

# A Systematic Review of the Effects of Paternity Leave on the Health and Well-Being of Mothers and Children

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## Abstract

**Background:** The role of fathers in childcare is increasingly recognized as essential to promoting family well-being, particularly through the provision of paternity leave policies that enable fathers to participate actively in caregiving during the early stages of a child's life. Empirical evidence suggests that paternal involvement has significant positive impacts on maternal health and child development. However, the implementation and effectiveness of paternity leave policies remain inconsistent across countries, with many failing to utilize them optimally to support familial health.

**Objective:** This systematic review aims to evaluate the impact of paternity leave on maternal and child health by synthesizing findings from recent quantitative studies on policy implementation.

**Methods:** Following PRISMA guidelines, a systematic search was conducted across PubMed, ScienceDirect, Scopus, EBSCOhost, and SpringerLink, targeting articles published between 2019 and 2024. Eligible studies included quantitative analyses assessing the effects of paternity leave on health outcomes among fathers, mothers, and children. Studies focusing solely on maternity leave or lacking relevant health outcomes were excluded. Two independent reviewers assessed the quality and relevance of the selected studies.

**Results:** Of 712 articles identified, 15 met the inclusion criteria. Findings consistently showed that paternity leave was associated with reduced postpartum depression, prolonged breastfeeding duration, and improved child health outcomes, although variations in policy structure and implementation were noted.

**Conclusion:** Paternity leave significantly contributes to maternal mental health, supports breastfeeding practices, and enhances child development. These findings underscore the necessity for more equitable and standardized paternity leave policies to support family health.

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## Background

The significance of paternal engagement in childcare is progressively acknowledged worldwide, particularly concerning the advancement of familial health and welfare, alongside initiatives for gender equality (Yogman & Eppel, 2022). A fundamental idea of effective parenting is bonding, defined as the emotional connection between parents and children (Kinsey & Hupcey, 2013). This tie, first examined primarily within the mother-child context, is now acknowledged as significant in the father-child relationship as well (World Health Organization, 2024; Diniz, Brandao, & Verissimo, 2023; Garcia et al., 2022). Additional research indicates that paternal involvement in parenting during childhood not only enhances children's health and physiological stress regulation in adulthood but also diminishes the likelihood of drug and tobacco use and improves children's emotional and social regulatory skills (Choi et al., 2021; Maselko et al., 2019; Rossin-Slater & Stearns, 2020).

Paternity leave is an essential support mechanism for parenting, significantly influencing both a parent's work-life balance and the distribution of caregiving responsibilities at home (Pilkauskas & Schneider, 2020; Pizarro & Gartzia, 2024). In many parts of Eastern Europe and Asia, women spend, on average, three additional hours per day on unpaid care work, including childcare, with the prevailing belief being that childcare is predominantly the woman's responsibility (UNFPA, 2023). To address these gender imbalances, paternity leave policies in OECD countries aim to foster fathers' involvement in caregiving and promote gender equality (Fluchtmann, 2023; Bipartisan Policy Center, 2022). According to (United Nations, 2024) "This policy aligns with the pursuit of sustainable development goals, particularly SDG 3 (excellent health and well-being) and SDG 5 (gender equality)." Despite these legislative advancements, paternity leave has not always been effective in encouraging fathers to take on primary caregiving roles (Duvander & Johansson, 2019; Gartzia, 2023). Therefore, understanding the key factors that influence the success of paternity leave policies remains a challenge in both organizational research and gender equality initiatives (Jurado-Guerrero & Muñoz-Comet, 2021).

The paternity leave policy not only benefits children but also positively influences the health and welfare of mothers. Research indicates that partner support after childbirth is essential for preventing issues such as baby blues syndrome and postpartum depression, enhancing the success of exclusive breastfeeding, and promoting other maternal health behaviors (Panahi et al., 2022; Rahadian et al., 2020; Sangsawang et al., 2022; White et al., 2022).

Although extensive evidence suggests a positive impact of paternity leave on both maternal and child health, the outcomes vary across different contexts, with some studies yielding contradictory findings. This variability is partly due to the differing durations of paternity leave, ranging from a few days to several months, which can influence the observed outcomes. Such inconsistencies underscore the need for a thorough investigation to clarify the true effects of paternity leave on the health and well-being of mothers and children.

## Methods

### Study design

The literature search was performed in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) checklist procedure (Page et al., 2021). Ethical approval was not required for this review as it does not involve clinical studies or patient data. However, ethical considerations were maintained by adhering to established guidelines for systematic reviews, including ensuring transparency and objectivity in study selection and data analysis.

