Extended Abstract

Mental health after the birth of the first child – spill-over effects of partner`s depression

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Introduction

The birth of the first child is a significant life-event in women's and men's life, marked by a complex interplay between stress and rewards and is often characterized by changing social roles, emotional and lifestyle adjustments (Umberson, Pudrovska and Reczek 2010). Scholars in demography and sociology have long investigated the association between parenthood and well-being as well as parenthood and mental health. Most previous studies examining the well-being during the transition to parenthood show an increase in the first years post-birth with a gradually return to the baseline pre-pregnancy levels, e.g., (Kohler and Mencarini 2016; Myrskylä and Margolis 2014). Research investigating parents' mental health is less consistent and has generated mixed findings (Kalucza, Hammarström and Nilsson 2015). For example, some studies found no evidence for changes in mental health across the transition to parenthood (Keizer, Dykstra and Poortman 2010; Nomaguchi and Milkie 2003), whereas other studies suggest an increase in psychological distress and depression (McKenzie and Carter 2013) with more women than men suffering from mental health disorders following childbirth (Ruppanner, Perales and Baxter 2019).

Some studies also attempt to uncover mechanisms for altered mental health, e.g., taking into account the role of the age at first birth (O'Flaherty, Kalucza and Bon 2023), the impact of medically-assisted reproduction treatments (Tosi and Goisis 2021), the family status at childbirth (Kühn, Metsä-Simola and Martikainen 2023), gender role attitudes (Hiekel and Kühn 2023), or parental time pressure (Ruppanner et al. 2019). However, less is known about the mental health of the partner and the potential spill-over

effects of the partner's mental health on the other parents' mental health. This is a limitation, given that the prevalence of depression has been increasing in the general population {Vilhelmsson, 2013 #218} making is more likely that individuals experience a period of mental disorders during parenthood. Furthermore, due to the interconnectedness of family members it has been argued that the emotional well-being of one individual is intimately tied to the other family members {Peyrot, 2016 #219}. This could be particularly pronounced during the critical life-stage of transitioning into parenthood and the post-birth period, as partner's support becomes paramount and can buffer stress associated with childrearing. Thus, mother's and father's with a depressed partner may be vulnerable to poor mental health. This study seeks to address the research question of whether a partner's depression can increase the own risk of depression among parents.

This study draws on theoretical insights from scholarship on gender, family stress, and the life course to contribute to the literature on parenthood and mental health in four key ways. First, applying the concept of linked-lives in the context of the family which proposes that lives are experienced interdependently, it explores the impact of a partner's depression on an individual's own mental health by using high-quality total population register data from Finland. The data include longitudinal information about socio-demographics, antidepressant purchases, and family composition for the cohorts born between 1977 and 1980. Second, as a proxy for individuals' mental health, we use information on their antidepressant purchases. This measure is likely to capture more severe mental health disorders only, however this objective measure reassures that biases are not caused, e.g. by differences in reporting styles which are common in survey data. Third, many earlier studies have largely focused on women's mental health following birth, and have largely ignored examining men's mental health during this period. We conduct analyses for women and men separately in order to tackle potential sex-specific differences in the role of partner's mental health and underlying mechanisms. Fourth, exploiting the longitudinal nature of the register data, and unlike many earlier studies on parenthood and mental health, we are able to examine individual's mental health from the transition into parenthood to ten years following the birth of the first child. With this relatively long observation window, we can investigate the timing principle of the life course perspective which underscores the importance of considering when events and transitions occur and the duration of exposure (REF). Children's ages, the number of children, and the total lengths of the partner`s antidepressant use are such timing-linked life course contexts that may have significant implications for parents' mental health. In doing so, we expand knowledge about whether diversities in the life course contexts surrounding parenthood contribute to mental health inequalities within and between mothers and fathers.

Data

Data Set and Sample

We used total population register data on all Finnish women and men born in the cohorts between 1977 and 1980 in Finland. The Finnish data provide information on all of the children who were born to these individuals, on individual's annual socio-demographic characteristics, as well as entry and exit of marital and non-marital cohabitation. These data are linked to information on medication purchases and reimbursements by the Social Insurance Institution for the index person and their partner.

Our baseline is the birth of the first child. We follow mothers and fathers from the birth of their first child to ten years post-birth to examine their risk of taking antidepressants in this period. Because we are interested in the impact of partner's depression, we restrict the data to those couples who live together. We account for selectivity by focusing on individuals who were not prescribed antidepressants before the birth of the first child, whereas partner's antidepressant use can be observed any time before the first child's birth.

The episodes were right-censored at the end of the observation period on i.e., when child is 10 years old, or upon emigration, death or separation (=moving apart). For each year, we identified whether any purchases of antidepressants had been made. The final sample consists of 52,338 men and 55, 952 women.

Mental health of index person and of the partner

Individuals' mental health was measured based on their antidepressant purchases (ATC codes N06A). In Finland, over-the-counter antidepressants are unavailable, and purchases require an assessment and a prescription from a clinician. As all permanent residents are entitled to reimbursement for medication expenses (Laukkala et al. 2001; Sihvo et al. 2008; Vuorilehto et al. 2016), sample selection was minimized. It has been shown that in Finland, the probability of antidepressant use is similar irrespective of individuals' education, income, employment status, and living arrangements (Hämäläinen et al. 2009a). This suggests that any changes in antidepressant use accurately reflect underlying changes in depression, without causing bias. Furthermore, studies have found that antidepressant use predicts the likelihood of having other negative outcomes, including retiring due to disability and mortality, which underscores the relevance of examining the risk of antidepressant use (Laaksonen et al. 2012; Moustgaard et al.

