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Predisposing and precipitating factors for dissociation during labor in a cohort study of posttraumatic stress disorder and childbearing outcomes

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Abstract

Introduction—Peritraumatic dissociation is an important predictor of posttraumatic stress disorder (PTSD), depression, and impaired bonding following childbirth. The purpose of this study was to follow up on an earlier finding that peritraumatic dissociation in labor was associated with adverse postpartum outcomes by identifying predictors of dissociation in labor.

Methods—This analysis used data from a prospective cohort study of primiparous women from Southeast Michigan. There were 564 women included in the analysis; the primary outcome measure was the Peritraumatic Dissociative Experiences Questionnaire (PDEQ) score measuring dissociation during labor.

Results—The prevalence of dissociation in labor for this sample was 7.4%. Important predictors of dissociation in labor included both predisposing (eg, childhood maltreatment trauma, pre-existing psychopathology) and precipitating factors (eg, perception of care, negative appraisal of labor). Overall, these predictors explained 14.7% of variance in PDEQ score. In three separate simple linear regression models, the PDEQ score explained 20% of variance in postpartum PTSD, 13% of variance in postpartum depression, and 9% of variance in impaired bonding.

Discussion—Women with maltreatment history and PTSD are at risk to be re-traumatized or overwhelmed by birth and to dissociate. Although it would be optimal to assess for dissociative coping prenatally, assessing with the PDEQ following birth could contribute to evaluation of risk for postpartum psychopathology.

INTRODUCTION

Postpartum posttraumatic stress disorder (PTSD) can adversely affect the well-being of women and their ability to bond with their infants.^{1,2} It has been found to occur in 3.1% of women in community samples and in 15.7% of women in at-risk samples.³ The literature on predictors of postpartum PTSD has found two robust categories of risk factors: 1) predisposing factors (eg, trauma history depression, other psychopathology), and 2) precipitating factors (eg, objective and subjective aspects of the labor experience, infant complications, birth-related physical health problems).^{4,5} One factor that could be either a predisposing or precipitating risk for postpartum PTSD (or both) is dissociation. Dissociation

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has received more research attention recently, but it has not yet been well-studied in relation to labor and postpartum PTSD. Maternity care professionals likely have observed dissociation when caring for women, but it is not a condition they are taught to diagnose or address in their training.

Dissociation is a “disruption of and/or discontinuity in the normal integration of consciousness, memory, identity, emotion, perception, body representation, motor control, and behavior.”⁶ Dissociation allows psychological escape from the external environment and from internal distress via a “freeze” response when “fight or flight” are not feasible. It is a reaction often deployed by young children who experience abuse,^{7,8} but dissociation can become generalized to non-abuse stressors. Adult survivors may continue to respond to stressors with a dissociative response even when the stressors do not pose a threat to life or physical integrity. A habitual dissociative stress response can reach a level considered to be pathological that could be diagnosed as dissociative identity disorder, dissociative disorder not otherwise specified, or the dissociative subtype of PTSD if it causes significant distress or impairment.⁹ To be succinct we will use the term “trait” dissociation when referring to this long-standing, maladaptive form. Dissociation can also occur in healthy adults as a peritraumatic dissociative “state.” State dissociation can happen to anyone during an overwhelmingly stressful event when the usual integration of perception, emotion, and judgment about a situation fails.^{10–12} Well-studied situations of peritraumatic dissociation among adults (eg, motor vehicle accident, natural disasters) involve responses of spacing out, a sense of acting on automatic pilot, experiencing slow motion, dream-like feelings, out-of-body experiences, a sense of body distortion, internalizing the experiences of others, disorientation, confusion, and amnesia for aspects of the event.¹³ The co-occurrence of these elements of dissociation with PTSD has been increasingly recognized with publication of the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5).⁹ There is now a diagnostic subtype for PTSD with dissociation (see Table 1). This subtype represents 14.4% of all PTSD cases¹⁴ and is likely more prevalent among survivors of childhood maltreatment. The dissociative subtype of PTSD includes two dissociation symptoms: depersonalization and derealization. Depersonalization is the experience of seeing oneself outside of one’s body, and derealization is the dream-like perception that things are not real.¹⁵ Both symptoms create the perception that ‘this is not happening to me’ and attenuate distress.¹⁵