### Search methods

We utilize the Population, Intervention, Comparison, Outcome, and Study Design (PICOS) framework (Amir-Behghadami & Janati, 2020). Articles are incorporated into a systematic review if they satisfy the subsequent criteria: (1) published within the last five years (2019-2024); (2) conducted either nationally and internationally; (3) including a research sample that consists of fathers, mothers, and children to assess how paternity leave influences the health and overall well-being of both mothers and children; (4) and serving as the main analysis of quantitative research, such as cross-sectional studies, case-control studies, cohort studies, and randomized controlled trials. An article is excluded if: (1) the full text is irretrievable; (2) it exclusively addresses maternity leave without considering paternity leave; (3) it constitutes an opinion piece, editorial, book chapter, or brief review article; (4) it involves animal subjects;

(5) it fails to evaluate maternal and child health outcomes (e.g., studies that solely investigate economic or corporate effects).

### Search Outcomes

We conducted literature searches across PubMed, Science Direct, SCOPUS, EBSCOhost, and Springer Link for studies published between 2019 and 2024. The selection of these databases was based on their relevance to the research topic, as they provide comprehensive access to peer-reviewed articles in health and social sciences. Table 1 details the search terms and filters applied in each database. All data were compiled and managed using Rayyan software, enabling duplicate removal and screening of unique study titles and abstracts according to eligibility criteria, carried out by two independent reviewers.

### Quality Appraisal

Two members of the research team independently evaluated the quality of the chosen studies utilizing the Quality Assessment Tool for Quantitative Studies from the Effective Public Health Practices Project (Armijo-Olivo et al., 2012). Each article was evaluated as weak, moderate, or strong across six categories: selection bias, study design, confounder control, blinding, data collection methods, and withdrawal or dropout. Evaluations were conducted based on predefined criteria for each category, minimizing bias through the use of objective measures. In cases of discrepancy, a third independent reviewer was involved to resolve differences. Articles were ranked overall based on the evaluations across all six categories.

**Table 1.** Search terms and filters for each database search

Database	#	Search terms and filters
PubMed	1	(("Parental Leave" OR "Paternity Leave" OR "Family Leave") AND ("Maternal Health" OR "Child Health" AND 2019:2024 [pdat]))
Science Direct	1	(("Parental Leave" OR "Paternity Leave" OR "Family Leave") AND ("Maternal Health" OR "Child Health" AND 2019:2024 [pdat]))
Scopus	1	(("Parental Leave" OR "Paternity Leave" OR "Family Leave") AND ("Maternal Health" OR "Child Health" AND 2019:2024 [pdat]))
EBSCOhost	1	(("Parental Leave" OR "Paternity Leave" OR "Family Leave") AND ("Maternal Health" OR "Child Health" AND 2019:2024 [pdat]))
SpringerLink	1	(("Parental Leave" OR "Paternity Leave" OR "Family Leave") AND ("Maternal Health" OR "Child Health" AND 2019:2024 [pdat]))

[pdat] means Publication date range

### Data Abstraction

Following the independent screening of titles and abstracts, the research team reviewed the full texts of the eligible studies to ensure compliance with the inclusion criteria. Disputes over study inclusion were resolved by discussion among reviewers, and where consensus could not be reached, a third reviewer adjudicated. We constructed two tables to encapsulate the attributes of the selected studies: primary author and year of publication; location; data sources; duration of data collection; study design; sample; paternity leave policy; comparison of paternity leave durations; effects on maternal health and well-being; and effects on children's health and well-being.

### Data Synthesis and Analysis

The data were synthesized descriptively due to significant differences in the definitions of "paternity leave" and its impact on maternal and child health and well-being. We considered alternative methods, such as subgroup analyses or meta-regression, but found that these approaches were not feasible due to the variability in study designs and definitions. Therefore, the study outlines its main findings, noting whether the reported associations reached statistical significance, indicated by a p-value of <0.05.