2013). The prescription register includes information on the dates of medication purchases, and on the types of medications purchased. While this measure is likely to capture relatively severe mental health problems, it has been shown that medication purchases are a more sensitive and inclusive measure of mental health-related problems than the other available measure of psychiatric hospitalizations (Hämäläinen et al. 2009b).

Controls

We control for important socio-demographic characteristics such as education (the highest achieved education by the age of 40), the age at first birth, and the civil status. Given that a common pathway into marriage is the birth of the first child in Finland, marriage can be observed before birth or one year after the birth of the child. To control for timing-linked life course effects, we considered the age of the youngest child, the number of children, and the total lengths of partner's AD use.

Statistical analysis

We ran several Cox-proportional hazards models for women and men separately. The outcome for our models is antidepressant use and the main exposure is partner's antidepressant use. We present the results of Cox proportional hazards models (Cox 1972) for the hazard of antidepressant use. The models include fixed time covariates (measured at baseline) and time-varying covariates.

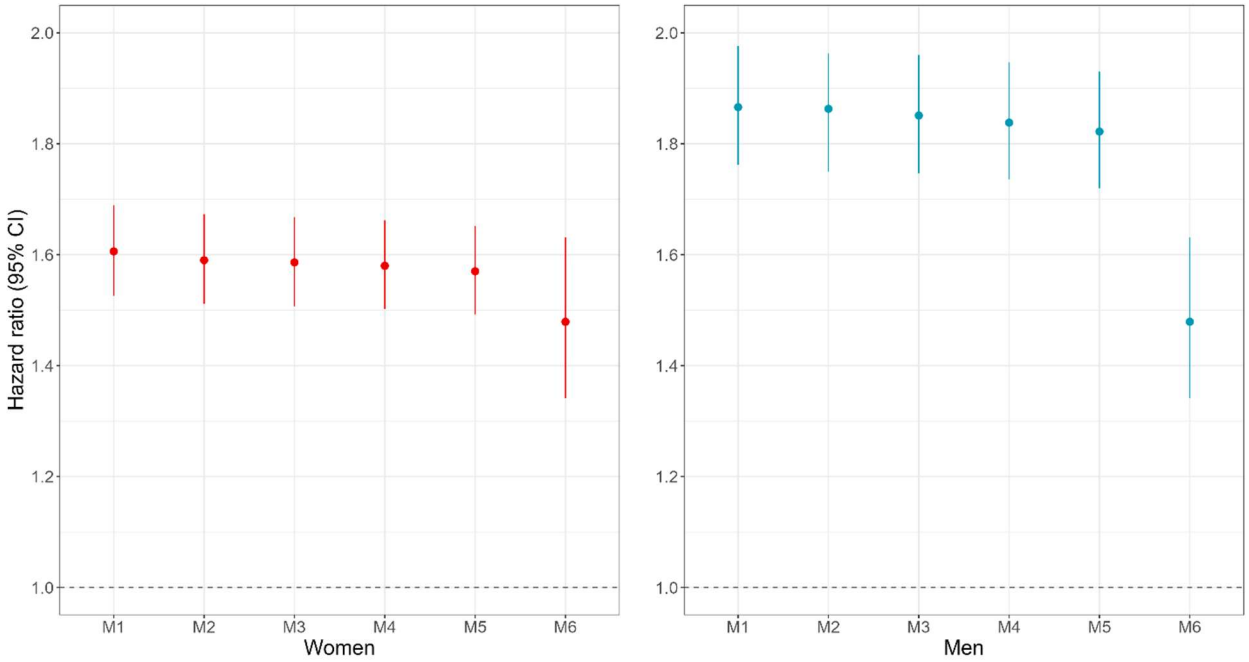
Results

Partner's antidepressant use and the risk of own antidepressant use

Figure 1 shows the sex-specific estimations of parental antidepressant use for women (left panel) and men the (right panel). The hazard ratios are shown on the y-axes and the x-axes presents the results from six different models. The estimations include the information on partner's antidepressant use (Model 1), and controlled for education (Model 2), marital status (Model 3), the age of first birth (Model 4), number of children in the household (Model 5), and the summed years of partner`s antidepressant use (Model 6).

The results show that mothers (left panel) with a partner who has taken antidepressants around the period of the birth of the first child and/or during the post-birth period have an elevated hazard of 60% to take themselves antidepressants (95% CI: 1.53;1.69). This antidepressant risk pattern remained unchanged when step-wise education (M2), marriage (M3), the age at first child birth (M4), number of children (M5) were included. The inclusion of the total length of partner's AD use decreased the risk slightly.

Figure 1: Antidepressant hazard ratios and 95% CIs for women and men with a "depressed" partner in the period before and after the birth of the first child, Finnish cohorts 1977-1980.



M1: Partner's depression (exposure); M2: M1+education, M3: M2+Married; M4: M3+ Age at 1st child birth; M5: M4+No children; M6: M5+ total year's of partner`s AD use

For fathers (right panel), we observe that their partner's antidepressant use increases their own risk of antidepressant use of 87% (95% CI: 1.76;1.98). Similar to the findings for women, this pattern remained unchanged when including controls (M2-M5). The inclusion of the total length of partner's AD use reduced the elevated risk of own's antidepressant use significantly to 48% (95% CI: 1.34;1.63).

Further analyses (now shown here) reveal that the age of the youngest child is an important mediator when examining the risk of partner's antidepressant use on the other parents' antidepressant use. The findings suggest that the risk for spill-over effects is higher with younger children compared to older children indicating that parents are more vulnerable during a period when childbearing is particularly demanding. These differences across the life course were more pronounced for men than women, suggesting that demands of children may decease to a lesser extent for mothers than fathers.

By the time of EPC 2023, we will additionally consider separation as a competing risk in the relationship between partner's antidepressant use and the risk of own's antidepressant use.

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