

Journal of Prenatal & Perinatal Psychology & Health



**Published by the Association for Prenatal and Perinatal Psychology
and Health (APPPAH)**

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Volume 40 Number 2

Fall 2026

Journal of Prenatal and Perinatal Psychology and Health
Official Journal of the Association for Prenatal and Perinatal Psychology and Health
(APPPAH)

The *Journal of Prenatal and Perinatal Psychology and Health (JOPPPAH)* is a peer-reviewed journal dedicated to publishing manuscripts that advance theoretical understanding and empirical insights. *JOPPPAH* welcomes contributions from diverse sources, including clinical practice, qualitative and quantitative research, case studies, literature reviews, and unique perspectives. Please review the guidelines for contributing authors at www.jopppah.org.

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Published by

APPPAH

P.O. Box 113

Marietta, SC 29661

www.birthpsychology.com

Journal of Prenatal and Perinatal Psychology and Health

Volume 40 Number 2 Fall 2026

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JOURNAL OF PRENATAL AND PERINATAL PSYCHOLOGY AND HEALTH publishes findings from the cutting edge of the rapidly growing science of prenatal and perinatal psychology and health. The opinions expressed in the articles are those of the authors and do not imply endorsements by the Association for Prenatal and Perinatal Psychology and Health (APPPAH) or the editorial team at *JOPPPAH*.

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PUBLICATION POLICIES: *JOPPPAH* fully complies with APA 7 publication guidelines. Please see the full disclosure of our publication policies at joppah.org.

Editorial

Christiana Rebelle, PhD

The articles in this fall issue of *JOPPPAH* examine how our earliest experiences are shaped by relationships, care, culture, and the conditions surrounding mothers, babies, and families. They explore prenatal connection, maternal well-being, bonding in the NICU, cultural representations of prenatal life, perinatal mental health, birth experience, and healing.

In “A Correlational Study Regarding the Impact of Maternal and Infant Characteristics on Maternal–Infant Bonding in a Neonatal Intensive Care Unit,” Fowler and colleagues examined 101 mother–infant dyads during a period when medical necessity can disrupt proximity, routine, and a mother’s expectations for early connection. Postpartum depression was associated with decreased maternal bond or affective connection, and mothers who developed clinical depression between measurement points showed the greatest decline. The findings support ongoing screening and timely intervention throughout a NICU stay.

Ikegawa’s “Reframing the Fetus as a Relational Participant: The Responsive Prenatal Engagement Framework” shifts attention to the prenatal relationship. Drawing on the principles of recognition, inclusion, and engagement, Ikegawa outlines ways parents may acknowledge the unborn child as meaningfully present in family life. The paper presents a relational approach to prenatal care, education, and family involvement.

Pasari and Prasad also examine intentional prenatal engagement in “Conscious Conception: A Qualitative Study of Intentional Prenatal Engagement and Parental Experience.” Their interviews identify emotional preparedness, psychological agency, prenatal bonding, identity transition, and acceptance of uncertainty. Pregnancy emerges as a period of vulnerability, growth, and active meaning-making. The study gives language to experiences that may be deeply meaningful to parents but are often absent from standard prenatal care.

Oshioka’s “Representations of Prenatal Experiencing Across Languages” examines picture-book narratives from Japanese, English, French, and Italian corpora. Across all four, prenatal life was portrayed as bodily experience carrying implicit significance. The relationship between Experiencing level and narrative position varied by corpus, with a clear rise toward birth in the English-language books. The study shows how cultural narratives imagine prenatal life and communicate the meanings associated with the period before birth.

My contribution, “How We Care for Mothers Shapes Who Babies Become: A Support-Based Framework for Maternal Well-Being,” synthesizes recent *JOPPPAH* literature to examine how the support surrounding mothers shapes maternal well-being and early development. The synthesis organizes findings into four domains: relational support, care experience, community support, and structural and environmental conditions. Across these domains, the literature shows that maternal well-being cannot be reduced to individual effort alone. Mothers need support that

is timely, accessible, responsive, culturally appropriate, and aligned with their needs. The care surrounding mothers also becomes part of the earliest developmental environment, making clinical practice, public policy, and community response consequential for mothers and babies.

The adapted Maternal Mental Health Leadership Alliance resource, “Pregnancy and Postpartum Psychosis: Key Facts, Warning Signs, and Emergency Response,” brings urgent attention to a rare but highly treatable medical emergency. Many people who experience pregnancy or postpartum psychosis have no known personal or family history of mental illness. Prenatal and perinatal professionals must recognize warning signs, respond promptly, and direct families to appropriate treatment. Accurate information can reduce stigma, support earlier action, and protect lives.

Two additional contributions connect research with personal meaning and public education. In “The Birth Story We Carry: How Our Earliest Experiences Shape Emotional Patterns,” Bacine considers how birth experiences may be carried through nervous-system patterns related to safety, connection, and transition. The article invites readers to approach these patterns with curiosity and care.

In “Wired for Love,” APPPAH Podcast hosts Ashley Macon and Wendy Bruns speak with psychologist and UCLA educator Dr. Bonnie Goff about maternal mental health, early adversity, neurobiological adaptation, and healing. Goff describes accelerated development following adversity as an adaptation rather than a defect, offering a compassionate way to understand sensitized stress responses and the body’s efforts to protect itself.

Collectively, the literature in this issue affirms that relationships, care, support, culture, and the environments in which mothers and babies live shape prenatal and perinatal experiences and how those experiences are carried forward. I am grateful to each author and contributor for sharing their research, knowledge, and work with *JOPPPAH* readers.

A Correlational Study Regarding the Impact of Maternal and Infant Characteristics on Maternal–Infant Bonding in a Neonatal Intensive Care Unit

Megan Fowler, DSW, LCSW, Phyllis Solomon, PhD, Mary Lucia P. Gregory, MD,
Michelle Evans-Chase, PhD

Maternal and infant risk characteristics, including postpartum depression, infrequent neonatal intensive care unit (NICU) visitation, low gestational age, low birthweight, and prolonged NICU hospitalization, were examined as potential predictors of lower levels of maternal-infant bond or affective connection among mothers of NICU infants, while controlling for civil status and number of siblings. A correlational longitudinal design was used with a convenience sample of 101 mother-infant dyads in a university hospital NICU. Measures included the Maternal Attachment Inventory (MAI), the Edinburgh Postnatal Depression Scale, and medical record data. Multiple regression analyses, chi-square tests, and analyses of variance (ANOVA) were employed. Although the primary hypothesis was not supported, post hoc analyses showed that postpartum depression was associated with decreased maternal bond or affective connection. Mothers who developed clinical postpartum depression between Times 1 and 2 demonstrated the greatest decline in bond or connection compared to those with persistent or absent depression. Several MAI items were more normally distributed than total scores, highlighting specific attachment challenges in the NICU context. These findings suggest the need for targeted clinical interventions to address processes that may disrupt maternal-infant bond in high-risk NICU populations. The implications for disenfranchised populations, including non-White and lower socioeconomic status (SES) groups, are also discussed.

Keywords: NICU, bonding, postpartum

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Bowlby (1982) theorized that the attachment system is formed in infancy and early childhood and is rooted in the child's interactions and relationship with their primary caregiver. Infant attachment styles tend to remain stable and can impact cognitive abilities, emotional development, and behavior regulation across all areas of life (Mikulincer & Shaver, 2003). While attachment theory provides a framework for understanding the formative mother-child relationship, the present study focuses specifically on maternal-to-infant bonding. This early emotional connection influences later attachment processes. Bonding is the "maternal-driven process that occurs primarily throughout the first year of an infant's life but may continue throughout a child's life. It is an affective state of the mother; maternal feelings and emotions towards the infant are the primary indicator of maternal-infant bonding" (Altaweli & Roberts, 2010, p. 1319).

Maternal-infant bonding with premature infants warrants additional exploration, given the intensity and frequency of disruptions to the early bonding experience. Premature births and neonatal intensive care unit (NICU) admissions are atypical, adverse experiences. They can affect mothers' emotional states, their maternal representations and perceptions of the infant, and the quality of the dyadic relationship in early postpartum. Maternal-to-preterm infant bonding is a critically important, under-researched aspect of NICU life (Borghini et al., 2006). It is particularly limited in terms of subcategories of prematurity, corresponding birthweights, and NICU length of stay (Korja et al., 2008).

This gap in research necessitates further investigation, as gestational age has been suggested to affect self-regulation, the quality of mother-child interaction and attachment, and maternal anxiety (Gonçalves et al., 2020). While the NICU is a necessary environment for survival, a prolonged NICU stay is suboptimal for bonding. It has been associated with poor parent-infant relationships, parental grief, child neglect or abandonment, and the child's failure to thrive (Merritt et al., 2003). Trumello et al. (2018) note that mothers of preterm infants can demonstrate feelings of ambivalence about their relationship with their infant and struggle with their identity as mothers. Furthermore, mothers of very preterm (VPT) infants who spend more time in the NICU than moderate-late-preterm (MLPT) infants may be continuously exposed to and retraumatized by their infant's fragile state and risk of death. Traumatic deliveries and the immediate (and often prolonged) separation from the infant can affect the development of their mental representations, which, in turn, may affect maternal bond (Trumello et al., 2018).

Infants with greater degrees of prematurity may also be confined to incubators and attached to life-sustaining devices that restrict parental holding (Weiss et al., 2000). "As a result, some parents learn to withhold their touch to protect their baby and, thus, develop ingrained patterns of infrequent interaction which continue over time" (Weiss et al., 2000, p. 91). Physical separation and the inability to engage in normal bonding behaviors can place great strain on a mother's bond and even cause her to feel alienated from her baby and incompetent in her role as a parent (Flacking et al., 2012). Extreme prematurity also has a higher risk of mortality and long-term consequences for surviving infants, which carries implications for the bonding process (López-Maestro et al., 2017).

A comprehensive review of clinical and theoretical literature revealed that postpartum depression, maternal visitation, civil status, and number of siblings may also contribute to variability in bonding outcomes (Modak et al., 2023). Postpartum depression has been widely

researched and poses several risks to the maternal bond, including dysfunctional parenting, conflict with the other parent of the infant, and disruptions in infant global development (Slomian et al., 2019). Furthermore, mothers of infants admitted to the NICU demonstrate a significantly increased risk of postpartum depression (28–40%) compared to mothers of full-term infants (Garfield et al., 2015). Proximity and involvement in care of the premature infant during visits has been associated with increased maternal bond and greater feelings of competence and confidence (Garten et al., 2013). Some mothers, however, may encounter barriers to regular visitation, including balancing additional childcare responsibilities, which has been cited as a contributor to NICU stress and reduced engagement (Klawetter et al., 2019). Additionally, while the disadvantages of single parenting, such as decreased support and financial insecurity, have been widely studied, data on civil status and mother-to-preterm infant bond are lacking.

Only two systematic reviews spanning the past twenty years have examined the NICU maternal-to-infant bond (Kim & Kim, 2022; Korja et al., 2008). Given the inconsistencies and limited generalizability identified in these reviews, the complex mother–preterm infant relationship warrants further examination to better forecast psychological risk (Korja et al., 2008). Researchers have emphasized that well-designed randomized controlled trials may improve infant and family outcomes by enhancing parental bonding, proximity, and parent–infant interaction during NICU hospitalization (Kim & Kim, 2022). Because early maternal bond influences both social-emotional development and health outcomes, identifying effective screening and assessment strategies is critical for informing early intervention and targeted psychological support for these vulnerable dyads (Mathews et al., 2019). Therefore, this study examined the following hypothesis: mothers and infants with higher-risk characteristics (postpartum depression, infrequent NICU visitation, low gestational age, low birthweight, and extended NICU stays) will experience a lower degree of maternal bond or affective connection than mothers and infants with fewer-risk characteristics (no postpartum depression, frequent visitation, moderate-to-late preterm status with higher birthweights and shorter lengths of stay) when controlling for civil status and number of siblings.

Methods

The study used a longitudinal correlational design to examine the relationship between maternal and infant characteristics and the degree of maternal bonding. Maternal Bond or Affective Connection (referred to as “Maternal Attachment”) and Postpartum Depression scores were collected at two points in time: within one week of NICU admission (Time 1) and between one and three months post-discharge (Time 2). Exact collection dates were not included in the facility's case files. Therefore, Time 1 and Time 2 do not represent a specific day or time; rather, they reflect time periods within the NICU experience (early in NICU admission and after release from NICU).

The study controlled for civil status (married, single parent, legal domestic partnership, cohabiting, non-cohabiting relationship) and the number of biological siblings. Demographics included mother's self-report of race, age, annual gross household income, gender identity, and sexual identity or sexual orientation. The hospital's Institutional Review Board approved the

study. Data were de-identified and securely stored using password-protected, multifactor-authenticated systems to ensure confidentiality.

Setting and Recruitment

The study took place in the southeastern United States, and eligible participants were recruited in person or via telephone from one of the largest Level IV, tertiary care NICU's in the country. At collection, the NICU daily census averaged 120 infants, with approximately 60% meeting study eligibility criteria. The NICU population was predominantly Medicaid patients, 73% identifying as white.

Inclusion criteria were biological mothers ≥ 18 years; infants born at 24–36 weeks' gestation; English-speaking; medically stable mother–infant dyads; singleton births; and anticipated discharge home with the mother. Exclusion criteria were severe maternal mental illness, positive toxicology for nonprescribed substances, infants requiring comfort care, or Child Protective Services involvement.

Informed consent review was conducted in a private setting, and mothers completed the Qualtrics survey at the child's bedside or at home on personal cellular devices. A gas card incentive was offered to all mothers. Mothers were approached in a trauma-informed way, acknowledging the hardship of their experience. Participants understood that they may experience emotional discomfort when completing the scales and were informed of the minimal, yet possible, risk of a data breach. Mothers agreed that if their scores indicated suicidal thoughts or severe postpartum depression, they would be referred to the NICU social worker for follow-up.

Sample Size

Based on previous research (Bonacquisti et al., 2020; Korja et al., 2008), a medium effect size was expected and used to determine the sample size needed for 80% power and a significance level of $p \leq 0.05$ as indicated by Cohen (1992). A sample size of $N = 97$ was identified. A nonprobability convenience sample was employed, and 101 eligible participants provided consent and completed the pretest survey (Time 1). With an attrition rate of 23.8%, the final sample for purposes of hypothesis testing was $n = 77$.

Measures

Gestational age of prematurity and birthweight were categorized according to medical model: periviable preterm (PPT) 24–25 6/7 weeks or less, extremely preterm (EPT) 26–27 6/7 weeks, very preterm (VPT) 28–31 6/7 weeks, and moderate-late preterm (MLPT) 32–35 6/7 weeks (American College of Obstetricians and Gynecologists, 2016); low birthweight $< 2,500$ g, very low birthweight $< 1,500$ g, and extremely low birthweight $< 1,000$ g. These characteristics and NICU length of stay were extracted from the medical record.

Postpartum depression scores were calculated from mothers' Edinburgh Postnatal Depression Scale (EPDS) responses, self-administered within approximately one week of NICU admission and again up to three months post-discharge. The EPDS is consistently endorsed due to its widespread use among mothers of both full-term and preterm infants, extensive literature base, and satisfactory psychometric properties (Boyd et al., 2005). The Edinburgh Postnatal Depression

Scale demonstrated acceptable internal consistency in the present sample (Time 1 Cronbach's $\alpha = 0.69$).

The Maternal Attachment Inventory (MAI) was utilized to capture maternal "bond" scores. Despite the use of the term "attachment," the MAI primarily examines maternal emotional connectedness and bonding experiences during early infancy. Consistent with instrument terminology, scores are referred to as "attachment scores" throughout the remainder of the study when discussing outcomes. Participants completed the MAI within one week of NICU admission and again up to three months post-discharge. The MAI demonstrated good internal consistency in the present sample (Time 1 Cronbach's $\alpha = 0.87$) and is reported to have adequate psychometric properties (Bonacquisti et al., 2020; Perrelli et al., 2014).

Data Preparation

Prior to analysis, new variables were created, the assumption of normality for continuous variables was tested using skewness and kurtosis, and multicollinearity among independent variables was assessed using multiple regression analysis.

Four new variables were created: a civil status binary, a maternal attachment change score, and two clinical cutoff binary scores for depression. *CivilStatusBinary* was created using *CivilStatus* as a proxy for in-home support, with *married*, *legal domestic partnership*, and *cohabiting* responses collapsed into one category (1), and *single-parent* and *non-cohabiting relationship* responses collapsed into a second category (0). *MaternalAttachChangeScore* was created by subtracting Time2 Maternal Attachment scores from Time1 Maternal Attachment scores. Finally, *Time1ClinicalDepressBinary* and *Time2ClinicalDepressBinary* were created by recoding scores of 0-9 as 0 (no clinical depression) and scores of 10 and above as 1 (clinical depression).

Tests of Assumptions

Visitation hours were found to be skewed (2.65) and kurtotic (9.32). While a histogram showed several outliers, it was clear that the skew was due to a floor effect, with $\sim 1/3$ of the sample having 0 visitation hours. To address this non-normal distribution, Visitation Hours was used in descriptive statistics and in calculating average visitation hours for hypothesis testing. *AverageVisitationHours* was calculated by dividing *VisitationHours* by *Days in the NICU*.

Several *VIF* scores suggested possible collinearity: Time 1 EPDS scores (*VIF* = 3.29), Time 2 EPDS scores (*VIF* = 3.25), Weeks of Gestation (*VIF* = 7.31), and Length of Stay NICU (*VIF* = 5.46). A series of models were subsequently tested, guided by correlational analysis, separating the depression variables [EPDS continuous Time 1, EPDS continuous Time 2, Clinical Depression Time 1 (EPDS binary), and Clinical Depression Time 2 (EPDS binary)], Weeks of Gestation, and Length of Stay, which reduced all *VIF* scores to acceptable levels.

Analysis Plan

Descriptive statistics were calculated for all variables. Means, standard deviations, minimum, and maximum scores as well as correlations were calculated for all continuous variables: number of siblings, age of mother, household income, length of stay, total hours of visitation, birth weight, weeks of gestation, Time 1 EPDS score, and Time 1 Maternal to Infant Attachment score.

Frequencies were calculated for all categorical variables: race, gender identity, sexual orientation, civil status, gestational age at prematurity, and classification of birthweight.

For hypotheses testing, four multiple regression models were tested to assess changes in maternal attachment between the two time points using models in which change in maternal attachment between time 1 and time 2 was employed as the dependent variable, with Time 1 depression (EPDS continuous or dichotomous), Time 2 depression (EPDS continuous or dichotomous), average hours of visitation, civil status (binary), and either length of stay in the NICU (days) or weeks of gestation included as independent variables; and maternal attachment score at time 1 as a control variable.

Model 1: *MaternalAttachmentChange* = *Time1_Depression (EPDS continuous)* + *Time2_Depression (EPDS continuous)* + *Length Time NICU* + *AveVisitation* + *CivilStatusBinary* + *MaternalAttachmentTime1*

Model 2: *MaternalAttachmentChange* = *Time1_Depression (EPDS continuous)* + *Time2_Depression (EPDS continuous)* + *WeeksGestation* + *AveVisitation* + *CivilStatusBinary* + *MaternalAttachmentTime1*

Model 3: *MaternalAttachmentChange* = *Time1_ClinicalDepress (EPDS Binary)* + *Time2_ClinicalDepress (EPDS Binary)* + *Length Time NICU* + *AveVisitation* + *CivilStatusBinary* + *MaternalAttachmentTime1*

Model 4: *MaternalAttachmentChange* = *Time1_ClinicalDepress (EPDS Binary)* + *Time2_ClinicalDepress (EPDS Binary)* + *WeeksGestation* + *AveVisitation* + *CivilStatusBinary* + *MaternalAttachmentTime1*

Results

A total of $N = 101$ mothers participated, whose ages ranged from 18 to 42 ($M = 28$, $SD = 5.59$). As shown in Table 1, almost all mothers identified as female and heterosexual or straight. Almost two-thirds identified as White and 26% identified as Black or African American. Over 80% were married, in a legal domestic partnership, or in a cohabitating relationship. There were no significant differences in demographic characteristics between those who were included (i.e., completed Time 1 and Time 2 measures) and those who were not included (i.e., did not complete Time 2 measures) in hypothesis testing.

