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Do parenthood worries impede the birth of a second child? Differences according to the parent's gender and spousal support in Finland

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Abstract

Objective: This study examines the extent to which the experience of parenthood worries among Finnish first-time parents predicts the probability of a second birth, and whether the associations differ according to the parent's gender or the sufficiency of spousal support in parenting.

Background: First-time parents' withdrawal from having a second child has been connected to declining fertility rates in Finland and many other high-income countries; consequently, more understanding is needed about why parents potentially refrain from subsequent childbearing.

Method: We utilize longitudinal survey data collected from Finnish parents ($N = 544$) in three waves (2016–2020).

Results: The results show that experiencing parenthood worries significantly predicts the probability of a second birth. Specifically, the accumulation of parenthood worries predicted a lower probability of a second birth, and each additional worry decreased the probability significantly more for fathers compared to mothers. Although we found no gender differences regarding the associations between specific parenthood worries and the probability of a second birth, our results showed that fathers who worried about loneliness or having sole responsibility for parenting were less likely to have a second child than fathers with no such worries. In terms of the sufficiency of spousal support in parenting, we found, first, that among parents who received insufficient spousal support, those who worried about their parenting skills adequacy had a lower probability of a second birth than those with no such worries. Second, among parents with sufficient spousal support, worrying about their own ability to cope was associated with decreased probability of a second birth compared to those who did not experience such worry.

Conclusion: Our findings provide new insights into the potential influence of parenthood worries experienced by first-time parents and the role of spousal support in subsequent childbearing.

Key words: childbearing, fertility, parenting, parity progression, second birth, subsequent fertility



1. Introduction

The recent decline in fertility across high-income countries has evoked concerns about sustaining social security services and benefits, ranging from the early childhood education to pension systems, characterizing a welfare state (European Commission, 2015; Hiilamo, 2019). Along with childlessness and the postponement of first births to later ages, first-time parents not having another child has been acknowledged as a significant element in fertility decline (e.g., Hellstrand et al., 2020, 2021). In Finland, the decline has been particularly sharp, as the total fertility rate has dropped from 1.87 in 2010 to 1.32 in 2022 (Official Statistics of Finland [OSF], 2023c), and the changes in second and higher-order births contribute about 21 percent of the total decline (Hellstrand et al., 2020), and for women over 30 years about 50 percent (Hellstrand et al., 2021). The recent Finnish Family Barometer (Sorsa et al., 2023) showed that in terms of childbearing desires, Finland can be characterized as a country with a two-child ideal. However, it also revealed a considerable gap between the desires and low realized number of children born to families. Hence, more understanding is needed of the potential reasons for this gap in Finland, and more generally for first-time parents' potential withdrawal from having a second child.

First-time parents are found to revise their subsequent childbearing expectations, desires, and intentions after the arrival of the first-born child. Iacovou and Tavares (2011), for example, discovered that first-time parents who find parenthood to be a more negative experience than expected revise the number of children they expect to have downwards. Moreover, difficult experiences in early parenthood, such as exhaustion, coping difficulties, social isolation (Newman, 2008, 2009), and the realities of motherhood (Read et al., 2012), are shown to undermine first-time parents' desire for additional children. Also, unexpected difficulties in parenting, experienced by mothers, have been associated with the probability of couples postponing or foregoing the decision to have a second child (Luppi, 2016). Taken together, these findings suggest that experiencing early parenthood as negative or difficult can lead to the withdrawal from having another child. Yet, to date, there has been little detailed investigation of the extent to which negative parenthood experiences among first-time parents predict subsequent childbearing. The present study addresses this gap by approaching these experiences via first-time mothers' and fathers' worries related to their own parenthood and examines the extent to which such worries predict the birth of the second child.

This study has three main aims. First, we examine the extent to which parenthood worries when the first-born child is about one year old predict the probability of a second birth. We argue that first-time parents are particularly vulnerable to parenthood worries due to the combination of a lack of prior knowledge about children and childrearing (e.g., Sanders et al., 2023) and the demandingness of parenthood in today's Western societies (e.g., Faircloth, 2014; Lee, 2014). The diverse worries encompass, for instance, those related to the adequacy of their parenting skills (e.g., Fox, 2009; Sanders et al., 2022; Schmidt et al., 2022) and new parents' abilities to cope with the intensity and demandingness of the early phases of parenthood (e.g., Newman, 2008; Read et al., 2012). Regarding our second and third research aims, we investigate whether the associations between the worries and the probability of a second birth differ according to the parent's gender or the sufficiency of spousal support in parenting, respectively. These questions are prompted, for example, by the differing extent of support that mothers and fathers seek, or have, to relieve the worries (e.g., Sanders et al., 2020) and by previous research indicating that spousal support can facilitate the experiences or worries among first-time parents (e.g., Fox, 2009; Gillis et al., 2019) and subsequent childbearing (e.g., Cheng & Hsu, 2020).

Our study contributes to both the parenthood and fertility literatures by providing new insights into the early parenthood experiences of first-time parents as potential determinants for declining fertility in Finland—an intriguing country to focus on due to the relatively high gender equality (European Institute for Gender Equality, 2022) yet low fertility. By employing a gender perspective, the study further addresses the need for studying men's experiences alongside those of women. Finally, by utilizing longitudinal survey data, we can explore the process of the experiences related to early parenthood that predict family development from the perspective of subsequent childbearing.

2. Theoretical considerations, prior research, and hypotheses

2.1 *Parenthood worries among first-time parents*

Today, many adults in Western countries become parents with little or no prior experience of children or childrearing (e.g., Fox, 2009; Sanders et al., 2023). Therefore, the early phases of parenthood can be experienced as surprising, overwhelming, and even as a shock by new mothers and fathers (e.g., Johansson et al., 2016; Luppi, 2016; Newman, 2008; Raudasoja et al., 2022; Read et al., 2012; Sanders et al., 2023). New parents navigate their way in early parenthood as part of the surrounding society and associated parenting culture, which places expectations on parents that stem from the prevailing cultural ideals around ‘good’ motherhood and fatherhood (Lin et al., 2023; Rosen & Faircloth, 2020). In Finland, particularly women enter parenthood within a cultural climate highlighting the dominance of ‘intensive’ parenting (e.g., Raudasoja et al., 2022; Sihto & Mustosmäki, 2021), which considers optimum childrearing as child-centred, expert-guided, labour-intensive, and all-encompassing (Hays, 1996). The culturally dominant fatherhood ideal, in turn, highlights the expectation for men to widen their roles as involved and caring parents (Eerola, 2015), which, like the intensive parenting ideal, emphasizes the centrality and best interests of the child. Both expectations align with both the ideal-mother/-father type in Finland—that is, a parent who is ‘loving, patient, and caring’ (Lin et al., 2023)—and the cultural standard for ‘positive parenting’ (Sanders et al., 2020; Seay et al., 2014). However, the strong cultural preference for mother-centred care, which is highlighted, for example, by the unequal share of care-related leave between the parents (Eerola et al., 2022), places particular pressures on mothers and can make it difficult for fathers to obtain a position as capable caregivers (Nielsen & Westerling, 2015).

Faircloth (2014) points out that the ideology of intensive parenting ‘remains an important “cultural script” or “ideal” to which parents respond in negotiating their own practices’ (p. 31). In particular, new mothers who lack prior knowledge about childrearing are likely to conform to such practices in striving to ensure the child’s optimal growth and development (Fox, 2009; Raudasoja et al., 2022) and, therefore, devote a great deal of energy and quality time to parenting (Faircloth, 2014; Hays, 1996). However, practicing parenthood according to the ideal of intensive parenting can be exhausting for new mothers (e.g., Fox, 2009; Raudasoja et al., 2022; Sihto & Mustosmäki, 2021) and can further arouse feelings of intense worry and uncertainty around childrearing (Faircloth, 2014). Although fathers are also expected to possess child-centred attitudes and be family-oriented and increasingly involved in the care of children (Eerola, 2015; Eydal & Rostgaard, 2015; Ylikännö et al., 2015), they have not been found to take as much pressure from the demands of intensive parenting as mothers (Shirani et al., 2012). However, new fathers have also been shown to experience anxiety, stress, and uncertainty about childrearing (e.g., Johansson et al., 2016). In addition, fathers see economic provision as a significant part of good fatherhood (Eerola et al., 2019; Henwood et al., 2010). Relatedly, Faircloth (2021) points out that ‘the extension of an intensive parenting ethos to men might actually leave them in a similar “cultural contradiction” between the worlds of work and home’ (p. 244) as mothers. It is thus possible that the ideal of involved fatherhood (Eerola, 2015), together with the importance of fathers’ roles as the primary breadwinners (e.g., Edlund & Öun, 2016, 2023), is likely to arouse worries for new fathers (Ghaleiha et al., 2022).

