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ABSTRACT

Objective: This study examines whether life events of ex-partners with a shared child affect each other's mental health.

Background: While prior research has documented interdependencies within intact families, such as between parents and children or within couples, we extend the linked lives concept to separated parents. We argue that parents' lives remain interdependent even after separation, unlike separations between partners without children. Accordingly, life events experienced by the ex-partner (re-partnering, separation, childbirth, cancer diagnosis, death, and parental death) could affect an individual's mental health.

Method: Using Finnish register data and panel data methods (fixed effects, fixed effects with individual slopes, and dynamic difference-in-difference models), we analyze families in which parents separated while their firstborn was a minor. Mental health is operationalized by psychotropic medication purchasing.

Results: Positive life events of the ex-partner, such as re-partnering and childbirth, reduce the probability of the other ex-partner purchasing psychotropic medication. Conversely, negative life events, including the ex-partner's cancer diagnosis and death, increase this probability, with stronger effects observed for women. More distant life events, such as the ex-partner's separation or their parent's death, show no consistent associations.

Conclusion: These findings support the presence of enduring links among separated parents. However, the effects of life events diminish with generational distance and after new partnerships are formed. Current partners' life events have a stronger impact than those of ex-partners throughout.

INTRODUCTION

Parental separation has become a common childhood experience in contemporary societies. In Europe, between 12% and 30% of children experience the dissolution of their parents' union before age 15, with the highest shares found in Western and Northern Europe. In the United States, this proportion is close to 50% (Andersson, Thomson, and Duntava 2017; Eriksson and Kolk 2024). In the Finnish context studied in this paper, approximately 35% of children have experienced parental separation (Kailaheimo-Lönnqvist, Jalovaara, and Myrskylä 2024). These dissolutions negatively affect parents' mental health, as shown in previous research (Kravdal and Wörn 2023; Kühn, Metsä-Simola, and Martikainen 2023; Leopold and Kalmijn 2016). In contrast to separated childless couples, separated parents of minor children usually remain in contact thereafter (Kreyenfeld and Trappe 2020a). While there is scholarly interest in post-separation ties, most studies focus on child care arrangements (Augustijn 2023; Beckmeyer, Markham, and Troilo 2019; Eriksson and Kolk 2024). It remains unclear whether post-separation ties are strong enough for one parent's life events to affect the other's well-being.

Family demographers and life course sociologists often use the *linked lives* framework to conceptualize the interrelatedness of life courses and to examine the extent to which events in the lives of others influence an individual's life (Carr 2018; Elder, Johnson, and Crosnoe 2003). It has been repeatedly documented that the life events (e.g., partnership transitions, changes in health, or unemployment) of close family members, such as an individual's own children or partner, can have an impact on their mental health (P. B. Barr et al. 2018; Han, Kim, and Burr 2021; Uccheddu and Gaalen 2022). However, these studies focus on intact partnerships. To our knowledge, no prior study has examined whether the life events of separated parents affect each other's well-being under the linked lives framework. In contrast, a recent paper by Settersten et al. (2024) even argued

for conceptualizing these relationships as "unlinked lives," despite the recognition that "parental ties are not broken by separation" (Moles-Kalt, Sánchez-Mira, and Bernardi 2024:816).

Beyond theoretical debates, empirical research on how ex-partners' life events affect each other's well-being is largely absent. This is surprising, given their growing prevalence and calls to study family relationships "beyond the dyad" (Carr 2018:54), i.e., to consider the range of social ties beyond the immediate family environment of current spouses and children (Umberson and Montez 2010). The literature increasingly recognizes that new data sources enable the study of more complex linked lives. This is reflected in a growing number of studies of extended families in which, among others, the effects of grandparents or cousins on numerous outcomes, including well-being, are investigated (Møllegaard and Jæger 2015; Sari 2023; Sariaslan et al. 2022). However, despite the availability of increasingly detailed survey data, data limitations may be the reason why the influence of the ex-partner's life events on the mental health of separated parents has not yet been investigated, as examining this influence would require that both parents are followed through the childhood of their child after separation, and that regular data on their life events and mental health are available.

This study tests, for the first time, whether ex-partners' life events still affect each other's mental health. By examining a range of potentially positive and negative life events for mothers and fathers, we assess whether linked lives apply to separated parents, assuming that their common child continues to link the former spouses and shape post-separation contact (see Buyukkececi 2021).

We use Finnish population register data, which provide detailed information on partnerships, marital status and mental health (e.g., medication purchases). We follow 202,704 families in which parents separated during their firstborn's childhood, from age 0 to 17. By following both parents after separation until their child's 18th birthday, we can examine a variety of life events and assess

whether they affected the mental health of the ex-partner, measured by the purchase of psychotropic medication. We first study the associations between the ex-partners' life events and psychotropic medication purchasing using OLS regression. Furthermore, we use two different forms of fixed effects regression models and a recently introduced dynamic difference-in-difference approach to address selection and estimate the impact of these events on psychotropic medication purchasing. These various panel data methods have different estimation strategies for examining within-individual variation in outcomes over time. As all panel data methods have advantages and disadvantages, we have decided to estimate several models and to present results from all of these analytical approaches to evaluate the robustness of our results.

BACKGROUND

Linked lives theory and mental health

In this study, we aim to examine whether links between separated parents are enduring to the extent that the ex-partner's life events can affect the mental health of separated mothers and fathers. The theoretical foundation lies in the linked lives principle. The principle of linked lives originates from the life course theory (Alwin 2012; Elder et al. 2003). This framework has become increasingly influential in motivating and justifying the study of associations between individuals' life events with other people's outcomes. Among the different approaches to understanding the life course (Alwin 2012; Bernardi, Huinink, and Settersten 2019; Fasang, Gruijters, and Van Winkle 2024; Mayer 2023), most stem from the foundational work of Elder (1994, 1995). The principle of linked lives, which is one of the key principles of the life course theory, emphasizes that lives are lived interdependently, and that socio-historical influences are expressed through this network of shared relationships (Elder et al. 2003). More specifically, the linked lives principle specifies the ways in which an individual's life is embedded in a large network of social relationships that

extend across the life course (Carr 2018; Macmillan and Copher 2005). Accordingly, transitions in one person's life can affect the lives of others (Elder et al. 2003). In the literature, examples of social relationships with linked lives include parents, children, siblings, grandparents and grandchildren, friends, co-workers, in-laws, romantic partners, and others (Carr 2018; Kailaheimo-Lönnqvist et al. 2019; Macmillan and Copher 2005; Umberson and Thomeer 2020).

Family members in particular are often the focus of linked lives, because their lives are interconnected at every stage of life. These relationships serve as a crucial source of social connection and influence for individuals throughout their life course (Umberson, Crosnoe, and Reczek 2010). Divorces may generate ex-relationships (Hagestad 1988). However, ex-partners were defined by Settersten et al. (2024) as "unlinked lives," which the authors define as any terminated relationship that was previously in one of the linked lives relationships mentioned above. However, they did not distinguish between ex-partners with common children and childless couples. In this paper, we argue that the child serves as a common bond between the former spouses, influencing their post-separation contact (see Buyukkececi 2021) and contributing to enduring links between them. In particular, parents are expected to maintain strong ties and frequent contact, especially when both parents still have caregiving responsibilities for their children (Masheter 1997). Accordingly, we assume that the child is the key factor that closely links the lives of separated parents, such that each ex-partner's mental health is still affected by the life events experienced by the other.

Mental health has often been examined in previous research as an outcome of transitions in linked lives relationships. Several studies have shown that family relationships in particular have the power to improve or undermine mental health (Carr and Springer 2010; Thomas, Liu, and Umberson 2017; Umberson and Thomeer 2020; Umberson, Thomeer, and Williams 2013). The potential mechanisms underlying these associations discussed in a review by Umberson and Montez (2010)

include behavioral explanations (social relationships are linked to changes in health behaviors), psychosocial explanations (social relationships can provide emotional support), and physiological explanations (social support in relationships can shape stress responses).

Research on mental health outcomes and linked lives has largely focused on how (adult) children's life events affect parental mental health. Studies have shown that parents' mental health is negatively impacted by their children's union dissolution (Kalmijn and De Graaf 2012; Ko and Sung 2022; Tosi and Albertini 2019; Uccheddu and Gaalen 2022), but is positively affected by their children's marriage (Kalmijn and De Graaf 2012). The findings on the effects on parents' mental health of their children's parenthood are mixed (A. B. Barr et al. 2018; Kalmijn and De Graaf 2012). Children's health-related life events, especially substance use and health problems, have been shown to be detrimental to parents' mental health (Bishop et al. 2023; Greenfield and Marks 2006). For the pathway from parents to children, the evidence suggests that parental health limitations are associated with increased loneliness in their offspring (van den Broek and Grundy 2018). While studies of intact couples show that spousal disability affects the other partner's mental health (Han et al. 2021), we are not aware of any studies that have explored how the life events of ex-partners with shared children impact each other's well-being. However, these numerous studies on child-parent linkages suggest that the child could be the most important mechanism for explaining the potential effects of ex-partners' life events.

Life events and effects on the ex-partner

Union dissolution, especially in families with children, requires a "reorganization of roles and relationships" (Cox and Paley 1997:255). The first few years after a couple's separation are considered a key period for redefining family relationships (Hetherington 2003). In this paper, we test the hypothesis that parents remain connected in their post-separation roles because they have a

child together. More specifically, we want to examine the influence of one person's life events on the mental health of the ex-partner with whom they have a child. Such findings would support the idea of parents' linked lives after separation, and the assumption that former spouses who are parents should be considered as active network partners who can influence individual life courses (see Buyukkececi 2021). This is supported by Thomas et al. (2018), who suggested that "where shared children are involved, the simple expectation of post-separation independence is unlikely to hold – particularly in societies where shared parental custody and the involvement of fathers in childcare are commonplace" (Thomas et al. 2018:465). Moreover, psychological family systems theory (Cox and Paley 1997) has argued that parents and their children continue to form a family system after parental separation (Beckmeyer et al. 2019; Drapeau et al. 2024).

Despite this, the research on the relationship of separated parents is scarce. Buyukececi (2021) is one of the few who have investigated this issue by examining whether individuals' re-partnering behavior is shaped by the re-partnering behavior of former spouses (i.e., the re-partnering of an individual increases the likelihood of their ex-partner also re-partnering).

