had children with multiple partners directly from their fertility reports, which suffer little from mis- and underreporting (Leocádio et al., 2023). This method produces more robust estimates of MPF than more indirect methods, which rely on comparing children's dates of birth and unions' start and end dates, and thus on unverifiable assumptions regarding the timing of conception and the parentage of children born outside of co-residential unions (see Bart Stykes and Guzzo, 2019).

3.2. Sample selection strategy

We restrict the sample to respondents with two or more biological children (n=14,068) who had them with more than one co-residential partner or with at least one co-residential partner and someone they never cohabited with. We identify 1,765 men and women who had children with multiple partners, which is equivalent to 13.5% of mothers and 11.1% of fathers with two or more children. Our estimates of MPF in Northern European countries are thus only slightly lower than previous estimates derived from the earlier round of the Generations and Gender Survey (Thomson et al., 2021) and from register data for the same geographical context (Jalovaara and Kreyenfeld, 2020), indicating that our sample selection strategy aligns with previous research quantifying MPF.

Respondents reported in which year and month each of their co-residential partnerships began and ended, as well as the dates (month, year) of eventual marriage and divorce. We use this information to reconstruct sequences of partnership and parental states for each sample member. We define the start of a co-residential union as the first time respondents moved in with their partner. Many respondents reported the year and the month a co-residential union started and ended. We drop

¹ The sampling design varies slightly between countries. Sampled residents are aged 18-54 in Norway and Finland; 18-59 in Sweden and Estonia; and 18-49 in Denmark.

from the sample respondents who married but never cohabited, and respondents who did not report the year a union started or ended and for which marriage and divorce dates are not available (14 dropped). If information about a marriage is available, we consider the dates of marriage and divorce as the start and end points of the union. We address missing information about the month a particular union began or ended by randomly assigning a month to either the start or the end of the union for which we have missing information². If unions overlap or the end of a union precedes its start due to the imputation, we assign a fixed duration of one month to the union (seven values imputed) to avoid dropping the observations. When overlaps or inconsistencies between a union's start and end are not the result of the imputation procedure, we drop the observation (120 dropped). We additionally exclude from the sample respondents with an unknown date of birth (10 dropped), with extremely low and uncommon in the study context ages at first birth and union formation (<15 years), and for whom the first birth or the first union is reported to have happened before the respondent was born (24 dropped). Finally, we exclude observations with missing information about the children's date of birth (116 dropped). The final analytic sample consists of 1,481 women and men for whom we have complete partnership and fertility histories.

4. Methods

4.1. Measurements

GGs-II data provide retrospective information about cohabitation and marriage status and about childbirths at the month level. Using these monthly data, we reconstruct for every respondent sequences of partnership and the parental status at each month of life until the time of interview. As we are interested in the unfolding of MPF in the most active stages of the family life course before middle age, we restrict our observations to the period between age 15 and either the time of interview or age 50 for each respondent. The GGS-II does not provide retrospective information about co-residency with children. Thus, we can only assume that parents continue to be involved with their children even after a dissolution, which is especially likely in the Northern European context. However, we recognize that co-residence with children can still follow gendered patterns, and that we might overestimate paternal co-residence.

In this study, we aim to understand how moving from one relationship to the next combines with parenting demands, with a particular focus on the most intense stages of parenthood when children are pre-adolescent. We define 12 possible family states resulting from the combination at each month across the observation period of the age of the youngest child (Youngest child < 6; Youngest child < 12; No children or youngest child > 12) and the partnership context (Single and never cohabited or married; First cohabitation or marriage; Separated from a cohabitation or marriage; In a second or higher-order cohabitation or marriage). We distinguish between pre-school children and children enrolled in primary and lower secondary education due to the different care burdens for parents, and because we are mostly interested in uncovering the vulnerabilities derived from the combinations of union transitions and parenting. We do not distinguish between cohabitation

² This is the same procedure adopted to construct the Harmonized Histories data file, which is currently available for three out of the five countries considered in this study.

and marriage. While the level of commitment to the relationship differs between these union types, the financial resources and social and emotional support derived from living with a partner are likely to be similar in cohabiting and married unions, especially compared to the potentially more vulnerable state of being a single parent. We aggregate second- and higher-order co-residential unions for reasons of parsimony, and because we are not interested in which higher-order union children are born. Additionally, through the 12 states we define, we are able to capture the full range of union turbulence that might characterize MPF life courses.

4.2. Analytical strategy

In the first part of the analyses, we use sequence and cluster analyses to identify patterns of MPF family trajectories. We begin by calculating the distance between each pair of sequences via optimal matching (OM). OM relies on substitution and insertion/deletion (*indel*) of sequence elements to make two sequences identical (for a detailed discussion on the application of OM to sequence analysis, see Raab and Struffolino, 2022). Substitution and *indel* operations are each assigned a cost, the sum of which is interpreted as the distance between two sequences. As the literature suggests that both the order (accounted by substitution) and the timing (accounted by *indel*) of events can be equally important in differentiating MPF life courses, we use the same cost for both kind of operations. Therefore, the distance between any two sequences is defined as the lowest number of operations needed to transform them into two identical sequences. Distances are normalized based on the length of the longer sequence within each pair to account for their different lengths in the data due to the right-censoring of younger observations.