Table 1
Demographic Characteristics

		Overall Sample		Included		Not Included	
		<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Gender	Female	99	98.0	72	97.3	27	100
	Non-binary	1	1.0	1	1.4		
	Trans Male	1	1.0	1	1.4		
	Total	101	100	74	100	27	100
$\chi^2 (2, N = 101) = 0.74, p = 0.7$							
Sexual Orientation	Bisexual	9	8.9	7	9.5	2	7.4
	Heterosexual/Straight	90	89.1	65	87.8	25	92.6
	Prefer not to disclose	2	2.0	2	2.7		
	Total	101	100	74	100	27	100
$\chi^2 (2, N = 101) = 0.87, p = 0.7$							
Race	Asian	3	3.0	2	2.7	1	3.7
	Black or African American	28	27.7	19	25.7	9	33.3
	White	65	64.4	49	66.2	16	59.3
	Other	4	4.0	3	4.1	1	3.7
	Total	100	99.1	73	98.7	27	100
	Missing	1	1.0	1	1.4	0	0.0
$\chi^2 (3, N = 101) = 1.01, p = 0.91$							
Ethnicity	Hispanic or Latinx	8	7.9	6	8.1	2	7.4
	White/Non-Hispanic	79	78.2	60	81.1	19	70.4
	Total	87	86.1	66	89.2	21	77.8
	Missing	14	13.9	8	10.8	6	22.2
$\chi^2 (1, N = 87) = 0.004, p = 0.95$							
Marital Status	Cohabitating Relationship	23	22.8	16	21.6	7	25.9
	Legal Domestic Partner	6	5.9	2	2.7	4	14.8
	Married	55	54.5	46	62.2	9	33.3
	Single Parent	16	15.8	9	12.2	7	25.9
	Total	100	99	73	98.6	27	100
	Missing	1	1	1	1.4	0	0
$\chi^2 (3, N = 100) = 10.36, p = 0.02$							

Per Table 2, almost 75% of the babies were very preterm or moderate-late preterm. Approximately 45% of the babies were low birthweight. Those who were not included in hypothesis testing had a higher percentage of extremely preterm babies, extremely low birthweight babies, and mothers who scored in the clinical range for depression at Time 1.

Table 2

Clinical Characteristics

		Overall Sample		Included		Not Included	
		N	%	N	%	N	%
Gestation Category	Perivable Preterm	11	10.9	6	8.1	5	18.5
	Extremely Preterm	14	13.9	6	8.1	8	29.6
	Very Preterm	32	31.7	24	32.4	8	29.6
	Moderate-late Preterm	43	42.6	37	50.0	6	22.2
	Total	100	99.1	73	98.6	27	100
	Missing	1	1.0	1	1.4	0	0.0
$\chi^2 (3, N = 100) = 12.13\ p = 0.01$							
Birthweight Class	Low	45	44.6	37	50.0	8	29.6
	Very Low	27	26.7	21	28.4	6	22.2
	Extremely Low	25	24.8	13	17.6	12	44.4
	Total	97	96.1	71	96.0	26	96.2
	Missing	4	4.0	3	4.1	1	3.7
$\chi^2 (2, N = 100) = 7.90\ p = 0.05$							
Clinical Depression at Time 1	No	62	61.4	52	70.3	10	37.0
	Yes	39	38.6	22	29.7	17	63.0
	Total	101	100	74	100	27	100
$\chi^2 (1, N = 100) = 9.22\ p = 0.002$							

As seen in Table 3, the average maternal attachment score was $M = 100$ ($SD = 5.4$) on a scale ranging from a minimum score of 26 to a maximum of 104, with no baseline differences between those who were and were not included in hypothesis testing. There were significant differences between the two groups on several clinical and demographic characteristics, with those who were included in hypothesis testing having higher income, more weeks of gestation, lower days in the NICU, higher birth weight, and lower clinical depression scores at Time 1.

Table 3

Descriptive Statistics of Continuous Variables

	Overall Sample		Included in Analysis		Not Included in Analysis		<i>t</i> -value	<i>df</i>	<i>p</i> -value	Mean Diff
	Mean	<i>SD</i>	Mean	<i>SD</i>	Mean	<i>SD</i>				
Age	28	5.59	28.65	5.553	26.11	5.352	2.05	99	0.04	2.54
Income	71831	59170	78856	61895	48999	43087	2.01	83	0.05	29857
Gestation	30.35	3.17	30.92	2.88	28.79	3.45	3.12	99	0.002	2.13
Birthweight	1491	601	1577	556	1255	665	2.44	99	0.02	321.55
Length of Stay (Days)	51.94	39.91	45.68	34.52	69.11	48.60	-2.69	99	0.01	-23.44
Visitation (Hours)	149.32	155.05	141.53	155.16	170.67	155.62	-0.84	99	0.41	-29.14
Ave Visitation/Day	3.21	2.16	3.23	1.98	3.131	2.62	0.21	99	0.84	0.10
Siblings	0.80	1.15	0.76	1.10	0.93	1.30	-0.65	99	0.52	-0.17
Time1 EPDS Score	8.19	3.79	7.76	3.63	9.37	3.69	-1.97	99	0.05	-1.61
Time1 Maternal Attachment	100.21	5.40	100.41	4.69	99.65	7.12	0.61	98	0.54	0.75

Hypothesis Testing

Multiple regression analyses were conducted to examine predictors of change in maternal attachment between Time 1 and Time 2. Across all models, predictors accounted for approximately 46% of the variance in maternal attachment change scores (see Table 4). Contrary to the hypothesis, infant risk variables (e.g., gestational age, length of stay) and visitation were not significant predictors of changes in maternal attachment.

Postpartum depression at Time 2 consistently emerged as a significant predictor, with higher depression scores associated with decreased maternal attachment, controlling for maternal and infant characteristics. These findings were consistent regardless of whether gestational age or NICU length of stay was included in the model, and whether depression was examined as a continuous or categorical variable. Baseline maternal attachment (Time 1) was also a strong predictor of change in attachment ($\beta = -0.71$), with lower initial attachment associated with greater increases over time.

Table 4

Multiple Regression Analysis of Change in Maternal Attachment

	Model 1			Model 2			Model 3			Model 4		
	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β
(Constant)	65.23	9.82		67.14	8.78		66.54	10.11		66.77	9.02	
T1 EPDS Score	0.16	0.13	0.13	0.15	0.13	0.12						
T2 EPDS Score	-0.32*	0.14	-0.25	-0.31*	0.14	-0.25						
T1 Clinical Depress							0.88	0.91	0.10	0.87	0.91	0.09
T2 Clinical Depress							-2.38*	1.11	-0.21	-2.36*	1.10	-0.21
Gestation	0.06	0.13	0.04				0.00	0.13	0.00			
LoS NICU (Days)				0.00	0.01	0.01				0.01	0.01	0.04
Hours Visitation / Day	0.12	0.20	0.05	0.13	0.20	0.06	0.21	0.20	0.10	0.22	0.20	0.10
Civil Status	-0.85	1.29	-0.06	-0.71	1.28	-0.05	-0.53	1.26	-0.04	-0.44	1.25	-0.03
T1 Attach	-0.64**	0.08	-0.71	-0.65**	0.08	-0.71	-0.65**	0.09	-0.72	-0.66**	0.09	-0.73
	<i>AdjR</i> ² = 0.46			<i>AdjR</i> ² = 0.46			<i>AdjR</i> ² = 0.46			<i>AdjR</i> ² = 0.46		
	<i>F</i> (6, 65) = 11.13, <i>p</i> < 0.001			<i>F</i> (6, 65) = 11.07, <i>p</i> < 0.001			<i>F</i> (6, 65) = 10.90, <i>p</i> < 0.001			<i>F</i> (6, 65) = 10.96, <i>p</i> < 0.001		

Note. **p* < 0.05; ***p* < 0.001

Post-hoc Analysis

To further explore clinical depression at Time 2 as an important predictor of change in maternal attachment, additional testing was conducted. First, a Chi-square Test of Independence was conducted that included clinical depression at Time 1 and Time 2, which indicated that there was a higher percentage of participants who had clinical depression at both Time 1 and Time 2 than would be expected if there was no relationship between clinical levels of depression across time points [$\chi^2(1, N = 73) = 8.23, p = 0.004, Std Res = 2.20$].

Second, a new variable, *ClinicalChange*, was created based on changes in clinical depression between Time 1 and Time 2: no clinical depression at Time 1 or Time 2 (NC/NC), clinical depression at Time 1 and Time 2 (C/C), clinical depression Time 1 with no clinical depression Time 2 (C/NC), and no clinical depression Time 1 with clinical depression Time 2 (NC/C). A One-way Analysis of Variance (ANOVA) was then conducted with maternal attachment change score as the DV and clinical change categories as the IV.

As shown in Table 5, those whose depression scores indicated no clinical depression at either time point (NC/NC) showed the smallest change in maternal attachment ($M = 0.93, SD = 3.20$). The only group with a decrease in maternal attachment between Time 1 and Time 2 was the group whose scores suggested that they did not have clinical depression at Time 1 but did so at Time 2 (NC/C: $M = -4.00, SD = 7.12$).

There was a significant mean difference in maternal attachment change scores among categories of clinical change between Time 1 and Time 2. Post hoc analysis indicated that those with no clinical depression at Time 1 but with clinical depression at Time 2 (NC/C) had over 8-point lower Maternal Attachment change scores compared to those who had clinical depression scores at both time points and over 6-point lower compared to those who moved from clinical depression at Time 1 to no clinical depression at Time 2.

Table 5

Bonferroni Corrected Post Hoc Analysis of Maternal Attachment Change Scores by Clinical Depression Categories

							95% CI	
	<i>N</i>	Mean	<i>SD</i>	Mean Diff	<i>SE</i>	<i>p</i> -value	Lower	Upper
Non-Clinical T1 to Clinical T2 (NC/C)	4	-4.00	7.12					
Non-Clinical T1 & T2 (NC/NC)	46	0.93	3.20	-4.93	2.11	0.13	-0.79	10.66
Clinical T1 & T2 (C/C)	8	4.13	4.58	-8.13	2.47	0.01	1.40	14.85
Clinical T1 to Non-Clinical T2 (C/NC)	14	2.29	5.20	-6.29	2.29	0.05	0.06	12.51

Discussion

The study examined the relationship between maternal characteristics, infant characteristics, and maternal bond among mothers with babies in the NICU. Contrary to the study hypothesis, higher-risk maternal and infant characteristics were not associated with lower maternal bond (“attachment” per MAI). Instead, maternal attachment scores were consistently high across the sample, suggesting a ceiling effect that may have limited the ability to detect group differences. Additionally, the study was limited by low statistical power due to the small sample size.

There was very little variation in the gestational categories, with almost 75% of the babies in the VPT and MLPT categories. Of the four gestational categories, these infants have the highest survival rates and shorter, less invasive NICU stays. Had our sample been equally stratified across categories, data from higher-risk infants may have more substantially impacted maternal attachment scores, as prolonged or complex NICU hospitalizations may evoke more bonding disruptions or maternal mental health crises. Of primary concern are the timing, accuracy, and respondent bias of our screening tools (EPDS, MAI). It was thought that mothers should not be screened if babies were actively decompensating or at high risk of death; however, this trauma-informed approach may have limited our study enrollment and results. Responses may have also been limited by the fear and stigma associated with postpartum depression and lack of bonding (Dennis & Chung-Lee, 2006; Fonseca et al., 2017). Overall, while the study did not have sufficient power to detect an effect, we were encouraged to learn that it is possible for mothers to report a bond with their infants, notwithstanding significant challenges to the typical attachment environment.

Post-hoc comparison of the relationship between clinical postpartum depression changes and changes in maternal attachment found that the only group experiencing a decrease in maternal attachment between Time 1 and Time 2 were mothers who started with no postpartum depression at Time 1 but moved to clinical levels by Time 2. This group had substantial and significantly lower maternal attachment change scores compared to those with clinical postpartum depression scores at both time points.

Previous postnatal mental health literature has found that most new mothers (approximately 80%) will experience mood changes and tearfulness within the first 2 weeks after giving birth, referred to as “baby blues.” Should symptoms persist longer than two weeks postpartum, postpartum depression may occur (Postpartum Support International [PSI], n.d.). These findings suggest that change in postpartum depression may be a crucial indicator of risk in NICU mothers regarding maternal attachment. As Time 2 surveys were administered at or around the time of the infant’s discharge, findings raise potential concerns regarding mothers with decreasing attachment scores returning home with their newborns—some of whom may be medically complex—into environments with reduced medical and mental health oversight and new stressors.

While most mothers demonstrated high maternal attachment scores, there were lower scores associated with specific domains of their bond, as well as a relationship between postpartum depression and one’s capacity to think about their baby. Examination of specific MAI items provided a more granular understanding of maternal-infant bonding within the NICU. In a full-

term, healthy postpartum experience, it may be assumed that a mother has fun with her baby (Q15, MAI), knows her baby's personality, understands their signals, and has thoughts centered on them (Q19, MAI). The traumatic and highly medical nature of the NICU, however, may rob mothers of many playful, joyous, or bonding-promoting experiences.

Similarly, while new mothers are expected to have infant-centered thoughts, NICU mothers may engage in dissociative or protective behaviors to manage their overwhelm. In terms of “knowing” one's baby and understanding their signals (Q23, Q20, MAI), some NICU mothers may demonstrate lower scores due to their infant's critical condition and inability to demonstrate progressive developmental milestones. Some medical interventions render infants sedated and motionless, limiting the expression of emotion or temperament. Furthermore, parents may be unable to fully engage in caregiving tasks and instead rely heavily on bedside nurses. Both the literature and interactions throughout this study indicated that mothers often felt “helpless” or “useless” in relation to their infant's care.

Implications for Clinical Practice

Findings from this study highlight the importance of ongoing screening for postpartum depression among the NICU population. Standard single-timepoint screening may fail to identify mothers whose symptoms emerge later in the postpartum period or at discharge (Robbins et al., 2023). Given the often unexpected and traumatic nature of a NICU admission, the study hospital's policy of screening prior to mother's discharge (48-72 hours postpartum) may not capture her complete mental health picture. In fact, several mothers volunteered that the EPDS did not accurately depict their true mental health status and were curious about alternative screeners that are more contextual to the NICU. By employing two psychometrically sound mental health screening measures, this study addressed a gap in routine postpartum care and facilitated referrals to NICU social workers when clinically indicated. Many of the mothers in the study shared they would like to talk to their social worker and/or support staff about bonding and attachment, suggesting that screening for risk factors and offering additional psychoeducation may be helpful.

This research also measured visitation hours in the NICU. While there is a margin of error to consider (i.e., accuracy of documentation), this study confirmed what is routinely expressed among NICU providers—parents are not at the bedside as often as expected. Interestingly, lower visitation hours did not correlate with lower attachment scores. This finding conflicts with the assumption of some that if a mother is not physically at the bedside, then she cannot bond to her baby. It may be clinically relevant for nursing and social work staff to explore the quality of interaction at the bedside (versus quantity of hours logged) and consider alternative ways to foster maternal attachment if a mother cannot visit. Furthermore, it is important to recognize that a mother's absence from the bedside does not necessarily reflect a lack of desire to be present.

There are many social determinants of health to consider that may impact visitation. As this population was Medicaid predominant, less variance in reported income was expected; however, we were surprised by the consistently low visitation hours. Lower income may be associated with infrequent visitation due to single-car or no car households, limited parental leave, lack of childcare, or reduced resources for gas. Although these data were not included in the study, NICU

social workers gather information regarding social determinants of health through psychosocial assessments to facilitate access to resources that optimize NICU admission and discharge. This information also provides context for providers who may question families' behaviors or intentions. While this NICU is well suited to support families through strong social work and community partnerships, additional data and clinical discussion regarding the impact of NICU visitation on maternal bond may help other institutions to pursue additional resources and destigmatize families experiencing psychosocial stressors that limit visitation.

Strengths and Limitations

There are notable strengths of the study, particularly when compared with existing literature. The numerous variables that were analyzed (gestational age of prematurity, birthweight, length of NICU stay, presence of postpartum depression, sibling numbers, and civil status) allowed for a thorough and comprehensive examination of the nuances of these vulnerable dyads.

Though we did not achieve the intended sample size for purposes of analyses, our attrition rate was lower than comparable studies, and our final analytic sample was similar to, or exceeded, those featured in the literature (Bieleninik et al., 2016; Bonacquisti et al., 2020; Korja et al., 2008). The present sample included a greater number of non-white mothers when compared to the overall NICU population, and while there is a slight imbalance between the two populations, we feel this is a strength, as marginalized populations are not accurately reflected in the literature. This study represented a mostly Medicaid population that is, historically, underserved and underrepresented in NICU maternal attachment research.

Study limitations were nearly identical to those reported in the existing literature, which was unsurprising given the dynamics of the NICU and the overall functioning of a major university medical setting. Like Bonacquisti et al. (2020), we experienced challenges with the timing of questionnaire administration and attrition. Pre-test (Time 1) questionnaires were intended to be collected within one week of admission and post-test (Time 2) surveys within 48 hours of discharge; however, the unpredictable nature of the NICU and unavailability of mothers made this difficult and required ongoing modifications to timeframe and outreach. Non-completers of our study were also typically higher-risk dyads (higher acuity, elevated EPDS scores); therefore, our final sample represents more lower-risk dyads with stronger maternal bonds. As a result, generalizability is limited and not representative of the broader NICU population.

Future Research

While high MAI scores may indicate positive attachment feelings, maternal attachment-promoting interactions may not always reflect those scores. Specifically, feelings of attachment may not consistently translate into attachment behaviors, which may impact the mother-infant bond. The ceiling effect created by high MAI scores prompted consideration of additional methods for measuring maternal attachment beyond self-report alone. Inclusion of both self-report and observational behavioral measures may provide a more comprehensive understanding of maternal-infant bonding by combining maternal perceptions with data regarding the quality and frequency of positive interactions.

It is also worth exploring alternative screening methods for postpartum depression. Although the EPDS remains the standard for assessing postpartum mood disorders, the Postpartum Depression Screening Scale (PDSS) may be more suitable for mothers experiencing NICU trauma because it assesses seven symptom domains (Vogeli et al., 2018). Though currently limited by cost, broader use of the PDSS may improve psychometric strength and standardization.

While this study focused specifically on postpartum depression, postpartum anxiety, postpartum psychosis, postpartum posttraumatic stress disorder (PPTSD), and postpartum obsessive-compulsive disorder (POCD) may also emerge during the postpartum period and remain underrepresented in both literature and obstetric care. Rates of NICU postpartum anxiety and PPTSD are particularly high, with approximately 40% of mothers experiencing postpartum anxiety within the first month of NICU admission and 25% experiencing PPTSD up to one year following delivery (March of Dimes, 2023). Future research should further examine these underrecognized and underdiagnosed postpartum disturbances (PSI, n.d.).

Additionally, some lower birthweight infants require high-frequency ventilation or umbilical lines that prevent mothers from holding their infants for extended periods. Given the therapeutic importance of physical touch and skin-to-skin/kangaroo care, future research focused on higher-risk infant subgroups and qualitative maternal experiences may provide a more comprehensive understanding of maternal-infant bonding processes in the NICU.

Conclusion

Although the primary hypothesis was not supported, this study contributes to the growing body of literature on maternal-infant bonding in the NICU by identifying postpartum depression, particularly the emergence of clinically significant symptoms following NICU admission, as a potentially important factor associated with changes in maternal bond or affective connection. The findings also suggest that maternal bonding is a multidimensional process that may not be fully captured by global self-report measures, highlighting the value of examining specific domains of maternal experience alongside observational assessments. Continued attention to maternal mental health, repeated screening throughout the NICU hospitalization and transition home, and interventions that support both psychological well-being and early parent-infant relationships may help optimize outcomes for these vulnerable families. Further research with larger, more diverse samples and multimethod assessment approaches is needed to better understand the complex processes that shape maternal-infant bonding following preterm birth.

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Conscious Conception: A Qualitative Study of Intentional Prenatal Engagement and Parental Experience

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This study explores the concept of Conscious Conception as a form of intentional psychological engagement during pregnancy. While existing research in prenatal psychology has largely emphasized risk factors, such as stress and emotional vulnerability, limited attention has been given to proactive and reflective parental experiences. Using a qualitative phenomenological approach, this study examines how parents engage with their psychological and emotional processes during pregnancy. Data were collected using in-depth, semistructured interviews with parents who reported intentional prenatal practices. Reflexive thematic analysis following Braun and Clarke's framework revealed five core themes: emotional preparedness, psychological agency, prenatal bonding, identity transition, and acceptance of uncertainty. Findings suggest that pregnancy can be experienced as a process of growth, rather than solely a period of vulnerability. Conscious Conception is proposed as an integrative conceptual framework for understanding intentional engagement before and during pregnancy, emphasizing emotional awareness, relational meaning-making, and adaptive coping. Implications for prenatal education and support are discussed.

Keywords: prenatal psychology, conscious conception, phenomenology, prenatal attachment, parental identity, qualitative research, prenatal engagement

Pregnancy is a period of psychological transformation involving emotional, cognitive, and relational changes that shape parental identity and early developmental environments. Within prenatal psychology, research has focused on risk factors such as maternal stress, anxiety, and depression and their implications for maternal well-being and child development (Glover, 2014; Lautarescu et al., 2020). Although this work has advanced understanding of vulnerability during pregnancy, this literature predominantly frames the prenatal period in terms of risk, pathology, and intervention.