Given the demanding nature of the expectations placed on current parenthood, new parents can have concerns about whether they are meeting the social expectations of ‘good’ parenthood—that is, whether they are doing parenting ‘right’. Such concerns, we see, are realized as diverse worries related to parents’ own parenthood. In the present study, we focus on four types of such parenthood worries, described below, which are neither mutually exclusive nor are they exhaustive of all possible worries related to early parenthood, yet likely to be perceived by first-time parents.

2.1.1 Adequacy of parenting skills

Both first-time mothers and fathers are found to worry over the adequacy of their skills in caring for the young child and finding the best ways to meet the child’s needs, which often arise from new parents’ uncertainty or lack of childrearing skills (e.g., Fox, 2009; Johansson et al., 2016; Sanders et al., 2023; cf. Shirani et al., 2012). For mothers, the perception of not living up to the standards of external expectations can also arouse feelings of guilt, which has been associated with perceiving oneself as an inadequate parent (Collins, 2021; Sanders et al., 2022; Schmidt et al., 2022; Sihto & Mustosmäki, 2021). Although the increasing availability of

knowledge about ‘optimal’ childrearing and intensive parenting practices can help mothers create a close and loving relationship with the child and develop their parenting skills (Raudasoja et al., 2022), diverse advice and external expectations can make parenting a highly demanding and straining task for new parents. Guilt, however, is not solely experienced by mothers; new fathers can also have such feelings due to finding their roles as fathers as unclear and confusing (Barimani et al., 2017). Furthermore, competing family and work responsibilities can contribute to feelings of guilt for mothers who have returned to paid employment after parental leave (Leach et al., 2006; Spiteri & Xuereb, 2012). Fathers have also been found to have a deep sense of responsibility for the child’s upbringing along with that for the family finances, which is why fathers can experience pressures and worries about this double responsibility (Fox, 2009; Johansson et al., 2016; Shirani et al., 2012) that can contribute to feelings of inadequacy as a parent. Fox (2009), however, discovered that spousal support can lessen new mothers’ worries related to the adequacy of their parenting skills.

2.1.2 Parent’s ability to cope

Becoming a parent brings several changes into the lives of new parents, including changes in their sleep rhythm and even sleep deprivation, lack of energy, and scarcity of time for oneself and the couple relationship (Fox, 2009; Loutzenhiser et al., 2015; Sevón, 2007), which, without any external expectations on parenting, can create worries about new parents’ abilities to cope. Furthermore, adopting intensive parenting practices can bear added and significant personal costs to the well-being of mothers, in particular (Fox, 2009). Moreover, some parents experience the transition to parenthood as overwhelming (e.g., Johansson et al., 2016; see Nyström & Öhring, 2004 for a review), which for some parents continues throughout, and beyond, the first year of the firstborn child’s life (Fox, 2009) and can be accompanied by draining experiences, such as exhaustion, stress, and even depression or parental burn-out, particularly among mothers (Fox, 2009; Luppi, 2016; Newman, 2008; Raudasoja et al., 2022; Sevón, 2007; Sorkkila & Aunola, 2020) but also among fathers (Fox, 2009; Johansson et al., 2016; Sorkkila & Aunola, 2022). Previous findings have shown that partner support can facilitate the wellbeing of new parents across the transition to parenthood (e.g., Gillis et al., 2019) and the sense of coping as a parent (Raudasoja et al., 2022).

2.1.3 Loneliness or having sole responsibility for parenting

In Finland, mothers have generally used the most care-related leave (i.e., maternity leave, parental leave, and home care leave) (Närvi et al., 2020), which means that mothers often spend most or all of their first year as new parents—and some mothers even longer—at home caring for the child (see Appendix 1). Mothers’ main responsibility for the practical care for the young child along with the household labour (Eerola et al., 2021) can thus contribute to worries about having the sole responsibility for parenting as well as feelings of isolation and loneliness (e.g., Fox, 2009; Newman, 2008; see Nyström & Öhring, 2004 for a review; Sanders et al., 2022; Sevón, 2007). However, today, Finnish fathers assume more responsibility in childcare than their counterparts in preceding decades (Lammi-Taskula, 2017; Ylikännö et al., 2015), and fathers of young children can also experience loneliness in the form of domestic isolation (Newman, 2008) and social isolation due to a lack of external support (Widarsson et al., 2013). Peer support as a means to share the experiences related to parenthood and care of the child with others is an important source of support for Finnish first-time fathers, particularly during early fatherhood (Lähteenmäki et al., 2020), and the lack of such support can lead to feelings of loneliness. Also, while the mothers are typically the ones staying at home caring for the young child, fathers of young children can be seen as the families’ primary breadwinners (Ylikännö et al., 2015), which can create tensions between work and care responsibilities (Ghaleiha et al., 2022) and translate into a worry about the sole responsibility for parenting. Parents who share the care of the child also share the responsibility of parenthood (Fox, 2009), which can protect against feelings of loneliness and the perception of sole responsibility.

2.1.4 Losing control in conflict situations with the child

Parent–child interaction involves several potential conflict situations. A young child’s cry, for example, can be perceived as stressful and worrisome (Johansson et al. 2016), which in addition to a slightly older child’s strong expressions of own will, for instance, can arouse feelings of frustration and even anger in parents. Anger expression or aggressive behaviour due to losing control do not comply with the qualities of an ideal parent in Finland (Halonen et al., 2021; Lin et al., 2023) or the standards for ‘positive parenting’ (Sanders et al., 2020; Seay et al., 2014). Expressing negative emotions related to motherhood can be particularly difficult

and arouse worries among mothers living in Finland, where becoming a mother is seen as a ‘free choice’ (Sihto & Mustosmäki, 2021). Therefore, parents need to learn self-control skills to regulate their negative emotions and to express them in a manner that coheres with the normative assumptions about proper parental behaviour. Such skills are needed during the transition to parenthood, because self-control is found to decrease among mothers after the birth of the first child; among fathers, again, high work–family conflict and family-related stress are related to lower self-control (van Scheppingen et al., 2018).

2.2 Parenthood worries and subsequent childbearing

The first years of parenting denote a steep learning curve as new parents develop their parenting skills, sense of confidence, and coping skills to manage the new tasks associated with the responsibility and care for a dependent child (Fox, 2009). As the parent–child relationship develops, parents gradually learn to understand and interpret the child’s signals, needs, and cues (Fägerskiöld, 2008) and the other aspects of parenting behaviour (e.g., physical caregiving, control and monitoring, and discipline) tied up in a specific parenting culture (Lansford, 2022). This learning gradually reinforces new parents’ parental self-efficacy beliefs (e.g., Bandura, 1982, 1997), which can be defined as ‘beliefs or judgements a parent holds of their capabilities to organize and execute a set of tasks related to parenting a child’ (de Montigny & Lacharité, 2005, p. 390).