Trait dissociation can occur with PTSD as the dissociative subtype when it is characterized by depersonalization and derealization. State dissociation can occur with or without PTSD during an intensely stressful event, and it is a risk factor for new onset PTSD. Trait dissociation has been well-studied in relation to childhood maltreatment, and state dissociation has been well-studied in relation to acute trauma exposures. It is only more recently that dissociation has been considered in relation to labor and birth (see Table 2).¹⁶

Findings regarding dissociation in labor and postpartum outcomes (most commonly postpartum PTSD) have been inconsistent. Some studies found no associations between dissociation in labor and postpartum PTSD, but found related factors (eg, negative emotions, distress, fear, perception of a threat to the woman’s life) to be predictive.^{17–19} Others found that dissociation in labor was predictive of postpartum PTSD.^{20–23} One study found that

dissociation in labor occurred with 11.3% prevalence.²⁴ Given the possibility of peritraumatic dissociation as a risk factor for postpartum PTSD, it is important to resolve these inconsistent findings about dissociation in labor.

The purpose of this paper is to follow up our previous finding that dissociation in labor is a risk factor for adverse postpartum mental health and bonding outcomes¹ by examining predictors of dissociation in labor. As stated above, risk factors for postpartum PTSD as can be categorized as predisposing or precipitating,⁵ and this conceptualization can be applied to consider predisposing and precipitating factors for dissociation in labor. This secondary analysis will answer three questions: 1) What is the prevalence of dissociation during labor in a community sample of diverse pregnant women?, 2) What predisposing and precipitating factors predict dissociation in labor?, and 3) To what extent does dissociation in labor alone predict the adverse outcomes of postpartum PTSD, postpartum depression, and impaired bonding?

METHODS

Design

This was a secondary analysis of data collected between 2005 and 2009 (described below) to describe the prevalence of dissociation in labor and to model predictors of dissociation in labor. The parent study, known as the STACY (Stress, Trauma, Anxiety, and the Childbearing Year) Project (NIH R01 NR008767, P.I. Seng), used a prospective, three-cohort design to examine associations between PTSD and adverse perinatal outcomes. Data were collected using a standardized computer-assisted telephone interview at the initiation of prenatal care, at 35 weeks gestation, and at 6 weeks postpartum. Medical records were abstracted for antepartum and intrapartum data. Details about study design and data collection process are reported elsewhere^{1,25} but are briefly explained below.

The STACY Project used a classic PTSD research design with 3 cohorts: 1) a PTSD group, defined as women who met diagnostic criteria for lifetime PTSD, 2) a trauma-exposed control group, defined as trauma-exposed women who were resilient and did not develop PTSD, and 3) a non-trauma control group, defined as women who had no trauma exposure or PTSD. Participants in the STACY Project had a range of trauma exposures (eg, accidents, disasters, refugee experiences), but the greatest risk factor for PTSD in pregnancy was childhood maltreatment history, and this affected 1 in 5 women in the STACY sample. Because the STACY Project was a study of the effects of PTSD on outcomes, it over-sampled for trauma and PTSD. Data collection occurred from 2005 to May 2009 with human subjects research approvals from the three large participating health systems. A Confidentiality Certificate was obtained for the original study, and IRB approval was extended for secondary analyses.

Women were eligible if they were 18 or older, able to speak English without an interpreter, expecting their first infant, and initiating prenatal care at less than 28 weeks of gestation. The initial interview was completed by 1,581 women. Those who met a cohort definition (n= 1,049) were enrolled for follow-up, with approximately one-third of the sample in each cohort. There was attrition across the life of the study, with a final sample of 564 women

participating at the 6-week outcome interview. In the end, the sample did not differ by PTSD status, but more disadvantaged women had dropped out (this was expected, and low-income and minority women had been oversampled so that the results would remain generalizable). Secondary analysis measures

The measures used in this secondary analysis were chosen for the parent study because they were gold-standard measures. Measures used include predisposing factors, most of which were measured in the initial early pregnancy interview, precipitating factors, which were abstracted from the medical record, and precipitating and outcome factors, measured in the 6-week postpartum survey. We report the internal consistency reliability of the scales (Cronbach's alpha) used with this sample in parentheses below.