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In contrast, perspectives in psychological science increasingly recognize pregnancy as a period of active engagement in which individuals interpret, regulate, and make meaning of their experiences. Constructs such as emotional awareness, prenatal bonding, and reflective functioning suggest that parents are not merely passive recipients of biological processes but active participants in shaping their experience of pregnancy (Branjerdporn et al., 2020; Rusanen et al., 2021). Despite these developments, limited research has examined how parents consciously engage with prenatal experiences outside structured clinical or intervention-based settings.

Conscious Conception is proposed in this study as an integrative conceptual framework for understanding pregnancy as an intentional and reflective process. Rather than positioning prenatal experience solely in terms of outcomes or risk mitigation, the framework emphasizes awareness, emotional engagement, relational alignment, and meaning-making as central to the transition to parenthood. This perspective aligns with social cognitive theory (Bandura, 1986), which highlights agency and self-regulation, and self-determination theory (Deci & Ryan, 2000), which emphasizes autonomy and intrinsic motivation.

Within this framework, four interrelated dimensions are proposed. The first dimension, Parental Alignment, refers to the intentional preparation and alignment of physical health, lifestyle practices, emotional readiness, and shared parental goals. The second dimension, Conscious Environmental Preparation, emphasizes awareness of stress, nutrition, lifestyle, and psychosocial conditions that may influence parental well-being and developmental outcomes. The third dimension, Mindful Prenatal Engagement, reflects the deliberate cultivation of emotional connection, reflective awareness, and supportive prenatal experiences throughout pregnancy. The fourth dimension, Introspective Partnership, involves self-reflection, emotional growth, and awareness of intergenerational patterns that may influence future parenting experiences.

Rather than functioning as a clinical intervention, Conscious Conception is presented as a reflective psychological orientation that encourages prospective parents to engage intentionally with the transition to parenthood. The present study therefore seeks to explore how individuals experience and interpret this orientation within their lived experiences and whether such intentional engagement contributes to emotional preparedness, psychological agency, prenatal bonding, and parental identity development.

Several established constructs address aspects of prenatal experience, including maternal–fetal attachment, prenatal bonding, mindfulness, reflective functioning, and transition-to-parenthood processes. Conscious Conception is proposed not as a replacement for these frameworks but as an integrative orientation that brings together emotional awareness, reflection, relational alignment, meaning-making, and active participation in pregnancy. This lens helps clarify how interconnected processes may shape parental experience before and during pregnancy.

Existing research within prenatal psychology has highlighted the importance of prenatal attachment and emotional connection during pregnancy. Maternal–fetal attachment has been described as the emotional bond that develops between parents and their unborn child and has

been associated with psychological well-being, adaptive prenatal behaviors, and postnatal parent–infant relationships (Branjerdporn et al., 2020; Rusanen et al., 2021). Contemporary perspectives suggest that prenatal attachment is not merely an emotional outcome, but an active developmental process shaped by reflection, anticipation, and meaning-making during pregnancy.

Pregnancy is also recognized as a developmental transition in adult life. The transition to parenthood involves psychological, relational, and identity-related changes as individuals prepare for new responsibilities and evolving family roles. Research suggests that this transition often requires integrating emerging parental identities with existing self-concepts, prompting reflection on personal values, relationships, and future aspirations (Mercer, 2004). Such processes have been linked to adaptation, emotional growth, and the construction of meaning during the prenatal period.

The literature on prenatal attachment and the transition to parenthood suggests that pregnancy can be understood not only as a biological event but also as a developmental journey. This foundation supports the examination of Conscious Conception as a reflective orientation that may influence how individuals engage with and interpret prenatal experiences.

Another relevant area of research concerns reflective functioning and mindfulness during pregnancy. Reflective functioning refers to an individual's capacity to understand and interpret internal mental states, including thoughts, emotions, intentions, and motivations, both in oneself and in others. Within the context of pregnancy, reflective capacities have been associated with greater emotional awareness, adaptive coping, and more meaningful engagement with the transition to parenthood (Slade, 2005). Parents who engage in reflective processes are often better able to interpret their experiences, regulate emotional responses, and develop coherent narratives around pregnancy and emerging parenthood.

Similarly, mindfulness-based approaches have received increasing attention within prenatal psychology. Mindfulness practices encourage present-moment awareness, nonjudgmental observation of internal experiences, and acceptance of uncertainty. Research has suggested that mindfulness during pregnancy may support emotional regulation, reduce distress, and strengthen awareness of the prenatal experience (Kabat-Zinn, 2003; Sari et al., 2023). These findings indicate that intentional attention to internal experience may shape how individuals experience pregnancy.

Research on reflective functioning and mindfulness further suggests that pregnancy involves more than physiological adaptation. It may also offer opportunities for growth, self-awareness, and intentional engagement, supporting further examination of Conscious Conception as a framework for understanding how individuals make meaning of prenatal experiences.

Despite its conceptual relevance, Conscious Conception remains underexplored within mainstream research. Existing literature has largely relied on quantitative methodologies that prioritize measurement and generalization, often overlooking the depth and complexity of lived experience. As a result, qualitative inquiry is needed to examine how parents perceive, interpret, and make meaning of intentional prenatal practices within their lived contexts.

Addressing this gap, the present study adopts a qualitative phenomenological approach to explore parents' lived experiences of Conscious Conception. The study seeks to understand how parents conceptualize intentional prenatal engagement, how they experience emotional and relational processes during pregnancy, and how they interpret the psychological significance of these experiences. By foregrounding participant narratives, the study contributes to a more nuanced and experience-centered understanding of prenatal psychology.

In doing so, the research moves beyond deficit-oriented models and offers a balanced perspective that recognizes both the challenges of pregnancy and opportunities for growth. The findings can inform theory, practice, and future research on prenatal engagement while expanding prenatal psychology beyond risk-focused paradigms.

Methods

Participants

Participants for the present study were selected using purposive sampling, a commonly employed strategy in qualitative research that involves identifying individuals with direct experience of the phenomenon under investigation. The sample consisted of parents who reported engaging in intentional prenatal practices consistent with the conceptual framework of Conscious Conception.

The final sample comprised 10 participants, including 7 gestational mothers and 3 partners (fathers and non-gestational partners). This composition enabled the inclusion of both direct prenatal experiences and relational perspectives associated with the prenatal period. Participants ranged in age from 29 to 38 years, with the majority falling within the 29–32 age range. Regarding parental experience, 8 participants were first-time parents, while 2 had prior parenting experience, with their first child aged between 4 and 6 years.

Inclusion criteria required participants to have consciously engaged in reflective or intentional practices during the preconception or prenatal period. These practices included, but were not limited to, emotional self-awareness, mindfulness, reflective intention-setting, and deliberate engagement with prenatal bonding. Participants were required to have completed their pregnancy and to be able to reflect retrospectively on their experiences.

Exclusion criteria included individuals who did not engage in intentional prenatal practices or who were unwilling to participate in in-depth interviews. Participants who were unable to provide informed consent or who preferred not to have their interviews recorded were also excluded from the study.

Recruitment concluded when additional interviews no longer contributed meaningful new insights. This sample size is consistent with phenomenological research standards, which prioritize depth and richness of lived experience over numerical representativeness.

Recruitment was conducted through purposive sampling within pregnancy and parenting communities associated with the researcher's professional network and educational initiatives. Potential participants were approached through parenting groups, prenatal education networks, and voluntary invitations shared with individuals connected to these communities. Interested

individuals were screened through a brief preliminary discussion to determine whether they had engaged in reflective, emotional, psychological, or preparatory practices before conception or during pregnancy. Eligible individuals received information about the purpose of the study, the voluntary nature of participation, and their right to withdraw at any time without consequence. Written informed consent was obtained from all participants before data collection, and only those who met the inclusion criteria and agreed to participate were enrolled in the study.

Design

The study adopted a qualitative research design grounded in a phenomenological approach. Qualitative research is particularly suited to exploring phenomena that involve subjective meaning, emotional processes, and lived experience. In the context of prenatal psychology, where experiences are deeply personal and relational, a qualitative design enables an in-depth understanding of how individuals interpret and make sense of them.

Phenomenology was selected as the guiding methodological framework because it focuses on capturing the essence of lived experience (Creswell & Poth, 2018). This approach was appropriate for examining how participants interpreted Conscious Conception within their own prenatal experiences.

The present study aligns with interpretivist and constructivist epistemological perspectives, which view reality as socially and psychologically constructed. Within this framework, knowledge is co-created through interaction between the researcher and participants, and the researcher plays an active role in interpreting participant narratives while remaining grounded in the data.

Data Collection

Data were collected using semistructured, in-depth interviews designed to elicit detailed descriptions of participants' experiences. A semistructured interview guide was developed based on the research objectives and existing literature, allowing for consistency across interviews and flexibility to explore emerging themes.

Interviews were conducted either in person or online, depending on participant availability and preference. Each interview lasted 60 to 90 minutes, allowing participants time to reflect on and articulate their experiences. With informed consent, all interviews were audio-recorded to ensure accuracy during transcription and analysis. Audio recordings were transcribed verbatim shortly after each interview, and transcripts were reviewed against the recordings for accuracy and completeness. All recordings and transcripts were stored securely on password-protected devices accessible only to the researcher and were used exclusively for research purposes.

The study was conducted independently and involved nonclinical interviews with consenting adults reflecting on their retrospective experiences. Under the applicable research context, formal Institutional Review Board (IRB) review was not required. Nevertheless, all procedures were conducted in accordance with ethical principles for research involving human participants, consistent with the *Ethical Principles of Psychologists and Code of Conduct* of the American Psychological Association (APA, 2017). Participant confidentiality and anonymity

were protected through the use of pseudonyms, the removal of identifying information from transcripts, and the secure storage of all study materials. Interviews were conducted in a respectful and nonintrusive manner, and participants were free to decline or skip any questions they did not wish to answer.

The interview process was conducted in a nonjudgmental and empathetic manner, encouraging participants to share openly. Probing questions were used where necessary to clarify meanings and deepen understanding. This approach facilitated the collection of nuanced data reflective of participants' lived experiences.

Data Analysis

Data were analyzed using reflexive thematic analysis (Braun & Clarke, 2006), a method for identifying, analyzing, and interpreting patterns within qualitative data.

In the first phase, interview transcripts were read and re-read to achieve familiarity and immersion in the data. Initial notes were made to capture preliminary observations. In the second phase, meaningful units of data were systematically coded, with a focus on participants' descriptions of emotional awareness, intentional engagement, prenatal bonding, and identity-related experiences.

In the third phase, codes were examined for patterns and organized into potential themes. These themes were then reviewed and refined in the fourth phase to ensure coherence, internal consistency, and alignment with the data. In the fifth phase, themes were clearly defined and named to reflect the essence of participants' experiences. The final phase involved producing a structured narrative that integrated themes with supporting data extracts.

To enhance trustworthiness, reflexive practices were maintained throughout the research process. The researcher engaged in ongoing reflection to reduce subjective bias and keep interpretations grounded in participant narratives. Coding consistency was supported through iterative comparison of transcripts and themes. Rich descriptions and direct participant quotations were used to enhance credibility, transferability, and transparency.

Researcher Positioning and Reflexivity

In qualitative research, the researcher serves as an active instrument in the collection, interpretation, and analysis of data. Accordingly, it is important to acknowledge the researcher's relationship to the topic and the potential influence of prior experiences and assumptions on the research process.

The primary researcher has professional experience in pregnancy, parenting, and family well-being and is the founder of the MyShishu parenting ecosystem, which focuses on prenatal education, conscious parenting, and family development. Through work with expectant parents over several years, the researcher developed an interest in understanding how individuals prepare for parenthood and make meaning of their prenatal experiences. This background contributed to the development of the concept of Conscious Conception and informed the motivation for the present study.

Recognizing the potential influence of prior beliefs and experiences, reflexive practices were employed throughout the research process to enhance trustworthiness and minimize interpretive bias. During data collection, interview questions were designed to encourage open-ended exploration rather than confirmation of predetermined assumptions. Participants were invited to describe their experiences in their own words, and probing questions were used to clarify meanings rather than direct responses.

Throughout data analysis, the researcher engaged in ongoing self-reflection and reflexive notetaking to examine personal assumptions and ensure that emerging themes remained grounded in participant narratives. Coding decisions and thematic interpretations were continuously reviewed against the original interview data to maintain fidelity to participants' lived experiences. Particular attention was given to identifying patterns that emerged from the data rather than imposing existing conceptual frameworks onto participant accounts. These reflexive strategies were implemented to strengthen the study's credibility, transparency, and trustworthiness while acknowledging the researcher's professional proximity to the subject matter.

Results

Thematic analysis of participant narratives revealed five major themes that captured the lived experiences of Conscious Conception and emerged iteratively through the analytic process. These themes reflect patterns of emotional awareness, intentional engagement, relational processes, identity transformation, and adaptive responses to uncertainty. Each theme is presented below along with its corresponding subthemes.

Conscious Awareness and Emotional Preparedness

Participants described heightened awareness of their emotional states during pregnancy and efforts to engage with these emotions reflectively. They became more attentive to internal experiences, including fluctuations in mood, thoughts, and bodily sensations. Rather than avoiding or suppressing emotions, they reported consciously acknowledging and processing them.

Awareness of Emotional States

Participants described developing a deeper awareness of their emotional responses, including moments of anxiety, joy, uncertainty, and anticipation. One participant shared, "I became more aware of what I was feeling every day. Instead of ignoring my emotions, I started observing them and understanding where they were coming from." Participants described that this awareness enabled them to recognize emotional patterns and respond more thoughtfully.

Reflective Emotional Engagement

Participants reported engaging in reflection as a way of understanding their emotional experiences. A participant explained, "Earlier, I would react immediately, but during pregnancy I started pausing and noticing what I was feeling before responding." This reflection was

described as a deliberate process of observing and interpreting emotions rather than reacting impulsively.

Emotional Preparedness for Parenthood

Increased emotional awareness contributed to a sense of preparedness for parenthood. Participants expressed feeling more equipped to manage emotional challenges associated with pregnancy and early parenting.

Intentional Engagement as Psychological Agency

Intentional engagement fostered a sense of agency during pregnancy. Participants described Conscious Conception as an active process involving deliberate attention to thoughts, emotions, and behaviors.

Deliberate Attention and Awareness

Participants reported consciously directing their attention toward their experiences, including their emotional responses and interactions with their environment.

Sense of Personal Agency

Participants expressed feeling a sense of control over how they responded to their experiences, even in situations where external circumstances were beyond their control. One participant shared, “I felt like I had a role to play in this journey. Even if I couldn’t control everything, I could control how I responded to my thoughts and emotions.”

Active Participation in the Prenatal Experience

Participants described themselves as active participants in the prenatal journey rather than passive recipients of biological processes. A further participant reflected, “Being intentional did not mean controlling everything. It meant being present in the experience and recognizing that my choices, thoughts, and actions still had meaning during the journey.”

Prenatal Bonding as a Relational Process

Participants experienced emotional connection with their unborn child as an evolving relational process influenced by awareness, reflection, and context.

Development of Emotional Connection

Participants reported experiencing moments of emotional closeness with the unborn child, often associated with reflection or intentional awareness. One participant shared, “There were moments when I felt deeply connected to the baby, like I was already forming a relationship, even before birth.”

Fluctuating Nature of Bonding

Bonding was not described as constant but as fluctuating in response to emotional states and situational factors. A participant described, “Some days I felt a stronger connection than others, but whenever I intentionally paused and focused on the baby, I felt a sense of closeness and responsibility that made the experience more meaningful.”

Meaning-Making in the Parent–Child Relationship

Participants interpreted prenatal bonding as a meaningful relational experience that contributed to their emerging identity as parents. Another participant reflected, “I often found myself talking to the baby even when I was alone. It helped me feel connected and reminded me that the pregnancy was not just happening to me but that a relationship was already beginning.”

Identity Transition and Meaning-Making

Participants described pregnancy as a period of identity transition. Reflection helped them integrate evolving roles, values, and self-concepts as they prepared for parenthood.

Evolving Self-Concept

Participants described changes in how they perceived themselves, including shifts in priorities, values, and identity. One participant shared, “I could feel myself changing as a person. I was not just thinking about myself anymore—I was slowly becoming a parent.”

Integration of Parental Identity

Participants reported efforts to integrate their pre-existing identity with their emerging role as parents. Another participant noted, “It wasn’t just about becoming a parent after birth; I felt the transition had already started within me during pregnancy.”

Narrative Construction and Meaning-Making

Participants described constructing personal narratives that helped them make sense of their experiences and transition into parenthood.

Reflections on Limitations and Uncertainty

Participants recognized uncertainty as an inevitable part of pregnancy and described adaptive responses to perceived limitations. When expectations did not align with lived experiences, they drew on acceptance and flexibility.

Recognition of Uncontrollable Factors

Participants acknowledged that not all aspects of pregnancy could be controlled or predicted. This awareness reduced unrealistic expectations and supported a more balanced outlook. One participant shared, “I realized that not everything is in my control. Accepting that actually made me feel calmer and more balanced.”

Emotional Flexibility and Acceptance

Acceptance emerged as a key coping mechanism. Participants described learning to remain emotionally flexible and open in the face of uncertainty, allowing them to navigate challenges without excessive distress. A different participant reflected, “There were moments when things did not go according to my expectations. Instead of becoming overwhelmed, I learned to focus on what I could control and let go of what I could not.”

Psychological Balance and Realism

Participants emphasized balance and realism rather than perfection. Conscious Conception was described as a flexible orientation rather than a rigid set of expectations, supporting stability and self-compassion. Another participant explained, “At first, I wanted everything to be perfect, but pregnancy taught me that uncertainty is part of the journey. Learning to accept that reduced a lot of unnecessary stress.”

Cross-Case Observations

Although the five themes were evident across the participant group, variations were observed in the way individuals described and prioritized their experiences. First-time parents tended to place greater emphasis on emotional preparedness, uncertainty, and identity transition, often describing pregnancy as a period of significant personal transformation. Participants with previous parenting experience more frequently discussed intentional engagement, drawing on lessons learned from earlier pregnancies and reporting a greater sense of confidence in navigating the prenatal period.

Differences were also observed between gestational mothers and partners. Gestational mothers generally described more direct experiences of emotional awareness and prenatal bonding, whereas partners more frequently emphasized relational support, shared responsibility, and intentional participation in the pregnancy journey. Despite these variations, participants consistently described Conscious Conception as involving intentional reflection, emotional engagement, and active participation in the transition to parenthood.

No strongly contradictory cases emerged that challenged the overall thematic structure. However, participants differed in the intensity, frequency, and personal meaning attributed to specific experiences, highlighting the individual and context-dependent nature of intentional prenatal engagement.

Discussion

The present study explored the lived experiences of parents who engaged in Conscious Conception using a qualitative phenomenological approach. Rather than restating the themes in detail, this section interprets the findings in relation to existing psychological literature and theoretical frameworks.

Participants’ accounts highlight the role of emotional awareness in shaping prenatal experience. Their descriptions align with research linking emotional regulation and awareness

with well-being during pregnancy (DiPietro et al., 2008; Glover, 2014). Whereas prior studies often conceptualize emotional regulation as a response to stress, the present findings illustrate how participants experienced awareness as a proactive orientation. This shift from reactive to proactive engagement reflects a strengths-based perspective within prenatal psychology.

Participants' descriptions of agency are consistent with social cognitive theory, which emphasizes self-regulation and agency in human behavior (Bandura, 1986), and with self-determination theory, which highlights autonomy and intrinsic motivation as components of well-being (Deci & Ryan, 2000). The present study contributes to these frameworks by showing how agency was experienced during pregnancy, in which external circumstances may limit control, yet internal engagement remains accessible.

The third theme, prenatal bonding as a relational process, offers a nuanced understanding of emotional connection with the unborn child. Participants described bonding as dynamic and fluctuating, shaped by emotional states and reflective engagement. This finding is consistent with research on maternal–fetal attachment, which emphasizes the role of emotional representations in prenatal bonding (Branjerdporn et al., 2020; Rusanen et al., 2021). However, the present study extends this literature by foregrounding the subjective and evolving nature of bonding rather than treating it as a stable or uniformly positive construct. This perspective supports a more realistic and compassionate understanding of prenatal attachment.

Participants also described pregnancy as a period of identity reorganization. This interpretation aligns with developmental and constructivist perspectives that view identity as shaped through life transitions and narrative meaning-making (Vygotsky, 1978). The study adds to this literature by illustrating how prenatal engagement may be experienced as part of the development and integration of an emerging parental identity.