Perceiving one’s parenting performance as successful strengthens parenting self-efficacy beliefs (Bandura, 1982), which are associated with, for example, greater parental well-being (e.g., Bloomfield & Kendall, 2012) and parenting satisfaction (Hudson et al., 2001). For inexperienced new parents, however, the early phases of parenthood and the management of the new familial demands can be wearisome and hard due to the insecure sense of personal efficacy (Bandura, 1997). For example, the feeling of uncertainty about how to best respond to the child’s needs is perceived as one difficulty in early parenthood associated with feelings of worry, guilt, and self-doubt about one’s ability to parent for mothers (Raudasoja et al., 2022; Read et al., 2012; Sanders et al., 2022) and stress and worry for fathers (Ghaleiha et al., 2022; Johansson et al., 2016). As a strong sense of self-efficacy helps parents to tolerate such uncertainty and possible failures that result from challenges to parenting, parents with low self-efficacy more readily perceive such feelings as a failure, which has the potential to further lower their beliefs of personal efficacy (Bandura, 1982, 1997).

With our first research question, we explore the extent to which specific parenthood worries or the accumulation of these worries when the first-born child is about one year old predict the probability of a second birth within four to five years after the birth of the first child. First-time parents’ parental self-efficacy beliefs (Bandura, 1982, 1997) offer us a potential explanation for the association between parenthood worries and a second birth. The underlying mechanism theorized is that experiencing parenthood worries can have a negative impact on first-time parents’ parenting self-efficacy beliefs, which can lead to an overall negative experience of early parenthood that discourages parents from having another child. Hence, we hypothesize that *experiencing specific parenthood worries predicts lower probability of a second birth for parents compared to not experiencing worries* (Hypothesis 1a) and *the more parenthood worries the parent experiences, the less likely they are to have another child* (Hypothesis 1b).

Our second research question asks whether the associations between parenthood worries and the probability of a second birth are different across genders. As we showed above, previous research suggests that parenthood worries are likely for both new mothers and fathers. However, the decisions concerning a second birth among fathers could be expected to be more likely affected by these worries compared with mothers. This is because mothers may have more resources to relieve parenthood worries, which can help in strengthening their parenting self-efficacy. Indeed, according to Bandura (1982), ‘people register notable increases in self-efficacy, when their experiences disconfirm misbeliefs about what they fear and when they gain new skills to manage threatening activities’ (p. 125). Experiencing parenthood worries may encourage mothers to seek parenting information or advice from diverse sources to learn more about ‘effective’ parenting practices (see Sanders et al., 2020). For example, mothers are found to use parenting literature more than fathers (Fox, 2009), in addition to which mothers are often those taking the child to the regular check-ups in the child health clinics, so these meetings with the nurse are potential sources of support for mothers.

After developing a strong sense of efficacy, occasional failures or setbacks are not likely to weaken the belief in one’s capabilities (Bandura, 1997), which helps to maintain a strong sense of efficacy as the first-born child grows older. In this sense, gaining experience as the primary caregivers (e.g., Eerola et al., 2021) and confidence in parenting is likely to strengthen the mother’s certainty about being able to manage with

another child. Fathers, again, are shown to trust more in their common sense over expert advice on parenting (Shirani et al., 2012) and rely more on informal rather than formal help (Lähteenmäki et al., 2017), which may not associate with such effective learning outcomes or the relief of worries. Thereby, fathers may feel more alone with their worries, which can reflect negatively on their parenting self-efficacy. Having said that, we could also argue that parenthood worries are particularly likely to affect the probability of a second birth among mothers because they are, for example, found to experience more unmet expectations about the difficulties of parenthood after the birth of the first child (Luppi, 2016), in addition to which women's subsequent childbearing intentions, compared to those of men, are suggested to have somewhat greater influence over the actual decision to have a second child (Duvander et al., 2017; Testa & Bolano, 2021). Due to these competing findings, we formed the following non-directional hypotheses: *the negative associations of specific parenthood worries* (Hypothesis 2a) *and the accumulation of worries* (Hypothesis 2b) *on the probability of a second birth are different between mothers and fathers.*

With our third research question, we investigate whether the associations between parenthood worries and the probability of a second birth differ according to whether or not parents perceive receiving sufficient spousal support in parenting. Spousal support can have a facilitating effect on the experience of diverse worries in parenthood (e.g., Fox, 2009; Gillis et al., 2019) and on parenting performance successes, which in turn raises parents' self-efficacy beliefs (Bandura, 1997). Furthermore, particularly fathers' involvement in childcare is found to have a positive impact on subsequent childbearing among first-time mothers (e.g., Cheng & Hsu, 2020; Miettinen et al., 2015). Therefore, we propose that *specific parenthood worries* (Hypothesis 3a) *and the accumulation of worries* (Hypothesis 3b) *predict lower probability of a second birth for parents receiving insufficient spousal support in parenting compared to parents with sufficient support.*

Research has further identified associations between several background characteristics and subsequent childbearing. Those becoming a parent at an older age are less likely to have another child than their younger counterparts (Margolis & Myrskylä, 2015). Also, higher age of the child has a negative association with the intention of having more children (Miettinen & Paajanen, 2003). In the context of our study, the age of the first-born child (which in our sample ranges between 8 to 20 months) can also influence the extent to which or the type(s) of parenthood worries the parent experiences. Furthermore, high educational level of the parent (Jalovaara et al., 2021; Nisén et al., 2018), high household income (e.g., Miettinen et al., 2015; Nisén et al., 2018), and being married compared to living in a cohabiting union (Goldscheider et al., 2013) have positive associations with a second birth. Finally, being employed has been shown to both encourage (Miettinen et al., 2015) and discourage mothers' subsequent childbearing (Vikat, 2004).

3. Methods

3.1 Data and participants

Longitudinal survey data for the present study were collected as web-based or paper questionnaires from Finnish parents in three waves (2016–2020) as part of a longitudinal study of CHILDCARE and the project Early Childhood Education and Care and the COVID-19 Pandemic. In 2016 (wave 1), parents of about one-year-old children born between 1 October 2014 and 30 September 2015 (henceforth, the target child) were recruited from 10 discretionarily chosen municipalities by obtaining their contact information from the Population Register Centre (see [Appendix 2](#) for details on the recruitment strategy). A total of 14,612 parents received the study participation invitation, of which 2,696 (18.5%) completed the survey (Hietamäki et al., 2017). In 2019 (wave 2), an invitation to participate in a follow-up survey was sent to all the parents of now about four-year-old target children who had participated in the wave 1 survey and given their consent to be contacted for the follow-up survey; 1,316 (48.8%) of these parents completed the survey (Sulkanen et al., 2020). Of the respondents of the wave 2 who had participated also in the wave 1 survey, 1,189 parents gave their consent to be contacted for another follow-up survey. This survey (wave 3) was conducted in 2020, resulting in 728 (61.2%) respondents (Sulkanen et al., 2021).

The sample for the present study comprises 544 parents (390 mothers, 154 fathers; 20.2% of the initial sample in wave 1), who had one about one-year-old biological child (i.e., the target child) during the first wave. This first-born child was the only child of these parents in wave 1. Furthermore, we included only parents who lived with the first-born child and the other biological parent throughout the study period, and who lived

in an opposite-sex partnership in our sample. These specifications are based on the concept of replacement-level fertility, namely that a woman having about two children would result in sustainment of the population level (OSF, 2023b). Overall, the replacement level can be assured only if the woman has two children with one partner (i.e., one child per one biological parent). Therefore, we set our focus on parents who live with the same partner during the study period to ensure that on one hand the second child (if born) is likely to have the same parents as the first-born child, and on the other hand, separating from one's partner is not the reason for the non-occurrence of the second birth. Following this line of reasoning, our final sample did not include 13 respondents, who had separated from the other parent of the first-born child during the study period, or six parents who lived in same-sex partnerships, because the other biological parent of the first-born child was likely to be someone else than the residential partner of the respondent. Moreover, due to the low frequency of both separated parents and parents living in same-sex partnerships, it was not possible to conduct separate analyses for these respondents.