The initial survey measures used in this analysis assessed trauma history, PTSD, depression, dissociation as a trait, and demographics. Trauma history was assessed with the Life Stressor Checklist,²⁶ which asks about an array of potentially traumatic experiences, including five items about childhood maltreatment (physical abuse, molestation, completed rape, emotional abuse, and physical neglect occurring prior to age 16). Maltreatment history was summarized as a positive or negative history. PTSD status was assessed with the National Women's Study PTSD Module, a high-sensitivity structured interview.^{27,28} This PTSD diagnostic measure yields both a symptom count (0–17) and a diagnosis. Past-year major depressive disorder was diagnosed using the widely validated Composite International Diagnostic Interview depression module.²⁹ Dissociation as a trait was assessed using the Dissociative Experiences Scale Taxon version.³⁰ Consistent with the DSM-5 dissociative subtype criterion requiring significant depersonalization or derealization, we counted a woman as having this trait if she answered “sometimes” (or more frequent) for at least one of the depersonalization and derealization symptoms. Age and unemployment status, the two demographic factors associated with dissociation in labor in prior studies,^{19,24} were queried using standard items from the Centers for Disease Control and Prevention Perinatal Risk Assessment and Monitoring Survey.³¹

Abstracted medical records data included notation of cesarean birth and transfer of the infant to the neonatal intensive care unit (NICU). For 34 women with postpartum outcomes interview data, medical records could not be obtained, so the regression model used to answer research question 2 has 530 cases instead of all 564.

The rest of the variables used in this analysis are from measures in the 6-week postpartum interview. We used the Peritraumatic Dissociation Experience Questionnaire (PDEQ) asking the questions in relation to the labor experience.³² This ten-item scale describes the symptoms and uses a 5-point Likert response scale from “not at all true” to “extremely true” ($\alpha=.815$). Postpartum (past-month) PTSD symptoms and diagnosis were again assessed with the National Women's Study PTSD module.^{27,28} Postpartum depression was assessed with the Postpartum Depression Screening Scale, a 35-item measure validated on a normative sample where a cut-off score of 80 was a sensitive and specific criterion for major depressive disorder with a positive predictive value of 93% ($\alpha=.947$).³³ We used the Postpartum Bonding Questionnaire to obtain a bonding score in which higher values indicate more impairment, rejection, or anxiety in the relationship with the infant ($\alpha=.$

827).^{34,35} The 22-item Perception of Care Questionnaire was used to examine the woman's perception of the care she received from her midwife or physician, with higher scores related to more positive appraisal ($\alpha=.906$).³⁶ The woman's appraisal of the labor experience was assessed with a semantic differential from 1 (horrible) to 10 (wonderful).

Analysis Plan

This analysis was conducted using SPSS version 22.0 (IBM SPSS Statistics, Armonk, NY),³⁷ and R version 3.2.0 (R Project for Statistical Computing, Vienna, Austria)³⁸ was used to generate the figure. We first examined variables we would use to answer the research questions to assess missing data and verify distributions met assumptions for the planned analyses. Data were missing on only the two medical records variables (route of delivery and transfer of the infant to NICU for 34 women for whom no records were obtained. Although the key outcome variable, PDEQ score, was not normally distributed, its error variance was normally distributed, indicating this variable was suitable for use in parametric tests. We then described the sample on all characteristics that would be considered in the multiple variable model. To answer question 1, we assessed peritraumatic dissociation symptom levels and the proportion of dissociative subtype cases, defined by a response of "very true for me" or "extremely true for me" to at least one of the depersonalization and derealization questions in the PDEQ. To answer question 2, we assessed the correlation of these characteristics with the PDEQ score, using Pearson's r for continuous variables and tau b for categorical variables, and we estimated a stepwise regression model to determine what predicts dissociation in labor. We organized entry of predictor variables chronologically, consistent with the predisposing and precipitating factors framework. To answer question 3, we used 3 simple linear regression models to determine the extent to which peritraumatic dissociation in labor alone was a predictor of postpartum PTSD symptom count, depression score, and bonding impairment score.