Much of the previous research on life in post-separation families with children (see Kreyenfeld and Trappe 2020b) examined the extent to which parents remain involved in their children's lives after separation. There are numerous studies on post-separation care arrangements (Augustijn 2023; Beckmeyer et al. 2019; Eikrem and Jevne 2022; Moore 2020), parental contact with children after separation (Baude et al. 2023; Moles-Kalt et al. 2024; Nixon and Hadfield 2018; Walper et al. 2020), and parental mobility and proximity to the child after separation (Das, de Valk, and Merz 2017; Thomas et al. 2018). However, our study is the first to examine how ex-partners with a shared child continue to mutually influence each other following separation. More specifically, we focus on life events that we know from previous research can have a strong influence on either an

individual's own mental health or the mental health of the non-separated partner. These life events include partnership transitions (re-partnering and separation from a new partner), childbearing, death and death of a parent, and a cancer diagnosis. We study this wide range of life events as they are all are essential transitions that can affect parental mental health. Exploring these events to examine whether parental lives are linked post-separation can reveal how potentially beneficial and detrimental events in the life of one ex-partner can affect the other ex-partner's mental health. The life events we examine in this work can be categorized along two dimensions. The first dimension is whether an event is mainly positive or negative for mental health. The second dimension focuses on the proximity of the event, which includes both temporal and emotional proximity. For example, we consider an ex-partner's re-partnering after the initial separation more proximate than an ex-partner's separation from their new partner, and an ex-partner's death more proximate than an ex-partner's parent's death.

Partnership transitions

Re-partnering of the ex-partner is the first partnership transition the ex-partner can experience after the initial separation, we consider this a rather proximate life event. Previous research has found that individuals are increasingly likely to re-partner after a separation (Elzinga and Liefbroer 2007), but it has also been shown that the likelihood of re-partnering is substantially lower among parents than among those without children (Di Nallo 2019). The literature suggests that when an individual re-partners, it has a substantial impact on the people in their social network (Bildtgård and Öberg 2017). Buyukececi (2021) showed that the re-partnering of an ex-spouse has an impact on individuals' re-partnering behavior. However, the effect of the re-partnering of an ex-spouse on individuals' mental health has not been previously investigated.

The re-partnering of the ex-partner could be viewed as a rather positive life event, given that it could improve both parents' mental health. A more stable family environment for the ex-partner could have a positive effect on the child and improve the well-being of both parents. For example, due to the sharing of tasks and contributions to parenting by the new partner in the ex-partner's household, the ex-partner might have more time to spend with the child (Amato & Anthony, 2014; Steele et al., 2009), which could increase the well-being of the child and of both ex-partners. Such positive effects have been shown in several studies (Bildtgård and Öberg 2017; Erola and Jalovaara 2017; Helgertz and Tegunimataka 2024).

However, the re-partnering of the ex-partner could also have a negative effect on the other parent's mental health. This could be due to changes in the co-parenting dynamic, as the ex-partner shares a household with a new partner who likely contributes to parenting to some extent, which might cause conflict between the ex-partners. In addition, individuals may view their partners as relevant comparative references (Brines and Joyner 1999). According to relative deprivation (Bernstein and Crosby 1980) and social comparison theory (Festinger 1954), an ex-partner's re-partnering could be detrimental to an individual's well-being, especially if they have not yet re-partnered.

Separation from a relationship with a new partner can only be experienced after the ex-partner has re-partnered. Therefore, we consider this a rather distant life event. In the literature, union dissolution is generally defined as a rather negative life event, and this could also apply to the separation of an ex-partner from their new relationship. A separation can reintroduce household instability and reduce financial resources in the ex-partner's household, which may increase stress and anxiety for both parents. Moreover, changes in family structure are generally associated with negative outcomes for children (Helske et al., 2024; Fomby & Cherlin, 2007; Waldfogel et al., 2010), and potential mental health deterioration among children could spill over to parents. However, the

dissolution of an ex-partner's new union may also reduce co-parenting stress if the new partner had been a source of conflict, for example, by interfering in parenting decisions.

Childbearing in a new partnership

The next transition of an ex-partner with a common child, and its mental health implications, that we examine is the ex-partner *having a child with a new partner*. This is likely to be an emotionally proximate life event, as it might be seen as a strong indicator that the ex-partner has formed a new family, while re-partnering after a separation might be interpreted as a less committing, and thus less stable, transition. Having a child in a post-separation relationship is increasingly common, though estimates of multi-partner fertility are considerable higher for women than for men (Fomby and Osborne 2017; Guzzo 2014; Stykes and Guzzo 2019). While previous research has examined childbirth as a crucial event linking the lives of current partners (Grunow and Evertsson 2021; Ranta et al. 2023), to our knowledge, no previous research has examined how the ex-partner having a new child might affect individuals. In the literature, the birth of a new child is considered a rather positive life event with beneficial mental health and well-being consequences in the short term (Myrskylä and Margolis 2014), although gender-stratified analyses have shown that such improvements are mainly observed for women (Di Nallo 2025). There is some reason to assume that the birth of a child to an ex-partner could also be associated with positive effects, though this possibility remains underexplored. First, an improvement in the ex-partner's mental health following the birth may indirectly benefit both the child and the other parent. Second, the arrival of a new child can contribute to the stabilization of co-parenting arrangements. The presence of a new child may create a more stable and harmonious household for the ex-partner, which can have positive effects on the overall family dynamics and reduce stress for both separated parents.

However, the birth of a new child may also be detrimental to the mental health of the ex-partner as the focus may shift to the new family unit. Accordingly, the birth of a new child to an ex-partner could lead to increased stress on co-parenting dynamics, including conflicts over the allocation of parenting time and parenting styles, which are important issues for separated parents even without considering the ex-partner's life events (Beckmeyer et al. 2019; Juby, Le Bourdais, and Marcil-Gratton 2005; Steinbach, Augustijn, and Corkadi 2021). The birth of a new child might affect the ex-partners' parenting and parenting styles because the new partner then also becomes a parent and starts engaging in active parenting, which may in turn affect the co-parenting of the ex-partners and cause conflicts. It can also lead to financial burdens because the ex-partner has to distribute financial resources to children from both their old and their new relationship.

Health and death

The *cancer diagnosis* of an ex-partner with a shared child can be an event with profound negative effects on an individual's mental health. Conceptually, this is a strongly negative and proximate life event, as it involves the child's other parent and often leads to immediate changes in caregiving responsibilities and emotional distress. Research suggests that the diagnosis of a parent with cancer affects the whole family, especially if there are minor children in the family (Weaver et al. 2010). However, only intact families have been studied (Edwards and Clarke 2004). It could be expected that this forced restructuring of parenting responsibilities when one separated parent is diagnosed with cancer would also affect the ex-partner. The ill parent may be too sick to care for the child, requiring the other parent to take on additional responsibilities. In such cases, the effects on the mental health of the ex-partner of the parent with cancer could be due to parenting concerns, i.e., fears about whether the parent who does not have cancer will be able to adequately fulfill their parenting role with no or greatly reduced support from the parent who has cancer (Li, Ye, and Liu

2024; Rauch and Muriel 2004; Weaver et al. 2010). In addition to this practical burden, many parents may struggle with how to communicate with their child about their (ex-)partner's illness (Weaver et al. 2010), which may place further strain on the parent's and the child's mental health.

The *death* of an ex-partner can be categorized as a negative and proximate life event for an individual, especially when the deceased ex-partner was also their child's other parent. The extent to which the death of a current partner can have an impact on the ego's mental health (Sasson and Umberson 2014), or even on the mortality of the ex-partner in the sense of the "widowhood effect" (Elwert and Christakis 2008; Vable et al. 2015), has been extensively discussed and examined in previous research. Many of the theoretical arguments that point to an effect of widowhood on mental health can also be applied to effects on ex-partners. It can be assumed that the mechanisms discussed in the literature, such as adjustment to new social roles and new tasks in family management (Carr and Utz 2001; Umberson, Wortman, and Kessler 1992), are more pronounced for individuals who shared a minor child with their deceased ex-partner. The death of the ex-partner causes many changes to everyday life in post-separation families, as the remaining parent becomes a sole parent. This end of coparenting may lead to a decline in the mental health of the surviving ex-partner. Moreover, the decline in the surviving ex-partner's mental well-being may be partly explained by negative effects on the mental health of the then half-orphaned child, as parental death is linked with mental health problems in children (Li et al. 2022; McKay et al. 2021).

The *death of a parent of an ex-partner* with whom an individual has a shared child could also have an impact on the individual's mental health. The event is best conceptualized as negative and rather distant, as the deceased is not directly linked to the ego, but the repercussions – most likely via the child – can nonetheless have a substantial impact on the ex-partner. This is because over the short term, the ex-partner's own mental well-being and parenting resources may be affected by grief, as

it has been shown that the death of a parent can lead to depressive symptoms in adults (Kamis, Stolte, and Copeland 2022). Moreover, the death of a grandparent is also known to lead to depressive symptoms in children (Livings et al. 2022), which can in turn have a negative impact on the mental health of the separated parent. The death might also have long-term consequences, as the ex-partner may have lost a member of their childcare support network, which could have negative effects on their mental health. However, the death of a parent-in-law is a very understudied topic. To the best of our knowledge, there is no study that has examined the mental health impact of the death of a parent-in-law.

The Finnish context

Levels of contact between parents following a separation, and especially of father-child contact, vary considerably. Factors that predict contact trajectories include socioeconomic status, a new partner in the mother's life, and the quality of the interparental relationship (Baude et al. 2023). Interdependencies between separated parents may arise primarily in a context where co-parenting is increasingly becoming a cultural ideal (Eikrem and Jevne 2022; Westerling 2016). Following Hakovirta et al. (2023), a joint physical custody (JPC) arrangement is one in which a child spends at least one-third of their time with each parent. This implies that in contexts with higher JPC rates, there is more contact between separated parents, and in turn a stronger bond in the sense of linked lives. Based on EU-SILC (2021) data, it has been shown that 24% children in separated families in Finland are in JPC arrangements (Hakovirta et al. 2023). This share is larger than in most other European countries, with only Sweden having a considerably higher proportion of JPC arrangements. Another study based on data from the Health Behaviour in School-aged Children study (2002, 2006, 2010), which compared symmetric JPC arrangements (i.e., spending exactly the same amount of time with each parent), showed that the proportion of children in Finland (5.2%) in such

arrangements was only slightly higher than that in the US (4.9%) (Steinbach et al. 2021). Since Finland is neither a particular upward outlier (like Sweden) nor a particular downward outlier (like, among others, Italy), we assume that our results can be generalized to most Western countries. It should, however, be noted that due to increases in JPC arrangements over time in almost all contexts, there are large differences across child cohorts.