We combine hierarchical (using Ward's method) and partitioning around medoids (PAM) clustering techniques to optimally group together similar sequences (Raab and Struffolino, 2022). A three-clusters solution is sustained by both statistical evaluation of the clustering quality (Average Silhouette Width) and evaluation of the substantial features of each cluster (see Raab and Struffolino, 2022). The Finnish GGS-II over-sampled Finnish residents aged 18-44 and under-sampled older residents. We account for the sampling design in the Finnish GGS-II by including weights for Finnish respondents at step 1 in our analyses.³

In a second step, we describe each cluster and report on the differences between them in terms of the order and the timing of family events. In a third and a fourth step we explore differences in the SES and gender composition of each cluster. SES is measured by educational attainment using the International Standard Classification of Education (ISCED) score, condensed into three categories (1=Lower secondary and below; 2=Upper secondary; 3=Tertiary). Gender is measured by self-reported biological sex (0=Male; 1=Female). In steps 2, 3, and 4 of the analyses, we conduct t-tests for the difference in means and analysis of variance (ANOVA) adjusted for multiple comparison groups to assess the significance of the differences between the main features of the

³ In the other four countries, the GGS-II sample is selected using simple random sampling (stratified by gender in Denmark).

clusters, and between these groups and the full analytical sample, in terms of gender and SES composition.

5. Results

5.1. Three types of multipartnered fertility life courses

The sequence and cluster analyses reveal three distinct patterns, or *types*, of MPF trajectories in Norway, Sweden, Estonia, Denmark, and Finland (n=1,481). In Fig. 1, sequence index plots visually display the heterogeneity of partnership and fertility trajectories across the three clusters. Because index plots suffer from over-plotting, we also present relative frequency sequence plots, which offer a better visualization of the pattern of events resulting in the three types (Fasang and Liao, 2014)⁴. We labelled clusters based on their main substantial features.

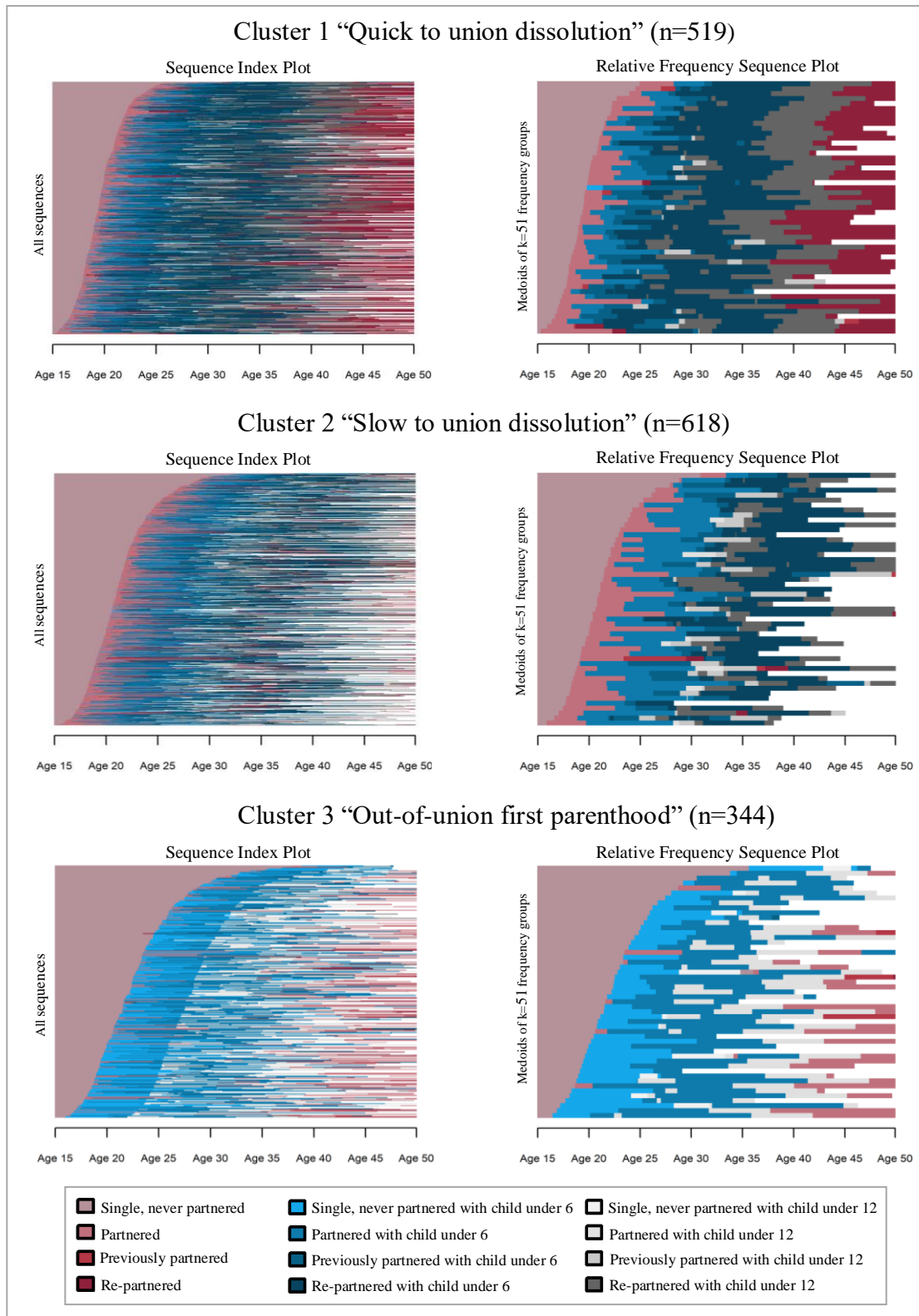
Cluster one, labelled *Quick to union dissolution* (n=519), and cluster two, labelled *Slow to union dissolution* (n=618), share a similar pattern of events leading to MPF. The majority of respondents in both groups transition first to cohabitation or marriage and then have children with their partner. They then separate and enter successive unions, in which they have a second (or higher-order) child with their new partner(s). For these two groups, MPF appears to be the result of union instability and fertility within step-families. The number of episodes and the timing and duration of relevant spells reported in Table 1 help to identify further similarities as well as differences between members of clusters 1 and 2. While the average number of unions (>2) during the observed period for respondents in clusters 1 and 2 suggests a certain degree of additional union instability after the dissolution of the first cohabitation or marriage in both groups, a large share of second unions actually remain stable for the time observed.