Participants' reflections on uncertainty underscore the role of acceptance and flexibility in adaptation. Their accounts align with research on adaptive coping and mindfulness, which identifies acceptance and flexibility as components of resilience (Kabat-Zinn, 2003; Sari et al., 2023). These findings reinforce the importance of framing intentional practices as flexible orientations rather than rigid expectations, reducing the potential strain associated with perfectionism.

Conscious Conception may therefore be understood as a reflective orientation associated with participants' experiences of emotional awareness, agency, relational engagement, and identity development during pregnancy. Rather than positioning prenatal experience solely within a framework of risk and intervention, the study highlights how participants perceived intentional engagement as contributing to meaningful experience.

The study contributes to prenatal psychology by offering an experiential perspective that complements existing quantitative research. By focusing on lived experience, it provides insight into how parents interpret and engage with prenatal processes in real-life contexts. These findings suggest that prenatal care may benefit from approaches that support reflective awareness, emotional engagement, and flexibility while expanding prenatal psychology beyond risk mitigation.

These findings also have practical implications for professionals working in prenatal and perinatal settings. Prenatal education programs, childbirth preparation courses, and support services may benefit from incorporating opportunities for reflective dialogue, emotional awareness, and intentional engagement alongside traditional health-focused content. Encouraging parents to explore their thoughts, emotions, expectations, and emerging identities may help them feel more prepared during the transition to parenthood.

From a clinical perspective, intentional prenatal engagement may complement approaches aimed at promoting parental well-being. Rather than focusing exclusively on preventing distress, prenatal support services may also foster strengths such as self-awareness, reflective capacity, emotional flexibility, and relational connection. Such an approach aligns with strengths-based models of psychological health and may contribute to a holistic understanding of prenatal well-being.

The present study also highlights the value of viewing pregnancy as a developmental and meaning-making process. Supporting parents as they consciously engage with prenatal experiences may enhance their sense of agency, preparedness, and resilience during a period often marked by change and uncertainty.

Limitations

Several limitations of the present study should be acknowledged. First, the study employed a relatively small sample of ten participants, which is consistent with phenomenological research but may limit the transferability of findings to broader populations. The purpose of the study was to explore depth and meaning rather than achieve statistical generalization.

Second, participants were recruited through communities associated with intentional parenting and prenatal engagement, which may have resulted in a sample that was more motivated, reflective, or positively oriented toward Conscious Conception than the general population. Consequently, the findings may not fully represent the experiences of individuals who approach pregnancy through different perspectives or circumstances.

Third, the study relied on retrospective self-reports, which may be influenced by memory biases and personal interpretations of past experiences. Participants' accounts reflect subjective meaning-making processes and may not capture all aspects of their prenatal experiences.

Finally, as with all qualitative research, the researcher's background and professional involvement in the field may have influenced data interpretation despite the reflexive strategies employed throughout the research process. While efforts were made to maintain transparency and trustworthiness, alternative interpretations of the data remain possible.

Future research involving larger, more diverse samples, longitudinal designs, and mixed-methods approaches may provide further insight into the role of intentional prenatal engagement across different cultural and social contexts.

Conclusion

The present study explored the lived experiences of parents who engaged in Conscious Conception using a qualitative phenomenological approach. Conscious Conception is best

understood not as a prescriptive or outcome-driven practice but as a flexible, reflective orientation. By focusing on participants' narratives, this study provides a nuanced understanding of how intentional prenatal engagement is experienced through emotional awareness, agency, relational bonding, and identity transition.

From a practical perspective, prenatal care and support may benefit from approaches that foster reflection, emotional engagement, and flexibility. Such approaches may help parents navigate pregnancy with greater preparedness and resilience.

Future research should build on these findings through mixed-methods, longitudinal, and cross-cultural studies that further examine intentional prenatal engagement in diverse contexts. As an experience-centered perspective, Conscious Conception may complement existing prenatal care models by supporting parental preparedness and well-being.

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Representations of Prenatal Experiencing Across Languages: An Integrated Analysis Using Bayesian Hierarchical Modeling and Random-Effects Meta-Analysis

Daisuke Oshioka, PhD

Developmental theory typically begins at birth, but evidence of prenatal learning and sensorimotor organization does not establish whether fetal experience is structured as meaning. This study examined how authored picture-book narratives represent prenatal experiencing. Segment-level ratings from a published Japanese study were reanalyzed alongside new English-, French-, and Italian-origin corpora, yielding 23 books, 509 eligible segments, and 1,988 ratings on the 1–7 Experiencing Scale. A harmonized criterion classified a segment as Level 4 or higher when its median rating was at least 4. A book-level Bayesian beta-binomial model estimated mean book probabilities ranging from 32.240% in the French corpus to 59.079% in the Japanese corpus; every credible interval was wide, and every pairwise risk-difference interval included zero. A random-effects synthesis of within-book correlations between Experiencing level and narrative position yielded a positive association, $\rho = .258$, 95% confidence interval (CI) [.036, .455], $p = .025$. However, the trajectory differed by corpus, $F(3, 19) = 3.640$, $p = .031$. It was clear in the English corpus, $\rho = .610$, CI [.435, .740], $p = .001$; positive but uncertain in the Japanese and Italian corpora; and near zero in the French corpus. Recurrence and trajectory must be kept apart. Recurrence was cross-linguistic: all four corpora portrayed prenatal life as bodily felt meaning. Trajectory was not: only in the English books did that meaning visibly build toward birth. These findings concern authored representations rather than fetal mental states.

Keywords: prenatal psychology, experiencing theory, felt sense, Experiencing Scale, cross-linguistic comparison

The author declares no conflict of interest. No external funding was received. This study was conducted as part of the Oshioka Laboratory research project on prenatal mental modality at Kyushu Women's University. Daisuke Oshioka, PhD (ORCID: 0009-0008-0553-4614), is a professor in the Faculty of Humanities at Kyushu Women's University and a certified clinical psychologist and focusing professional whose research concerns prenatal and perinatal psychology and focusing-oriented psychotherapy. He received the Spirit of APPPAH Award for Outstanding Research in 2023. The author thanks the five research collaborators who assisted with the independent Experiencing Scale ratings; they are not named to protect their privacy. The author used AI-assisted tools for language translation, editing, and structural refinement. All substantive content and conclusions are the responsibility of the author. Please send correspondence to Daisuke Oshioka: odsk.ph.d@gmail.com

In prenatal and perinatal practice, the unborn child is routinely addressed as someone. Parents are encouraged to speak to the baby. Practitioners ask what the baby might be taking in. Whole shelves of commercially published picture books narrate pregnancy in the unborn child's own voice, and expectant parents read them aloud long before anyone can be certain what, if anything, is received. Narratives of this kind are how the field's central premise, that the prenatal period is relationally significant, reaches families. Their contents have never been examined systematically. The present study asks a question that evidence can answer: when authors write from the unborn child's perspective, do they portray prenatal life as bodily felt meaning, and does that portrayal take the same form across languages?

Canonical developmental theory offers no framework against which such narratives can be read. Freud's (1905/1953) psychosexual theory and Piaget's (1937/1955) account of how the child constructs reality have shaped childrearing, education, and clinical practice, yet both take the newborn as their point of departure. Rank (1924/1929) treated birth itself as formative, but that proposal concerns the event of birth rather than the organization of mental life preceding it. A theory that takes birth as its starting point cannot account for the processes that may persist across the transition from prenatal to postnatal life, a continuity long recognized in prenatal and perinatal psychology (Chamberlain, 1988; Verny & Kelly, 1981).

Empirical research has established that the prenatal organism responds to patterned stimulation. Newborns prefer their mother's voice (DeCasper & Fifer, 1980), fetuses retain auditory patterns (Hepper, 1991), prenatal exposure leaves cardiac and neural traces after birth (Granier-Deferre et al., 2011; Partanen et al., 2013), and language heard in utero shapes early speech perception (Mariani et al., 2023; Moon et al., 2013). Embodied accounts add that movement-generated sensory regularities scaffold cortical learning (Craighero, 2024; Yamada et al., 2016), and recent work asks how prereflective awareness might be studied without importing adult criteria (Delafield-Butt & Ciaunica, 2024; Frohlich et al., 2023). These findings establish discrimination, learning, and continuity across birth. They do not show whether prenatal experience has the structure of meaning, whether what is undergone is felt as being about something.

Gendlin's (1961, 1962) experiencing theory offers a vocabulary for this preverbal and preconceptual domain. A felt sense is a bodily felt, initially implicit whole of meaning; when a fitting symbol is found, some of that implicit meaning becomes explicit, and the experiential process moves forward. The Experiencing Scale (Klein et al., 1969) orders this movement across seven levels. Levels 1–3 remain external, behavioral, or affective without sustained reference to an inner felt referent; Level 4 marks the symbolization of bodily felt meaning; and Levels 5–7 describe its exploration, development, and sustained use as an explicit source of meaning. Because meaning need not begin as language in this framework, experiencing theory applies to accounts of early mental life.

Prenatal subjectivity cannot be observed directly, and the fetus has no external language, so interview and self-report are unavailable. One response is to analyze what a culture has already articulated. Freud (1907/1959) regarded creative writers as valuable allies whose testimony should be taken seriously, and Kitayama (1999–2002) operationalized a related premise by classifying

mother–infant figures in visual art and comparing relational motifs across settings. Picture books written from the unborn child’s perspective extend this resource to the prenatal period. They provide no evidence about an actual fetus; they provide analyzable cultural models of what prenatal experience can mean, and their first-person narratives make an otherwise inaccessible interiority explicit enough to be rated.

Oshioka and Ozaki (2020) provided the initial evidence from Japanese picture books. Three raters applied the Experiencing Scale to 48 eligible segments from five books based on narrated prenatal or birth memories. Under their stringent criterion—all three raters assigning Level 4 or higher—25 segments (52.083%) met the threshold, and every book contained qualifying material. That study did not test the relation between Experiencing level and narrative position, nor did it establish whether the Japanese pattern recurred elsewhere. The availability of the original Japanese ratings now permits a unified reanalysis in which a median criterion can be applied across panels of different sizes, and all 23 books can contribute to the same models.

The study had three aims. First, it tested whether Level 4 or higher material recurred across Japanese-, English-, French-, and Italian-origin books under a harmonized threshold. Second, it estimated corpus differences while treating books, rather than segments, as independent realizations. Third, it tested the directional hypothesis that Experiencing level increases as chronologically ordered narratives approach birth; in experiencing theory, such a trajectory would be compatible with carrying forward, in which implicit bodily meaning becomes progressively differentiated in symbolization. Whether that narrative form was shared across corpora remained an empirical question. For prenatal and perinatal scholarship, the payoff is methodological as much as substantive: it offers a way to study the field’s foundational claim without waiting for access to the fetus. What a culture writes about prenatal life is observable now, and it can be measured. Throughout, the object of inference was authored representation, not the unobservable mental state of an actual fetus.

Method

The corpus comprised 23 commercially published picture books in which the narrative was set in the womb, proceeded chronologically from intrauterine development toward birth, and adopted the unborn child as narrator or focal character. Five Japanese books were drawn from the archived data of Oshioka and Ozaki (2020), and the new corpus comprised five English-origin, seven French-origin, and six Italian-origin books. Selection was purposive rather than population-based, and all books and their editions are identified in the reference list. The Japanese dataset contained 48 eligible segments. The English, French, and Italian datasets contained 197, 187, and 77 segments, respectively, for a total of 509. For each book, the rows were arranged in narrative order after rating.

Japanese Rendering and Segmentation

The Japanese books were rated in their original language. Because the raters for the new corpora were native Japanese speakers, the English-, French-, and Italian-origin texts were rendered into Japanese with ChatGPT-4o (OpenAI, 2024) before rating. No human translator or

back-translation procedure was used. Texts were segmented sentence by sentence. Only the focal unborn child's own immediate or retrospective experience was retained for analysis. This rule matched the eligible viewpoints in the published Japanese study and the corresponding procedure for the new corpora.

Experiencing Scale Ratings

Three raters produced the Japanese data, and four raters produced the new data. The author, a Certified Focusing Professional, was the only person common to both panels. Raters independently scored each eligible segment using the Japanese Experiencing Scale manual (Ikemi et al., 1986), which operationalizes the scale developed by Klein et al. (1969). The rating range was 1–7. Segments were shuffled within books before distribution, preventing raters from reconstructing narrative order; after rating, rows were restored to story order.

The primary threshold was a median Experiencing level of 4 or higher. In the observed data, this corresponded to at least two of three Japanese raters and at least three of four new-panel raters assigning Level 4 or higher. Unanimous classification was examined as a sensitivity analysis, recognizing that unanimity is more stringent with four raters than with three.

Reliability

Reliability was evaluated separately by corpus. For the fixed panels, ICC(3,1) describes a single rating and ICC(3, k) the panel aggregate, with $k = 3$ for Japanese and $k = 4$ for the new corpora (Shrout & Fleiss, 1979). Krippendorff's alpha with ordinal distance assessed agreement across the ordered scale (Krippendorff, 2019). Fleiss' kappa and mean pairwise agreement assessed the Level 4 boundary. Coefficients were interpreted numerically rather than assigned labels developed for other statistics.

Statistical Analysis

For each book, the primary prevalence analysis counted the segments whose median Experiencing level reached 4 and divided by the eligible total. A Bayesian beta-binomial model then assigned each corpus a mean probability, μ_1 , and a shared precision, ϕ . The purpose of this specification was to keep the book, rather than the segment, as the unit of evidence. A long book should not count as many short ones. Priors were weakly informative: $\text{logit}(\mu_1) \sim \text{Normal}(0, 2.500)$ and $\text{log}(\phi) \sim \text{Normal}(\text{log } 4, 1.500)$. Adaptive importance sampling used 80,000 multivariate- t proposal draws; the effective sample size was 44,569.751, and the largest normalized weight was less than .001. Reported quantities are posterior means with equal-tailed 95% credible intervals, prediction intervals for a future book chosen under the same purposive criteria, and pairwise risk differences.

Narrative position was standardized from 0 at the beginning of each book to 1 at the end. Every narrative moved chronologically toward birth, so a later position meant greater proximity to birth within the authored timeline. Within each book, Spearman's rank-order correlation related median Experiencing level to position. Correlations were transformed with Fisher's z and pooled by restricted maximum likelihood. Because only five to seven books contributed to each corpus, Hartung–Knapp intervals and t -tests were used rather than normal approximations. Mixed-effects

meta-regression tested corpus as a moderator, prediction intervals summarized expected variation across books, and leave-one-book-out analyses assessed the influence of individual titles.

Sensitivity analyses replaced the segment median with its mean, the proportion of raters assigning Level 4 or higher, the binary median-threshold outcome, and unanimity. A Bayesian cumulative-logit mixed model also retained the 1–7 ratings and included book intercepts, corpus-specific position slopes, rater location effects, and a segment random intercept. Four adaptive random-walk chains yielded 16,000 posterior draws. Sampling diagnostics were adequate for the four corpus-specific position slopes, the only quantities interpreted from this model; several nuisance parameters mixed slowly and are therefore not reported. For that reason, this model was used only to assess whether the position slopes agreed with the primary analysis. All analyses were conducted in Python 3.12.13 (Python Software Foundation, 2026), using NumPy 2.3.5 (Harris et al., 2020), pandas 2.2.3 (McKinney, 2010), and SciPy 1.17.0 (Virtanen et al., 2020). Figures were generated using Matplotlib 3.10.8 (Hunter, 2007). Statistical results are reported to three decimal places. The anonymized data, complete code, environment record, audit trail, and machine-readable outputs are included in the reproducibility package.

Ethical Considerations

The primary materials were commercially published texts. Five collaborators provided scale ratings as members of the research team, not as study participants, and no personal data were collected. Accordingly, institutional review board approval was not sought. No copyrighted illustrations or source passages are reproduced. The analysis is neither clinical nor diagnostic and makes no claims about any individual pregnancy or fetus. Copyrighted source passages and their Japanese renderings cannot be distributed publicly. An anonymized reproducibility package containing segment identifiers, narrative positions, ratings, derived variables, analysis scripts, numerical outputs, and figures is available from the author upon reasonable scholarly request. Source passages may be inspected under copyright-compliant conditions.

Results

The numbers below are of three kinds. Observed proportions describe the rated segments. Model estimates describe a typical book in a corpus, with every book counting equally regardless of length. Intervals describe what the data leave unsettled: a narrow one means the next comparable book would probably fall close to the estimate; a wide one means it could fall almost anywhere in the range.

Data Quality and Reliability

The integrated dataset contained 23 books, 509 segments, 1,988 ratings, and six anonymized raters. No rating was missing, duplicated, or outside the declared range of 1–7; observed ratings ranged from 1 to 6. Reliability was consistently higher for panel aggregates than for single ratings (Table 1). ICC(3,1) ranged from .747 to .830, whereas ICC(3,*k*) ranged from .922 to .946. Krippendorff's ordinal alpha ranged from .672 to .823. At the Level 4 boundary, Fleiss' kappa ranged from .520 to .828 and mean pairwise agreement from .768 to .917. The Japanese panel

showed the strongest boundary agreement, but all corpora showed enough disagreement to favor hierarchical modeling over treating classifications as error-free.

Table 1
Interrater Reliability by Corpus

Corpus	Books	<i>n</i>	<i>k</i>	ICC(3,1) [95% CI]	ICC(3, <i>k</i>) [95% CI]	Ordinal α	κ	Agreement
Japanese	5	48	3	.830 [.744, .894]	.936 [.897, .962]	.823	.828	.917
English	5	197	4	.814 [.776, .849]	.946 [.933, .957]	.718	.520	.768
French	7	187	4	.795 [.753, .834]	.940 [.924, .953]	.729	.537	.776
Italian	6	77	4	.747 [.667, .817]	.922 [.889, .947]	.672	.546	.775

Note. *n* = segments; *k* = raters. ICC(3,*k*) uses *k* = 3 for Japanese and *k* = 4 for the new corpora. α is Krippendorff’s alpha with ordinal distance; κ is Fleiss’ kappa at the Level 4 boundary.

Cross-Linguistic Recurrence and Prevalence

Median-defined Level 4 or higher material occurred in every corpus and in 22 of 23 individual books. Observed proportions ranged from 32.995% in the English corpus to 60.417% in the Japanese corpus (Table 2). The descriptive pooled percentages weight segments; the inferential model estimates the mean probability across books.

The beta-binomial model estimated mean book probabilities ranging from 32.240% in the French corpus to 59.079% in the Japanese corpus (Table 2; Figure 1). Every credible interval was wide, and prediction intervals for a future comparably selected book were wider still, indicating substantial between-book heterogeneity. The two intervals answer different questions. A credible interval asks where the corpus average lies. A prediction interval asks where a single new book would land, and because it must absorb the variation between books, it is always the wider of the two. The practical reading is straightforward. Books portraying prenatal experience at Level 4 or higher were present in every corpus, and in a typical book roughly a third to three-fifths of the eligible segments met the threshold. The intervals are wide for an obvious reason: each corpus rests on five to seven books.

All pairwise risk-difference intervals included zero. Relative to Japanese, the estimated differences were -24.151 percentage points for English, 95% CrI [-52.944, 6.517]; -26.839 for French [-53.135, 1.555]; and -14.135 for Italian [-42.724, 16.423]. French minus English was -2.688 [-27.864, 22.464], Italian minus English was 10.015 [-17.873, 37.437], and Italian minus French was 12.704 [-12.647, 37.604]. The within-book correlation induced by beta-binomial heterogeneity was .188, 95% CrI [.094, .318]. With this many books, the four corpora simply cannot be told apart. The data are consistent with substantial differences in either direction, and equally consistent with none. Recurrence is supported; equal prevalence is not established, and corpus differences are not resolved.