Hypotheses

We distinguish between two key dimensions of ex-partners' life events: (1) their valence (positive or negative), and (2) their proximity (proximate or distant). Here, proximity refers to both emotional closeness and relevance to the shared family context. We classify the life events as follows:

Table 1: Classification of ex-partner's life events

	Proximate	Distant
Positive	Re-partnering Childbirth	
Negative	Death Cancer diagnosis	Separation Death of parent

These life events are expected to influence the mental health of the ex-partner through changes in the well-being and stability of their household, which may in turn affect co-parenting dynamics and the child's well-being. From that expectation, we derive the following hypotheses:

Hypothesis 1: Positive life events of the ex-partner that are also close in proximity – such as re-partnering and having a child – are positively related to mental health. These life events may increase the well-being of the former partner, which can in turn positively contribute to their well-being by increasing their family stability and the available resources for the child.

Hypothesis 2: Negative life events of the ex-partner that are also in close proximity – such as a separation from a new partner, a cancer diagnosis, or death – are negatively related to mental health, as these events may decrease the well-being of the former partner and reduce their household resources.

Hypothesis 3: Negative life events of the ex-partner that are most distant – such as the death of the ex-partner's parent – are also negatively related to mental health, as they may reduce the well-being of the former partner and decrease their social support, which may in turn affect the well-being of the child. However, we expect that the strength of this association is weaker compared to that of events with closer proximity.

DATA AND METHOD

Data

We use Finnish total population register data on 675,208 married or cohabiting couples who had their first common biological child in 1987-2001, and who had no children from previous relationships, and follow them until the child's 18th birthday. Focusing on the first child of both parents enables comparability across families. Given the increasing prevalence of non-marital cohabitation (Hiekel, Liefbroer, and Poortman 2014), and the fact that between 40% and over 50% of firstborn children in our study cohorts were born outside of marriage (Official Statistics of Finland 2021), we include both married and non-marital cohabiting couples. Only couples who lived together for at least 90 days are defined as cohabiting.

We restrict our sample to those couples who were living together at the time of the child's birth, but who separated during the first 18 years of the child's life. This reduces the sample to 202,704 couples. We censor families after the death of both partners or after the death of their first child.

Because we are interested in mental health as an outcome, but know that there are common patterns of mental health trajectories in the years surrounding a separation, we conduct sensitivity analyses with further restrictions on the sample period. Since the majority of studies examining mental health trajectories around union dissolution show that mental health significantly improves again after a decline in the two years following separation because the family conflict is solved by

separation (Kalmijn 2017; Kravdal and Wörn 2023; Kühn et al. 2023; Leopold 2018; Metsä-Simola and Martikainen 2013), we focus only on life events of the separated parents that occur at least two years after separation in these sensitivity analyses. The results do not show substantially different patterns compared to the analyses without these restrictions.

Information on cancer diagnoses was obtained from administrative registers of the Finnish Institute of Health and Welfare, and data on demographic and socioeconomic factors of parents and children were obtained from Statistics Finland. These data were linked by Statistics Finland using personal identification codes assigned to all permanent residents (Ethics committee of Statistics Finland permission TK/23/07.03.00/2024, U0256_C_22; Findata permission THL/6303/14.06.00/2023).

Variables

Psychotropic medication

The mental health of the parents in our sample is assessed through their purchases of psychotropic medication. In Finland, psychotropic medication can only be obtained with a medical doctor's prescription. As psychotropic medication is always prescribed by medical professionals, its use is based on an objective clinical assessment. Therefore, changes in the use of such medication indicate changes in mental health that are not only perceived by the individuals themselves, but also have direct implications for the provision of medical care (see Metsä-Simola and Martikainen 2014). All residents of Finland are entitled to partial reimbursement of medication costs, and products intended for use in the next three months can be reimbursed simultaneously. The reimbursement is deducted at the time of purchase at the dispensing pharmacy, and the relevant information is transmitted electronically to the Social Insurance Institution of Finland (Sihvo et al. 2010). We include purchases of all psychotropic medication, i.e., all psycholeptics and psychoanaleptics (ATC-codes N05 and N06), excluding medication for dementia (N06D), recorded between 1987

and 2020, following previous research (Metsä-Simola and Martikainen 2013; Metsä-Simola, Martikainen, and Monden 2018).

Partnership transitions

The partnership transitions of the ex-partner that we focus on are re-partnering and separation. We do not distinguish between cohabiting and married relationships. The only restriction on re-partnering is that it must be with a new partner and does not include reconciliation. The separation events we examine are dissolutions of such new partnerships. Individuals are considered to be re-partnered as long as they are together with their new partner, and are considered to be separated as long as they are single after separation from a new partner.

Childbearing in a new partnership

In the transition of the birth of a new child of the ex-partner, we focus only on biological children of the ex-partner whom the ex-partner had with a new partner. For this transition, we do not consider the relationship status of the ex-partner and the other biological parent of the new child.

Health and death

We also examine the transition of an ex-partner to a cancer diagnosis or death. The indicator for cancer diagnosis is derived from data on visits to inpatient or specialized outpatient care, i.e., all hospital-level care in Finland, maintained by the Finnish Institute for Health and Welfare. Cancer diagnoses are identified on the basis of ICD-10 (International Classification of Diseases, 10^{th} revision) codes in the inpatient/outpatient data (ICD-10 cancer codes: C00-C97). In the data, we have information on the dates of death of ex-partners and ex-partners' parents, and focus on the year of death as the year of transition.

Method

As we base our analyses on panel data, and are interested in examining the trajectories of the probability of purchasing psychotropic medication of the ego around the life events of the ex-partner. We can use different methods to control for unobserved heterogeneity. Due to the broad conceptual approach of this paper, in which we look at a wide range of life events to provide initial insight into the phenomenon of linked lives of separated parents, we decided to test the phenomenon in all transitions using multiple panel data analysis methods to ensure that the results are robust and not artifacts of method selection. In all approaches, the models are based on a time-event function, in which we estimate the change in the outcome before and after the event using linear probability models. We use this type of time-dynamic estimation strategy because it is likely that the impact of the life course events we examine are dynamic in the sense that they either fade out after the main transition or even unfold over time. The models are estimated as

$$p_{it} = \sum_{dur=-3}^{6} \beta_{dur} D_{i,t}^{dur}$$

where p_{it} is the probability for psychotropic medication purchasing for individual *i* in year *t*. $D_{i,t}^{dur}$ is a set of dummy variables indicating the years since the ex-partner's life event year (negative before the event year). For example, dummy variable $D_{i,t}^{1}$ indicates being at one year after the year of the ex-partner's life event. Coefficients range from three years before the ex-partner's life event to five years after the life event. The reference is the year before the life event.

Pooled OLS

In addition to the panel data methods that estimate within-person changes in the probability of purchasing psychotropic medication, we estimate pooled OLS (POLS) models. For each life event we study, we estimate a POLS model based only on those parental couples in which one parent

experienced the respective life event. This sample of the treated is the same as the sample we use for the fixed effects (FE) analyses, in which we are only interested in investigating the within-individual changes in the outcome among those who experienced the respective life event.

Fixed effects

Second, we use panel FE regression based on a linear probability model to estimate the impact of the ex-partner's life events on the ego's probability of purchasing psychotropic medication. FE estimators rely on within-person variation. Since mental health (and also the measure of psychotropic medication) is known to vary with age, both individual and age fixed effects are included in the models. Some authors call these two-way fixed effects, as the models isolate variation within individuals and within age groups.

Callaway and Sant'Anna DiD

In addition to the FE models, we estimate changes in the outcome using the Callaway and Sant'Anna (2021) Difference-in-Differences (DiD) method. Controlling for age dummies in the FE models reduces bias. However, these models account for age-specific shocks that affect all individuals similarly, and if these shocks are not accounted for, they may bias the estimate for the treatment if it is correlated with age. Recent literature has shown that two-way fixed effects can be biased under specific circumstances of treatment heterogeneity (Callaway and Sant'Anna 2021; Sun and Abraham 2021). As an example, consider two individuals (A and B) who experience the same life event, but at different ages (A at age 30, B at age 35). In the FE approach with age control, the outcome would be compared when only person A has experienced the event (e.g., at age 31) and when both persons have experienced the event (e.g., at age 36). However, this approach assumes that the event affects both individuals in the same way, regardless of the age at which they experience it, which may not be the case. The Callaway and Sant'Anna DiD method

addresses this problem by comparing individuals who have experienced the event only to those of the same age who have not yet experienced it. This ensures a more accurate comparison by considering the timing of the event and the individual's life stage. While previous research has shown that the results of the two methods do not differ substantially when an event-time function is applied (Rüttenauer and Aksoy 2024), using both methods strengthens the robustness of our findings.

FEIS

Furthermore, we use the fixed effects individual slopes (FEIS) estimator. This version of the FE estimator allows us to control for heterogeneous slopes in addition to time-constant heterogeneity (Ludwig and Brüderl 2018; Polachek and Kim 1994; Rüttenauer and Ludwig 2020). In our study, FEIS isolates the effect of the ex-partner's life events on the ego's probability of purchasing psychotropic medication, while also accounting for potential non-parallel trends between individuals who experience the event earlier versus later or not at all. This helps to control for selection into experiencing an ex-partner's life event based on differences in pre-existing medication trajectories.

RESULTS

Descriptive results

Table 1 presents descriptive statistics for the analytical sample, showing the number of individuals who experienced each transition and the share of these individuals out of all individuals who experienced separation with a child. We also present the mean age at the ex-partner's life event, the mean age of the child when the ex-partner experienced the event, and the proportion of individuals purchasing psychotropic medication at the time of the event. These characteristics are reported separately for mothers and fathers across different ex-partner life events. The most common transition of an ex-partner that individuals experienced was re-partnering, which was experienced by 34% of mothers and 33% of fathers. In contrast, events such as cancer or death of an ex-partner

were less common. Mothers experienced their ex-partner's life events at a younger age than fathers across all event types. The mean age at the event ranged from 34 years (for the birth of the ex-partner's new child) to 39 years (for the ex-partner's cancer diagnosis) for mothers and from 35 to 42 years for fathers. Children's age at the time of the event followed a similar pattern. Children were slightly older when fathers experienced their ex-partner's life events compared to when mothers experienced these events. The probability of purchasing of psychotropic medication at the time of the event varied by type of event and by gender. The highest rates were observed for mothers and fathers whose ex-partner died (25% and 19%, respectively), and the lowest rates were found for mothers and fathers whose ex-partner had a new child (17% and 12%, respectively). In general, mothers showed a higher prevalence of psychotropic medication purchasing than fathers across all events.