Although the pattern of family transitions is similar in clusters 1 and 2, we observe substantial variations in the timing of events. Members of the *Quick to union dissolution* cluster transition to cohabitation or marriage at a significantly younger age than members of the *Slow to union dissolution* cluster, and the time that passes between moving in with the first partner and the birth of the first child is shorter, with a significant difference of around 11 months. Even if moderate, these differences denote a faster pacing across early family transitions among members of cluster 1. However, the most striking difference between these two clusters is in the length of the first union. Individuals in cluster 1 spend markedly less time in their first cohabitation or marriage, which is short overall, with a significant difference of 3.5 years between clusters 1 and 2 (4.2 vs 7.7 years). These results confirm our expectation that differences in the pacing of partnership and fertility transitions across early and mid-adulthood result in substantial heterogeneity in how MPF unfolds.

However, we do not observe large differences in the timing of successive union formation. After a break-up or separation, respondents move in with their new partner at a similar pace, as exemplified by the absence of variations in the total life time spent in single parenthood across

⁴ Sequences in each cluster are sorted based on age at first transition (union formation or childbirth). They are then divided into k=51 similarly-sized groups, and the medoid for each group is shown.

Fig. 1: On the left, sequence index plots show the succession of partnership and fertility statuses for every observation (displayed as horizontal bars) in each cluster, sorted by age at first family transition. On the right, relative frequency sequence plots show the succession of partnership and fertility states only for the medoids of 51 similarly sized groups of sequences for each cluster (total n=1,481).



the life course (calculated as the total life time spent in this state during the observation period). It lasts, on average, more than four years for both clusters, and it is confirmed to be a key component of MPF life courses, even if we find no evidence of differences in how quickly people exit this stage between these two types of MPF life courses. The similarities between clusters 1 and 2 in terms of periods of vulnerability extend to the finding that many parents transition to another union while at least one of their children is still under age six. This shows that the transition out of cohabitation or marriage and into a new co-residential partnership often coincides with intense parenting demands, potentially exacerbating the challenges that moving in with a new partner entails.