Table 2

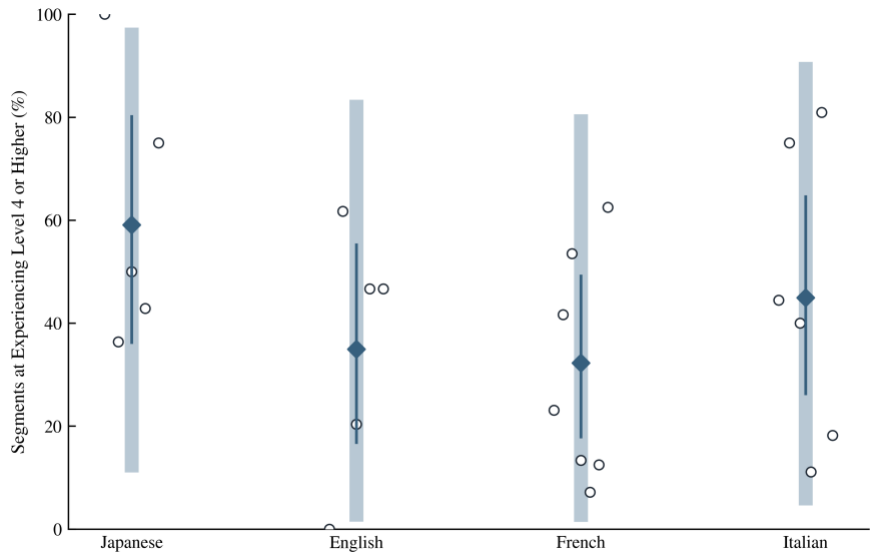
Prevalence of Segments at Experiencing Level 4 or Higher

Corpus	Books	Segments	Observed Level 4+, <i>n</i> (%)	Mean book probability, % [95% CrI]	Future book, % [95% PI]
Japanese	5	48	29 (60.417)	59.079 [36.000, 80.413]	59.025 [11.022, 97.400]
English	5	197	65 (32.995)	34.929 [16.540, 55.496]	34.892 [1.463, 83.398]
French	7	187	65 (34.759)	32.240 [17.640, 49.417]	32.152 [1.395, 80.574]
Italian	6	77	35 (45.455)	44.944 [26.025, 64.839]	44.872 [4.627, 90.736]

Note. CrI = credible interval; PI = posterior prediction interval. Observed percentages pool segments for description; model estimates treat books as independent units.

Figure 1

Prevalence of Level 4 or Higher Segments Across Books and Corpora



Note. Open circles are observed book proportions. Diamonds and thin lines are posterior means and 95% credible intervals for the mean book probability. Thick pale lines are 95% posterior prediction intervals for a future comparably selected book.

Under the panel-specific unanimity rule, observed proportions were 52.083% for Japanese, 19.797% for English, 20.321% for French, and 22.078% for Italian. The corresponding model estimates were 50.453%, 20.521%, 17.799%, and 23.892%. Because unanimity required agreement by three raters in Japanese but four in the new corpora, this sensitivity analysis was not interpreted as evidence of corpus differences.

Narrative Position

Across all 23 books, experiencing level increased with narrative position, pooled $\rho = .258$, 95% CI [.036, .455], $p = .025$, $\tau^2 = .175$, with a prediction interval from $-.559$ to $.821$. The corpus-specific estimates showed that this overall tendency was not uniform (Table 3; Figure 2). All five English books had positive correlations, and the English pooled estimate was the largest of the four and the only one whose interval excluded zero, $\rho = .610$, 95% CI [.435, .740], $p = .001$. The Japanese and Italian estimates were positive but uncertain, and the French estimate was near zero. Read across the whole set, symbolized felt meaning appeared more often late in a story than early. The English books carried that tendency almost entirely.

Corpus moderated the position association, $F(3, 19) = 3.640$, $p = .031$. The English association exceeded the French association, difference in Fisher's $z = .752$, 95% CI [.268, 1.235], $p = .004$. Its difference from the Italian association was less certain, difference = $.524$, 95% CI $[-.018, 1.066]$, $p = .057$; its difference from Japanese was uncertain, difference = $.353$, 95% CI $[-.284, .989]$, $p = .260$. Leave-one-book-out estimates for English ranged from $\rho = .531$ to $.671$, and every

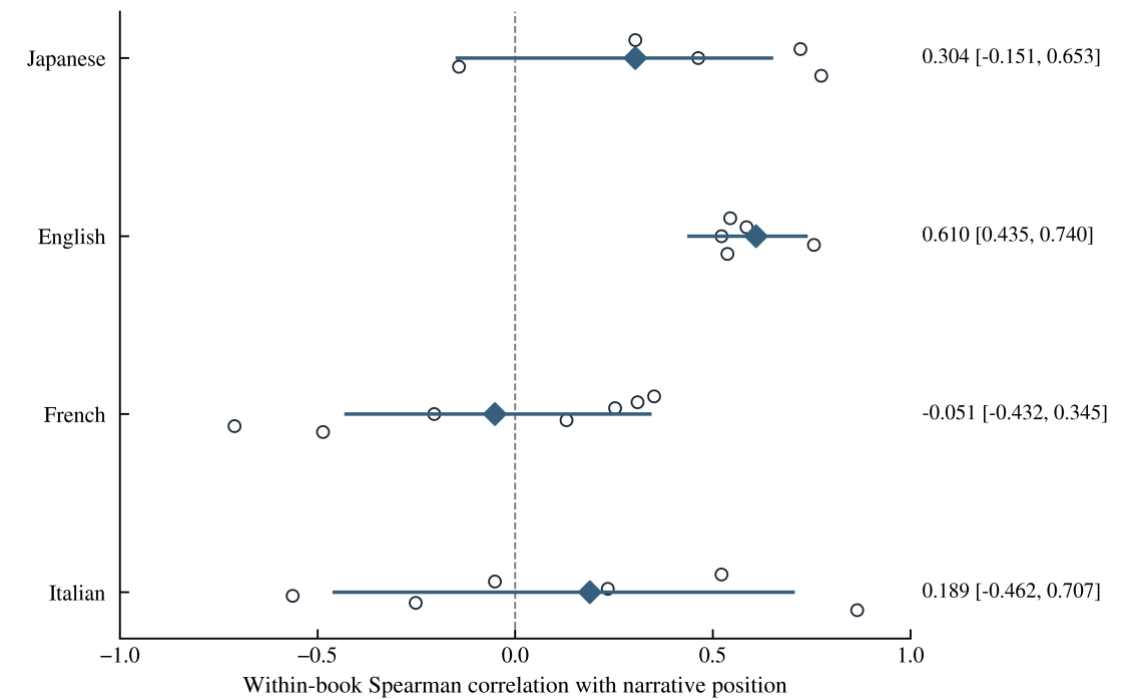
interval retained a positive lower bound. The English–French contrast is the one that holds. Comparisons with the Japanese and Italian books pointed the same way but did not settle.

Table 3
Random-Effects Synthesis of Within-Book Associations with Narrative Position

Corpus	Books	Pooled ρ	95% CI	p	τ^2	95% prediction interval
Japanese	5	.304	[−.151, .653]	.135	.000	[−.151, .653]
English	5	.610	[.435, .740]	.001	.021	[.235, .827]
French	7	−.051	[−.432, .345]	.770	.110	[−.745, .695]
Italian	6	.189	[−.462, .707]	.509	.281	[−.871, .938]

Note. Correlations were pooled by restricted maximum likelihood after Fisher’s z transformation. Confidence intervals and tests use the Hartung–Knapp adjustment.

Figure 2
Experiencing Level and Narrative Position



Note. Open circles are individual books. Diamonds and horizontal lines are random-effects pooled correlations and 95% confidence intervals.

Sensitivity analyses using alternative outcome definitions largely reproduced this pattern. Corpus moderation remained evident when mean ratings were used, $F(3, 19) = 5.695, p = .006$, and when the proportion of raters assigning Level 4 or higher was used, $F(3, 19) = 6.906, p = .002$. The binary median-threshold analysis showed no clear evidence of moderation, $F(3, 17) = 2.029, p = .148$, whereas the unanimity analysis again showed moderation, $F(3, 16) = 5.325, p = .010$.

The rater-adjusted ordinal model reproduced the pattern obtained in the primary analysis. On the latent logit scale, the English slope was 6.759, 95% CrI [5.289, 8.071], and the posterior probability of a positive slope was 1.000. Slopes were 1.295 for Japanese [-.790, 3.393], probability = .889; -1.367 for French [-2.818, .376], probability = .057; and .806 for Italian [-1.057, 3.143], probability = .753. A model that used every rating rather than the median, and that let raters differ in severity, reached the same verdict about the English books. The English trajectory is therefore not an artifact of median aggregation or of one rater’s severity.

Discussion

Two findings define the contribution. First, Level 4 or higher material recurred across Japanese-, English-, French-, and Italian-origin corpora under one harmonized rule. The Japanese raw ratings could now enter the same book-level model rather than serving only as a published

reference. Second, the way symbolized felt meaning unfolded across a story was not uniform. A marked rise appeared in every English book, whereas Japanese and Italian estimates remained positive but uncertain, and the French estimate was near zero.

The recurrence result gives a precise scope to the theoretical claim. Across 23 purposively selected books, authors working in four linguistic settings portrayed prenatal life not merely as sensation or reaction, but as bodily experience carrying implicit significance. That claim now rests on firmer ground than it would on a three-corpus analysis supplemented by a descriptively similar earlier study, because all four corpora were evaluated under a common threshold and model. It remains a claim about recurrence in the assembled books, not equal prevalence across national literatures and not a population universal.

The narrative-position result adds a developmental form to the analysis. Experiencing theory describes meaning as a process: an implicit bodily whole becomes progressively articulated rather than remaining fixed (Gendlin, 1962, 1981). In these books, narrative time moved from intrauterine development toward birth; later position therefore indexed greater represented proximity to birth. The consistent English rise is compatible with gradual elaboration of symbolized prenatal experience as birth approaches. On this reading, the narrative does not simply accumulate events; bodily meaning becomes increasingly differentiated and expressible.

This interpretation must remain at the level of representation. Narrative position is not a gestational measure, and an author's portrayal does not reveal fetal consciousness. The observed trajectory may reflect a culturally available plot form, a convention of English-language narration, translation-sensitive features, or characteristics of the selected books. The absence of a clearly estimated increase in the French and Italian corpora is therefore central rather than inconvenient: Level 4 material recurred across corpora, but progressive elaboration was corpus-specific. The Japanese estimate provides a non-machine-translated positive reference, yet its uncertainty prevents a claim that the English pattern is broadly shared.

The contrast between recurrence and trajectory suggests a distinction that prenatal and perinatal psychology can use. Experiencing theory may identify a representational possibility that appears across linguistic settings—the portrayal of prenatal life as bodily felt meaning—without requiring every literary tradition to organize that meaning along the same temporal path. Shared experiential structure and culturally variable symbolization can coexist. I take this to be the more useful formulation. Treating language and book as rival causes obscures the fact that books are the independent realizations through which corpus-level tendencies become visible.

The measurement results also clarify the role of aggregation. Aggregate ICCs were high across corpora, but single-rater reliability and boundary agreement were lower. Retaining individual ordinal ratings made it possible to distinguish stable panel-level measurement from disagreement at the Level 4 threshold. The rater-adjusted model further linked the three- and four-person panels through their one common member and reproduced the English position pattern. However, it could not fully separate rater-panel composition from corpus because only one rater bridged the panels.

Implications for Practice

These findings are directly relevant to how practitioners select narrative material. Prenatal and perinatal practice frequently uses stories to help expectant parents imagine and address the unborn child (McCarty, 2012), yet that selection has rested on availability and personal preference rather than on any description of what such books contain. The present estimates supply that description. Under a harmonized criterion, mean book probabilities of Level 4 or higher material ranged from 32.240% in the French corpus to 59.079% in the Japanese corpus, and 22 of the 23 individual books contained qualifying segments. Availability is therefore not the constraint. In each of these four linguistic settings, a practitioner can expect to find commercially published books that portray prenatal life not as sensation alone but as bodily experience carrying implicit significance and can expect roughly a third to three-fifths of the eligible text in such a book to do so.

The corpus-specific trajectory carries a caution that is easy to miss. Corpus moderated the association between Experiencing level and narrative position, $F(3, 19) = 3.640$, $p = .031$. The rise toward birth was clear in every English book, including *Around the Womb in 280 Days* (Jones, 2019) and *Through My Mommy's Bellybutton* (Lui, 2013), and near zero across the French corpus. Because narrative time in these books runs from intrauterine development toward birth, the English pattern amounts to a particular story shape, one in which meaning accumulates and becomes more explicit as birth approaches. That shape is not universal. A practitioner who works across languages, or who offers translated English material to families whose own literature is organized differently, may be introducing a narrative form that is not reflected in the family's own literary tradition. Whether that matters is an empirical question, but it should at least be a deliberate choice rather than an unnoticed one. Attending to it is consistent with the field's emphasis on the cultural shaping of communication with and about babies.

The procedure used here is not specific to picture books. Segment-level Experiencing Scale ratings, a median criterion, and book-level modeling can be applied to any corpus of prenatal narrative that a practitioner or researcher already holds—birth stories, pregnancy journals, session records—and they yield quantities that can be compared across settings. This provides an additional evidence-based measure for material the field has largely examined qualitatively. Beyond this methodological contribution lies a more consequential question tied to the field's practical aim of prevention: supporting early relationships so that difficulties surrounding birth are less likely to result in lasting harm. Whether the narrative resources available to a family influence the relational stance parents adopt during pregnancy, and whether that stance affects how birth is subsequently experienced and integrated, remains untested. The present design cannot address this question because it measured texts rather than families. Testing it would require pairing corpus-level description with prospective measurement of parents and infants. The present results make such a study specifiable.

Limitations and Future Directions

Two limitations deserve more weight than the others. The first is translation. Only the Japanese books were rated in their source language; the English-, French-, and Italian-origin books were rated after machine rendering into Japanese, with no human translator and no back-

translation. Machine translation does not distribute its errors evenly. It tends to regularize idiom, to resolve ambiguity that a source text deliberately leaves open, and to render implicit bodily reference in more explicit terms—precisely the features the Experiencing Scale is designed to detect. If that tendency is stronger for some source languages than for others, it could raise or lower ratings differentially and could in principle manufacture the corpus difference reported here. The Japanese corpus offers a partial check, since it passed through no machine at all, and its estimate was positive but imprecise. That check is reassuring rather than decisive. Until the new corpora are rated by trained source-language raters, translation remains a live rival explanation for the English trajectory.

The second is selection. The 23 books were assembled purposively, one title at a time, from what proved findable and purchasable; they were not sampled from any defined population of children's literature. The corpora also differ in how they were assembled. The five Japanese titles come from an earlier study with its own inclusion decisions, whereas the other eighteen were gathered for the present analysis. Corpus, translation status, selection route, and panel composition therefore vary together, and this design cannot separate them. A difference observed between corpora may be a difference in what happens to be available and locatable in a language rather than a difference in that language's literature.

Other constraints are more ordinary. Viewpoint eligibility was not independently replicated. The Experiencing Scale was developed for psychotherapy discourse rather than fiction, and its levels may behave differently when applied to authored narration. Only five to seven books contributed to each corpus, which is why the corpus estimates and prediction intervals are as wide as they are.

A more definitive replication should sample books systematically, use trained source-language raters, harmonize panel composition, retain independent eligibility classifications, and preregister the model and the smallest effects of interest. Represented gestational stage should be coded directly in addition to narrative position. These steps would test whether the English trajectory reflects language, translation, genre, or characteristics of the present sample and would clarify whether the positive but uncertain Japanese and Italian estimates become more precise as additional books are included.

Conclusion

Across 23 Japanese-, English-, French-, and Italian-origin picture books, representations of symbolized prenatal felt meaning recurred under a harmonized analytic rule. How that meaning developed toward birth was another matter. Progressive elaboration was clear and robust in the English books and unresolved everywhere else. Recurrence and trajectory are therefore separate findings and should not be merged. Experiencing theory offers prenatal and perinatal psychology a testable account of how preverbal meaning can be represented, and the present evidence bears on authored narratives rather than directly on fetal mental states. The study provides a reproducible procedure for extending developmental inquiry backward across birth without mistaking cultural representation for observation of the fetus.

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Reframing the Fetus as a Relational Participant: The Responsive Prenatal Engagement Framework

Akira Ikegawa, MD, PhD

Contemporary prenatal care has made major contributions to maternal and infant health through advances in medical monitoring, risk assessment, and evidence-based intervention. However, within this framework, the fetus is typically positioned as an object of care. This paper proposes Responsive Prenatal Engagement (RPE) as a conceptual framework that reframes the fetus as a relational participant within an emerging parent-child relationship. RPE does not claim evidence of fetal consciousness, intentional communication, or prenatal memory. Rather, it offers a relational perspective for understanding how parents may engage with the unborn child during pregnancy. Drawing on clinical observation, obstetric practice, and scholarship in attachment, prenatal psychology, and early relational development, the framework is organized around three principles: recognition, inclusion, and engagement. These principles describe how parents may acknowledge the fetus as meaningfully present within family life before birth and how such a stance may shape prenatal experience. RPE is presented as a complementary lens to existing models such as prenatal attachment, reflective functioning, and nurturing care, with potential implications for prenatal education, family involvement, and future research.

Keywords: Responsive Prenatal Engagement, fetus, prenatal relationship, prenatal attachment, perinatal psychology

Modern prenatal care has substantially improved the safety of pregnancy and childbirth. Advances in ultrasound imaging, fetal monitoring, prenatal screening, and evidence-based obstetric practice have contributed to better maternal and neonatal outcomes. Within this clinical framework, the fetus is necessarily a major focus of care. In practice, however, the fetus is most commonly approached as the object of observation, assessment, and protection rather than as a participant in an evolving relationship.

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A parallel line of thought in prenatal and perinatal psychology has long suggested that pregnancy should also be understood as a relational process. Authors writing on prenatal life, prenatal communication, and the psychological transition to parenthood have emphasized that the unborn child may already occupy a meaningful position within the family's emotional world before birth (Chamberlain, 1998, 2003; Raphael-Leff, 2009; Stern, 1995; Verny & Kelly, 1981). This perspective does not require definitive claims about fetal consciousness, intentionality, or prenatal memory; instead, it invites closer examination of how parents imagine, address, and incorporate the unborn child during pregnancy.

Existing frameworks have already illuminated important dimensions of this process. Prenatal attachment research has examined the emotional bond parents form with the unborn child and has generated influential conceptual and measurement tools (Condon, 1993; Cranley, 1981; Müller, 1993). Reflective functioning has highlighted the parent's ability to imagine the child as having an inner life, a capacity central to sensitive caregiving and developmental attunement (Fonagy et al., 2002; Slade, 2005). Nurturing care and caregiving-system perspectives have likewise emphasized the importance of supportive, responsive environments from pregnancy onward (George & Solomon, 2008; World Health Organization et al., 2018).

However, these perspectives primarily organize inquiry around parental feelings, parental representations, or caregiving conditions. The more basic conceptual issue of how the fetus itself is positioned within the emerging relationship has received comparatively less explicit attention. This paper addresses that gap by proposing Responsive Prenatal Engagement (RPE), which encourages parents and clinicians to consider the unborn child not only as a recipient of care but also as a relational participant within an emerging parent-child relationship.

The purpose of this manuscript is therefore not to resolve ongoing debates about prenatal consciousness, fetal memory, or intentional fetal communication. It aims to clarify how a relational-participant perspective might enrich current thinking about prenatal engagement, parental preparation, and future research in prenatal and perinatal psychology.

The Hidden Assumption in Prenatal Care

Modern prenatal medicine is one of the major achievements of contemporary health care. By prioritizing systematic observation, risk detection, and evidence-based intervention, obstetric practice has substantially reduced maternal and infant morbidity and mortality. Within these aims, it is entirely appropriate for clinicians to monitor fetal growth, movement, heart rate patterns, placental function, and other biological indicators relevant to safe pregnancy outcomes.

At the same time, every model of care rests on assumptions that may remain largely implicit. In contemporary prenatal care, one such assumption is that the fetus is viewed primarily as an object of assessment and intervention. This assumption is rarely articulated because the biological goals of prenatal medicine are clear and compelling. As a result, the fetus is most often understood through measurable developmental markers rather than through relational categories.

Medical care and relational care serve different, though potentially complementary, functions. The concern is not that prenatal medicine is wrong to focus on biological well-being, but that an exclusive emphasis on the fetus as a clinical object may leave important dimensions

of prenatal experience underdescribed. Parents frequently speak to the unborn child, interpret fetal movement as meaningful, imagine future encounters, and report an emerging sense of connection long before birth. Such experiences align with descriptions of prenatal communication, maternal psychological adaptation, and prenatal relationship formation in the perinatal literature (Chamberlain, 2003; Piontelli, 1992; Raphael-Leff, 2009; Stern, 1995).

Rather than viewing the fetus exclusively as an object of care, it can be useful to consider the fetus as a participant within an emerging relationship. The principal question then becomes not only how parents care for the fetus, but also how parents relate to the fetus during pregnancy. Responsive Prenatal Engagement (RPE) is proposed as a framework for articulating this relational dimension. It does not replace the clinical priorities of prenatal medicine. Instead, it offers a complementary lens through which pregnancy can be understood not only as a biological process, but also as the beginning of a relationship (Bowlby, 1969; Raphael-Leff, 2009; Stern, 1995).

How RPE Differs from Existing Frameworks

RPE is not designed to displace existing theories in prenatal and perinatal care. On the contrary, it builds on well-established relational traditions. Attachment theory has long argued that human development is fundamentally organized through early relationships, and subsequent scholarship has extended and refined this insight across the life span (Bowlby, 1969; Cassidy & Shaver, 2016). RPE enters this tradition by asking how the fetus is situated within the developing parent-child relationship during pregnancy.