Table 2: Descriptive statistics

	N	%	Age at event (mean)	Age at event (SD)	Child age at event (mean)	Child age at event (SD)	Psychotropic medication at event (%)
Mothers							
Ex-partner re-partnered	68117	33.6	34.8	6.3	9.7	3.8	18.2
Ex-partner separated	38041	18.8	35.4	6.3	10.6	3.8	18.3
Ex-partner childbirth	43233	21.3	33.9	5.8	9.4	3.8	17.5
Ex-partner cancer	1679	0.8	39.1	6.7	11.6	4.1	20.2
Ex-partner died	4715	2.3	36.9	7.2	10.9	4.3	25.3
Ex-partner death parent	28843	14.2	37.4	6.6	11.0	4.2	18.8
Fathers							
Ex-partner re-partnered	66179	32.6	36.7	6.5	9.6	3.8	13.0
Ex-partner separated	34278	16.9	37.7	6.6	10.9	3.8	13.3
Ex-partner childbirth	47245	23.3	34.8	5.9	8.6	3.6	12.2
Ex-partner cancer	2502	1.2	41.5	6.9	11.8	4.0	14.6
Ex-partner died	1219	0.6	40.9	7.3	11.7	4.0	19.1
Ex-partner death parent	26013	12.8	39.9	6.9	11.1	4.2	14.4

Main analyses

Family-related events

Figure 1 presents the time-to-event estimators for the life events of an ex-partner with a common child that relate to the formation or dissolution of a post-separation family. These events include

the ex-partner's re-partnering, the birth of a new child, and the ex-partner's separation from a new relationship.

Both the ex-partner's re-partnering and the birth of a new child reduced the probability of purchasing psychotropic medication for separated mothers and fathers. Within-person estimators indicated a significant decrease in the probability in the years after the event compared to in the year before the ex-partner experienced the event. For mothers, the effect of both an ex-partner's re-partnering and the birth of a new child persisted for several years, whereas for fathers, the changes were more short-lived.

Notably, POLS estimators diverged substantially from within-individual estimators, particularly for mothers. For example, POLS suggested an increase in the probability of purchasing psychotropic medication following an ex-partner's re-partnering, contradicting within-individual estimators. A likely explanation is that mothers whose ex-partner re-partnered may have already had a higher baseline likelihood of purchasing psychotropic medication, as shown in Table 2. Since POLS captures these baseline differences, it may overestimate increases in medication purchasing. In contrast, within-individual estimators account for time-invariant individual differences, better isolating the event's actual impact.

The effects of an ex-partner's separation from a new relationship on the probability of purchasing psychotropic medication were less clear for mothers and fathers. As shown in Figure 1, the coefficients suggest no systematic change in the probability following this event.

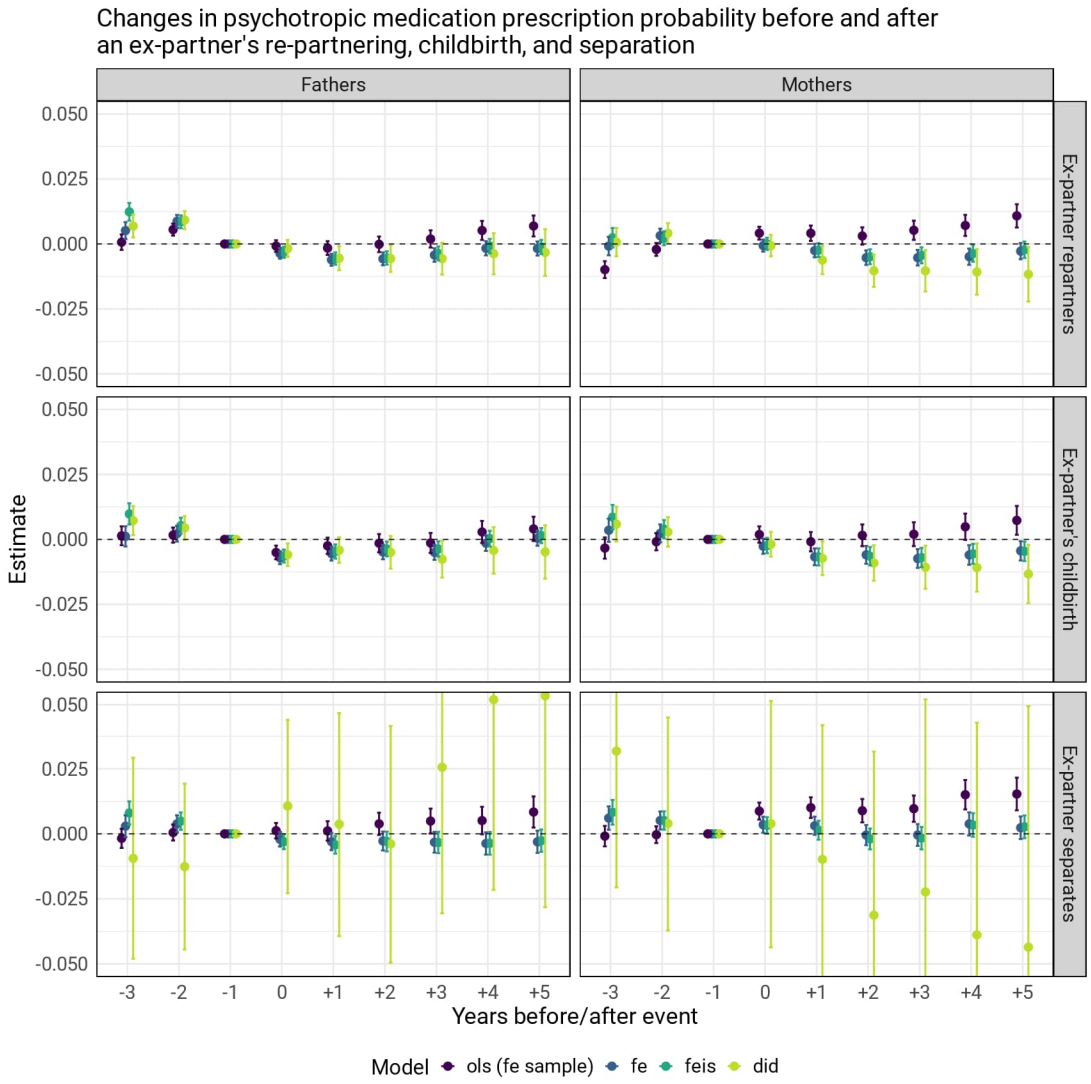

Figure 1: Changes in the probability of being prescribed psychotropic medication before and after an ex-partner's re-partnering, childbirth, and separation

Death- and health-related events

Figure 2 presents the time-to-event estimators for life events of an ex-partner with whom an individual had a common child that relate to health shocks (cancer) or death. These events include the death of an ex-partner's parent (i.e., a grandparent of the shared child), an ex-partner's cancer diagnosis, and an ex-partner's death. No systematic changes in the probability of purchasing psychotropic medication were observed before or after the death of an ex-partner's parent across all mothers. Although FEIS models indicated a decline in the probability for both mothers and fathers

after this event, this pattern was not consistently supported by FE, DID, and POLS models. While all models considered age, they did so differently: the FE model, for example, used age dummies to account for common non-linear age effects, whereas the FEIS model allowed for individual-specific linear age slopes. This flexibility means that FEIS could adjust for person-specific changes in psychotropic medication use that might otherwise appear as event-related changes in FE. The decline observed in FEIS estimates – particularly among fathers – may reflect such individual age-related decreases in medication use or differences in how individuals adjusted their behavior in response to the death of an ex-partner's parent, for example, through increased contact with the shared child or changes in caregiving routines. These patterns may be better captured by FEIS than by standard FE models.

In contrast, an ex-partner's cancer diagnosis was followed by a short-term increase in the probability of purchasing psychotropic medication among women, a pattern that was consistent across all models. However, no significant increase remained two years after the event compared to the reference year before the event. Fathers showed similar trends, but the estimated effects were about half the size of those for women, and not all models produced significant estimates.

The most pronounced effect was observed following the death of an ex-partner. For mothers, all models consistently estimated an increase of approximately five percentage points in the probability of purchasing psychotropic medication in the year of the ex-partner's death compared to in the preceding year. In subsequent years, the probability returned to pre-event levels. Fathers exhibited a similar pattern, but not all models showed statistically significant changes in the year of the event. Instead, when considering all models, the effects for fathers more closely resembled those observed after an ex-partner's cancer diagnosis.

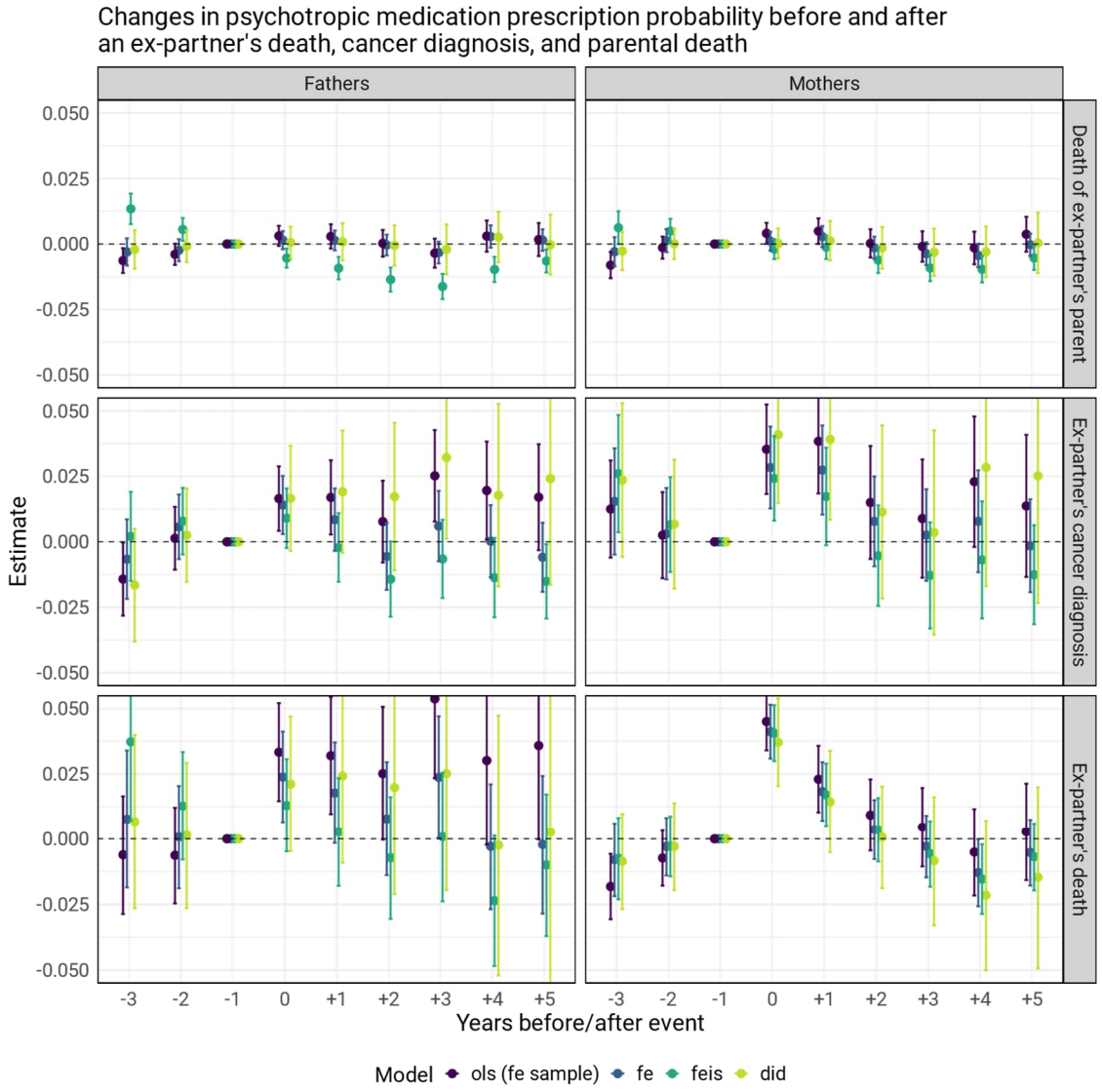

Figure 2: Changes in the probability of being prescribed psychotropic medication before and after an ex-partner's death, cancer diagnosis, and parental death