Out of the 544 respondents, 319 (58.6%) participated in both follow-up surveys (waves 2 and 3), and 225 (41.4%) in only the first follow-up survey in 2019 (wave 2). Overall, 353 (64.9%) respondents had made the transition to a second child over the study period. Table 1 shows the background characteristics, measured in wave 1, for our sample. The average ages of both mothers and fathers were slightly higher compared to the national age of the parents of about one-year-old children, as in 2016, the average ages of first-time mothers and fathers were 29.1 and 31.2 years, respectively (OSF, 2017). On average, fathers in our sample were older than mothers, which was anticipated as men generally become parents at older ages than women (OSF, 2017). The ages of the first-born children ranged from 8.33 to 20.47 months ($M = 14.04$; $SD = 3.51$). Most of the respondents (64.0%) were married; this proportion is higher compared to Finnish first-time parents overall, as in 2016, 55 percent of first-born children were born to married parents (OSF, 2017).

Table 1: Descriptive statistics for background characteristics for both genders and parents with insufficient and sufficient spousal support in parenting ($N = 544$)

Background variables	Gender of the parent		Sufficiency of spousal support in parenting	
	Mothers ($n = 390$) $M (SD) / \%$	Fathers ($n = 154$) $M (SD) / \%$	Insufficient ($n = 88$) $M (SD) / \%$	Sufficient ($n = 450$) $M (SD) / \%$
Age of the parent	32.01 (4.27)	33.73 (4.98)	32.49 (4.30)	32.52 (4.55)
Age of the target child	14.04 (3.49)	14.02 (3.56)	13.91 (3.52)	14.05 (3.50)
Educational level (%)				
Non-tertiary	14.6	21.4	25.0	14.9
Tertiary	84.9	77.3	71.6	85.1
Union type (%)				
Co-habiting	37.9	31.2	50.0	33.3
Married	62.1	68.8	50.0	66.7
Equivalent income level (%)				
Low-income level	43.8	37.7	55.7	39.1
Average-income level	43.3	50.0	30.7	48.7
High-income level	12.6	12.3	13.6	12.0
Employment situation (%)				
Not in employment	62.1	18.2	51.1	49.6
Employed	37.7	81.2	47.7	50.4

Source: CHILDCARE (wave 1) Survey 2016

In terms of education, most mothers and fathers had attained tertiary education (ISCED, 2012; Table 1), which is clearly higher compared to Finnish women (48.0%) and men (31.3%) aged 30–34 years generally in 2016 (OSF, 2023a). Mothers in our sample typically had a higher educational level than fathers ($\chi^2[1] = 3.88$, $p = .049$, Cramer's $V = .09$), which is in line with the national level as a higher proportion of women than men have attained tertiary-level education (OSF, 2023a).

Half of the respondents in our study were in employment, which was expectedly more typical for fathers than mothers ($\chi^2[1] = 84.69$, $p < .001$, Cramer's $V = .40$) given that some Finnish mothers of about one-year-

old children are likely to be at home on care-related leave (see Appendix 1). Regarding the financial situation, nearly half of our sample belonged either in the low-income category (42.1%; equivalent income is less than 60% of the median for Finnish households with children; OSF, 2018) or the average-income category (45.2%), and a clear minority belonged to the high-income category (12.5%; equivalent income is more than 130% of the median). With respect to parents with insufficient and sufficient spousal support, it was more typical for parents with sufficient spousal support to have higher rather than lower educational backgrounds ($\chi^2[1] = 6.23, p = .013$, Cramer's $V = .11$), to be married rather than cohabiting ($\chi^2[1] = 8.86, p = .003$, Cramer's $V = .13$), and to belong to the average-income category rather than to the low-income category ($\chi^2[1] = 10.19, p = .006$, Cramer's $V = .14$), compared to parents with insufficient spousal support.

3.2 Measures and variables

3.2.1 Second birth

The occurrence of a second birth is indicated by a change in the number of residential children reported between waves 1 and 3. In creating the second birth variable, we used information concerning the number and ages of residential children (including the first-born child) from the two follow-up surveys. Accordingly, new births between waves 1 and 2 were identified according to the reported number of residential children aged 0 to 4 (including one respondent whose first-born child had turned five years), and the number of children aged 0 to 5 years between waves 1 and 3. We then created a dummy variable that takes value of 1 if the respondent had two or more children living in the same household in waves 2 and/or 3, thus indicating the occurrence of a second birth, and value of 0 if the respondent had only one child (i.e., the first-born child) living in the same household in waves 2 and/or 3.

3.2.2 Parenthood worries

Parenthood worries were inquired once, in wave 1, with four single items. The respondents were asked: 'In the past six months, have you been worried about the following parenting- or family-related issues?' The items were the following: 'My own parenting skills adequacy', 'My own ability to cope', 'Loneliness or having sole responsibility for parenting', and 'Losing control in conflict situations with my child'. The original three response categories were collapsed to form four dichotomous variables because of the low frequencies in some of the original categories: (0) = Not concerned, (1) = Slightly or very concerned. To form the variable 'accumulation of parenthood worries', these four dummy variables were summed up, and the values in the sum variable thus ranged from 0 to 4 worries.

3.2.3 Sufficiency of spousal support

In determining the sufficiency of spousal support in parenting, in the wave 1 survey, the respondents were asked 'Among your friends and family, who has provided you with practical or emotional support with parenting?' Next, the amount of support they received from 'My partner or the child's other parent' was assessed with three response options: 1 = None at all, 2 = Some, and 3 = Enough. For the analyses, we formed a dichotomous variable measuring the sufficiency of support received from the spouse with parenting: (0) = Insufficient spousal support (none at all or some), (1) = Sufficient spousal support (enough).

3.2.4 Control variables

In the analyses, we controlled for various sociodemographic characteristics, measured in wave 1, which previous studies (e.g., Goldscheider et al., 2013; Margolis & Myrskylä, 2015; Miettinen et al., 2015; Miettinen & Paaajanen, 2003; Nisén et al., 2018; Vikat, 2004) have shown to affect subsequent childbearing. The *age* of the parent was measured in years and the *age of the first-born child* in months. The *parent's gender* was coded as (0) father and (1) mother. The *highest educational level* of the parent was a dichotomous variable with (0) non-tertiary education corresponding to International Standard Classification of Education (ISCED) levels 1–4 and (1) tertiary education corresponding to ISCED levels 6–8 (ISCED, 2012). *Union type* was another dichotomous variable indicating whether the parent was (0) cohabiting or (1) married. The *income level* of the family was assessed with an equivalent income measure (see above): (1) low-income level, (2) average-income level, and (3) high-income level. *Employment situation* was a dichotomous variable indicating whether the respondent was (0) not in employment or (1) employed.

3.3 Analytic strategy

Given our binary outcome variable (i.e., second birth), we used binary logistic regression analysis to answer the research questions. Altogether, six models were estimated. In all the models, we controlled for the sociodemographic background characteristics of the participants. We also controlled for the sufficiency of spousal support in parenting in analyses related to Models 2a and 3a, parent's gender in analyses related to Models 2b and 3b, and both the sufficiency of spousal support and gender in analyses related to Models 1a and 1b. Descriptive statistics of all studied variables are presented in Table A1 (see Appendix 3). Correlations of the study variables for mothers and fathers are presented in Table A2 (see Appendix 4) and for parents with insufficient and sufficient spousal support in parenting in Table A3 (see Appendix 5).

To test Hypothesis 1a, we estimated model 1a in which the four specific worries were used as independent variables, whereas model 1b for testing Hypothesis 1b included the accumulation (sum) of worries as the independent variable. In the results, we report the average marginal effects (*AMEs*) as the measures for the magnitude of relationship strength and their 95 percent confidence intervals not including a zero as an indication of the statistical significance of the associations (Niu, 2020). Specifically, *AMEs* measure the change in predicted probability of a second birth for a certain change in the independent variable when all other variables in the model are held constant at their respective values (Breen et al., 2018; Niu, 2020). *AMEs* are obtained by calculating a predicted probability for every observation in the sample, after which these effects are averaged (Mize, 2019). *AMEs* offer easily interpretable effect estimates—that is, multiplying the value of *AME* by a hundred indicates how many percentage points, on average, the probability of a second birth increases or decreases by a certain increase in the independent variable (Breen et al., 2018; Niu, 2020). In our study, we focus on a change from 0 (i.e., no worry) to 1 (i.e., yes worry) in the binary worry variables and a discrete change between two successive worries (e.g., from 1 worry to 2 worries) for the accumulation of worries.