Prenatal attachment frameworks have made an indispensable contribution by examining how parents feel toward the unborn child. Classic and later measurement work demonstrated that emotional bonding to the fetus is both psychologically meaningful and empirically approachable (Condon, 1993; Cranley, 1981; Müller, 1993). These approaches clarify the strength and quality of parental emotional connection, but they do not primarily address the relational status assigned to the fetus itself.

Reflective functioning contributes a different but related perspective. By emphasizing parents' capacity to imagine the child's thoughts, feelings, and subjective experience, reflective functioning deepens understanding of sensitivity, empathy, and developmental attunement in caregiving relationships (Fonagy et al., 2002; Slade, 2005). Even here, however, the main analytic focus remains on the parent's representational capacity rather than on the conceptual position the fetus occupies within the relationship.

Nurturing care and caregiving-system frameworks further underscore the significance of responsive environments, emotional security, and developmental support beginning in pregnancy and extending into early childhood (George & Solomon, 2008; World Health Organization et al., 2018). These perspectives are essential for understanding the conditions that support healthy development, yet they do not explicitly theorize the fetus as a participant in an already unfolding relationship.

RPE addresses that conceptual gap. Its central concern is not simply what parents feel, imagine, or do for the fetus, but how the fetus is positioned within the relationship. It makes explicit a dimension of prenatal life that has often remained implicit in practice: the place the

fetus occupies in the family’s emerging relational world. In this sense, RPE complements existing frameworks by clarifying the relational status of the fetus within the experiences those frameworks describe (Table 1).

Table 1
Conceptual Distinctions Between Existing Frameworks and Responsive Prenatal Engagement

Framework	Primary Focus	Central Question
Prenatal attachment	Parental emotional bond	How does the parent feel toward the fetus?
Reflective functioning	Parental understanding of mental states	How does the parent imagine the child’s inner experience?
Nurturing care	Caregiving environment and developmental support	What conditions best support development?
Responsive Prenatal Engagement	Relational status of the fetus	How is the fetus positioned within the emerging relationship?

Origins of RPE

The concept of Responsive Prenatal Engagement emerged from the convergence of several sources: long-term obstetric practice, clinical observation, research concerning children’s reports of prenatal and birth-related memories, and engagement with scholarship in prenatal and perinatal psychology. Although RPE does not require acceptance of the validity of prenatal memory reports, the author’s extended clinical work repeatedly highlighted the relational attitudes parents described during pregnancy. Similar concerns with prenatal communication, fetal responsiveness, and the psychological meaning of pregnancy appear in earlier literature (Chamberlain, 1998, 2003; Piontelli, 1992; Raphael-Leff, 2009; Verny & Kelly, 1981). The present article is conceptual and clinical in orientation; it does not present a formal empirical test of RPE.

Across clinical encounters, some parents tended to describe the fetus chiefly in medical terms, as a developing baby whose growth and health required monitoring and protection. Others adopted a more explicitly relational orientation: they spoke to the baby, imagined future interaction, involved partners or siblings, and described the unborn child as already present within family life. This latter pattern closely resembles the forms of psychological adaptation and prenatal relating described by Raphael-Leff (2009), Stern (1995), and Chamberlain (2003).

What appeared most striking in these observations was not merely variation in parental emotion or caregiving behavior, but variation in the way the fetus was positioned within the relationship itself. Some parents related to the fetus mainly as a future child, whereas others related to the fetus as a child already present (Piontelli, 1992; Raphael-Leff, 2009). That distinction, while subtle, seemed to shape how pregnancy was narrated, how fetal movement was interpreted, and how connection and responsibility were experienced.

Existing frameworks explained important portions of these experiences but did not fully capture this specific relational distinction. Prenatal attachment clarified emotional bonding, reflective functioning illuminated parental mentalization, and nurturing care highlighted

supportive developmental environments (Condon, 1993; Fonagy et al., 2002; Slade, 2005; World Health Organization et al., 2018). What remained less explicit was the relational status assigned to the fetus itself. RPE emerged as an attempt to name and examine that neglected dimension.

In that sense, RPE is an effort to render theoretically visible something that has often been observable in practice but less clearly articulated in scholarship. It belongs within broader attachment and relational traditions while proposing a more focused question: How is the fetus positioned within the developing relationship? (Bowlby, 1969; Cassidy & Shaver, 2016).

The RPE Framework

RPE is a conceptual framework, not a therapeutic protocol or clinical intervention. It describes a relational orientation toward the unborn child during pregnancy and is organized around three interrelated principles: recognition, inclusion, and engagement.

Recognition

Recognition is the first principle. Within RPE, the fetus is acknowledged not only as a developing biological organism but also as a participant in an emerging parent-child relationship. This recognition does not depend on any particular claim about fetal capacities at a given developmental stage. Instead, it concerns the stance parents adopt toward the unborn child. Recognition is fundamentally a shift in perspective rather than behavior. Parents need not adopt specific rituals or practices; rather, they begin to orient themselves toward the fetus as someone already occupying a place within the family. In this respect, recognition is compatible with attachment-based understandings of early relational organization while extending them into pregnancy (Bowlby, 1969; Cassidy & Shaver, 2016).

Inclusion

Inclusion is the second principle. Parents may begin to include the fetus within the family's relational world before birth by speaking to the baby, sharing daily experiences, imagining future encounters, and involving partners and other family members in this process. Such practices have been described in prenatal psychology as forms of prenatal communication that may deepen relational awareness and involvement (Chamberlain, 2003). From an RPE perspective, their importance lies less in the behavior than in the relational meaning attached to it: the fetus is approached not merely as someone who will later enter family life, but as someone already being welcomed into it.

Engagement

Engagement is the third principle. Once recognition and inclusion are established, parents may develop an ongoing, relationship-oriented approach to attending to pregnancy. This may involve noticing changes in feeling, reflecting on the unborn child's place within the family, and cultivating a deepening sense of connection and responsibility. Engagement, however, should not be confused with instructional attempts to stimulate the fetus or optimize development through prescribed techniques. Rather, it refers to the gradual formation of a relational attitude

toward the unborn child. In this respect, engagement resonates with scholarship on caregiving systems and the developmental transition to parenthood (George & Solomon, 2008; Mercer, 2004; Stern, 1995).

Taken together, these three principles provide a concise account of RPE. Recognition addresses who the fetus is within the relationship. Inclusion concerns whether the fetus is treated as part of the family's relational world. Engagement describes how that relationship deepens over time. Through this framework, prenatal life can be viewed through a relational lens without displacing the biological realities that remain central to prenatal care.

Clinical Implications of RPE

If the fetus is understood as both a relational participant and an object of care, several implications for prenatal and perinatal practice emerge. First, RPE encourages greater recognition of the relational dimensions of pregnancy. Contemporary prenatal care rightly prioritizes maternal health, fetal development, and prevention of complications; RPE supplements rather than replaces those priorities by suggesting that the developing parent-child relationship may also deserve attention and support.

Second, RPE may enrich prenatal education. Many forms of prenatal preparation concentrate on pregnancy management, labor, delivery, and newborn care. A relational framework invites parents to reflect on how they imagine and address the unborn child during pregnancy, and how those perceptions may influence caregiving expectations and the transition to parenthood (Mercer, 2004; Stern, 1995).

Third, RPE may support more explicit inclusion of partners and other family members. When the fetus is conceptualized as a participant in an emerging family relationship, pregnancy can be approached not only as a maternal event but also as a shared relational process. This broader inclusion is compatible with caregiving-system perspectives that emphasize organized relational responsiveness around the child (George & Solomon, 2008).

Finally, RPE opens a research agenda. Future studies could examine how different ways of conceptualizing the fetus are associated with prenatal attachment, reflective functioning, caregiving expectations, family interaction, and later adjustment to parenthood (Condon, 1993; Cranley, 1981; Fonagy et al., 2002; Slade, 2005). It may also be useful to explore how relationally-oriented prenatal practices intersect with broader nurturing care frameworks that begin during pregnancy and extend through early childhood (World Health Organization et al., 2018).

These implications are exploratory rather than prescriptive. RPE does not provide a standardized intervention, and it should not be interpreted as a substitute for evidence-based obstetric care. Its value lies in offering a more explicit language for discussing aspects of prenatal life that many parents already experience in relational terms.

Conclusion

Contemporary prenatal care has achieved extraordinary success in safeguarding maternal and infant health. Those achievements are indispensable. Yet pregnancy is not only a biological process; for many parents, it is also the beginning of an evolving relationship with the unborn

child (Chamberlain, 2003; Raphael-Leff, 2009; Stern, 1995). Existing frameworks such as prenatal attachment, reflective functioning, and nurturing care have deepened understanding of this terrain by illuminating parental emotions, mentalization, caregiving capacities, and developmental environments (Condon, 1993; Fonagy et al., 2002; Slade, 2005; World Health Organization et al., 2018).

This paper has introduced Responsive Prenatal Engagement as a conceptual framework for clarifying one additional question: how the fetus is positioned within the developing parent-child relationship. By treating the fetus as a relational participant rather than solely as an object of care, RPE provides a language for understanding prenatal engagement as part of the formation of an early relationship. This perspective does not require resolving debates concerning prenatal consciousness, intentional communication, or memory. It requires only recognition that the relational stance parents adopt during pregnancy may itself be meaningful.

RPE is best understood as complementary to existing frameworks. Whether future research ultimately confirms its usefulness as a theoretical construct, it raises a significant question for prenatal and perinatal psychology: What changes when the fetus is understood not only as a recipient of care, but also as a participant in an emerging relationship? That question remains open, but it points toward a promising direction for scholarship on the relational foundations of human development.

Pregnancy marks not only the development of a human organism but also the emergence of a human relationship. Whether Responsive Prenatal Engagement ultimately proves to be a useful theoretical construct will depend on future empirical work. By inviting clinicians and researchers to ask how the fetus is positioned within the family's relational life before birth, the framework opens a new avenue for dialogue among obstetrics, developmental psychology, and prenatal and perinatal scholarship.

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How We Care for Mothers Shapes Who Babies Become: A Support-Based Framework for Maternal Well-Being

Christiana Rebelle, PhD

When mothers struggle with their mental health, they often ask, “What is wrong with me?” Less often, they ask, “What do I need?” That question shifts the focus from stigma and shame to solutions that can improve maternal well-being and outcomes for mothers and babies. While maternal well-being is often treated as an individual responsibility, it is heavily shaped by the relationships, institutions, communities, and systems surrounding mothers. According to the World Health Organization (WHO), maternal well-being is defined as:

A positive state experienced throughout pregnancy and continuing until 1 year after the end of pregnancy, influenced by the world the woman lives in. During this dynamic and adaptive period, the woman, partner, and family receive the support, confidence, and resources needed for her to thrive and realize her full potential and rights. (Le Lez et al., 2025, p. e59)

Prenatal and perinatal psychology recognizes that the world a mother lives in extends to her infant. Her emotional, relational, and physical experiences during pregnancy, birth, and the postpartum period become part of the baby’s earliest environment, with lasting implications. How we care for mothers shapes the trajectory of early development.

Research links social support during pregnancy to lower psychological distress and improved maternal well-being, including a reduced risk of postpartum depression (Al-Mutawtah et al., 2023; Dabrassi et al., 2010; Żyrek et al., 2024). However, pregnancy and the postpartum period often intensify feelings of isolation and stress rather than alleviate them. Perinatal mental health conditions range from mood and anxiety disorders, which affect one in five mothers (Howard et al., 2014; O’Hara & McCabe, 2013), to rare, severe psychiatric conditions. Screening and intervention for perinatal mental health remain inconsistent, and support is often offered only after symptoms have worsened. The consequences of these gaps in care are profound. Recent Maternal Mortality Review Committee data show that mental health conditions, including suicide and substance use disorder, account for nearly 28% of pregnancy-related deaths in the United States, far more than any other cause (Hemstad, 2026). A mother’s psychological distress provides an

The author reports no financial conflicts of interest and received no external funding for this work. The author serves as Editor-in-Chief of *JOPPPAH* and was not involved in the editorial evaluation or decision-making process for this article. Christiana Rebelle, PhD (ORCID: 0000-0002-2682-2120), is a maternal health researcher, editor, and consultant whose work focuses on translating research into policy, professional education, and practice, with interests in maternal well-being, prenatal care, provider communication, and health disparities. AI-assisted tools were used for language editing and structural refinement. All substantive content and conclusions are the responsibility of the author. Please send correspondence to Christiana Rebelle: journal.editor@birthpsychology.com

important lens for assessing whether the relationships, care, and conditions surrounding her are meeting her needs.

Early intervention is essential for preventing and treating perinatal mood and anxiety disorders and nurturing the environment in which babies begin life. Maternal stress and psychosocial conditions can affect biological processes during pregnancy (Dunkel Schetter, 2011); however, a mother provides much more than the fetus's biological environment. The maternal–infant relationship begins before birth and continues to evolve after. Women who feel a strong connection to their babies during pregnancy are more likely to have children with higher socioemotional competence (Hruschak et al., 2022), while maternal depression, anxiety, and stress are consistently associated with challenges in mother–infant bonding (O'Dea et al., 2023).

According to attachment theory, infants develop expectations of safety, responsiveness, and care through repeated interactions with caregivers (Ainsworth et al., 1978; Bowlby, 1969; Cassidy & Shaver, 2016). When caregiving is not consistently responsive to an infant's needs, insecure attachment patterns can develop and are associated with greater risk of emotional and behavioral difficulties in childhood (Fearon et al., 2010; Groh et al., 2012). Early attachment experiences can also contribute to patterns of emotional regulation and relationships that persist into adulthood, with attachment patterns transmitted across generations (Girme et al., 2021; Verhage et al., 2016). Maternal support matters both for mothers' own well-being and for the relational environment in which bonding and attachment develop.

Although publications on maternal and perinatal well-being are steadily increasing, recent reviews and conceptual work continue to identify gaps in how it is defined, understood in context, and translated into responsive maternal care (Baldwin et al., 2025; Jomeen et al., 2025; Massaer et al., 2025; Wadephul et al., 2026). The Support-Based Framework for Maternal Well-Being was developed by synthesizing recent literature from the *Journal of Prenatal and Perinatal Psychology and Health (JOPPPAH)*. The framework is intended to shift care from reacting to maternal distress to proactively considering what mothers need to thrive. In doing so, it aims to support maternal well-being and the relational and developmental environment in which babies begin life.

The Support-Based Framework for Maternal Well-Being

Recent publications in *JOPPPAH* tell a coherent story. Across topics and methods, the literature shows that relationships, care experiences, community, and structural conditions influence maternal well-being. Postpartum mental health is shaped long before the postpartum period, and the mother–baby relationship begins before birth. Support is most effective when it is accessible, responsive, culturally appropriate, and aligned with the mother's needs and circumstances, particularly during difficult experiences such as loss, neonatal intensive care, and complicated births. This synthesis includes 19 articles published or republished in *JOPPPAH* from 2024 through 2026 that directly address maternal well-being, the framework's support domains, or the developing mother–baby relationship. The publications span all four domains, with many addressing more than one, highlighting their interconnectedness. Together, this work shows the need for support that extends beyond screening, education, or individual coping. Table 1 summarizes how this *JOPPPAH* literature contributes to the framework.

Table 1

Recent JOPPAH Publications Informing the Framework

Publication	Framework domain(s)	Contribution to the synthesis
Cortizo (2019/2024)	Relational support; care experience	Early intervention model integrates prenatal bonding, maternal trauma treatment, family involvement, and coordinated care beginning in pregnancy
Fowler et al. (2026)	Relational support; care experience; structural conditions	Postpartum depression was associated with declining maternal–infant bonding in the NICU
Goertz-Schroth et al. (2022/2026)	Relational support	Prenatal bonding frames postpartum as a continuation of an emerging relationship
Ikegawa (2026)	Relational support	Responsive Prenatal Engagement positions recognition, inclusion, and engagement as ways of incorporating the fetus into family relational life
McLeod et al. (2024)	Relational support	Attachment security was associated with whether partner support was experienced as matching mothers’ needs
Pasari & Prasad (2026)	Relational support	Intentional engagement includes awareness, agency, bonding, identity, and flexibility; connection develops unevenly
Abdi et al. (2025)	Care experience; structural conditions	Participants’ experiences highlighted the importance of grief-informed, culturally responsive follow-up after stillbirth
McSorley et al. (2024)	Care experience; community support; structural conditions	Referral and funding barriers restricted access, while insufficient antenatal preparation left needs unmet postpartum
Pierpoint et al. (2025)	Care experience; structural conditions	Prior mental health history identified elevated risk; screening and contact alone did not improve depression scores
Raza & Splevins (2026)	Care experience; structural conditions	Compassion-focused therapy was associated with significant improvements in an inpatient setting where mothers stayed with their babies; flexible attendance supported engagement; access was limited after discharge
Rebelle et al. (2024)	Care experience; structural conditions	Advice was less influential than prior behavior and sociodemographic context, even when providers were the primary source of support
Saragosa (2024)	Care experience	Feeling safe and present during birth was associated with lower postnatal stress and depressive symptoms
Marciniak et al. (2024)	Community support	Physically active and inactive participants reported similar stress levels; participants also relied on emotional and spiritual support
Moran et al. (2025)	Community support; care experience	Specialist community care was associated with reduced distress and improved well-being; the therapeutic relationship was central, but demand exceeded capacity
Thirkettle et al. (2024)	Community support	Community-based compassion-focused therapy was associated with reduced self-criticism and distress; shared experience with other mothers was valued
Zambaldi et al. (2025)	Community support; care experience	Participants described cultivating self-compassion during pregnancy; group format and accessible delivery shaped participation

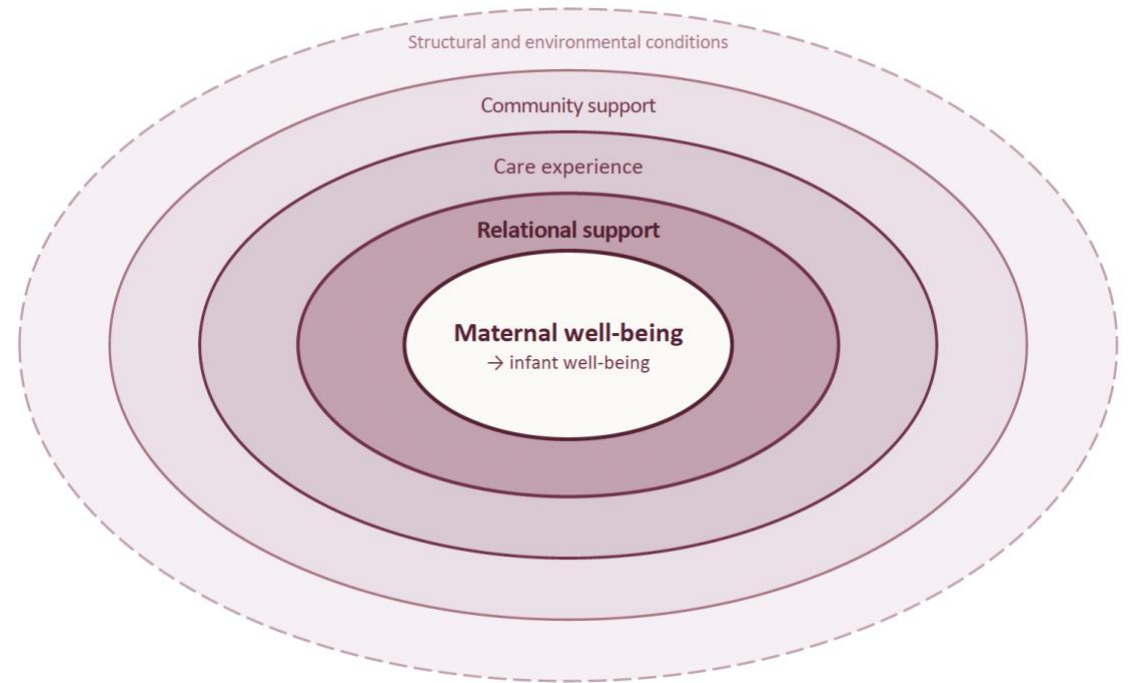
Publication	Framework domain(s)	Contribution to the synthesis
Burkhard et al. (2025)	Structural conditions	Medicaid contracting, reimbursement, and quality measurement determine whether screening guidelines reach practice
Herrick & Burkhard (2024)	Structural conditions; community support; care experience	Racism, chronic stress, and inequitable care compound risk; community-based, culturally congruent care can improve reach
Thayagabalu et al. (2025)	Structural conditions; care experience	Mothers reported low perceived benefit from postpartum care overall, with access and perceived benefit varying by geography

Note. Maternal well-being sits at the center of the framework rather than as a separate domain; each publication included here illustrates a pathway through which one or more domains support maternal well-being. Publications are grouped by the first domain listed and ordered alphabetically by first author within each group.