The pathway to MPF in cluster 3, *Out-of-union first parenthood* (n=344), is drastically different. For the majority of the members of this group, parenthood is actually the first family transition, and happens outside of a co-residential union. After the first childbirth, individuals in this cluster

Table 1: Key characteristics of the sample and of each cluster

	Total (n=1,481)	Cluster 1 <i>Quick to union dissolution</i> (n=519)	Cluster 2 <i>Slow to union dissolution</i> (n=618)	Cluster 3 <i>Out-of-union first parenthood</i> (n=344)
Average number of events				
Union formation	2.1 (0.87)	2.4 (0.80)	2.3 (0.72)	1.2 (0.67)
Union dissolution	1.2 (0.90)	1.6 (0.84)	1.4 (0.72)	0.3 (0.64)
Childbirth	2.9 (0.94)	2.9 (1.00)	2.9 (0.89)	2.8 (0.90)
Timing and duration of spells				
Average age at first union	22.1 (4.7)	19.8 (2.4)	21.5 (3.3)	27.2 (5.9)
Median age at first union	21.0	19.5	21.0	26.5
Average age at first childbirth	23.5 (4.1)	22.0 (3.2)	24.6 (4.1)	23.6 (4.7)
Median age at first childbirth	22.8	21.6	24.1	22.8
Years spent in first union	8.3 (6.9)	4.2 (3)	7.7 (4.6)	15.3 (9.2)
Years spent in single parenthood	4.7 (4.6)	4.2 (4.2)	4.6 (4.4)	5.5 (5.4)
Gender				

Proportion of women	66.5%	76.9%	60.8%	61.0%
Education				
Lower secondary and below	14.7%	12.0%	13.3%	21.2%
Upper secondary	41.9%	47.6%	38.7%	39.0%
Tertiary	43.3%	40.3%	48.1%	39.2%
Missing	<0.1%	<0.1%	<0.1%	0.6%
Average age				
	45.8	47.3	44.6	45.5
	(7.8)	(7.4)	(7.8)	(8.2)
Median age				
	46	48	45	46
Country				
Norway	13.4%	11.6%	14.9%	13.4%
Sweden	21.1%	31.2%	17.5%	12.5%
Estonia	46.8%	40.1%	46.3%	57.9%
Finland	5.3%	9.4%	4.2%	0.9%
Denmark	13.4%	7.7%	17.2%	15.4%

spend a few years in single parenthood. Later, they enter cohabiting or married unions, which are relatively stable and in which further children are born. This finding matches previous research (Thomson et al., 2021) and confirms our expectations about the rate of out-of-union first births among Northern European MPF parents. However, our results show that – when followed by having children with new reproductive partners – early single parenthood is associated with relatively high levels of union stability across early and mid-adulthood. Indeed, the average number of unions (1.2) and dissolutions (0.3) among members of this cluster (Table 1) suggests that most respondents continue living with their first partner for the duration of the observation period. Thus, first unions in this cluster last on average more than 15 years, without accounting for the right-censoring of still-intact unions. The small share of unstable unions in cluster 3 likely accounts for the finding that the overall life time spent in single parenthood across the observation period is longer in this cluster than in the previous two clusters, with a significant difference of around one year (11 and 15 months, respectively), even if the members of cluster 3 enter first unions relatively quickly after becoming single parents. In conclusion, the family sequences in the third cluster are notably different from the others. Here, MPF happens in a context of high stability. However, there are some similarities between the three clusters. First, in cluster 3, union formation still happens while at least one child is under age six, similar to the other two clusters. Again, this confirms our expectations about the potential nesting of vulnerability within MPF life courses, which extend beyond being exposed to single parenthood. Second, men and women transition to parenthood while still relatively young, as shown by the average and the median ages at first birth in each cluster. This result matches previous research on MPF conducted on older birth cohorts,

and we are able to show that even among younger Northern European cohorts, having children at a young age is a common occurrence in the context of MPF, in stark contrast to the fertility postponement trend in Northern European countries. Early fertility might also explain why the average number of children individuals in the three cluster is relatively high for this geographical context, at slightly less than three (Table 1). This finding highlights how MPF is associated with higher parity in the Nordic countries, where fertility rates have decreased sharply in recent years (Statistics Norway, Finland, Sweden, and Denmark), and in Estonia, which is characterized by a longer historical trend of low fertility (Statistics Estonia).

5.2. The SES dimension of the MPF typology

In the first two steps of the analyses, we identified three distinct types of MPF life courses and described their heterogeneity in terms of the order and pacing of partnership and fertility transitions across early and mid-adulthood. Because we are also interested in grasping how the unfolding of MPF reflects social inequalities in family formation patterns, at this point in our analyses we explore the SES composition of each cluster, and report on the social gradient of the three types of MPF trajectories we identified at step 1. The results are reported in Table 1.

Beginning from the composition of our analytical sample, we observe a higher number of low- (14.7% vs 8.0%) and medium-educated (41.9% vs 32.0%) respondents and a lower number of high-educated individuals (43.3% vs 59.7%) among MPF cases than among all multiparous individuals sampled in the GGS-II. However, we find little variation in the educational composition of each cluster. The proportion of individuals with upper-secondary education is slightly higher in the *Quick to union dissolution* cluster than in the full MPF sample (47.6% vs 41.9%), while low- and medium-educated respondents are both less prevalent. In the *Slow to union dissolution* cluster, it is high-educated respondents who are slightly overrepresented (48.1% vs 43.3%). Members of the *Out-of-union first parenthood* cluster are slightly less-educated, with an overrepresentation of respondents with less than a high school diploma (21.2% vs 14.7%). Overall, despite small differences, the distribution of education in the three clusters mirrors the distribution in the full MPF sample. All three groups are characterized by a higher prevalence of medium- and high-educated individuals. These observations make up the large majority of each cluster, while individuals with less than a high school diploma make up only a small minority. Hence, contrary to our expectations, we do not find evidence of a marked social gradient within our typology, suggesting that the likelihood of experiencing MPF through each of the three pathways identified here does not vary substantially between social strata.