As the rest of our hypotheses focused on the interaction effects of the parent's gender (Hypotheses 2a and 2b) or the sufficiency of spousal support (Hypotheses 3a and 3b) and parenthood worries on the probability of a second birth, we additionally fitted four binary logistic regression models including interaction terms. Model 2a included interaction between each specific worry and parent's gender, while model 2b examined the interaction between accumulation of worries and gender. Finally, interaction terms between specific worries and the sufficiency of spousal support in parenting were included in model 3a, whereas model 3b focused on the interaction between accumulation of worries and spousal support. As in models 1a and 1b, the results are reported using *AMEs*.

As recommended by Mize (2019), we tested the non-linear interaction effects in models 2a through 3b using predicted probabilities and the second difference approach. For example, in model 2a, we started the analysis by calculating predicted probabilities of a second birth across four different subsamples: mothers not having a worry, mothers having a worry, fathers not having a worry, and fathers having a worry (see model 2a, the column 'Predicted probabilities of a second birth' in Table 3). Next, we calculated the first differences in predicted probabilities across two subsamples, first, between mothers having a worry and mothers not having a worry (see the first '1st difference' column in Table 3), and second, between fathers having a worry and fathers not having a worry. Next, to test whether these two first differences were equal, we performed a test of second difference (see '2nd difference' column in Table 3) by using the tests of the equality of average marginal effects (i.e., first difference *AMEs*). A significant second difference across groups was indicated by 95 confidence intervals not including a zero (Mize, 2019). A similar procedure was followed in model 3a. Although it is recommended to examine the non-linear interaction effects in two directions (see Berry et al., 2012), which would have enabled us to explore the interaction effect based on all possible contrasts between worry and gender groups, we chose the direction that aligns with our hypotheses (2a and 3a). For models 2b and 3b, the comparisons were calculated between successive numbers of worries. Specifically, the accumulation of worries was first modeled as a continuous variable to establish, whether there is, on average, a statistically significant interaction effect between, for example, gender (in model 2b) and the accumulation of worries in relation to the probability of a second birth. After that, we proceeded the examination by modeling the worries as discrete variables (e.g., one worry [no, yes], two worries [no, yes]). This allowed us to investigate the average marginal effect of gender across the range of parenthood worries (i.e., whether each additional worry is associated with a statistically significant change in the probability of a second birth differently between the genders, or whether there is only a significant difference between genders, for example, when parents report 3 vs. 4 worries).

Missing data for all study variables ranged from 0% to 1.3% (accumulation of worries), and Little's MCAR test (Little, 1988) for missing data indicated that the data were missing completely at random, $\chi^2(5) = 7.13$, $p = .211$. Due to the small proportion of missingness and the MCAR nature of the missing data, we did not impute the missing values with any imputation technique. To consider the hierarchical nature of the data (i.e., both parents had responded for 95 children) and to obtain unbiased standard errors we estimated clustered standard errors in the analyses. The analyses were performed using Stata 17.

Table 2: Associations of four types of specific parenthood worries (model 1a) and the accumulation of parenthood worries (model 1b) on the predicted probability of a second birth among the parents ($N = 544$). Predicted probabilities, average marginal effects (AME), and their 95% confidence intervals (CI) are displayed for the four types of parenthood worries along with the accumulation (sum) of worries

Parenthood worries	Second birth (0 = no, 1 = yes)	
	<i>Predicted probability of a second birth</i>	<i>AME (%)^a 95% CI</i>
<i>Model 1a: Specific worries</i>		
Parenting skills adequacy		
No	67.01	-5.05
Yes	61.97	(-13.64; 3.54)
Ability to cope		
No	68.66	-5.86
Yes	62.80	(-14.56; 2.84)
Losing control in conflict situations with the child		
No	64.58	-0.29
Yes	64.87	(-8.11; 8.69)
Loneliness, having sole responsibility for parenting		
No	65.56	-3.53
Yes	62.03	(-12.87; 5.81)
<i>Model 1b: Accumulation of worries</i>		
	<i>Predicted probability of a second birth</i>	<i>AME (%)^b 95% CI</i>
Accumulation of worries ^c		
No worries	70.48	-3.37*
1 worry vs. No worries ^b	67.28	(-6.59; -0.16)
2 worries vs. 1 worry ^b	63.93	(-6.08; -0.32)
3 worries vs. 2 worries ^b	60.44	(-6.54; -0.17)
4 worries vs. 3 worries ^b	56.85	(-6.92; -0.06)
		(-7.39; -0.00)

Note: In all the models, we controlled for the background characteristics of the participants (i.e., the age, educational level, and employment situation of the parent, age of the first-born child, union type, and income level of the family), parent's gender, and the sufficiency of spousal support in parenting.

^aAME is computed as the difference between the predicted probabilities of no worry vs. yes worry.

^bAME is computed as the difference between the predicted probabilities of two successive worries.

^cThe accumulation of worries has been modeled as a continuous variable. In the subsequent analyses, the parenthood worries have been modeled as discrete variables (e.g., 1 worry [no, yes] vs. 2 worries [no, yes]).

*Statistically significant as the 95% CI does not include 0

4. Results

In terms of the extent to which the four types of specific parenthood worries and the accumulation of worries predicted the probability of a second birth for all parents (RQ1), the AMEs reported in Table 2 (model 1a) indicate that none of the four specific worries were statistically significantly associated with the probability of a second birth. However, the accumulation of worries statistically significantly predicted the probability of a second birth at the level of the whole sample (Table 2, model 1b); that is, the more worries the parent reported, the less probable was a second birth. As Table 2 shows, the probability of having a second child decreased *on average* by 3.37 percentage points with an additional worry. To be more specific, we examined how much the probability of a second birth decreased with each additional worry. For example, parents who reported having one worry had a 3.20 percentage points lower probability of a second birth compared with parents with no worries. To illustrate this difference at the extreme ends, for parents with no worries, the probability of a second birth was 70.48 percent, whereas for those with four worries, the probability was only 56.85 percent, which indicates a 13.63 percentage point difference between these groups of parents.

Table 3: Associations of the four types of parenthood worries on the probability of a second birth among the mothers and fathers (model 2a) and parents with insufficient and sufficient spousal support in parenting (SoSS). Predicted probabilities, average marginal effects (AME), difference in the predicted probabilities between the groups, and their 95% confidence intervals (CI) are displayed

Parenthood worries	Predicted probability of a second birth				Second birth (0 = no, 1 = yes)		2 nd difference AME (%) 95% CI
	Mother		Father		1 st difference AME (%) 95% CI	Gender × worry interaction	
<i>Model 2a: Specific worries by gender</i>							
	Yes worry	No worry	Yes worry	No worry	Mother Yes vs. No worry	Father Yes vs. No worry	Gender × worry interaction
Parenting skills adequacy	62.63	66.62	60.58	67.40	-4.00 (-14.08; 6.09)	-6.82 (-21.72; 8.08)	2.82 (-14.85; 20.49)
Ability to cope	63.04	68.76	61.98	68.58	-5.72 (-16.60; 5.15)	-6.59 (-21.26; 8.07)	0.87 (-17.83; 19.57)
Losing control in conflict situations with the child	66.96	62.68	54.65	68.60	4.28 (-5.66; 14.21)	-13.95 (-31.42; 3.52)	18.23 (-2.48; 38.94)
Loneliness, having sole responsibility for parenting	63.84	65.12	37.74	66.91	-1.28 (-11.80; 9.25)	-29.17* (-57.19; -1.15)	27.90 (-2.21; 58.00)
<i>Model 3a: Specific worries by the SoSS</i>							
	Sufficient spousal support		Insufficient spousal support		Sufficient spousal support		SoSS × worry interaction
	Yes worry	No worry	Yes worry	No worry	Yes vs. No worry	Yes vs. No worry	SoSS × worry interaction
Parenting skills adequacy	65.76	66.43	46.71	71.92	-0.68 (-10.02; 8.66)	-25.21* (-43.50; -6.92)	24.53* (4.11; 44.96)
Ability to cope	62.82	72.21	60.50	44.84	-9.40* (-18.51; -0.28)	15.66 (-6.18; 37.49)	-25.05* (-48.56; -1.54)
Losing control in conflict situations with the child	67.57	65.18	52.90	62.55	2.39 (-6.55; 11.33)	-9.65 (-31.57; 12.28)	12.04 (-11.48; 35.56)
Loneliness, having sole responsibility for parenting	62.74	66.92	56.64	57.67	-4.18 (-14.94; 6.58)	-1.03 (-20.01; 17.95)	-3.15 (-25.02; 18.72)