Additional analyses

Comparison with transitions of never-separated and not-yet-separated families

We conducted additional analyses comparing the models presented above to similar events in families in which the parents remained together throughout the firstborn child's childhood and in families in which the parents eventually separated, focusing on the period before the separation occurred. However, not all transitions could be analyzed across these groups. For example, a

partner's re-partnering was not applicable in never-separated couples, and a partner's death could not be examined in the pre-separation period for couples who later dissolved their union. Consequently, we present models for all three groups only for the death of an (ex-)partner's parent and an (ex-)partner's cancer diagnosis. For the death of an (ex-)partner, we include only the never-separated and already-separated parental couples.

Figure 3 shows changes in the probability of purchasing psychotropic medication before and after the death of an ex-partner's or current partner's parent. The bottom row replicates the models from Figure 2, capturing cases in which the parents were already separated. The second row presents models for parents who were still together but later separated (i.e., not-yet-separated parents). Results from these models closely resembled those for separated parents, showing no substantial changes in the probability of purchasing psychotropic medication following the partner's death. The top row displays models for never-separated parents. While the results for fathers remained inconsistent across groups, the point estimates for mothers suggested a slight increase in the probability of purchasing psychotropic medication in the years following the death of a current partner's parent. However, these changes were minor.

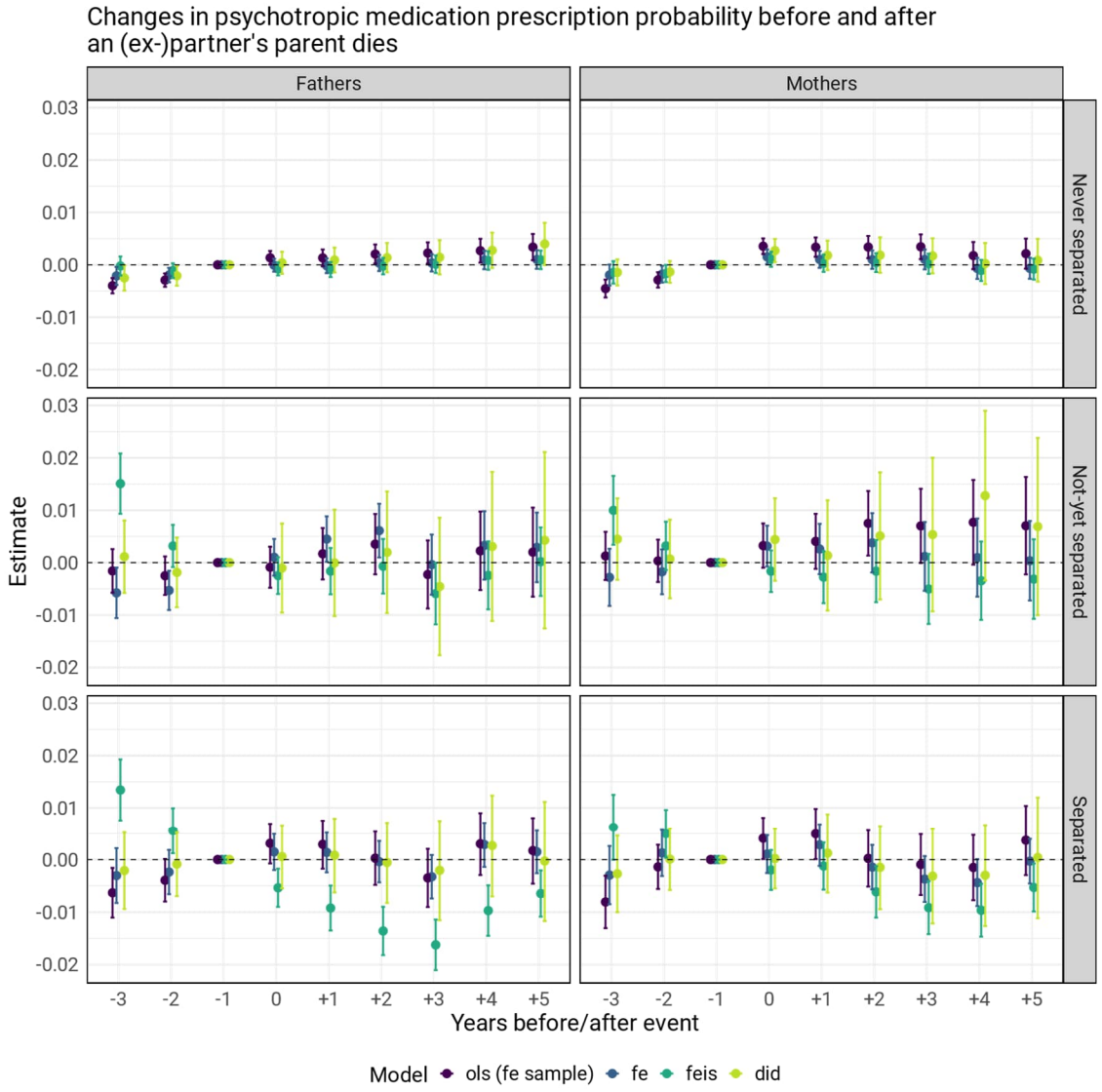

Figure 3: Changes in the probability of being prescribed psychotropic medication before and after an ex-partner's and a current partner's parent dies

Figure 4 shows changes in the probability of purchasing psychotropic medication before and after an ex-partner's or current partner's cancer diagnosis. The bottom row replicates the models from Figure 2, capturing cases in which the parents were already separated. The second row presents models for parents who were still together but later separated (i.e., not-yet-separated parents). Among the fathers in this group, the probability of purchasing psychotropic medication increased significantly in the year of the diagnosis, with slightly stronger and consistently significant

coefficients. This suggests that when a current partner – whom the father would later separate from – was diagnosed with cancer, his probability of purchasing psychotropic medication increased.

For mothers in not-yet-separated relationships, the increase in the probability of purchasing psychotropic medication at the time of the diagnosis was similar to that of separated mothers. However, rather than stabilizing, the increase became more pronounced in the following year before returning to pre-event levels in the subsequent years.

Among never-separated parents, a partner's cancer diagnosis had a small but lasting impact on fathers, leading to a significant increase in the probability of purchasing psychotropic medication in the year of diagnosis and the year after. In later years, the point estimates remained positive, though some models did not produce significant results at any of the time points. For mothers in never-separated relationships, the probability of purchasing psychotropic medication increased significantly, with the effects being approximately twice as strong as those observed for fathers. This increase persisted across all models for up to two years after the diagnosis.

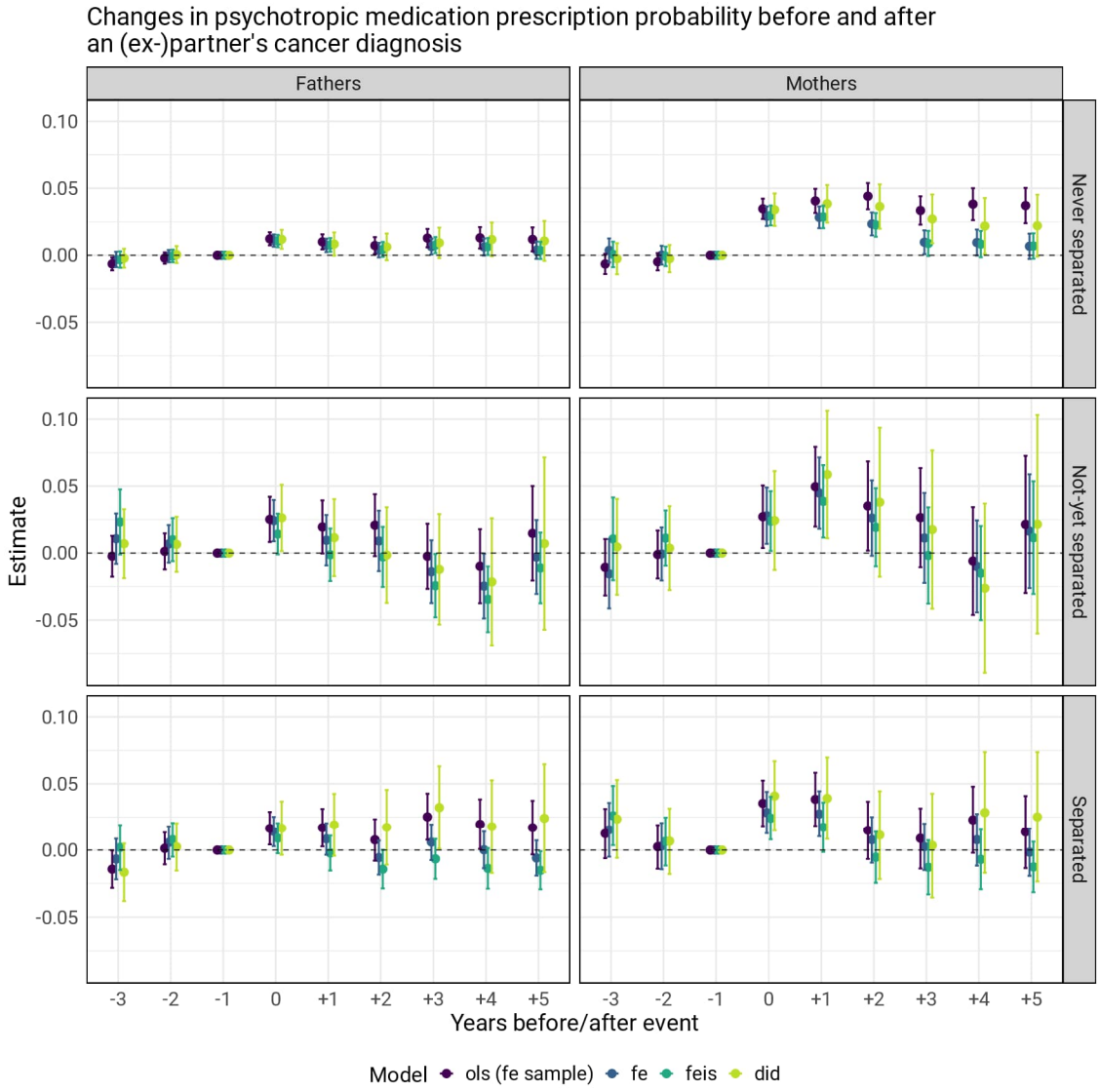

Figure 4: Changes in the probability of being prescribed psychotropic medication before and after an ex-partner's and a current partner's cancer diagnosis

Figure 5 shows changes in the probability of purchasing psychotropic medication before and after the death of an ex-partner or a current partner. The bottom row replicates the models from Figure 2, showing results for parents who were already separated. The top row shows models for parents who were still together at the time of the partner's death (i.e., never-separated parents).