## Results

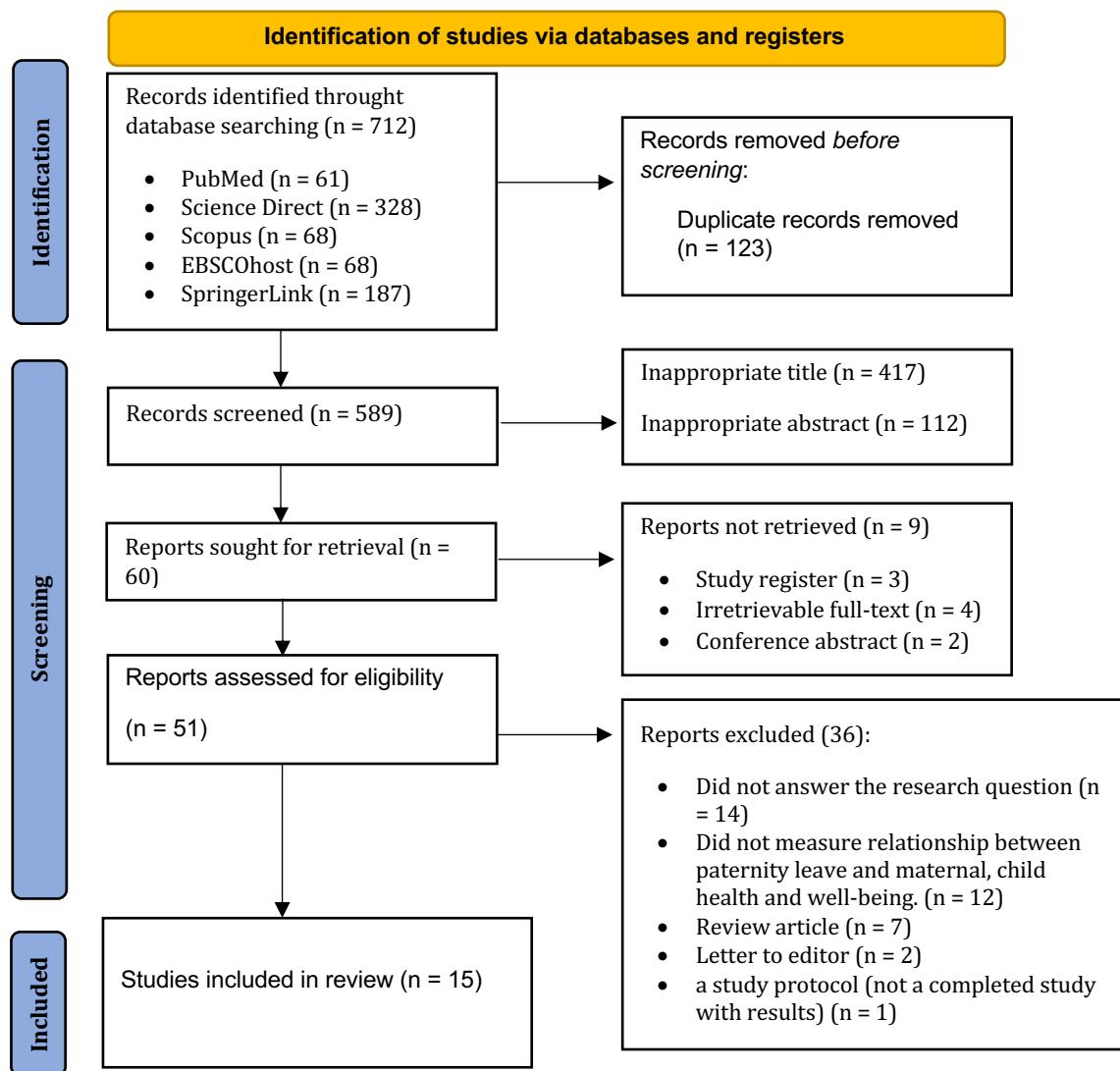
### Study Selection

We identified 712 papers through database searches (Figure 1). After removing 123 duplicate articles, 589 papers remained for title and abstract evaluation. Following the screening process, we excluded 529 articles, leaving 60 full-text reports for further evaluation. Nine reports were not retrieved,

and we evaluated the remaining fifty-one for eligibility. We excluded 35 articles for the following reasons: failure to address the research question (n=14), lack of measurement regarding the relationship between paternity leave and maternal child health and well-being (n=12), classification as a review article (n=7), requirement to send a letter to the editor (n=2), and designation as a study protocol rather than a completed study with results (n=1). Consequently, our systematic review included 15 studies.

### Study Characteristics

Table 2 provides a summary of the characteristics of the selected studies, and Figure 2 illustrates the distribution of study designs used across the 15 publications. The predominant type of studies identified were quasi-experimental, as evidenced by six articles (Bullinger, 2019; Irish et al., 2021; Kim, 2024; Lebihan & Mao Takongmo, 2023; Lee et al., 2020; Roy Choudhury & Polacheck, 2021). This approach frequently assesses policy impacts by contrasting the exposed group with the unexposed group regarding an intervention.