Note: In all the models, we controlled for the background characteristics of the participants (i.e., the age, educational level, and employment situation of the parent, age of the first-born child, union type, and income level of the family). In addition, we controlled for sufficiency of spousal support in analyses related to Model 2a and parent's gender in analyses related to Model 3a.

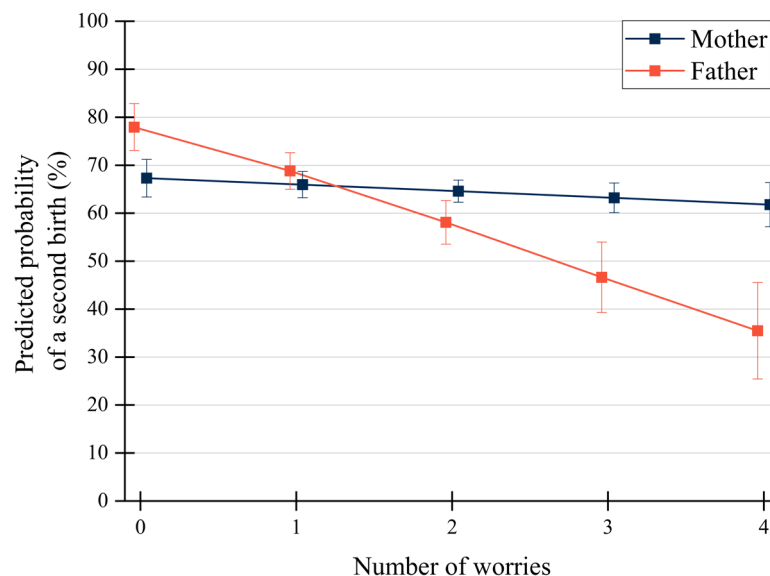
*Statistically significant as the 95% CI does not include 0

Next, we studied the interaction effect of the parent's gender on the associations of the four types of parenthood worries and the accumulation of worries on the probability of a second birth (RQ2). Regarding the specific worries, we discovered no statistically significant interaction effects predicting the probability of a second birth between gender and any of the four worries (see Table 3, model 2a). This suggests that there are no differences between genders. In terms of the worry over loneliness or having sole responsibility for parenting, this result is surprising given that the difference between the first difference AMEs between the

gender groups was visibly large (i.e., 27.90 percentage points). However, the non-statistically significant result can possibly be explained by that the confidence interval related to the second difference *AME* is wide, which may stem from small group frequencies. Thus, it is plausible that the interaction analysis lacks statistical power and fails to depict a statistically significant effect. However, the results within the gender groups reported in Table 3, show that fathers who worried about loneliness or having sole responsibility for parenting had a 29.17 percentage points lower probability of a second birth than fathers with no such worry.

Our results further revealed a statistically significant interaction effect between gender and the accumulation of worries in relation to the probability of a second birth (Table 4, model 2b). Figure 1 graphs this effect, which suggests that each additional worry decreases the probability of a second birth significantly more for fathers compared to mothers. For example, as shown in Table 4, the probability of a second birth was 7.80 percentage points lower for fathers compared with mothers when parents with no worries were contrasted to those with one worry. All in all, the interaction results highlight that the effect of the accumulation of worries on the probability of a second birth seems to result primarily from fathers' worries.

Figure 1: Interaction effect of parent's gender and the accumulation of parenthood worries on the predicted probability of a second birth



Source: Longitudinal survey data collected as part of the projects CHILDCARE as well as Early Childhood Education and Care and the COVID-19 Pandemic

Finally, we compared the associations of the four types of specific parenthood worries and the accumulation of worries on the probability of a second birth between parents who received insufficient and sufficient spousal support in parenting (RQ3). We found a statistically significant interaction effect between two specific worries and the sufficiency of spousal support in relation to the probability of a second birth (Table 3, model 3a). First, the negative association between worry about the adequacy of the parenting skills and the probability of a second birth was statistically significantly stronger for parents who received insufficient spousal support than for parents with sufficient spousal support in parenting. The difference stems from that the first difference *AME* for the group insufficient spousal support (i.e., the difference in the predicted probabilities between the groups Yes worry vs. No worry) was statistically significantly larger than that for the other group. Specifically, our result suggests that among parents who received insufficient spousal support, those who were concerned about their parenting skills adequacy had a 25.21 percentage points lower probability of a second birth than those who did not experience such worry, whereas among parents who received sufficient spousal support in parenting, no such difference between the worry groups was discovered.

Second, the results showed that the association of worry about the ability to cope on the probability of a second birth was statistically significantly different for parents who received sufficient spousal support compared with parents who received insufficient spousal support in parenting. That is, among parents who received sufficient spousal support, those who were worried about their ability to cope had a 9.40 percentage points lower probability of a second birth compared to those who did not worry about this issue, whereas we did not find such difference between the worry groups for parents who received insufficient spousal support in parenting. One should be careful when interpreting the result for the group insufficient spousal support, however, because of the small group frequencies, which most likely results in wide confidence intervals and thus non-significant first difference *AME*. Also, the sign for the first difference *AME* in this group was in unexpected direction. Finally, according to our results, there was no interaction effect between the accumulation of worries and the sufficiency of spousal support in relation to the probability of a second birth (Table 4, model 3b).

Table 4: Associations of the accumulation of parenthood worries on the probability of a second birth by parents' gender and the sufficiency of spousal support in parenting (SoSS). The first and second difference average marginal effects (*AME*) separately for mothers ($n = 390$) and fathers ($n = 154$), along with parents with insufficient ($n = 88$) and sufficient spousal support ($n = 450$), and their 95% confidence intervals (*CI*) are presented

Parenthood worries	Second birth (0 = no, 1 = yes)					
	<i>Model 2b: Gender × worry interaction</i>			<i>Model 3b: SoSS × worry interaction</i>		
	1 st difference		2 nd difference	1 st difference		2 nd difference
	<i>AME</i> (%)		<i>AME</i> (%)	<i>AME</i> (%)		<i>AME</i> (%)
95% <i>CI</i>		95% <i>CI</i>	95% <i>CI</i>		95% <i>CI</i>	
	Mother	Father		Sufficient spousal support	Insufficient spousal support	
Accumulation of worries ^a	-1.38	-10.00*	8.62*	-2.69	-6.97	4.27
	(-4.91; 2.15)	(-16.03; -3.98)	(1.91; 15.33)	(-6.12; 0.73)	(-14.80; 0.86)	(-4.06; 12.61)
1 worry vs. No worries	-1.35	-9.14*	7.80*	-2.58	-6.13*	3.56
	(-4.70; 2.01)	(-14.23; -4.05)	(1.96; 13.63)	(-5.72; 0.56)	(-11.86; -0.40)	(-2.80; 9.90)
2 worries vs. 1 worry	-1.37	-10.71*	9.33*	-2.69	-6.70	4.01
	(-4.86; 2.11)	(-17.88; -3.53)	(1.63; 17.04)	(-6.10; 0.73)	(-14.00; 0.60)	(-3.85; 11.87)
3 worries vs. 2 worries	-1.39	-11.45*	10.06*	-2.78	-7.07	4.29
	(-5.00; 2.21)	(-19.17; -3.74)	(1.81; 18.31)	(-6.42; 0.86)	(-15.33; 1.19)	(-4.53; 13.11)
4 worries vs. 3 worries	-1.42	-11.16*	9.74*	-2.86	-7.19	4.33
	(-5.12; 2.29)	(-17.43; -4.89)	(2.70; 16.79)	(-6.67; 0.96)	(-15.56; 1.18)	(-4.65; 13.32)

Note: In all the models, we controlled for the background characteristics of the participants (i.e., the age, educational level, and employment situation of the parent, age of the first-born child, union type, and income level of the family). In addition, we controlled for the sufficiency of spousal support in analyses related to Model 2b and parent's gender in analyses related to Model 3b.