Among never-separated parents, the death of a partner had a lasting impact on the probability of purchasing psychotropic medication for fathers. All models showed a significant increase in the

probability in the year of the event and the year after. While the point estimates remained positive in later years, not all models still showed significant coefficients. For mothers in never-separated relationships, the increase in the probability was approximately twice as high compared to that for fathers, and remained significant across all models for up to three years after the partner's death. While the point estimates remained positive beyond this period, not all models produced significant results.

For both mothers and fathers, the impact of a current partner's death on the probability of purchasing psychotropic medication was significantly greater than the impact of an ex-partner's death. Across all four models, results were highly consistent at all time points. The trajectory patterns were similar for both genders: the largest increase occurred in the year of the partner's death, followed by a decline. However, the effect sizes were substantially larger for mothers. In the year of a current partner's death, the probability of purchasing psychotropic medication increased by approximately 15 percentage points for mothers and 10 percentage points for fathers. Notably, this increase for fathers was still twice as high as the increase for mothers following the death of an ex-partner with whom they had a shared child.

For mothers, the probability of purchasing psychotropic medication remained significantly higher than pre-event levels in all models, even three years after the death of a current partner. For fathers, pre-event levels were reached again two years after the event. Overall, there were clear differences between never-separated and separated parents. However, even in the case of an ex-partner's death, all models consistently showed a significant increase in psychotropic medication purchasing for mothers.

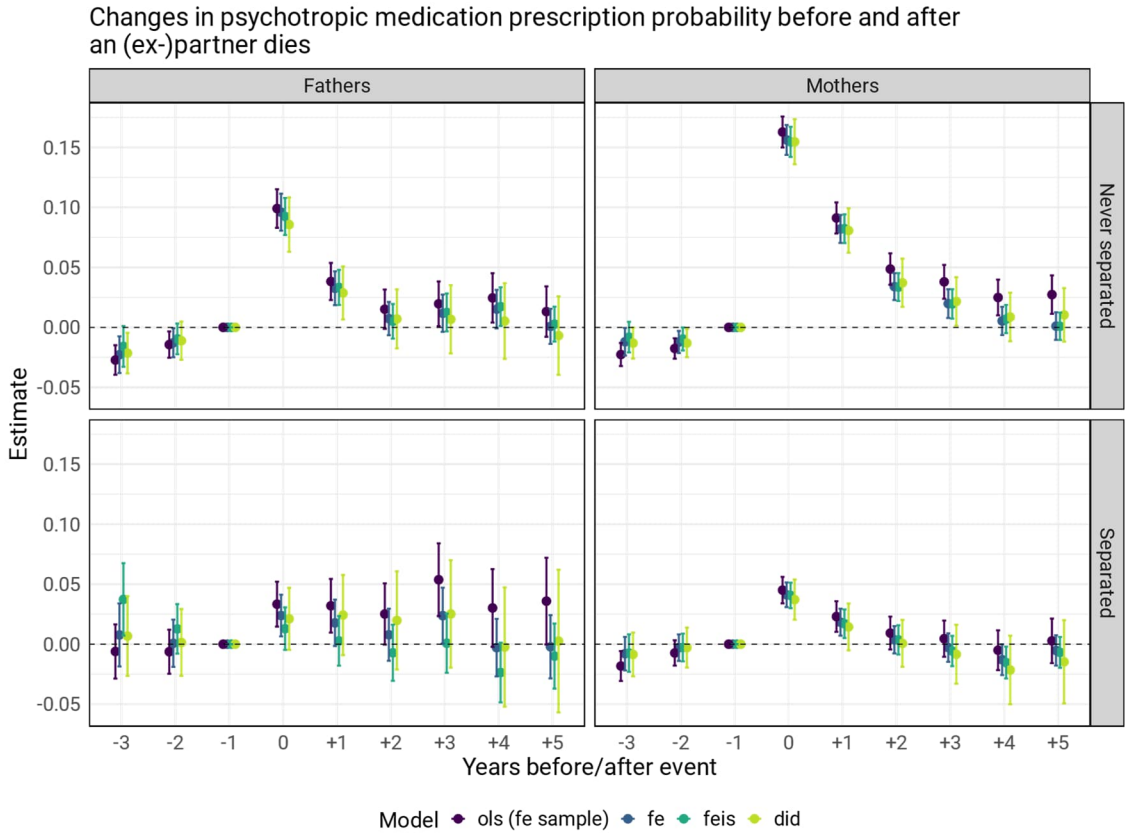

Figure 5: Changes in the probability of being prescribed psychotropic medication before and after an ex-partner and a current partner dies

Stratification by child age

We also conducted all the models presented above, stratifying them by the child's age at the time the ex-partner experienced the life event. Specifically, we ran separate models for families in which the child was below age 10 and for families in which the child was aged 10 or older when the event occurred. The full results are presented in the appendix. However, as shown in Appendix Figures A1 to A4, the findings do not indicate substantial differences based on the child age.

DISCUSSION

Separation does not necessarily dissolve interdependencies between the ex-partners, particularly when they share a child. Guided by the principle of linked lives from life course theory (Carr 2018; Elder 1994, 1995), this study examined whether life events experienced by one ex-partner

influenced the mental health of the other. We hypothesized that such effects would depend on the valence (positive vs. negative) and proximity (emotional closeness and relevance to the shared family context) of the event. Using 18 years of Finnish total population register data, we assessed changes in an individual's psychotropic medication purchases before and after life events experienced by an ex-partner with whom they had a common child.

We found that the relationship of the ex-partner's life event to an individual's mental health differed by the nature of the event. Positive and proximate life events, such as the ex-partner repartnering or having a new child, were followed by declines in psychotropic medication use for both mothers and fathers, suggesting improved mental health. These findings support Hypothesis 1, which proposed that positive, close life events may improve well-being through increased family stability and resources available for the child. These results were fairly consistent across the within-individual models, while the POLS estimates in some of the models showed less negative or even positive changes in the probability of purchasing psychotropic medication.

In contrast, Hypothesis 2, which stated that negative and proximate life events would lead to mental health decline, was supported for the ex-partner's cancer diagnosis and death. Both events were associated with an increased probability of purchasing psychotropic medication, particularly in the year of the event, followed by a decline to baseline levels. For fathers, all models also showed point estimates indicating an increased probability of purchasing psychotropic medication in the year in which the ex-partner was diagnosed with cancer or died. Despite these patterns, which were similar to those for mothers, not all father models showed significant coefficients.

In line with Hypothesis 3, we found no effects for more distant events, such as the death of the ex-partner's parent or the ex-partner's separation from a new partner. These events may be less emotionally salient or have less direct relevance for the individual's everyday life. For instance, a

parent's death may not disrupt co-parenting arrangements or the individual's own caregiving responsibilities, especially if contact with the ex-partner's extended family had diminished after separation. Similarly, while the ex-partner's separation from a subsequent partner may affect the child, it is likely less relevant for the individual's own well-being unless it leads to changes in custody or co-parenting conflicts.

Overall, these findings suggest that even after separation, former partners remain connected, especially in the face of major family crises. However, the temporary nature of these effects – peaking in the year of the event and returning to baseline thereafter – suggests that the effects, while meaningful, may be relatively short-lived. This aligns with the baseline hypothesis, which stated that life events change well-being only temporarily, followed an adjustment to a person-specific baseline (Clark et al. 2008). This short-lived nature of the effects becomes even more apparent when comparing the effects of life events experienced by an ex-partner with those experienced by a current partner. Our results showed that a cancer diagnosis and the death of a current partner led to substantially stronger increases in the probability of purchasing psychotropic medication than when these events occurred in an ex-partner. Notably, the effect of a partner's cancer diagnosis was also more pronounced when it occurred within a relationship that would eventually dissolve, compared to an ex-partner's cancer diagnosis. However, the impact of the death of a current partner's parent – whether in a stable or a soon-to-be-separated family – did not differ substantially from the impact of an ex-partner's parent's death, further suggesting that the psychological distress of a major life event may depend on the closeness of the ongoing relational tie.

Gender differences emerged primarily in response to ex-partners' life events that were detrimental to mental health. Specifically, mothers showed substantially stronger increases in the probability of purchasing psychotropic medication following an ex-partner's cancer diagnosis or death,

whereas fathers' trajectories showed similar patterns, but with less consistent or significant effects. This finding aligns with previous research suggesting that women are more likely than men to express stress by internalizing mental health problems (Simon 2002, 2020). Notably, a similarly gendered pattern was observed when examining current parental couples who had never separated or had not yet separated, further underscoring the heightened sensitivity of women's mental health in response to major life crises. This suggests that women may be more affected by these events because they often have household and caregiving responsibilities that extend beyond separation (e.g., so-called meta-work). In contrast, no substantial gender differences emerged in the mental health effects of positive family transition-related events, such as an ex-partner's re-partnering or the birth of an ex-partner's new child, which were generally associated with improvements in mental health for both mothers and fathers.

Our findings raise important questions about how custody arrangements, ex-partner involvement, and post-separation co-parenting shape mental health responses to life events. The observed differences across transitions may reflect differences in how these events reshape parental roles and daily responsibilities. For instance, the improvements in an individual's mental health following an ex-partner's re-partnering or new childbirth may indicate shifts in caregiving dynamics, reduced conflict, or a restructuring of parenting responsibilities that reduced the stress associated with single parenthood (Sartor, Lange, and Tröster 2023). In contrast, an individual's heightened distress in response to an ex-partner's severe illness or death may be linked to increased caregiving demands or disruptions in established co-parenting routines.