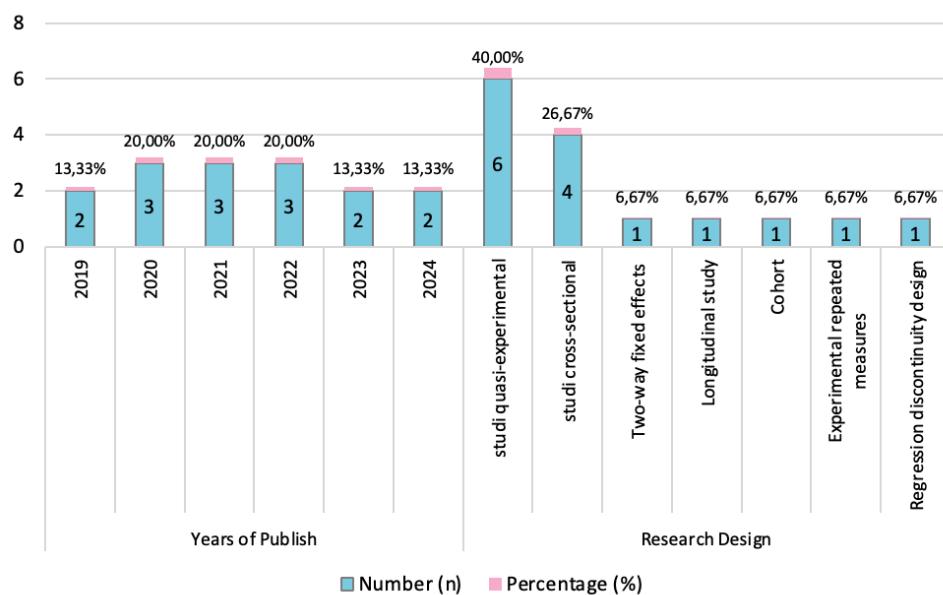


**Figure. 1** PRISMA flow diagram

Cross-sectional studies constituted the second most prevalent design, with four articles employing this methodology (Eeles et al., 2022; Grandahl et al., 2020; Rosenberg et al., 2024; Terada et al., 2022). The four investigations employed a cross-sectional design, albeit with varying analytical emphases. Some

assessed the mental health consequences of parents (Eeles et al., 2022; Terada et al., 2022) whereas others emphasize the length of breastfeeding (Grandahl et al., 2020; Rosenberg et al., 2024). The cohort design is utilized in one paper (Barry et al., 2023) where research is performed by longitudinally observing a cohort of persons.

The next four research employed diverse methodological approaches to assess the effects of parental leave programs. Khan (2020) utilized a two-way fixed effects model to examine paid leave policies in OECD countries, revealing that paid leave reduced newborn mortality rates and enhanced vaccine coverage. In a 2019 longitudinal study, Huebener and colleagues applied a difference-in-differences approach to evaluate the impact of Germany's parental leave reform, finding that the program had no significant effect on child development. Study Cardenas et al (2021) utilized a repeated-measures experimental design to assess the effects of paid paternity leave on parental mental health during the transition to parenting, demonstrating that paid leave enhances the mental well-being of both mothers and fathers. Canaan (2022) utilized a regression discontinuity design (RDD) to examine the extension of leave in France, revealing an escalation in gender inequality in labor force involvement and an adverse effect on children's verbal development. The four research present diverse outcomes, although collectively underscore the significance of paid leave policies for family health and gender equality.



**Figure 2. General Characteristics for Study Selection (n=15)**

These investigations were undertaken in several geographies, including one extensive study involving OECD countries (Khan, 2020), and the other research primarily concentrates on high-income nations, such as the United States (Bullinger, 2019; Cardenas et al., 2021; Irish et al., 2021; Kim, 2024; Lee et al., 2020; Rosenberg et al., 2024; Roy Choudhury & Polacheck, 2021), Japan (Terada et al., 2022), France (Barry et al., 2023; Canaan, 2022), Canada (Lebihan & Mao Takongmo, 2023), Australia (Eeles et al., 2022), Sweden (Grandahl et al., 2020), and German (Huebener et al., 2019).

## Synthesis of Results

### Maternal Psychological Well-being

Paid family leave (PFL) programs generally enhance maternal mental health, significantly decreasing postpartum depressive symptoms. PFL utilization correlated with a 4.1% decrease in the incidence of postpartum depression (OR = 0.82, CI: 0.75–0.89) and a 10% rise in the proportion of women indicating good mental health (Bullinger, 2019; Lee et al., 2020). Mothers whose partners took paternity leave experienced a lesser reduction in postpartum depressive symptoms compared to those whose partners did not take leave, with an odds ratio of 1.13 (95% CI: 1.05–1.20) (Barry et al., 2023; Cardenas et al., 2021). Paternity leave has been demonstrated to alleviate anxiety and stress, with 30% of mothers reporting a reduction in depressive symptoms when fathers utilize this time (Rosenberg et al., 2024).

Mothers who received enhanced support from their fathers during paternity leave showed notable increases in mental health (Huebener et al., 2019; Khan, 2020). However, certain papers indicate that mothers have a heightened risk of depression when their partners take leave (Canaan, 2022; Terada et al., 2022).