^aAccumulation of worries has been modeled as a continuous variable. In the subsequent analyses, the parenthood worries have been modeled as discrete variables (e.g., 1 worry [no, yes] vs. 2 worries [no, yes]).

*Statistically significant as the 95% *CI* does not include 0

5. Discussion

This study has sought to address a gap in knowledge about the extent to which first-time parents' parenthood worries predict the probability of the birth of a second child, and whether these associations differ according to the parent's gender or the sufficiency of spousal support in parenting. With *Hypothesis 1a*, we expected four types of specific parenthood worries to predict lower probability of a second birth for first-time parents; we proposed that having simultaneous worries about various aspects of parenthood lowers first-time parents' parenting self-efficacy (Bandura, 1982, 1997), which indicates a belief of not being capable of parenting a child (de Montigny & Lacharité, 2005) and can lead to an overall negative experience of early parenthood that possibly discourages parents from having another child.

Our results did not provide support for the first hypothesis regarding specific worries, but regarding the accumulation of worries among all parents, our results confirmed our original expectation (*Hypothesis 1b*) by showing that a second birth was significantly less probable when the parents reported having several worries. Yet, our results further revealed that this effect primarily stemmed from the worries of the fathers, which

indicates that each additional worry was associated with a lower probability of a second birth for fathers compared with mothers. This result also supported our hypothesis about gender differences (*Hypothesis 2b*) as we speculated that fathers' decisions about having another child could be more likely to be affected by parenthood worries than those of mothers. This is because mothers may have more resources to support their parenting, including the possibility to receive support from the nurse in child health clinics and learning new parenting practices through parenting literature (Fox, 2009), which potentially relieve their parenthood worries and thereby support their parenting self-efficacy (Bandura, 1982, 1997). Furthermore, as the primary caregivers (Eerola et al., 2021), mothers may gain more experience and confidence in parenting compared with fathers, which can strengthen their certainty about being able to manage with another child. Fathers, again, may trust more in their common sense over expert advice on parenting (Shirani et al., 2012) and rely more on informal rather than formal help (Lähteenmäki et al., 2017). Such practices may not associate with such effective learning outcomes or the relief of worries and potentially discourage them from having another child.

In terms of gender differences in relation to the associations between the four specific parenthood worries and the probability of a second birth (*Hypothesis 2a*), our analysis indicated no differences between mothers and fathers. This suggests that having specific worries predicts the probability of a second birth in a similar fashion for both genders. Nonetheless, we interestingly discovered that among fathers who experienced *loneliness or having sole responsibility for parenting* were less likely to have a second child than fathers not worrying about this issue. Fathers of young children are found to experience loneliness due to domestic and social isolation (Newman, 2008; Widarsson et al., 2013). It is thus probable that such worries result from these fathers perceiving the division of parenting responsibilities at home as unfair or unequal, which may further result in a negative attitude towards having another child. This supposition is supported by previous findings showing that couples tend to either postpone a second birth or be less likely to have another child if the fathers perceive they are contributing their 'fair share' on childcare (Luppi, 2016) or their share of childcare in couples is well above the overall male average (Miettinen et al., 2015). Furthermore, contradictions between parents' attitudes and the realized division of household labour are also found to associate with lower progressions to a second child (Aassve et al., 2015). Hence, if the father perceives that his involvement in the family sphere is greater than he originally expected, or greater than that of the mother's, he may worry about loneliness or sole responsibility for parenting, which can be discouraging in terms of having more children.

The complex and somewhat contradictory normative and practical realities of first-time fathers can also contribute to their worries about loneliness or having sole responsibility for parenting. Indeed, the 'double duty' resulting from the combination of the expectations towards fathers' involvement in care, the actual increase in fathers' time spent in childcare (Ylikännö et al., 2015), and their roles as the primary breadwinners in a family (Edlund & Öun, 2016, 2023) can leave them in a strong 'cultural contradiction' between work and home (Faircloth, 2021). These fathers may thus have doubts about their efficacy to manage the combined demands associated with work and parenthood (Bandura, 1997), which potentially leads to the decision to withdraw from having another child. This conclusion resonates with gender equity theory by McDonald (2013), which proposes that low fertility can result from a dilemma between the competing goals of work and family roles experienced by women. However, it is possible that the 'double duty' contributes also to new fathers' difficulties in combining their desire in being involved in the family sphere with the demands from the masculine work environments that potentially devalue the importance of the family (Ylikännö et al., 2015; see also Okun & Raz-Yurovich, 2019). Given that work-family conflict is recognized as a significant concern for contemporary new fathers (e.g., Ghaleiha et al., 2022) and found to negatively correlate with parental self-efficacy (Cinamon et al., 2007), our findings point to the need for more research about the effect of work-family experiences on subsequent childbearing among fathers.

Regarding the role of the sufficiency of spousal support in the associations between the four specific parenthood worries and the probability of a second birth, our analysis indicated two main findings. First, partially in line with our *Hypothesis 3a*, we found that among parents who received insufficient spousal support in parenting, those who were concerned about their *parenting skills adequacy* were less likely to have another child compared to their counterparts with no such worry, whereas no such association was found for parents who received sufficient spousal support in parenting. Worrying about the adequacy of their parenting skills is probable for both new mothers and fathers, possibly due to their inexperience in parenting and childcare (e.g., Fox, 2009; Johansson et al., 2016), the feelings of guilt especially for mothers but also for fathers (e.g., Barimani et al., 2017; Schmidt et al., 2022), and the competing responsibilities attached to work

and family (e.g., Fox, 2009; Shirani et al., 2012). Although we expected that receiving spousal support would facilitate such worries and thereby encourage parents to continue childbearing through support facilitating parenting performance and promoting parenting self-efficacy (Bandura, 1997), it is also conceivable that the combination of not receiving such support *and* having worries about their parenting skills adequacy does not encourage having another child. Parents with such worries would have most likely benefitted from spousal support to relieve their worries.

The second finding also partly agreed with *Hypothesis 3a*, as our results showed that among parents who received sufficient spousal support in parenting, those who were worried about their *own ability to cope* had a lower probability of a second birth compared to those who did not have such worry. Yet, no such association was discovered for parents who received insufficient support from their spouse. Overall, the negative association between such worry and the probability of a second birth was expected, because of the inexperience of new parents (e.g., Sanders et al., 2023) coupled with the intensiveness and demandingness of their new roles as parents (e.g., Fox, 2009; Johansson et al., 2016; Luppi, 2016; Sevón, 2007). However, we further expected that receiving sufficient spousal support in parenting would have had a facilitating impact on the experience of parenthood worries (e.g., Fox, 2009; Gillis et al., 2019), and thereby to buffer the negative association between worrying about the ability to cope and the probability of a second birth. However, it is plausible that parents with sufficient support from the spouse received less support from their wider social network. Indeed, childcare support from grandparents, for example, is shown to increase the probability of subsequent births among parents even when ECEC services are available (e.g., Kaptijn et al., 2010). However, we did not account for grandparental support in our analyses. Another explanation to our finding, and the one discussed above, may relate to the variable used to measure the sufficiency of spousal support in parenting. Accordingly, our variable did not distinguish whether the support was practical or emotional in nature nor did it specify whether the practical support related to childcare, which is demonstrated to have a positive effect on subsequent childbearing (see Cheng & Hsu, 2020; Miettinen et al., 2015), or to, for instance, household chores instead. Overall, in future studies, it would be important to distinguish between these different types of spousal support in studying its effect on the association between parenthood worries and subsequent childbearing.