The Support-Based Framework organizes four domains that shape how support reaches and is experienced by mothers, including relational support, care experience, community support, and structural and environmental conditions (see Figure 1). The domains are dynamic and interconnected, not hierarchical. They are not simply components of maternal well-being but the pathways through which support either arrives in meaningful ways or falls short. The term *mother* is used throughout to reflect the relational focus and language of the cited work. The framework is intended to include all people who become pregnant, give birth, or serve as primary parents or caregivers.

Figure 1

Support-Based Framework for Maternal Well-Being



Note. The domains reflect proximity rather than hierarchy. Maternal well-being influences infant well-being across pregnancy, birth, and the postpartum period. The framework does not imply a single linear or deterministic causal sequence.

Maternal well-being is at the center of the framework, with infant well-being directly linked because maternal well-being shapes the baby’s relational and developmental environment through pre- and perinatal bonding, caregiving, and regulation. Relational support is closest to the center because it is often felt most directly. It affects whether a mother feels seen and valued. Care experience determines whether interactions with providers and services create safety, trust, and meaningful pathways to help. Community support can provide a sense of belonging and practical resources beyond sporadic healthcare. Structural and environmental conditions determine whether those forms of support are available and accessible, surrounding and influencing the other domains. These domains are distinct, but together they determine whether a mother feels supported and can access the help she needs.

The framework is grounded in two established theories. Bronfenbrenner’s (1979) ecological systems theory underpins its structure, showing that human development is shaped by layered, interacting environments surrounding the individual, from close relationships outward to broader structural and cultural conditions. Bronfenbrenner (1986) later extended the theory to account for time and life transitions, which this framework treats as change over time within each domain rather than as a separate domain. Relational-cultural theory (Jordan et al., 1991; Miller, 1976), based on research into women’s psychological development, argues that well-being grows through connection and that disconnection causes harm. Using theory to organize evidence and identify

patterns that can inform practice aligns with established approaches to framework synthesis (Booth & Carroll, 2015).

The Support-Based Framework presents four propositions to guide practice and future research:

1. Maternal well-being is influenced by interconnected support domains: relational, care, community, and structural.
2. The effectiveness of support depends on its quality, fit, accessibility, and timing, not just availability.
3. Maternal well-being influences the relational and developmental environment that shapes infant well-being.
4. These relationships evolve throughout pregnancy, birth, postpartum recovery, and early development.

What Recent JOPPPAH Literature Shows

Before determining how to support maternal well-being, it is important to recognize that mothers enter pregnancy with different histories, experiences, strengths, relationships, resources, and needs. These differences can provide a useful starting point for tailoring support during the pre- and perinatal period, ideally before symptoms escalate. Cortizo's Calming Womb Family Therapy Model illustrates how a mother's trauma history and family relationships can inform support beginning in pregnancy through trauma treatment, prenatal bonding, family involvement, and coordinated care (Cortizo, 2019/2024). Related work emphasizes prenatal assessment of trauma and dissociation so support can begin earlier in pregnancy (Cortizo, 2020). Pierpoint et al. (2025) found that prior mental health diagnoses and a history of postpartum depression were associated with higher postpartum depression screening scores. Sauer et al. (2023) similarly found that greater psychological inflexibility was associated with higher perinatal anxiety, while higher anxiety was associated with lower life satisfaction among pregnant participants.

Many recent *JOPPPAH* publications show that mothers are already working to protect their well-being, understand their emotions, prepare for parenthood, connect with their babies, and adapt to uncertainty. Pasari and Prasad (2026) described parents as active participants in pregnancy, using reflection, agency, bonding, identity development, and acceptance to navigate an experience they could not fully control. In Rebelle et al. (2024), anxiety and depression were mothers' primary health concerns, and physical activity was widely viewed as a way to relieve stress and improve mental health. While providers were considered their primary source of support, counseling was not associated with increased physical activity. Marciniak et al. (2024) similarly found that participants used both problem-focused and emotion-focused coping strategies, including prayer and religion, but physically active participants did not report significantly lower stress. Taken together, these findings suggest that mothers are actively trying to support their own well-being, but individual effort alone does not ensure better outcomes. Whether those efforts translate into improved well-being depends on time, safety, practical resources, responsive relationships, and accessible support.

The mere presence of support does not ensure it is helpful. McLeod et al. (2024) found that support may be offered yet not perceived by the mother as matching her needs. In clinical and

community settings, women described benefits when care was compassionate and respectful and when they felt understood and safe (Abdi et al., 2025; Moran et al., 2025). Compassion-focused therapy (CFT) was particularly notable across levels of care, reducing distress and self-criticism while increasing self-reassurance and connection in both community and inpatient settings (Raza & Splevins, 2026; Thirkettle et al., 2024). Zambaldi et al. (2025) similarly highlighted the value of self-compassion, shared experience, and connection with other mothers. Conversely, Abdi et al. (2025) documented dismissive communication and retraumatizing follow-up after stillbirth, while Herrick and Burkhard (2024) described discrimination, cultural mismatch, and barriers to care operating at multiple levels. Saragosa (2024) found that mothers who felt unsafe or not fully present during birth reported higher post-traumatic stress and depressive symptoms. Across domains, whether support helps depends on its quality, fit, and responsiveness, not simply on whether it is offered.

While screening, clinical contact, and advice can help identify or address needs, they are insufficient without meaningful follow-up or support. Pierpoint et al. (2025) found that adding a three-week telehealth visit did not reduce postpartum depression scores. Thayagabalu et al. (2025) found that many mothers perceived limited benefit from postpartum care. McSorley et al. (2024) described referral requirements, funding constraints, and mothers arriving postpartum without preparation that should have begun during pregnancy. At the policy level, Burkhard et al. (2025) show that even evidence-based screening recommendations depend on reimbursement, quality measures, and managed-care requirements for providers to deliver care. These studies show that recognizing concerns is only the first step. Mothers also need clear and accessible pathways to effective support.

Structural and environmental conditions shape the resources, opportunities, and support available to a mother. Recent publications in *JOPPPAH* highlight the roles of racism and chronic stress (Herrick & Burkhard, 2024), geography (Thayagabalu et al., 2025), transportation, childcare, leave, and financial constraints (Fowler et al., 2026), and funding, service availability, and reimbursement structures (Burkhard et al., 2025; McSorley et al., 2024). Fowler et al. (2026) specifically identified transportation, childcare, leave, and financial constraints as reasons a mother may be unable to be present with her infant in the NICU. What may appear to clinicians or systems as an individual behavior or constraint can reflect larger conditions that limit what a mother is realistically able to do.

Health-system design can support maternal well-being and the mother–infant relationship by enabling intensive psychiatric care without separating mothers from their babies. Raza and Splevins (2026) studied CFT in a UK Mother and Baby Unit (MBU), where mothers with severe mental health difficulties are admitted with their babies. Participants showed large, statistically significant improvements despite attending an average of only three of five sessions. They valued the supportive environment and the flexibility to bring their babies and come and go as needed. This model shows that comprehensive perinatal psychiatric care can support maternal well-being while allowing mothers to maintain a connection with their baby. Although specialized perinatal inpatient programs exist in the United States, there are currently no MBUs that admit mothers with their infants (Toor et al., 2024). This contrast shows how health-system design can determine whether treatment supports the mother–infant relationship or comes at its expense.

The literature positions maternal well-being within the evolving relationship between mother and baby. Goertz-Schroth et al. (2022/2026) describe prenatal bonding as a method of support during pregnancy that fosters an emotional connection before birth. Ikegawa (2026) emphasizes recognition, inclusion, and engagement with the unborn baby, while Pasari and Prasad (2026) describe prenatal bonding and parental identity as developing throughout pregnancy. After birth, maternal psychological well-being continues to interact with the developing relationship, including under difficult circumstances such as neonatal intensive care (Fowler et al., 2026). This body of recent *JOPPPAH* literature shows that supporting mothers also supports the relational and developmental environment in which babies begin life.

A Convergence in the Literature

The Support-Based Framework emerges within a broader convergence in how maternal well-being is understood. The WHO's recent framework identifies maternal well-being across interconnected domains, including health, experience of care, safety and environment, relationships, agency, and culture (Le Lez et al., 2025). That maternal well-being framework builds on earlier WHO work in child and adolescent health, including the 2018 Nurturing Care Framework for Early Childhood Development (Le Lez et al., 2025; World Health Organization et al., 2018), and provides the working definition of maternal well-being used in this article. Recent work published in *JOPPPAH* reinforces many of the same principles, viewing maternal well-being as dynamic, multidimensional, and shaped by relationships, care, community, and broader social conditions. The Support-Based Framework organizes these influences around the practical question of support, including where it comes from, how it reaches the mother, and whether it is what she needs.

The broader literature reflects growing recognition of the importance of maternal well-being and the conditions that shape it. Recent reviews describe maternal and perinatal well-being as complex and dynamic, shaped by maternal identity and transition as well as relationships, social circumstances, and structural factors (Baldwin et al., 2025; Jomeen et al., 2025). Jomeen et al. (2025) further emphasize that maternal well-being is distinct from broader concepts of general well-being. Wadephul et al. (2026) found that mothers actively worked to sustain or restore well-being through agency, self-care, and managing uncertainty, while relationships, healthcare, work, environment, and personal history could support or constrain those efforts. Likewise, Massaer et al. (2025) identified social support, economic stability, access to healthcare, psychosocial resilience, and cultural and environmental factors as antecedents of perinatal mental well-being. Across different research methods and settings, maternal well-being emerges as unique, deeply shaped by the conditions surrounding mothers, and deserving of greater attention in research, care, and policy.

Implications for Practice and Research

Clinical application of the framework begins by understanding a mother's history and assessing the support around her, rather than focusing on symptoms alone. Prior diagnoses, experiences, beliefs, and behaviors can provide early indicators of where support may be needed, enabling providers to intervene before symptoms escalate (Pierpoint et al., 2025; Rebelle et al., 2024). Providers can then ask what a mother needs, who is available to help, whether the available

support aligns with her needs, and what barriers make it difficult to follow the recommendations. Screening should lead to meaningful follow-up, collaborative care, referrals, resources, and repeated assessment at key transitions. The emotional experience of care should be considered alongside physical outcomes in settings such as birth care (Saragosa, 2024), neonatal intensive care (Fowler et al., 2026), and care after stillbirth (Abdi et al., 2025). Programs should be designed around accessibility, belonging, continuity, and lived experience, rather than expecting mothers to navigate fragmented services independently.

Recent studies in *JOPPPAH* demonstrate the value of compassionate group care and peer connection (Thirkettle et al., 2024; Zambaldi et al., 2025), flexible care delivery (McSorley et al., 2024; Zambaldi et al., 2025), and specialist community services (Moran et al., 2025). The same literature documents barriers related to geography and staffing (Moran et al., 2025) and referral requirements and funding (McSorley et al., 2024). Policy also shapes whether support is available and usable. Insurance structures and reimbursement influence whether care can be delivered (Burkhard et al., 2025), while inequities in care and access to culturally responsive services affect whether support reaches mothers in ways that meet their needs (Herrick & Burkhard, 2024). Paid leave, transportation, childcare, and financial constraints can further limit mothers' ability to participate in care or be present with their infants (Fowler et al., 2026). Across these settings, support must be offered in ways that mothers can access, trust, and experience as helpful.

Future research can examine whether the framework's four domains can be measured reliably, how they interact over time, and whether the quality, fit, accessibility, and timing of support predict maternal well-being beyond the mere availability of services. Longitudinal research could examine how structural conditions influence access to and continuity of care, how care experiences affect trust and help-seeking, and how relational and community support relate to maternal and early parent–infant outcomes. Research should also assess maternal experience rather than relying only on service utilization or symptom scores. Mixed-methods research may be particularly useful for identifying measurable pathways through which support affects well-being while preserving maternal experience, and testing across diverse family structures, cultural contexts, health systems, and communities will help determine where the framework generalizes and where adaptation is needed. Finally, for this work to shape care, research must be freely accessible to the clinicians, community organizations, advocates, and families who can use it.

Strengths and Limitations

A strength of the Support-Based Framework is its synthesis of *JOPPPAH* literature on multiple aspects of maternal well-being, spanning several countries and cultural contexts and addressing maternal experience throughout pregnancy, birth, and the postpartum period. Although these publications address different questions, their convergence highlights recurring patterns in how relationships, care, community, and structural conditions support or undermine maternal well-being. The framework situates these findings within established theory and a growing international literature on maternal well-being, organizing them into a structure that can inform practice and future research.

This synthesis focused on recent *JOPPPAH* literature because of the journal's interdisciplinary focus on prenatal and perinatal psychology and health, and it was not intended

as a systematic review of the broader maternal health literature. The publications also vary in design, population, and purpose and should not be treated as equivalent forms of evidence. Finally, although a breadth of literature informs the framework, its four domains and proposed relationships have not yet been directly tested.

Conclusion

The literature synthesized in this article tells a consistent story about how support shapes maternal well-being. Mothers enter pregnancy and parenthood with different histories, strengths, relationships, resources, and needs, and they actively try to care for themselves and their babies. However, maternal well-being does not depend on individual awareness, agency, or effort alone. It is also shaped by whether the relationships, care, communities, and structural conditions surrounding mothers provide support that is timely, responsive, accessible, and aligned with their needs. Screening, advice, and individual coping strategies matter, but they cannot substitute for the conditions that make help available and usable.

The Support-Based Framework for Maternal Well-Being organizes these influences into four interconnected domains. It offers a practical way to ask what a mother needs and what must happen around her for those needs to be met. Maternal well-being matters because mothers' health, safety, dignity, and quality of life matter. At the same time, it shapes the relational and developmental environment in which her baby begins life. Supporting mothers across the pre- and perinatal period is our shared responsibility. The framework offers guidance for organizing that responsibility and for examining whether support is accessible, responsive, and effective. A mother should not have to ask, "What is wrong with me?" Instead, we should be asking, "What does she need?"

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Pregnancy and Postpartum Psychosis: Key Facts, Warning Signs, and Emergency Response

Maternal Mental Health Leadership Alliance

Pregnancy and postpartum psychosis (PPP) is a medical emergency impacting 1 to 2 individuals per 1,000 births. PPP is often temporary and treatable, but untreated PPP increases the risk of harm to self or others and should therefore be treated as a medical emergency. This perspective provides a high-level overview of PPP, including its prevalence, risk factors, warning signs, resources for treatment and recovery, and more. The terms mother and woman are used in accordance with the cited literature. Not all birthing or pregnant persons identify with these terms.

Maternal Mental Health Conditions in Context

Maternal mental health (MMH) conditions are a range of conditions that begin or worsen during pregnancy or the first year postpartum and often include symptoms of anxiety and depression (Postpartum Support International [PSI], 2023). Each year in the United States, one in five mothers, or 800,000 families, are affected by MMH conditions (Fawcett et al., 2019; Gavin et al., 2005). Mental health conditions, leading to suicide and overdose, account for nearly 28% of pregnancy-related deaths, making them the leading cause of pregnancy-related death (Centers for Disease Control and Prevention, 2026). A review of data from 14 U.S. maternal mortality review committees found that 63% of pregnancy-related mental health deaths occurred between six weeks and one year postpartum (Trost et al., 2021). Among individuals experiencing MMH conditions, 75% remain untreated (Byatt et al., 2015). Certain groups face a higher risk of developing MMH conditions due to systemic barriers and structural inequities, racism and discrimination, personal or family history of mental illness, pregnancy and birth experiences, and other risk factors (Samara et al., 2026). Untreated MMH conditions cost \$14 billion annually in the United States (Luca et al., 2020).

Key Facts About Pregnancy and Postpartum Psychosis

A Medical Emergency

Pregnancy and postpartum psychosis is a medical emergency, with the mother needing immediate psychiatric care, including thorough assessment, intervention, and treatment (Bergink et al., 2016; Bergink et al., 2026; Osborne, 2018; PSI, n.d.).

Adapted for publication from the Maternal Mental Health Leadership Alliance (mmhla.org) fact sheet, *Pregnancy and Postpartum Psychosis*. This perspective was prepared with assistance from the following individuals with lived experience. Julia Alzoubaidi, Kristina Dulaney, Kriti Lodha, and Theresa Rice. Review and feedback were provided by staff from Action on Postpartum Psychosis, Cherished Mom, Postpartum Support International, and the Postpartum Psychosis Project at the Massachusetts General Hospital Center for Women's Mental Health.

Prevalence Rate

PPP impacts an estimated 1 to 2 women per 1,000 live births (Vanderkruik et al., 2017).

Harm to Self or Others

Untreated PPP is associated with increased risk of harm to self or others (Bergink et al., 2026).

Sudden Onset

The onset of psychosis is usually sudden, often within the first 2 to 3 weeks following childbirth. However, psychosis can also occur during pregnancy, following infant loss or stillbirth, throughout the first year postpartum, or after cessation of breastfeeding (Bergink et al., 2026; Vanderkruik et al., 2017).

Risk After Childbirth

A woman is 23 times more likely to experience psychosis in the month following childbirth than at any other time in life (Bergink et al., 2026).

Risk Factors

The most significant risk factors for PPP are a personal or family history of bipolar disorder, or a previous psychotic episode. However, up to 50% of those who experience PPP have no personal or family history of mental illness (Bergink et al., 2016; Bergink et al., 2026).

Sleep

Sleep deprivation can play a significant role in the onset of PPP, especially for women with bipolar disorder. Loss of a full night of sleep during labor and delivery increases the risk of psychosis fivefold for women with bipolar disorder (Perry et al., 2024).

Cultural Considerations

Little is known about rates of PPP in individuals with diverse backgrounds or who live in developing countries. However, some cultures differ in recognizing and acknowledging mental health disorders, including psychosis, which can impede diagnosis (Forde et al., 2020; Mighton et al., 2016; Vanderkruik et al., 2024).

Treatment and Recovery

PPP is most often temporary and highly treatable, but it requires immediate attention. Treatment for PPP almost always includes hospitalization with a combination of medication, therapy, and assistance at home for sleep, childcare, and household chores. Most women fully recover and return to their previous level of functioning. However, left untreated, PPP can pose a risk of significant harm to self or others (Bergink et al., 2016; Bergink et al., 2026; Osborne, 2018).

Signs and Symptoms of Pregnancy and Postpartum Psychosis

Psychosis is a true break from reality, leaving the person unable to distinguish between what is real and what is not. Symptoms of psychosis can wax and wane, so an individual can be coherent at times and incoherent or illogical at other times. Quite often, the person experiencing psychosis is not disturbed by their symptoms or may even think that their symptoms make sense. However, this is not always the case, and some individuals are deeply disturbed by their psychotic thoughts (Kutty, 2024; Osborne, 2018; PSI, n.d.; Vanderkruik et al., 2017).

Symptoms of psychosis can include:

- Disconnection from reality
- Bizarre or disorganized thought processes or behaviors
- Rapid mood swings
- Extreme irritation or agitation
- Hyperactivity or mania, including decreased need for sleep
- Persistent inability to sleep
- Delusions (false or strange beliefs, often focused on the infant or on religious themes)
- Hallucinations (seeing, hearing, smelling, or touching things that are not real)
- Paranoia and suspiciousness (feeling people are out to get them or their family, feeling like they are being monitored)
- Cognitive impairment (severe confusion, disorganized or difficult thinking, challenges with basic reading, writing, or math)
- Trouble communicating effectively (speaking quickly, not finishing sentences, being unable to explain things or give directions)

What to Do

1. **Call 911 or go to the emergency room:** This is a psychiatric emergency that can escalate quickly. Bring the fact sheet with you.
2. **Do not leave the person alone:** Supervise them at all times to prevent harm.
3. **Contact professionals immediately:** Reach out to a doctor, psychiatrist, or obstetrician for emergency care.
4. **Remove hazards:** Secure any weapons, firearms, car keys, or medications.

Diagnosis, Medication, and Awareness

Diagnostic Classification

PPP stands out as a distinct and severe mental health condition because of its rapid onset, severity, unique symptoms, and specific treatment response. Despite this, as of September 2026, PPP does not have a distinct diagnostic classification in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5-TR; American Psychiatric Association, 2022).

Medications to Treat PPP

Although there are few studies that provide guidance for treating PPP, evidence supports treatment with multiple medications. Further information on pharmacologic approaches is available in an article from the Center for Women's Mental Health at Massachusetts General Hospital and in a presentation by Dr. Lauren Osborne, Founder of the National Curriculum in Reproductive Psychiatry.

Pregnancy and Postpartum Psychosis Awareness Day

PPP Awareness Day is held annually on the first Friday in May to raise awareness about PPP and to empower families and health care providers to recognize the signs, take swift action, and save lives. It was launched by Cherished Mom in 2020.