### **Maternal Physiological Well-being**

Compensated paternity leave positively influences the mother's physical well-being. Studies indicate that mothers with access to Paid Family Leave (PFL) experience a 28% decrease in sick days (OR = 0.72, CI: 0.55–0.94) and a 7% decline in adverse physical health conditions following the receipt of PFL (Bullinger, 2019; Khan, 2020). Mothers who utilize paid paternity leave demonstrate a notable enhancement in physical health, evidenced by a 15% improvement compared to those who forgo such leave (Huebener et al., 2019; Khan, 2020). The father's participation during paternity leave can alleviate the physical and psychological strain on mothers, consequently enhancing their overall physical health (Canaan, 2022; Huebener et al., 2019). Furthermore, studies indicate that women who utilize paternity leave exhibit notable enhancements in physical health, with a 15% increase in their overall well-being (Khan, 2020).

### **Child Physical Well-being**

The paid parental leave policy positively influences children's physical health. Children of mothers utilizing Paid Family Leave (PFL) exhibit a 15% higher likelihood of timely immunization, with an odds ratio of 1.15 (CI: 1.05–1.26) for complete vaccination (Bullinger, 2019; Rosenberg et al., 2024). Fathers' participation in child care during paternity leave enhances children's physical health, evidenced by a 10–15% reduction in hospitalization rates relative to children of parents who forgo leave (Khan, 2020). Children with engaged fathers exhibit fewer health issues, and evidence suggests that paternity leave used by fathers may mitigate delays in physical development (Eeles et al., 2022; Roy Choudhury & Polachek, 2021)

### **Child Mental Health**

The active participation of fathers during paternity leave positively influences the child's mental health, resulting in a 20% decrease in the likelihood of developing behavioral issues (OR = 0.80, CI: 0.70–0.90) (Grandahl et al., 2020; Rosenberg et al., 2024). Anxiety symptoms were reduced by 15% in children raised by parents who took extended leave (OR = 0.85, CI: 0.73–0.99), and there were fewer overall behavioral problems present (Lee et al., 2020). Increased paternal engagement during paid paternity leave helps alleviate maternal stress, therefore benefiting the child's mental health (Canaan, 2022; Cardenas et al., 2021). Research indicates that prolonged stressful events encountered by parents can lead to emotional development issues in their children later in life (Eeles et al., 2022). This underscores the need for parental support in fostering good emotional development in children.

**Table 2.** Characteristics of selected studies

Author (Year)	Location	Data Source	Data Period	Study Design	Sample	Parental leave policy	Parental leave measure comparisons	Impact on Maternal Health & Well-being	Impact on Child Health & Well-being
(Hueben er et al., 2019)	Germany	EP (German Socio-Economic Panel)	2005 - 2008	Longitudinal Study	28,987 children with comprehensive data on the four domains of child development.	Up to 14 months of compensated parental leave, with joint eligibility for both parents.	Prior to the reform, eligibility was contingent upon a means-tested benefit, restricting access; subsequent to the reform, eligibility transitioned to an earnings-related benefit, thereby enhancing participation in parental leave for both mothers and fathers.	Extended parental leave length correlates with enhanced mental health outcomes for mothers.	No substantial effect on children's developmental outcomes, encompassing verbal abilities, motor skills, socio-emotional stability, and preparedness for school at the age of six.
(Terada et al., 2022)	Japan	Japan COVID-19 and Society Internet Survey	2021	Cross-Sectional	1,194 fathers	Fathers are entitled to childcare leave until the child reaches one year of age.	Compare fathers who utilized paid leave with those who opted for unpaid leave or did not take leave at all.	Paternity leave correlates with diminished bonding, specifically elevated anger and rejection metrics.	Impaired bonding may hinder child growth and development, indicating a possibility of reduced breastfeeding rates.
(Grandahl et al., 2020)	Sweden	Swedish Pregnancy Planning Study	2012 - 2015	Cross-sectional Study	Eight hundred thirteen couples	Parental leave of up to 480 days, with 90 days allocated for each parent.	Duration of exclusive and partial breastfeeding among parents who utilized	Extended parental leave may promote a nurturing atmosphere for mothers, thereby	The extended duration of breastfeeding is positively associated with shared parental