5.3. Variations by gender in the MPF typology

We noted earlier that partnership and fertility transitions that give shape to diverse family life courses interact with persisting gender inequalities, and could lead to MPF unfolding differently for women and men. Such gender differences would indicate that MPF can exacerbate inequalities within couples and families. Thus, in the last step of the analyses, we explore the gender composition of each cluster, and compare it to the composition of the total MPF sample (Table 1).

Overall, women are overrepresented compared to men in the full analytical sample, where they represent 66.5% of all observations. It is noteworthy that the proportion of women in the analytical sample is also significantly higher ($p\text{-value}<0.05$) than the proportion of all multiparous mothers in the general GGS-II sample (59.7%). This finding is in line with previous research showing that women are more likely to experience MPF in both European and American contexts (Jalovaara and Kreyenfeld, 2020; Monte, 2019; Pirani and Vignoli, 2022; Thomson et al., 2021). Concerning the gender composition of our typology, women are overrepresented in the *Quick to union dissolution* cluster, where they make up 76.9% of cluster members. Conversely, they are underrepresented in the other two clusters, *Slow to union dissolution* and *Out-of-union first parenthood*, where they make up 60.8% and 61.0% of cluster members, respectively. The results of t-tests for the differences in the proportion of women between the full analytical sample and each cluster show that they are significant ($p\text{-value}<0.05$). However, gender differences in the composition of each cluster are moderate overall, and women always represent the majority of each group. Hence, we find no substantial evidence that the three types of life courses we identify from the data are strongly gendered. As in the case of SES, these findings do not support our expectations about the stratification of MPF life courses by gender.

5.4. Robustness checks

In our analyses, we use sequences of unequal length because the observations are right-censored based on the age at the time of survey participation. The use of censored data can be problematic if sequences are cluster together based on their lengths rather than on their substantial (dis-)similarities (Raab and Struffolino, 2022). Because we consider only men and women who have already experienced MPF, the right-censoring of sequences only concerns the period following a birth with a new reproductive partner. Hence, we are able to observe the entire sequence of events leading to MPF, including for individuals who have not yet reached age 50. This notwithstanding, we run a series of checks to confirm that our clustering solution is independent from the data structure. Sequence length is a direct result of age at the time of interview; hence, we compare age distributions between each cluster and find no large differences (Table 1, see also Fig. 2 in appendix), also after stratifying the sample by gender (Fig. 3 and 4 in appendix). Additionally, we run our analyses using different censoring ages (40 and 45) to reduce the total number of right-censored data. We also restrict the analyses to respondents older than 35, 40, and 45. In all these cases, the three types of MPF life course described before (Fig. 1) can be clearly identified and have similar substantial features. The clustering solution adopted in this study is also strongly correlated with all the alternatives tested, and the correlation remains high after stratifying the sample by gender (Table 2 in appendix). Thus, we are confident our results are not driven by the right-censoring of sequences or by the chosen length of the observation period, but rather by the actual heterogeneity of MPF life courses.

6. Discussion

In the present study, we explored the heterogeneity of the family life courses of women and men who have children with multiple partners in the Northern European context. Adopting a life course perspective, we provide a detailed description of how MPF unfolds across early- and mid-adulthood, and develop a typology of life courses based on the family formation patterns associated with fertility across partnerships. We employed data on family histories collected during the Generations and Gender Survey Round 2 for Denmark, Estonia, Finland, Norway, and Sweden. The accelerating process of family life course differentiation (Elzinga and Liefbroer, 2007) that characterizes these countries makes them an ideal context in which to study how transformations in partnering behaviours and the changing context of childbearing diversify MPF trajectories. As the GGS-II questionnaire asked questions about the parentage of each respondent's children, the data allowed us to identify women and men who experienced MPF directly from their reports.

In the first step of our analyses, we reconstruct sequences of family events from youth to middle age for every observation, and we cluster them based on their (dis-)similarity. In particular, we considered the combination of transitioning into and out of co-residential unions and the different parenting demands associated with having younger or older children.

Our findings reveal that in the five countries we studied, three distinct types of MPF life courses can be identified, differing by the order and the timing of family transitions leading to fertility with multiple partners. For the individuals in type 1 and 2, MPF was the result of parenting children in consecutive co-residential unions, with, however, significant variations in the length of the first cohabitation or marriage, which was shorter among parents in type 1, who also had an overall faster pacing of early family transitions. The third type displays a very different pattern: individuals first entered parenthood while not cohabiting or being married, and only later established co-residential relationships in which they had more children with a new reproductive partner.