Where to Get Help

- Suicide and Crisis Lifeline, 988
- National Maternal Mental Health Hotline, 1-833-TLC-MAMA (1-833-852-6262), which provides free, confidential, 24/7 support via call, text, or chat in English or Spanish
- Postpartum Support International, which provides many free resources including online support groups, support navigators and lived experience specialists, a provider directory, and a list of intensive treatment programs

Learn More About Pregnancy and Postpartum Psychosis

Postpartum Support International

PSI (postpartum.net) is the world's leading organization in providing support to individuals and families impacted by maternal mental health conditions. PSI has a PPP Help Page, which offers many resources including a PPP discussion tool, PPP resources such as books, articles, blog posts, and podcasts, specialized support coordinators and peers who have lived experience with PPP, an online directory with listings of specially trained mental health providers who treat PPP, a support group for those with lived experience, a support group for families touched by PPP, and a list of intensive treatment programs.

PSI's Postpartum Psychosis Task Force

PSI's Postpartum Psychosis Task Force is led by individuals with lived experience and includes providers with expertise treating PPP, researchers, advocates for legislative change, and PSI staff and board members. The Task Force organizes around actions to improve public and provider awareness, increase and improve resources, reduce stigma, and provide legal and legislative advocacy. The goal is to develop resources and integrate knowledge and sensitivity about the lived experience of pregnancy and postpartum psychosis, and the unique insights of survivor advocates, into all perinatal mental health advocacy, awareness, education, resources, and services.

Action on Postpartum Psychosis

APP (app-network.org) is a national nonprofit organization in the United Kingdom that supports and advocates for women and families impacted by postpartum psychosis. APP supports research about postpartum psychosis and provides information, public awareness, resources, training for health professionals, peer support for those affected, and Insider Guides written by individuals with lived experience.

Postpartum Psychosis Project

Researchers at Massachusetts General Hospital study one of the largest global cohorts of people with postpartum psychosis. Individuals who have experienced postpartum psychosis in the last 10 years may be eligible to participate. Faculty also staff a consultation line for medical providers caring for those experiencing postpartum psychosis. The Postpartum Psychosis Project (mgp3.org) website includes research summaries, resources, and survivor stories.

So Glad You Asked Podcast

Postpartum psychosis is a medical emergency, but temporary and treatable. In an episode featuring Kriti Lodha and Meghan Cliffler, survivors share early warning signs, treatment, and recovery, helping families and clinicians recognize and respond quickly. Visit sogladyouasked.org

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The Birth Story We Carry: How Our Earliest Experiences Shape Emotional Patterns

Alyse Bacine, MA

I am a transformational trauma expert and certified breathwork practitioner with 25 years of experience. My work focuses on how early experiences, particularly the birth story itself, shape our unconscious patterns throughout life. In my work, I have noticed how little attention goes to the imprint of our beginnings.

When we talk about birth trauma, of course it makes sense to look at this from the perspective of the birthing person. What is less commonly discussed, though, and in my professional opinion key in the conversation too, is how these earliest experiences create imprints that the baby carries forward, sometimes for a lifetime.

In my trauma work, I have observed that our very first transition, from womb to world, establishes fundamental patterns in our nervous system for how we navigate change, connection, and safety. These patterns do not exist in our conscious memory, yet they shape how we approach beginnings, transitions, and endings.

Research in pre- and perinatal psychology supports this understanding. Studies show that the developing nervous system records experiences and forms patterns long before explicit memory develops (Chamberlain, 2013). These early imprints can shape how we approach life's transitions, our sense of safety in the world, and even our relationship with change.

Recognizing Our Birth Story Patterns

How might your birth experience still be influencing you today? I have observed some common patterns connected to birth experiences:

- Difficulty starting or completing projects
- Feeling stuck or anxious during periods of transition
- Resistance to launching creative work into the world
- Patterns of struggle before breakthrough moments
- Challenges with closure or endings

One person I worked with came to me puzzled by her pattern of becoming physically ill before every business launch. Despite meticulous preparation, her body sabotaged her at the last moment. Through our trauma-focused work together, we discovered that her birth had involved a prolonged

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labor that ended in an emergency cesarean. Her body unconsciously replicated this pattern, building toward a natural emergence and then experiencing a crisis that required intervention in her professional life.

Birth Is More Than an Event

Birth is not simply something that happens to us—it is our first experience of existence outside the womb, our first major transition, our first experience of separation. The quality of that experience—whether calm or chaotic, supported or frightening – creates templates in our nervous system for navigating future transitions.

However, just as trauma is in the eye of the beholder, so too is the impact of birth. Two people with similar birth circumstances may carry entirely different imprints. What may have been traumatic for one may be empowering for another.

This is why it is so important to approach birth trauma healing, both for birthing people and for those processing their own birth stories, with an individualized, trauma-informed approach that honors each person's unique experience.

The Nervous System Connection

Modern neuroscience helps us understand why these early experiences matter so profoundly. The developing brain and nervous system are exquisitely sensitive during the prenatal period and birth. As Dr. Bruce Perry's research on neurodevelopment shows, early experiences shape neural networks before conscious memory forms (Perry & Szalavitz, 2017).

These early imprints occur through several mechanisms:

- **Physiological patterning:** Our first experience of transition establishes templates in our nervous system for how we navigate change.
- **Attachment formation:** Birth and immediate postpartum establish our first experiences of connection or separation.
- **Sensory processing:** Our sensory systems record the sounds, sensations, and emotional environment of birth, becoming part of our implicit memory system.

Breaking Generational Patterns

One of the most potent aspects of healing birth trauma, both for birthing people and those coming to terms with their own birth stories, is the potential to break generational patterns.

In my work with clients, I have observed how unresolved birth trauma can influence parenting patterns across generations. A parent who experienced a disempowering birth may unconsciously create similar patterns of disempowerment with their child. Alternatively, they may swing to the opposite extreme, creating new challenges.

When we bring compassionate awareness to these patterns, we create the possibility of healing across generations. This is perhaps the most profound gift we can offer—not just healing for ourselves but also creating new possibilities for those who come after us.

Moving Toward Healing

If you recognize these patterns in yourself, know that healing is possible. The brain's neuroplasticity allows us to identify and reshape these early imprints. Approaches that work with body and mind are particularly effective because birth experiences are stored primarily as physical and emotional patterns rather than cognitive memories.

Some approaches that show promise include:

- Somatic experiencing approaches that help regulate the nervous system
- Breathwork that accesses subconscious material stored in the body
- Narrative work that helps create new meaning around birth experiences
- Mindfulness practices that build present-moment awareness

As we honor these earliest chapters of our story, we can begin to distinguish between past imprints and present reality, creating space for new patterns to emerge.

Freeing Ourselves

Our birth story is not just a tale of how we came into the world—it is a formative experience that continues to shape how we move through it. By bringing compassionate awareness to these earliest imprints, we can begin to heal what I call foundational birth story patterns, freeing ourselves to experience transitions, beginnings, and endings with greater ease and authenticity.

In doing this work, we do not just heal ourselves; we contribute to a more trauma-informed approach to birth that honors the experience of both birthing people and the babies they bring into the world.

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Wired for Love: Dr. Bonnie Goff on Birth Psychology, Early Adversity, and the Science of Healing

Ashley Makan and Wendy Bruns

What if a heightened stress response is not evidence that something is wrong, but evidence that the nervous system learned what it needed to survive? That reframing is central to the work of Bonnie Goff, PhD, a psychologist, researcher, and educator specializing in the neurobiological effects of early life adversity. Dr. Goff earned her PhD in psychology from UCLA in 2016 and has been a full-time lecturer there since 2017. She received the UCLA Psychology Department's Distinguished Teaching Award in 2023. In this interview, adapted from an episode of APPPAH's podcast, *Demystifying Birth Psychology*, hosts Ashley Makan and Wendy Bruns speak with Dr. Goff about how prenatal and early experiences shape the developing nervous system, why many of the nervous system changes associated with adversity are better understood as adaptations rather than as evidence of dysfunction, and how safety, connection, and unconditional love can support healing across the lifespan.

Makan and Bruns: You have been one of our keynote speakers for our Birth Psychology Month last year, in 2025. And I remember the title. It was *Wired for Stress: How Maternal Mental Health Shapes Fetal Development*. Why maternal mental health? Why is that such an important piece of your life as well?

Goff: In learning about the child, you cannot avoid the caregivers. And when we consider that development is so heavily weighted towards early life, that what happens at the earliest stages of our development are going to be over and above anything else that happens in adulthood, what shapes who we become, then you sure as heck cannot ignore the prenatal period. And the understanding that the conditions that the gestating mother is experiencing are directly informing the experience of the developing fetus because our biology is so brilliant. The idea that the foods that you eat and the interactions that you have and the state of your mental health are all just there to provide information for this developing fetus as to what world they're gonna be born into. So it's not a punishment, for example. When we think maternal mental health, I think we default to postpartum depression or just anxiety, or the worst potential outcomes, but really it's neutral information. It's just, what's it gonna be like once I make it to the outside so that I can be prepared for the world that I'm gonna live in? That's really the only intention behind the design.

This interview, adapted from the APPPAH podcast *Demystifying Birth Psychology*, features Bonnie Goff, PhD (ORCID: 0000-0002-3126-6579), a psychologist, researcher, educator, and full-time lecturer at UCLA who specializes in the neurobiological effects of early life adversity. APPPAH podcast hosts Ashley Makan and Wendy Bruns conducted the interview, which was condensed for clarity and length. The speakers' wording has not been altered. Visit birthpsychology.com/podcast to listen to the full interview.

Makan and Bruns: I would love to expand a little bit further on that. Can you walk us through what's actually happening in a developing brain that's experiencing chronic stress or adversity? What does the nervous system being shaped really mean biologically?

Goff: Stress is designed to protect us. It is designed to ensure our survival. And we're at a place in our evolutionary history where the threats that really make us fear for our survival may not actually align with our true survival. So back in the day, hunter-gatherer days, you would freak out if you were being chased by a bear. But now what do we freak out about? We freak out about our health insurance. We freak out about what the future may or may not hold for us or our children. All of those things your brain does not discriminate. It's "You're freaking out, I'm freaking out. Let's freak out. We must be on the verge of death." And what that ends up looking like is creating a state of hypervigilance to threat or danger around me. If I already am worried that I'm in trouble or in danger in some way, whether it's perceived or real, I'm scanning. I am looking. I have a hairpin trigger to anything that could alert me that there's something wrong. So all that is, all that's really happening is that your nervous system is becoming highly sensitized and highly attuned to anything that could be read as a threat. Being made aware that mom is really heightened right now and suspects that there's danger at every turn is valuable information to the fetus so that they too can become hypervigilant to their environment, and that will be present as soon as they're born so that they can survive.

Makan and Bruns: Something that I really want to point to is the phrase that I've heard so often in your work, essentially, that accelerated brain development after early adversity is not damage; it's adaptation.

Goff: I persevere on that particular term because I think when we have a sensitized stress response, when we know that we're somebody who has a really tightly wound nervous system, that can come with all of the trappings of guilt or shame or questioning: why am I like this, I shouldn't even feel like this, the way that we'll compare ourselves in relative terms to other people. And all that does is just keep you in the loop. But I think when we introduce compassion and a contextual understanding of why am I like this because these have been the circumstances, and my body is just doing everything it can to keep me alive. There's something that softens there, and it's that softening that allows the nervous system, paradoxically, to relax, right? What's going to ultimately signal that you're okay to the nervous system is a sense of safety. And so when you frame this as adaptation instead of dysfunction, the safety's there.

Makan and Bruns: Can we talk a little bit about resilience? I know you've done a lot of research exploring interventions that can shift outcomes after early adversity. What's actually showing promise in your research?

Goff: Okay, so I'll share the Center for the Developing Child at Harvard has a really beautiful framework that they share about resilience, and I recommend it to anyone who wants to look into this. The number one protective factor that we see across development and for children who have experienced adversity in all of its forms is one stable, caring adult. It can be a teacher. It can be a grandparent. It can be your best friend's mom. We are wired for that type of connection. We are wired to have stable, caring adults in our lives. And then that is also

connected to three other factors that I think are often the downstream effects that come from that stable, caring adult, which is being able to have a growth mindset. Believing that you have agency over your outcomes and not just feeling like you're a victim of your circumstances. Your executive function, your ability to maintain control and inhibit the responses that you don't want to engage in. Those come through learning regulatory abilities from people who have them. And then last is either a strong sense of faith or community. It's just believing that there's something bigger than you, that there's a safety net beneath you, that you will always be caught by people, by groups who can support you, and that you're never doing it alone. Those are the four heavy hitters as far as what we see in the resilience literature for children.

Makan and Bruns: What is your view on the relationship between early adversity and sense of self? Because I think that makes a huge difference in our adult experience, who someone believes that they are.

Goff: So there is plenty of literature that shows the influence of the quality of our attachments, meaning the quality of the type of care that we're receiving with our emerging sense of self, and what ultimately locks in as our self-concept over time. Because what creates a strong, secure attachment between caregiver and child is that their needs are being met with sensitivity. Meaning, I recognize that look on your face. I know that cry. I know that tone. I know your favorite food. That way, we just know somebody. But think about how it goes when the message is, "What's the matter with you? Why are you always this? Are you ever gonna learn to..." Same thing. I'm gonna internalize every last... "Why am I always like that?" And so all of those scripts get written, again, really early on, that sort of shape our self-concept. And then our self-concept becomes directly connected to our self-esteem. So it matters a lot, and it matters early.

Makan and Bruns: Do you find, Bonnie, when you're online, there are a lot of misconceptions about childhood adversity or anything like that, that you find yourself correcting?

Goff: The two big ones, so they're connected. The idea that children are resilient. Yes, sure. Children are resilient. In the context of neuroscience, yes, the plasticity means that children are resilient. But when we think about what early adversity is doing, and this fits in with the ACEs model as well, you're seeing these small shifts in trajectory. And at the moment that it occurs, that distinction is very subtle. Three degrees. And you know what? They're fine. They seem totally fine. But track that over time, and those three degrees turn into 45 degrees after a few years, and now suddenly you're going, "Oh, they weren't fine." So just because we don't see the effects of the insult immediately should not just come with a blanket resilience answer and an assumption that everything's okay. The shift in trajectory has been initiated, right? The idea that some sort of threshold is met, or everything becomes so relative that the car accident you were in— "Ah, that's nothing compared to my childhood." You might say that. You cognitively might have this representation that, like, that doesn't really matter because "I've been to hell and back." But your nervous system does not play that way at all. And so, resilience has nothing to do with just, like, water off a duck's back. That's not resilience. It's the working through of that sensitization process to heal, to genuinely heal and find safety again. But it's only done through work. It's not a hardening process at all.

Makan and Bruns: Why is it so important to explore these parts of ourselves and our partners before, ideally before we even get pregnant, but especially in pregnancy and early parenting?

Goff: I think the way that I conceptualize it in my mind is that all of my memories of my childhood were through the lens of looking up to the powers that be, to whoever was in charge, and that was always the lens. But when I became a mom, that perspective became the opposite. And now I'm the adult looking down at the child. It's so different than your lived experience of being four, when you have that maturity and that perspective to say, "Oh, God," the vulnerability. It's so raw, and it's so real. I think that there is so much value in having done as much healing as you can in advance so that you're not in that process whilst also trying to master all of the aspects of parenting that you know are gonna be important. When people say, "Parenting is hard," I remember at one point being like, before I had kids, "Okay, yeah, I hear you," but what exactly do you mean? I understand that now to be what we just described. Like the breaking open of your own perspective on yourself through a different lens and how you want to do things better and different and the reflexive ways that we replicate the things that we were raised with, and if somebody asked me what the hardest part of parenting is, I think I would have to go with that.

Makan and Bruns: So many of us think that some of those epigenetic pieces are just how we are. I've heard so many people say, "All the women in my family are high-strung, so that's just how I am. That's just how we are."

Goff: No. In fact, that's what's so beautiful about epigenetics is that yes, we can make alterations in our genetic expression in real time in either direction. And so to look at epigenetics as deterministic in some way, to be like, "That's how we all are. That's how everybody is in my family," is completely missing the point, which is to say that we can absolutely change the outcome for the better.

Makan and Bruns: I'm curious to know your thoughts on how a birth professional, a perinatal professional, someone walking with or working with, even a therapist, a family moving through the process of conception through postpartum- how can we support our clients best in this process?

Goff: I think so much of what allows us to thrive, to change old patterns of behavior are connected to how safe we feel. And again, what makes us feel safe is to feel loved unconditionally. I was just given this opportunity at UCLA to give... They have something called the Last Lecture. Once a year, they have one professor come and share: if you were never gonna speak again on this earth, what would you say? What would you want to say? And this is just a few days ago, so it's still very fresh in my mind, but it came to me very quickly what I wanted to say, and what I wanted to say was that we are inherently worthy of love because that's the setup, because that's the design. Because when we are born, despite all of the inconvenience that comes with pregnancy and the newborn era, for the most part, we are programmed to love these people unconditionally, not as a bonus or an accessory or something that gets sprinkled on top of our development, but as an infrastructural piece of our ability to thrive as humans. And so if that's the case, if we are programmed to expect love, unconditional love, the same way that

we are programmed to expect water and oxygen and warmth and shelter, then it's a necessary condition. And we're just not getting enough of it, and we're not giving enough of it. We need the love. So when you can show that to other people, not even as a practitioner, as a counselor or the doula or whatever it is, you are priming them to thrive. And like we were saying, if you can do those before the baby comes earthside, all the better. It's about love. And as fluffy and amorphous as that sounds, it is not. It is a scientific principle.

Makan and Bruns: We have this closing question that we've been asking, and I would love to hear your thoughts on what becomes possible for a person, for a family, for a culture when we pay attention to the very beginning.

Goff: It makes me want to cry before I even answer it, so I guess that shows how much I feel that in my heart. When we show somebody from the moment they're born that they have nothing to do to earn our affection and our love, and their worthiness, it's just innate, it's just because they exist, and maintain it, think of who you could become. Who would this hypothetical human turn into if they never questioned their worth, their value, their birthright to unconditional love? Can you even imagine? It could change the whole world, really. And so, without being too amorphous in my response, I think literally anything would be possible. And I'm so eager for us to get there as a society, to start viewing each other through that lens. I honestly believe that will be the turning point for us. When many of us are suffering individually and collectively right now, the turning point will come when we start looking at each other as inherently worthy of being here and of experiencing love.

Are You Interested in Publishing in JOPPPAH?

We welcome submissions on a range of topics related to prenatal and perinatal psychology and health, including:

Psychological Factors across Conception, Pregnancy, Labor, Birth, and Postpartum: Investigating the psychological aspects at each stage of the reproductive journey.

Maternal and Fetal Health: Exploring the influence of maternal health, lifestyle, and environmental factors on fetal development.

Childbirth and Perinatal Care: Examining various childbirth practices, models of perinatal care, and their impacts on maternal and infant well-being.

Parent-Child Bonding and Attachment: Studying the early relationship dynamics between parents and infants, including bonding and attachment.

Trauma and Stress during Pregnancy: Analyzing the psychological repercussions of traumatic events or chronic stress on both the pregnant individual and fetal development.

Interventions and Support: Evaluating interventions and support systems aimed at fostering positive mental health and well-being.

Developmental Outcomes: Researching the enduring effects of prenatal and perinatal experiences on child development, behavior, and overall health.

Reciprocal Interaction Mechanisms: Understanding the dynamics between the pregnant individual and unborn child and the birthing person and newborn.

Influence of Family, Society, and Environment: Exploring the impact of familial, societal, and environmental factors.

Evidence-Based Measures: Implementing evidence-based strategies to enhance the well-being of parents, birthing individuals, and infants.

Effects of Medical Technology: Assessing medical interventions' psychological and physiological impacts on all involved parties.

Prevention and Intervention for Prenatal and Perinatal Trauma: Exploring methods to prevent and address prenatal and perinatal traumas in both children and adults.

Interdisciplinary Interfaces: Investigating intersections between prenatal and perinatal psychology and fields such as medicine, genetics, developmental psychology, anthropology, ethics, and law.

Visit www.joppah.org to Submit Your Work

Prenatal and Perinatal Educator Certificate Program

Nurture Human Potential and Optimize the Healthiest Trajectory for Developing Babies

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The PPNE program is ideal for professionals supporting fertility, pregnancy, birth, and postpartum and those aiding adults or children in reshaping their earliest life experiences.

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- **12 Modules:** Anchored in the 12 Guiding Principles of Birth Psychology by Dr. Wendy Anne McCarty and Dr. Marti Glenn.
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The PPNE course addresses the current maternal-infant health care crisis, which is intimately intertwined with the rise of technocratic practices and obstetrical intervention in the birth setting, racial inequalities, intergenerational and generational trauma, and the lack of recognition of basic human rights of the (un)born, mother, and families.

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