(Carden as et al., 2021)	California (USA)	Unnamed longitudin al study on transition to parenthoo d	Experime ntal (repeated- measures design)	Seventy-two heterosexual couples cohabiting in California who reported on paternity leave and supplied prenatal and post-partum data.	California Paid Family Leave, initiated on July 1, 2004, permits employees to take up to 6 weeks of paid leave (55% of average salary, subject to a weekly maximum) if they have been employed in the year preceding the child's birth and have earned at least US\$300, to care for a newborn or adopted child, or for a seriously ill family member; this program, in conjunction with the Family and Medical Leave Act, offers job protection to qualifying employees.	extended shared parental leave compared to those who utilized shorter leave periods.	improving their mental health.	leave, enhancing health outcomes for newborns.
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(Kim, 2024)	California (USA)	Survey of Income and Program Participation (SIPP)	1996 - 2011	Quasi-experimental (difference-in-differences)	Mothers aged 18 to 45 at the time of childbirth and all fathers, irrespective of age, who reported employment at any time during the nine months before birth and had non-zero average earnings, as paid family leave pertains solely to those in the workforce.	California Paid Family Leave (CA-PFL) provides 6 weeks of compensated leave with a 55% wage replacement rate.	Health results of California parents post-CA-PFL compared to parents in states lacking paid leave, both prior to and following CA-PFL implementation.	Mothers indicated improved general health, fewer sick days, and less reliance on prescription medications.	Enhanced maternal health indirectly promotes child health outcomes by enabling improved caregiving practices, including extended breastfeeding duration and superior newborn health results.
		Etude Longitudinale Française depuis l'Enfance (ELFE) cohort study	2011	Cohort study	10,975 fathers and 13,075 mothers	Two weeks of compensated paternity leave at 80-100% of gross salary, subject to a daily limit.	Compared fathers who utilized paternity leave (4.5% incidence of post-partum depression) with those who planned to take it (4.8%) and those who did not take it (5.7%).	Elevated likelihood of postpartum depression in mothers whose spouses utilized paternity leave (OR 1.08, 95% CI 1.02–1.15)	Paternity leave correlates with enhanced father-child interactions, potentially improving child development outcomes.

(Eeles et al., 2022)	Australia	National survey data from parents of infants	November 2020 - February 2021	Retrospective, Cross-sectional	Two hundred thirty-one parents of infants born on or after January 1, 2013, were hospitalized to a neonatal critical care unit or special care nursery in Australia.	The Australian Government offers up to 18 weeks of paid parental leave at the national minimum wage and 2 weeks for secondary caregivers.	Comparison of mental health outcomes, financial stress, and caregiving experiences between parents of preterm and ill infants with parents of healthy infants.	During their infant's hospitalization, 83% of parents reported elevated levels of worry and sadness, while 76% of families faced considerable financial stress, which adversely impacted emotional well-being and parent-infant bonding. The expansion of paid parental leave in France led to heightened family specialization, with mothers being more inclined to leave the job market. This transition frequently results in adverse consequences for women's professions, as they may forfeit prospects for	Prolonged hospitalization induces considerable emotional and financial strain that affects newborn care and development.
(Canaan, 2022)	France	French labor force survey	1990 - 2002	Regression Discontinuity Design	150,000 households annually. Parents (mothers and fathers) aged 18 to 64 with a minimum of two children residing in the family	Up to three years of compensated parental leave, accompanied by financial rewards for parents.	Analyzes parental leave outcomes in relation to labor force participation and work hours prior to and during the legislation that expanded benefits.	Prolonged parental leave correlates with negative verbal development in children, leading to heightened risks of subpar language evaluation scores, attributable to restricted social connections throughout essential developmental phases.	


(Roy Choudhury & Polacheck, 2021)	California (USA)	National Immunization Survey	2000 - 2010	Quasi-experimental (difference-in-differences)	14,732 newborns were born in California following the enactment of the Paid Family Leave program.	The California Paid Family Leave Program offers up to six weeks of paid leave at a 55% salary replacement rate, effective since July 2004.	Vaccination rates of newborns born in California prior to and during the program implementation, in comparison to infants born in control states lacking such a policy.
(Irish et al., 2021)	New Jersey and	National Health	1997 - 2016	Quasi-experimental	28,638 adults and 15,987 children, with	(1) New Jersey Paid Family Leave, initiated in July	Enhanced accessibility to time for parents to vaccinate their children; nevertheless, particular maternal health outcomes were not specified in this study.
							Following the policy implementation, late vaccinations decreased by up to 5 percentage points (about 10%) for children of parents in California, with a more pronounced effect on families living below the poverty line.
							No notable effect on children's behavioral issues