The results of our study have several implications. Using the most recent survey data available for the Northern European context, we confirm findings from research based on the previous round of the GGS (Thomson et al., 2021), which indicated that early single parenthood is common among a substantial share of women and men who later experience MPF. However, we extend the knowledge on these new family forms by showing that early single parenthood is often followed by a stable union. A similar pattern of stability after a new union is formed is observed also when MPF is the result of having children with consecutive co-residential partners. These findings are in line with previous research on the benefits of shared births within step-families in terms of union cohesion (see Ivanova and Balbo, 2019). Our results also suggest that while children whose parents experienced MPF were often exposed to the dissolution of their family of birth while they were still pre-adolescent, and thus suffered from being exposed to the potential vulnerabilities associated with growing up in a single-parent household, they frequently experienced no additional relationship turmoil after a new family was formed and their half-siblings had been born. These patterns also imply that union instability across childhood mostly affects earlier-born children, and more rarely those born within new relationships. Indeed, it is possible that these children are not the most affected by union instability, and might even be better off than their peers who continue

living in single-parent households or step-families without shared children. In light of our findings, it is clear that additional research is needed on how childbearing across partnerships influences the parents, and on what challenges for women and men arise from the diffusion of new family forms and parenthood in complex families.

To this point, our results show that MPF parents are exposed to a significant amount of family complexity across early and mid-adulthood. Single parenthood represents a substantial component of each of the three types of MPF we identified. Additionally, many men and women in our sample moved from one partnership to the next when at least one child was still under age six. This means that moving in with a (new) partner often combines with intense parenting demands. It should also be emphasized that these patterns of complexity combine with persisting gender inequalities in the organization and division of childcare within couples and families, and with the tendency of mothers to remain the *de-facto* primary carer during spells of single parenthood, even in the relatively egalitarian Nordic context (Andersson, 2021). Therefore, the challenges that MPF entails could translate into higher levels of disadvantage for mothers *vis-à-vis* fathers, exacerbating the gender inequalities associated with parenthood.

Net of these contributions, several questions remained unaddressed by our study. First, we did not find strong evidence of MPF taking shape differently between men and women or between parents from different social strata. Because we focused only on MPF parents, it was not possible to determine whether similarities in the gender and SES composition of the three types of MPF life courses actually derived from these trajectories not being affected by gender and social inequalities. An alternative explanation could be that gender and SES influence the likelihood of experiencing MPF, rather than affecting how it unfolds. Therefore, in future research, we will study the role of gender and socioeconomic disparities across the different family life course transitions that ultimately lead to MPF life courses. Such considerations could also be made regarding the similar pace of re-partnering in clusters 1 and 2. Having more children once a new co-residential partnership is established might require a relatively short interval between unions. Individuals who postpone re-partnering can be selected out of MPF because are past the age when having children is socially accepted or biologically possible when they enter a new union. Second, we did not investigate the potential consequences that MPF heterogeneity has on the life course outcomes of women and men. Differences in the stability and length of co-residential unions, in the life time spent as a single parent, and in the overall path leading to fertility with multiple partners likely have different effects on labour market interruptions, wealth accumulation, the availability of social and intergenerational support, and the personal well-being of the parents and of their children.

Our study suffers from some data limitations. The GGS-II did not collect retrospective information about non-cohabiting relationships. Therefore, our analyses relied entirely on information regarding co-residential unions, and we equated not co-residing with a partner to not having a partner at all. As a consequence, we might have underestimated the number of romantic partnerships individuals experienced and the broader partnership context of childbearing. More precisely, we could not tell whether a birth outside of a co-residential union happened while the

respondent was involved in a living-apart-together (LAT) relationship. However, LAT relationships represent a partnership context in which economic, social, and emotional support are less readily available than in cohabiting relationships. In this work, we were interested in uncovering the potential disadvantages associated with MPF. As the distinction between births that happened within or outside of co-residential unions was the most salient, the lack of information on LAT relationships did not impede us from answering our research question.

An additional limit of our study is that, for reasons of parsimony, we did not include in the analyses the partnership and fertility histories of the respondents' previous and current partners. The three types of MPF life courses described above were derived only from the respondents' family histories. Also considering their partners' life courses might have revealed additional heterogeneity in how MPF unfolds. In particular, the presence of the partner's children from previous relationships likely increases the complexity family members are exposed to, and might influence the transition to a shared birth (Guzzo, 2017).