Future research should further examine how different custody arrangements, ranging from equally shared joint physical custody to more flexible or informal living arrangements, moderate these effects. While joint custody is common in Finland (Hakovirta et al. 2023), actual caregiving

responsibilities vary widely, and parents' well-being may decline when they are forced to transition from shared physical custody to sole caregiving arrangements, for example, after the death of the ex-partner (Augustijn et al. 2025; Riser et al. 2023). Additionally, the quality of the post-separation parental relationship is likely to play a key role: cooperative co-parenting may buffer an individual against the stress of an ex-partner's crisis, whereas a high-conflict relationship could lead to mental health strain (Augustijn 2023). Cross-national comparisons could shed light on whether these patterns hold across policy contexts, particularly across countries with different legal and cultural norms around shared parenting. A better understanding of these dynamics could inform policies aimed at supporting co-parents and promoting the well-being of children and parents after separation.

There are several limitations to the present study. First, we lacked information on formal custody arrangements and the involvement of the ex-partner in the data. As discussed earlier, the primary mechanism through which we expected an ex-partner's life events to affect an individual's mental health was the shared child that linked the lives of the separated parents. Future research could benefit from incorporating data on child custody arrangements to examine whether the impact of the ex-partner's transitions vary between families with different levels of shared physical custody and families with sole custody. Second, we did not have information on the quality of the relationship between the ex-partners. This is important because life events such as the death or severe illness of an ex-partner may have different effects depending on the type of relationship that ex-partners with a shared child maintain. Third, although we used within-individual methods to account for confounding, we could not completely rule out the possibility of reverse causality. In some cases, an individual's mental health problems may have influenced the probability of certain transitions occurring in the ex-partner's life. For example, if the focal individual had severe mental

health problems that also affected the child's well-being, this could reduce the ex-partner's likelihood of forming a new partnership. Fourth, while tracking actual purchases of psychotropic medication provided a more accurate measure of medication use than tracking prescriptions alone (Metsä-Simola and Martikainen 2013), it did not fully capture mental health status. In Europe, many individuals with mental disorders do not use psychotropic medication (Laukkala et al. 2001; Sihvo et al. 2008), while medication use is also common among those without a psychiatric diagnosis (Olfson and Marcus 2009). Therefore, although changes in medication use are likely to reflect underlying changes in mental health, caution is needed when interpreting medication use as a direct indicator of mental health status.

In conclusion, our study is the first to examine how different life events experienced by an ex-partner with whom an individual had a common child affected the individual's mental health. Analyses based on full population register data and a variety of panel data methods revealed that some life events experienced by an ex-partner improved an individual's mental health, while others worsened it. Gender differences were found mainly for the ex-partner's life events that were associated with reduced mental health. The results of this study have implications for research on family and health by providing a more nuanced perspective on post-separation family dynamics. They demonstrate that ex-partners with a shared child remain interconnected through enduring links, reinforcing the value of considering them as a dyad unit within the linked lives framework. This highlights the need for further research on interdependencies that persist beyond co-residence. More broadly, our results contribute to the understanding of family interconnectedness in post-separation contexts and advance theoretical discussions within life course research, particularly regarding the linked lives perspective.

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Online Appendix

Enduring links: Mental health effects of ex-partner's life events among separated parents

STRATIFICATION BY CHILD AGE

In addition to the models presented in the main manuscript, we conducted models stratified by the child's age at the time the ex-partner experienced the life event. Specifically, we ran separate models for families where the child was younger than ten years old and for those where the child was ten years or older when the event occurred. The full results are presented in the appendix. However, as shown in appendix Figures A1 to A4 and presented in more detail below, the findings do not indicate substantial differences based on the child age.

Ex partner's re-partnering, childbirth, and separation

Figures A1 and A2 present stratified models for the ex-partner's re-partnering, childbirth, and separation, stratified by child age. More specifically, Figure A1 shows families where the child was younger than ten years old at the time of the event and Figure A2 shows families where the child was ten years or older at the time of the event. Across all three life events, the patterns are largely consistent between child age groups.

For re-partnering and childbirth, mothers and fathers alike show similar declines in psychotropic medication purchasing after the event, regardless of the child's age. For the ex-partner's separation from a new relationship, estimates remain close to zero in both age groups, further supporting its limited direct relevance for the parent's mental health.

Although some point estimates are slightly larger when the child is younger, particularly for mothers, there are no substantial differences between age groups.

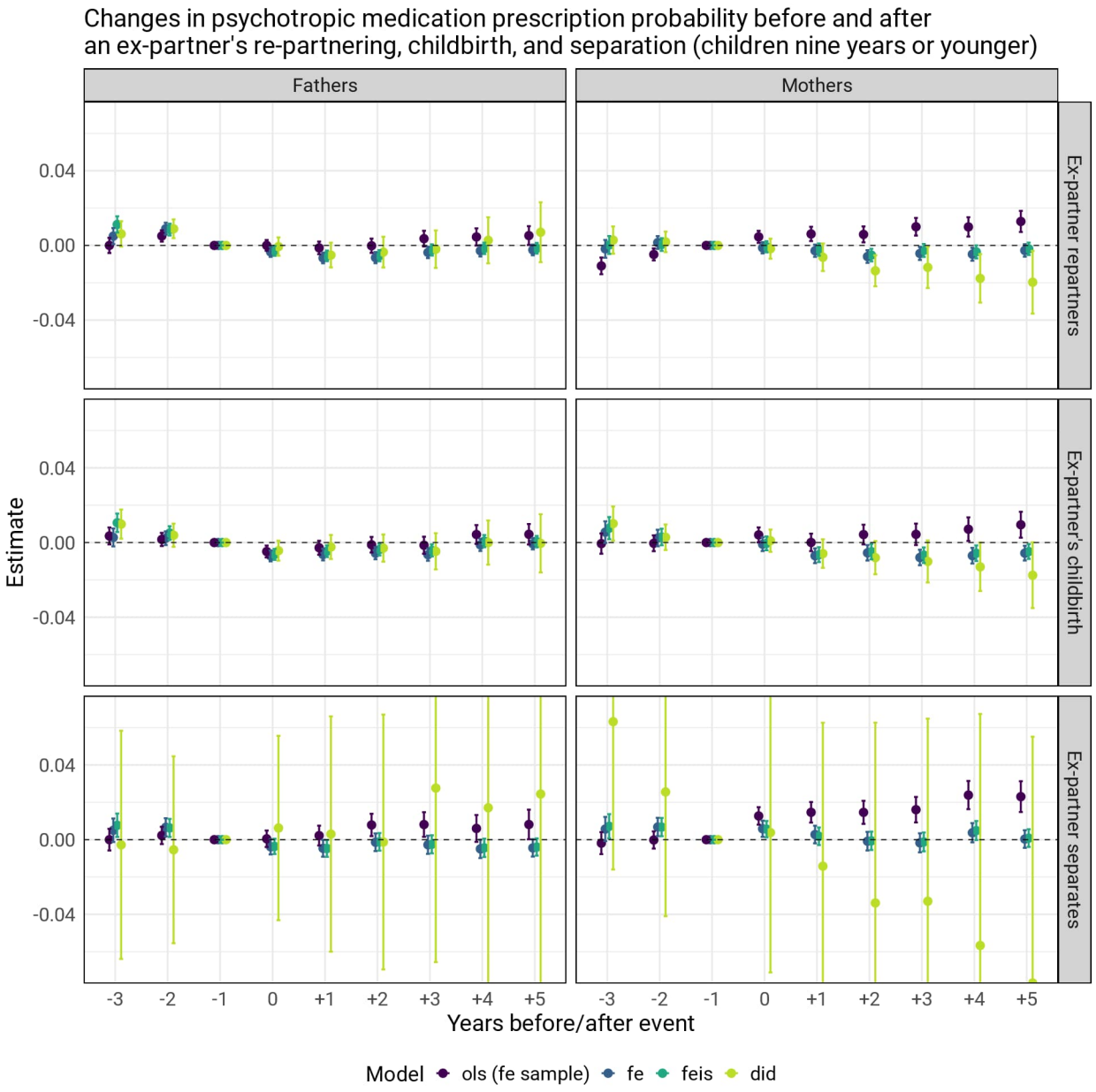

Figure A 1: Changes in the probability of being prescribed psychotropic medication before and after an ex-partner's re-partnering, child-birth, and separation (child age group at time point of the event: 0 to 9 years old)