California (USA)	Interview Survey	(difference s-in- difference s)	the adults limited to those employed and having children under 2 years in the family.	2009, offers up to 6 weeks of leave at two-thirds of weekly earnings; and (2) California Paid Family Leave, commenced on July 1, 2004, permits employees to take up to 6 weeks of paid leave (55% of average salary, subject to a weekly cap) if they have been employed in the year preceding the child's birth and earned a minimum of US\$300 to care for a newborn, adopted child, or a seriously ill family member; California Paid Family Leave, in conjunction with the Family and Medical Leave Act, ensures job protection for eligible employees.	California before and subsequent to July 2004 and in New Jersey prior to and after July 2009 compared to parents in states lacking parental leave programs from 1997 to 2016.	reduced psychological discomfort in parents, enhancing their mental well-being.
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(Lee et al., 2020)	California (USA)	Panel Study of Income Dynamics (PSID)	Different data collection Periods: 1993–97, and biennially from 1999 to 2017	Quasi-Experimental Study	6,690 parents with a child under 2 years of age, whose child's state of birth is documented (excluding Rhode Island and New Jersey); at least one parent was working the year preceding the birth.	California Paid Family Leave, initiated on July 1, 2004, permits employees to take up to 6 weeks of paid leave (55% of average salary, subject to a weekly cap) if they have been employed in the year preceding the child's birth and earned a minimum of US\$300, to care for a newborn or adopted child or a seriously ill family member. In conjunction with the Family and Medical Leave Act, this program ensures job protection for eligible employees.	Eligibility for paid parental leave is determined by whether the parent's child was born in California after July 2004, as opposed to being born in a state that does not offer paid family leave, excluding New Jersey and Rhode Island.	Enhanced self-assessed health and less psychological distress in mothers (an increase of 11 percentage points and a reduction in psychological discomfort of 0.79 points).	No notable effects on children's behavioral issues were found
(Rosenberg et al., 2024)	USA	National Immunization Survey-Child (NIS-C)	2021	Cross-Sectional Analysis	35,995 responders (including 5,806 from states offering paid family leave)	States with paid family leave legislation offer differing compensation, influencing	Breastfeeding outcomes vary according to parental leave regulations, revealing notable disparities in	Increased breastfeeding rates correlate with mother support and mental health benefits derived	A positive correlation exists between breastfeeding duration and enhanced baby health outcomes,


Table 3. Summary of global rating for quality assessment tool for quantitative studies

Component	(Huebener et al., 2019)	(Tera da et al., 2022)	(Gran dahl et al., 2020)	(Carde nas et al., 2021)	(Kim, 2024)	(Barry et al., 2023)	(Eeles et al., 2022)	(Canaan, 2022)	(Khan, 2020)	(Bullinger, 2019)	(Lebihan & Mao Takongmo, 2023)	(Roy Choudhury & Polack, 2021)	(Irish et al., 2021)	(Lee et al., 2020)	(Rosenberg et al., 2024)
Selection Bias	Moderate	Weak	Weak	Weak	Moderate	Strong	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Study Design	Moderate	Weak	Weak	Weak	Moderate	Moderate	Weak	Weak	Weak	Weak	Weak	Weak	Weak	Weak	Weak
Confounders	Strong	Strong	Strong	Strong	Strong	Strong	Weak	Strong	Strong	Strong	Strong	Strong	Strong	Strong	Strong
Blinding	Strong	Moderate	Moderate	Moderate	Strong	Strong	Moderate	Strong	Strong	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Data Collection	Strong	Weak	Strong	Strong	Strong	Strong	Weak	Strong	Strong	Strong	Strong	Strong	Strong	Strong	Strong
Methods															
Withdrawals and Dropout	N/A	N/A	N/A	N/A	N/A	Strong	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GLOBAL RATING	STRONG	WEAK	WEAK	WEAK	STRONG	STRONG	WEAK	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate

Criteria for global rating; 1. Strong = no weak rating, 2. Moderate = one weak rating, 3. Weak = two or more weak ratings

The evaluation of study quality with EPHPP revealed discrepancies across multiple components. In Selection Bias, 9 of the 15 studies were assessed as having a moderate risk of bias, 5 were classified as weak, and 1 was deemed strong. Regarding Study Design, 11 studies were assigned a weak rating, signifying methodological deficiencies, whilst four studies earned a moderate rating. In the confounder control, 14 research were classified as strong, whereas just one study was deemed weak. In Blinding, eight studies were classified as strong and seven as moderate. Eleven out of fifteen research employed robust data-gathering procedures, while four studies were assessed as weak. In the Withdrawals and Dropouts component, the majority of research was deemed irrelevant, except for one study that received a good rating. In the Global Rating assessment, seven studies were classified as moderate, four as strong, and four as weak, indicating variability in the quality of the assessed studies.

## Discussion

This thorough review suggests that implementing paid paternity leave has diverse impacts on both maternal physical and emotional well-being, along with child health. While most studies indicate favorable outcomes of PPL, specific contradictory findings have emerged, particularly in relation to mothers' mental health (Barry et al., 2023; Cardenas et al., 2021).

A significant study indicates that paternal leave may alleviate symptoms of postpartum depression in mothers, yet, research also suggests that when spouses concurrently take leave, mothers may experience an elevated risk of sadness (Huebener et al., 2019; Khan, 2020). This highlights the intricate dynamics of responsibility allocation within the household, emphasizing the emotional support that mothers require during this transitional phase. Prior studies have demonstrated that spouse assistance helps alleviate the psychological strain on mothers (Canaan, 2022; Kim, 2024), but in certain instances, an over-reliance on paternal support during leave may induce supplementary stress if not adequately managed (Terada et al., 2022).