Finally, our study focused on Northern European countries, where drastic changes in partnership and fertility behaviours have contributed to the diffusion of MPF and, as our work shows, to its heterogeneity. Nonetheless, it is possible that the range of pathways through which MPF unfolds is narrower in countries where life courses are less differentiated and new family forms are less common. However, family change in Nordic countries has been accompanied by relatively high gender and social equality levels. In our case, this translated into minor gender and SES differences within the typology of MPF we identified. But in contexts characterized by more strongly gendered family formation patterns and more pronounced disparities between social strata, we might find substantial differences in how new family forms take shape. In conclusion, we cannot easily generalize our specific findings to other country contexts primarily because the social mechanisms that shape the three life course types described here might not operate elsewhere, or might not be the most important. We have, however, shown that MPF encompasses a range of different behaviours, which we argue are influenced by current demographic trends, changes in values surrounding the family, and persisting gender and social disparities. Hence, we expect that fertility with multiple partners is heterogenous also in other contexts affected by these processes.

In conclusion, we contribute to the literature on MPF by showing the diversity of the complex family life courses associated with it in Northern Europe. Our findings demonstrate the need to recognize the heterogeneity that characterizes new family forms when investigating the intersection of family change and parenthood, and its role in the production and reproduction of inequalities in the context of rapid family change. Furthermore, our study underlines that family complexity can have different consequences not only for parents and their children, but also for different types of siblings growing up in complex families. Building on the call to critically examine the family change associated with the SDT (McLanahan, 2004), future research should focus on these differences and their contributions to shaping family dynamics in the Western world.

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Appendix

Quantile-Quantile plots for age

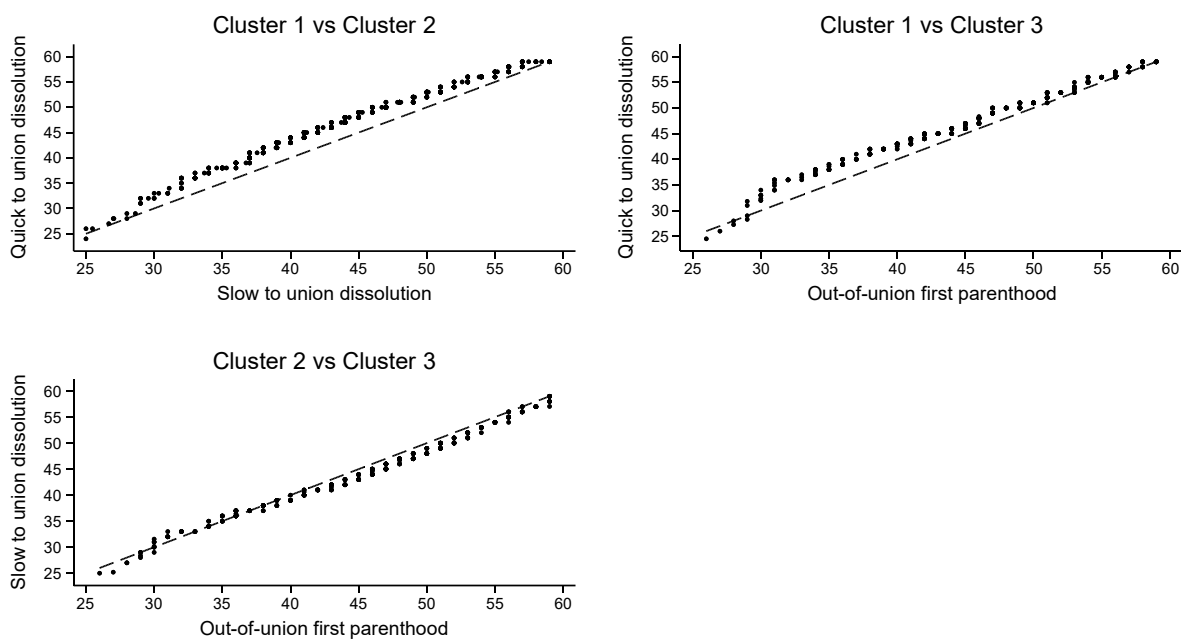


Fig.2: Quantile-quantile plots comparing age distributions between the three clusters