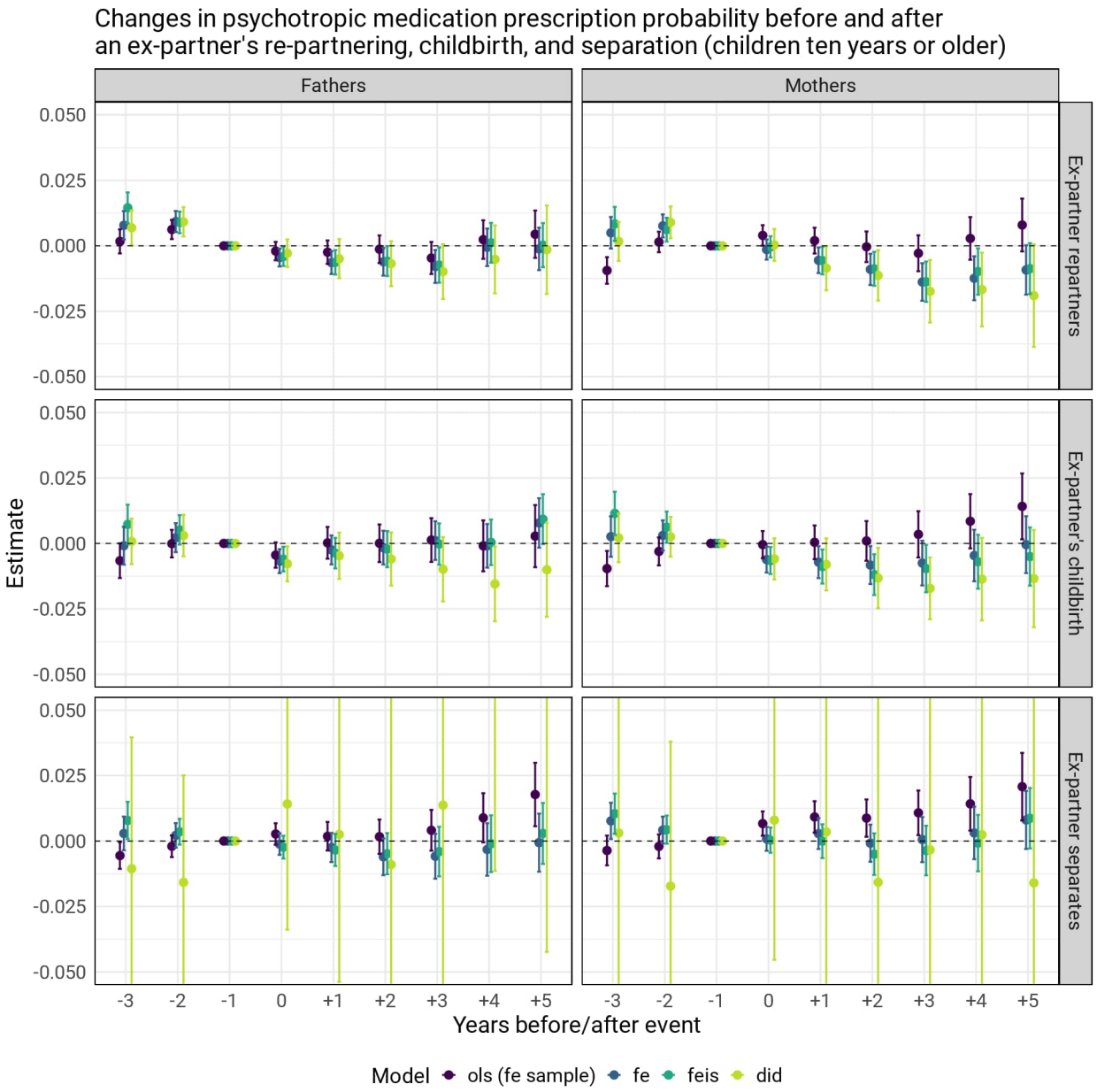

Figure A 2: Changes in the probability of being prescribed psychotropic medication before and after an ex-partner's re-partnering, child-birth, and separation (child age group at time point of the event: 10 to 17 years old)

Ex-partner's parent's death, cancer diagnosis, and death

Figures A3 and A4 show stratified models for death- and health-related events. For both mothers and fathers, results suggest that child age at the time of the event does not meaningfully alter the impact of the ex-partner's experience on the parent's mental health.

For the ex-partner's death, increases in psychotropic medication purchasing are observed for mothers in both child age groups, with slightly more pronounced peaks when the child was younger. This pattern may reflect heightened caregiving demands, emotional strain, or concern for the child's adjustment when the child is still highly dependent. For fathers, increases are smaller and less consistent, and no clear age-related variation is observed. However, these age differences are minor.

As in the main models, the death of the ex-partner's parent shows no substantial impact on psychotropic medication use in either child age group.

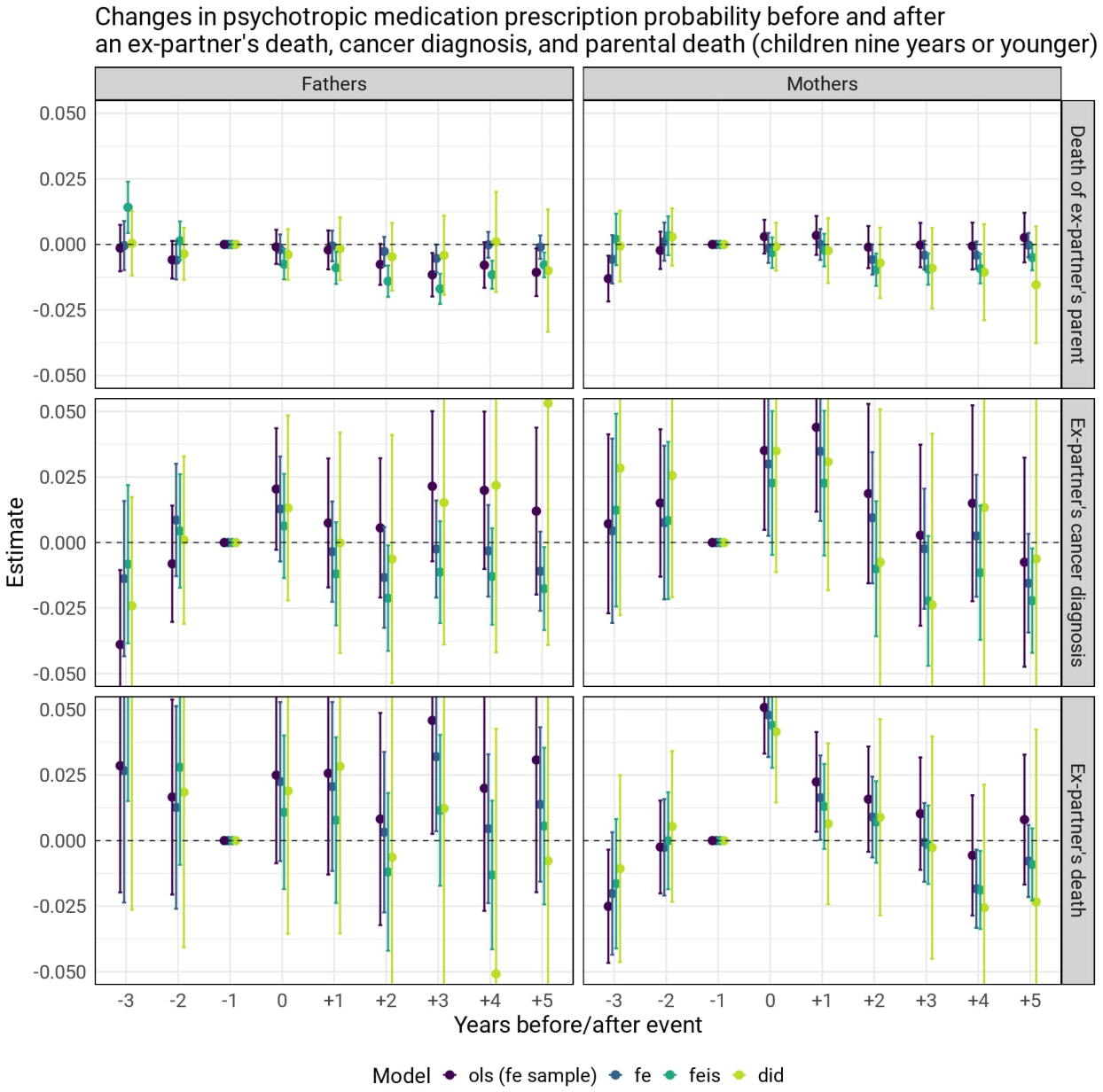

Figure A 3: Changes in the probability of being prescribed psychotropic medication before and after an ex-partner's death, cancer diagnosis, and parental death (child age group at time point of the event: 0 to 9 years old)

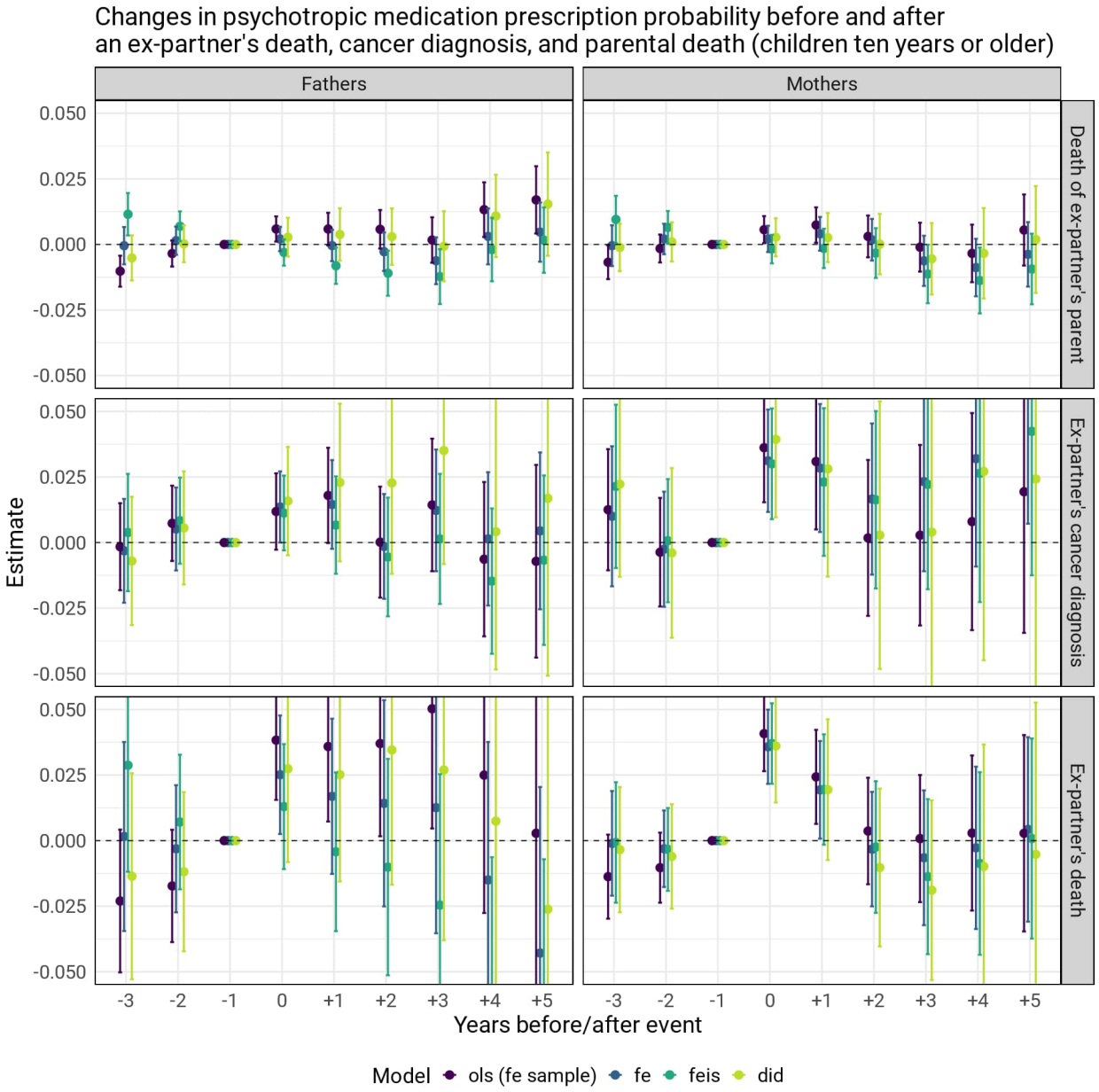

Figure A 4: Changes in the probability of being prescribed psychotropic medication before and after an ex-partner's death, cancer diagnosis, and parental death (child age group at time point of the event: 10 to 17 years old)