Paternity leave also impacts maternal physical health. PPL offers mothers a chance to rest and recover post-childbirth, enhancing their overall physical health (Lebihan & Mao Takongmo, 2023; Lee et al., 2020). However, it is crucial to recognize that maternal physical health outcomes are not always directly linked to PPL, but rather to how effectively partner support aids mothers in managing their stress and health (Eeles et al., 2022). Furthermore, studies indicate paternal engagement during paternity leave positively influences a child's physical and mental well-being. This participation enhances daily childcare and facilitates access to essential health services, such as immunizations (Bullinger, 2019; Roy Choudhury & Polachek, 2021). Children exhibit improved health outcomes and reduced behavioral issues when both parents are actively engaged (Grandahl et al., 2020; Rosenberg et al., 2024). The enhanced familial support fosters a more conducive atmosphere for children's emotional and physical growth, further supporting the positive outcomes associated with PPL.

It is essential to acknowledge that various methods and timing of measurement can affect mental health findings (Irish et al., 2021). For example, some studies assess mental health at multiple intervals during the postpartum period, and these variations help elucidate temporal changes in mental health. Moreover, external influences, including socioeconomic conditions, play a crucial role in shaping both maternal and child health outcomes. Research by Irish et al. (2021) emphasizes that children from low-income or specific racial groups may encounter poorer outcomes, including PPL initiatives. This suggests that support for children's mental health should be more targeted and consider the socioeconomic background to yield improved outcomes. Future research should explore changes in mental health during pregnancy and the postpartum phase, aiming to use these findings to shape more effective support systems for new parents.

As awareness of mental health among the elderly rises, the connection to workforce reintegration must be addressed. Employers and governmental policies should formulate and implement programs that facilitate reintegration into the workforce, offering sufficient time off and flexible work arrangements to meet the needs of parents, along with services to support mental health. More inclusive policies can enhance the well-being of women and children while elevating the quality of life for families (Barry et al., 2023; Kim, 2024).

Consequently, paid paternity leave policies significantly enhance the health and well-being of women and children, yet certain challenges remain to be resolved to maximize these benefits fully. Further research is essential to uncover the complex links between paternity leave, mental health, and physical health and to create effective family support interventions.

## Strength and Limitations

This systematic review stands among the earliest studies to thoroughly explore the effects of paternity leave on mothers' and children's health and well-being, emphasizing outcomes related to maternal mental and physical health, as well as advantages for child development. The collected data originated from various high-income nations, facilitating a comparison of distinct parental leave programs. Using longitudinal and cross-sectional studies in the inclusion criteria

enhances the findings, as these methodologies offer insights into the impacts of both short-term and long-term paternity leave. This review analyzes multiple facets of health, including postpartum depression, breastfeeding duration, and child development, so offering a comprehensive perspective on the impact of paternity leave on family health. This review's emphasis on publications published within the last five years guarantees its relevance to contemporary parental leave policy.

However, certain limitations are present. Most studies were carried out in high-income countries, restricting the applicability of these findings to low- and middle-income nations, where paternity leave policies may be insufficient or entirely absent. Disparities in the methodologies of the included studies may result in outcome variations, complicating the ability to derive unified findings across various areas and strategies. Certain studies have limited sample sizes, which may undermine conclusions regarding long-term child health outcomes. This analysis primarily examines health outcomes; however, it does not adequately explore other significant implications, such as the influence of paternity leave on familial connections or financial stability.

Future studies must broaden the review's reach by incorporating additional databases from diverse contexts and cultures, performing thorough evaluations of meta-analyses and reviews, and including publications published in languages other than English. This type of expansion will uncover areas of interest that warrant further exploration. Parental leave rules varied markedly among countries regarding duration, flexibility, and compensation, complicating the formulation of generally applicable conclusions across various enterprises and locales. Moreover, additional studies must encompass a more comprehensive array of socioeconomic circumstances and investigate broader elements, including cultural determinants, to yield a more thorough knowledge of the advantages and obstacles associated with paternity leave.

## Conclusion

This review shows that paternity leave significantly improves both maternal mental and physical health, as well as child well-being. Mixed results were observed about heightened stress in certain mothers when partners take leave, particularly in households with imbalanced role relations. This underscores the necessity of evaluating the length of leave and more targeted socio-economic assistance in paternity leave programs, particularly in nations with considerable policy disparities.

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### Author contributions

All authors are involved in the following activities: conducting systematic reviews, analyzing data, interpreting findings, composing manuscripts, and critically revising articles.

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