RESULTS

Sample

There were 564 women were included in the analysis. As shown in Table 3, the sample included 15.8% teens and 30.1% African Americans. The mean age for this sample was 27.1 (SD 5.4) and 14.4% percent reported being unemployed (not counting those on maternity leave or working as homemakers). For the regression that included the medical record variables, the sample was the subset of 530 women who had medical records, and they did not differ from the 564 on demographic or mental health factors. Table 3 describes the characteristics of the sample.

Prevalence of Dissociation During Labor

The mean labor dissociation (PDEQ) score was 13.8 (SD 4.9). The mode was 10, as shown in Figure 1. On this scale, a score of 10 indicates that the woman answered "not at all true for me" for every item (ie, the woman did not have any dissociative experiences during labor).

The largest proportion of women (219; 38.8%) experienced no dissociation, some women experienced a few dissociative symptoms, and only a very small proportion experienced many symptoms. There were 42 women (7.4%) who experienced significant levels of the key dissociative symptoms of depersonalization or derealization.

Predictors of Dissociation in Labor

All variables found to be associated with dissociation in labor in the literature were significantly correlated with dissociation in this sample as well (Table 3). Dissociation in labor also was associated with the three adverse outcome conditions of postpartum PTSD, depression, and impaired bonding.

Stepwise multiple linear regression modeling was used to predict PDEQ score related to labor. In the first step, child maltreatment trauma explained 2% of the variance ($\beta = .147$, $P = .001$). Adding age and unemployment status explained less than 1%. In the third step, pre-existing mental health status explained an additional 9%, with lifetime PTSD ($\beta = .133$, $P = .008$), past year depression ($\beta = .151$, $P = .001$), and trait dissociation ($\beta = .168$, $P < .001$) all being independently significant predictors. The association between child maltreatment history and dissociation in labor was no longer significant once the mental health sequelae were taken into account. The last step considering the woman's subjective and objective labor experiences explained 3% of variance. Positive perception of care she received was protective against dissociation in labor ($\beta = -.120$, $P = .006$). A woman's perception that the labor was traumatic ($\beta = .115$, $P = .009$) was also a significant predictor of dissociation. Having a cesarean birth or having the infant transferred to the NICU were not significant predictors of dissociation. Trait dissociation had the strongest independently predictive association with state dissociation.

PDEQ score as a sole predictor of postpartum adverse outcomes

In 3 simple linear regression models, we used PDEQ score to predict scores on measures of postpartum PTSD, postpartum depression, and impaired bonding. PDEQ score most strongly predicted postpartum PTSD ($\beta = .450$, $P < .001$, 20% variance explained), but also was associated with postpartum depression ($\beta = .362$, $P < .001$, 13% variance explained), and impaired bonding ($\beta = .305$, $P < .001$, 9% of variance explained).

DISCUSSION

In this secondary analysis, we followed up an earlier finding that dissociation in labor contributed to risk for adverse outcomes with analysis of what factors predict such dissociation. Child maltreatment history was a significant predictor of dissociation in labor when considered by itself, but the mental health sequelae of maltreatment were better predictors and appeared to mediate the relationship of maltreatment history with dissociation in labor. Lifetime PTSD, past-year depression, and trait dissociation assessed in pregnancy were all predictors of dissociation in labor. The woman's subjective experience of her labor as traumatic also predicted dissociation in labor, but not objective events (ie, cesarean birth, infant transfer to NICU). In turn, dissociation in labor was predictive of postpartum PTSD, depression, and impaired bonding.

Some prior studies have not found an association between dissociation and postpartum PTSD.^{17–19} One of these reports also found that predisposing factors, such as childhood maltreatment trauma, were not significant risk factors for postpartum PTSD.¹⁹ These studies were with European samples, and thus they may differ from this US cohort study sample that included many vulnerable women who were selected for trauma history and PTSD.