5.1 Limitations

A limitation of our study was that our sample was biased in terms of the high educational backgrounds of the respondents, which may explain the non-significant associations between specific worries and a second birth among the mothers. As highly educated Finnish parents often have precisely two children (Jalovaara et al., 2021), a sample with more variability in the educational background could have yielded different results. In addition, most of our respondents were married, which may have also influenced our findings given that being married compared to living in a cohabiting union has been found to have a positive association with a second birth (see e.g., Goldscheider et al., 2013). Even though we controlled for both the educational level and union type in the analyses, it is possible that they might not have entirely accounted for these differences. Furthermore, we did not have information about whether the couples were pregnant during waves 2 and 3, or about experienced miscarriages or stillbirths as reasons for the non-occurrence of a second birth. In 2010, less than 9 percent of Finnish women experienced secondary infertility—that is, not being able to have another child despite their desire to have one (Mascarenhas et al., 2012). Also, information about the parents' preferred number of children or childbearing intentions during the first wave would have helped us to distinguish between those first-time parents who were and were not planning to have another child to begin with. This would also have enabled us to examine whether the parenthood worries moderate the association between the second-birth intentions and the realization of the second birth. Furthermore, because parenting and the decision making around subsequent childbearing is, in most cases, a dyadic issue, couples' intentions and decisions about subsequent childbearing also affect one another. However, due to the small number of couples in the data ($n_{couples} = 95$), we were not able to investigate the crossover effect of the partners' parenthood worries on subsequent childbearing. However, the couple effect was accounted for in the analyses. It would, nevertheless, be important in future studies to examine the influence that the experiences of worries of the individual parents have on the couple's decision about having another child. Finally, the small frequencies in some of the studied groups, as discussed in the results section, may have reduced the statistical power, and thus resulted in an inability to detect differences between the groups (i.e., type II error).

5.2 Practical implications

The findings of this study help in pointing to certain areas where support measures could be directed to help parents who desire to have more than one child or are unsure about having another one but for whom parenthood worries, or otherwise negative early parenting experiences, form an obstacle for realizing those desires. Considering our findings, it would be important to support new parents and especially fathers in early parenthood *should it be needed*. Peer support is valued among Finnish first-time fathers (Lähteenmäki et al., 2020), and such support would undoubtedly reduce new fathers' experience of loneliness, one source of worry that predicted lower probability of a second birth. Interactive game-based mobile- or web-based peer group sessions, which new parents find meaningful, could provide opportunities for contemporary fathers to receive peer support; however, currently, such online forums for fathers do not exist in Finland (Kokkinen et al., 2024). Furthermore, professionals working in child health clinics or family clinics could be an important source of support in early parenthood (Barimani et al., 2017; Rautio, 2012), in addition to which various NGOs offer support services to families, such as assistance and advice on parenting and opportunities for parents to connect with peers. However, there is a need to make parents, especially fathers aware of these services and enable as well as encourage them to utilize them.

5.3 Conclusions

The findings of the present study have provided novel insights into the significant impact of first-time parents', and particularly fathers', parenthood worries and spousal support in early parenthood on subsequent childbearing. A central question that follows is, how are parenthood worries or insufficient spousal support reflected on the couple dynamics in which the decision concerning subsequent childbearing is made? This is an important question for future studies, given that women's subsequent childbearing intentions compared to those of men have somewhat greater influence over the actual decision to have a second child (Duvander et al., 2017; Testa & Bolano, 2021). Yet, our findings suggest that fathers' experiences are also important in terms of the subsequent childbearing decisions made within couples. Indeed, parents (including mothers) tend to revise their expected number of children downwards when their partners expect to have fewer children than they do (Iacovou & Tavares, 2011; see also Matias & Fontaine, 2017). Therefore, it would be vital to explore the crossover impact of early parenthood experiences on the decision to have more children (i.e., how fathers' worries influence mothers' subsequent childbearing desires or intentions and vice versa). Overall, continued efforts are needed to seek a more profound understanding of the ways early parenthood experiences may impede or promote subsequent childbearing among first-time parents.

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Data availability statement

The data used for waves 1 (2016) and 2 (2019) are available to registered users from the Finnish Social Science Data Archive (<https://services.fsd.tuni.fi/catalogue/series/91?tab=studies&lang=fi>). The data for wave 3 (2020) are available from the authors upon reasonable request.

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Information in German

Deutscher Titel

Erschweren Elternsorgen die Geburt eines zweiten Kindes? Unterschiede je nach Geschlecht des Elternteils und Unterstützung durch den Ehegatten in Finnland

Zusammenfassung

Fragestellung: In dieser Studie wird untersucht, inwieweit die Erfahrung von Elternschaftssorgen bei finnischen Ersteltern die Wahrscheinlichkeit einer zweiten Geburt vorhersagt und ob sich die Assoziationen je nach Geschlecht des Elternteils oder der ausreichenden Unterstützung der Ehegatten bei der Elternschaft unterscheiden.

Hintergrund: Der Verzicht von Erstgebärenden auf die Geburt eines zweiten Kindes steht in Zusammenhang mit sinkenden Geburtenraten in Finnland und vielen anderen Ländern mit hohem Einkommen; daher bedarf es eines besseren Verständnisses darüber, warum Eltern möglicherweise auf eine spätere Geburt eines Kindes verzichten.

Methode: Wir nutzen Längsschnittdaten, die von finnischen Eltern (N = 544) in drei Wellen (2016–2020) erhoben wurden.

Ergebnisse: Die Ergebnisse zeigen, dass das Erleben von Elternsorgen einen signifikanten Einfluss auf die Wahrscheinlichkeit einer zweiten Geburt hat. Konkret bedeutete die Anhäufung von Sorgen um die Elternschaft für die Eltern eine geringere Wahrscheinlichkeit einer zweiten Geburt, und jede zusätzliche Sorge verringerte die Wahrscheinlichkeit für Väter deutlich stärker als für Mütter. Obwohl wir keine geschlechtsspezifischen Unterschiede in Bezug auf den Zusammenhang zwischen bestimmten Elternsorgen und der Wahrscheinlichkeit einer zweiten Geburt fanden, zeigten unsere Ergebnisse, dass Väter, die sich Sorgen um Einsamkeit oder die alleinige Verantwortung für die Erziehung machten, weniger wahrscheinlich ein zweites Kind bekamen als Väter, die keine derartigen Sorgen hatten. Schließlich fanden wir einen Unterschied in den Zusammenhängen zwischen zwei Sorgen und der ausreichenden Unterstützung durch den Ehepartner im Verhältnis zur Wahrscheinlichkeit einer zweiten Geburt: Erstens hatten von denjenigen Eltern, die bei der Erziehung unzureichende Unterstützung durch den Ehepartner erhielten, diejenigen, die sich Sorgen um die Angemessenheit ihrer Erziehungskompetenzen machten eine geringere Wahrscheinlichkeit einer zweiten Geburt als diejenigen, die keine derartigen Sorgen haben. Zweitens war die Sorge um die eigene Bewältigungsfähigkeit bei Eltern mit ausreichender Unterstützung durch den Ehegatten mit einer geringeren Wahrscheinlichkeit einer zweiten Geburt verbunden als bei Eltern, die sich keine solchen Sorgen machten.

Schlussfolgerung: Unsere Ergebnisse liefern neue Erkenntnisse über den potenziellen Einfluss von Elternsorgen bei Ersteltern und über die Rolle der ehelichen Unterstützung bei der späteren Geburt eines Kindes.

Schlagwörter: Geburt, Fruchtbarkeit, Elternschaft, Fortschreiten der Parität, zweite Geburt, nachfolgende Fruchtbarkeit

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