Quantile-Quantile plots for age - Women

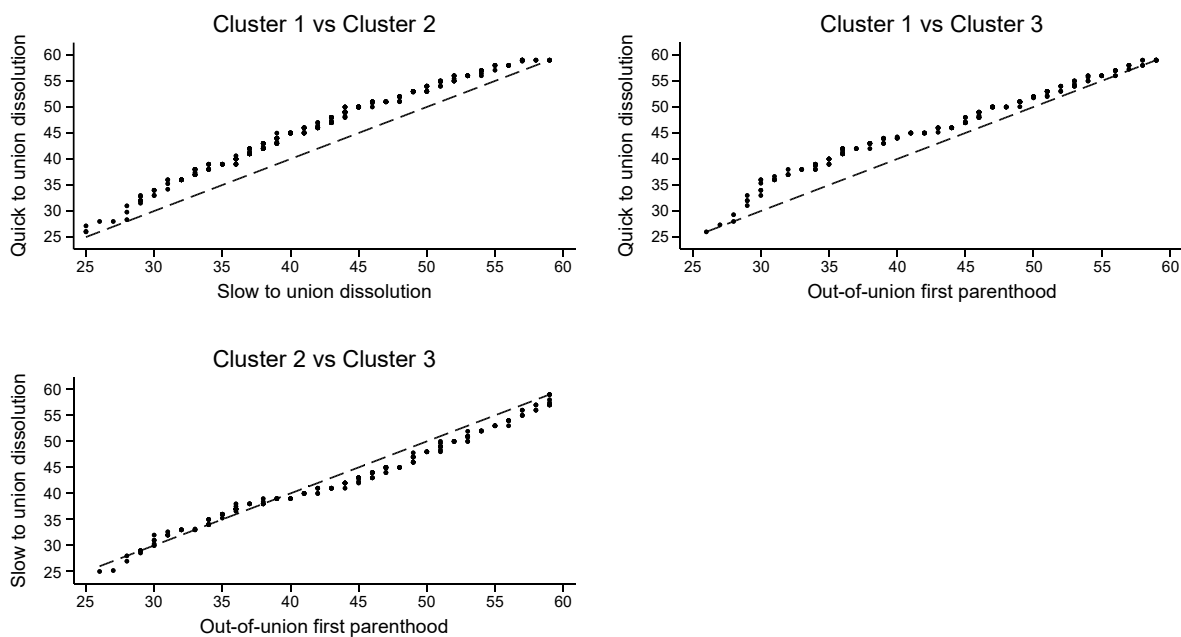


Fig.3: Quantile-quantile plots comparing age distributions between the three clusters for women

Quantile-Quantile plots for age - Men

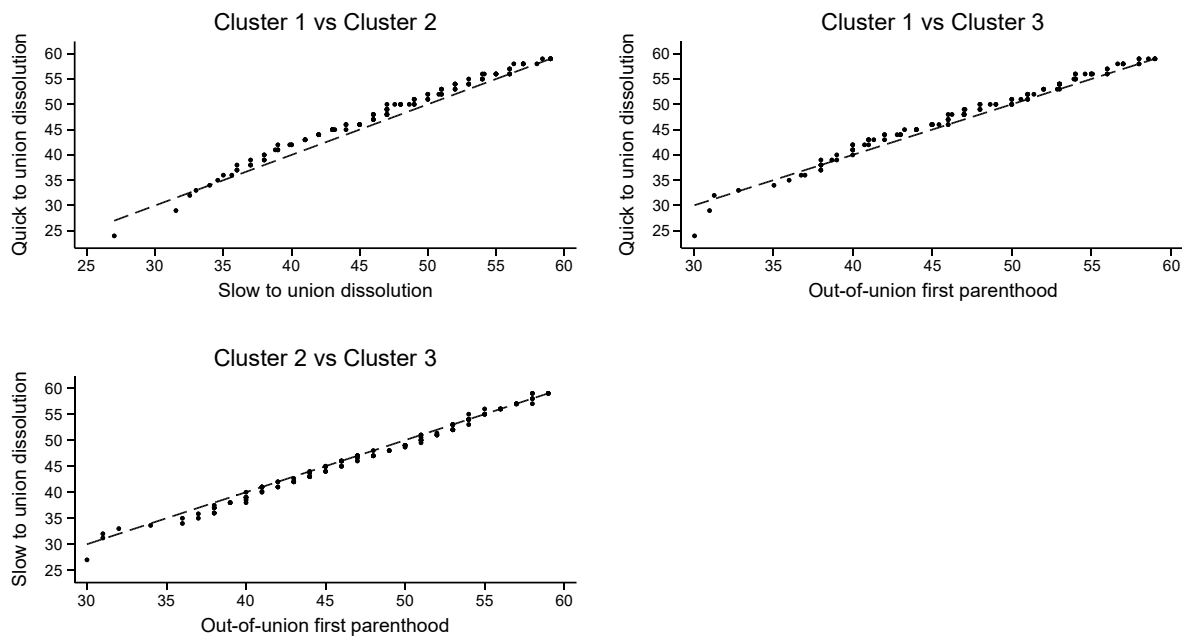


Fig.4: Quantile-quantile plots comparing age distributions between the three clusters for men

Table 2: Correlations between respondents' cluster memberships in the analytical sample and in the alternative sub-samples tested.

	Pearson's Correlation Coefficient		
	Non-stratified sample	Women	Men
Age\geq35	0.91	0.91	0.89
Age\geq40	0.91	0.91	0.89
Age\geq45	0.90	0.90	0.89
Age\geq50	0.90	0.90	0.88
Right-censoring at age 45	0.87	0.87	0.84
Right-censoring at age 40	0.78	0.81	0.72