There are limitations inherent to secondary analysis to keep in mind. It is less than ideal to measure peritraumatic dissociation in labor at the six weeks postpartum time point since it relies upon recall that could be affected by the PTSD, depression, or impaired bonding outcomes also measured at that time. Cesarean birth and transfer of the infant to the NICU were included as variables in this analysis and were not significant predictors, but we do not know if the operative delivery or the infant's condition were appraised as traumatic. There are some strengths of this study as well that may account for results that differ from previous reports. The project enrolled for follow up women selected for trauma history and PTSD cohorts, as well as one cohort of non-exposed comparison women, so the sample was enriched with more childhood maltreatment survivors and higher rates of PTSD in pregnancy than studies done with unselected samples. Other strengths include the prospective design that measured trauma history, trait dissociation, and PTSD in early pregnancy, use of well-established measures, and the large sample size.

Implications for Research

Further research is needed to examine dissociation in labor in greater depth and from the woman's perspective. Mixed methods research is an optimal approach for future studies. Although this analysis suggested that pre-existing psychopathology may play a role in regards to risk for peritraumatic dissociation in labor, much of the variance in this outcome variable was unaccounted for. Future studies should examine additional empirical indicators of risk for dissociation in labor and explore women's experiences, needs, and preferences to guide intervention development. Few evidence-based interventions exist for clinicians to use in response to dissociation in labor or to prevent it, and given its prevalence, interventions are needed to support women during stressful labor experiences that lead to dissociation.

Research on training methods for birth attendants is also needed to help clinicians recognize dissociation in process and respond in the moment. Continuous emotional support from a nurse or a doula while the midwife or physician is managing the birth may be an optimal division of labor. Collaboration with mental health professionals when dissociation and distress have occurred may also be advantageous for the woman's recovery. The PDEQ appeared to perform reasonably well in the context of labor, and it has potential as useful measure for future studies on dissociation in labor.

Implications for Practice

It could perhaps go without stating that maternity care should always be delivered in ways that maximize women's sense of alliance, empowerment, and confidence going into labor and that respect her dignity and individualized needs, including trauma-specific needs based on awareness of past trauma when that is possible. Women at risk for being triggered into PTSD reactions or at risk for being re-traumatized by the intrusiveness of procedures or

dynamics of dependence on caregivers warrant particular adaptations. Attention to the significance of trait and state dissociation and strategies created with the woman to protect against peritraumatic dissociation in labor is one area where clinical practice could be advanced.

This analysis suggested that predisposing factors of a history of child maltreatment when the woman has sequelae including dissociation, PTSD, or depression could indicate risk for dissociation in labor. The precipitating factor of a woman's subjective appraisal of her birth experience as traumatic could also indicate risk. Clinicians should assess for these predisposing risk factors prenatally and create a birth plan including strategies for how the woman wishes to manage stress during labor. To assess for dissociative symptoms, clinicians can ask if the woman has ever felt as though she were watching herself from outside her body (depersonalization) or if she has ever felt as though people and things around her were not real, as if she were in a movie or play (derealization).

No evidence-based interventions currently exist for on-the-spot response to dissociation in labor. However, clinicians can plan care with the clients using an individual birth planning process that includes shared decision making and informed consent about the limits of what is known about these interventions.³⁹ Clinicians should consider speaking with the woman supportively to help her stay grounded in the present, acknowledging her distress, and increasing postpartum follow-up support if a woman dissociates during labor. For follow-up support, clinicians should consider talking with the woman about her birth experience, explaining that she may be at somewhat greater risk for PTSD, depression, and delayed or impaired bonding, and offering appropriate referral resources. If a woman's prenatal history and risk factors were unknown to postpartum clinicians, asking about peritraumatic dissociation prior to discharge using the 10-item PDEQ would be a useful way to assess dissociation in labor and risk for postpartum psychopathology.³² A score of 15 has been used as the cut-off point to indicate significant peritraumatic dissociation and risk for development of postpartum PTSD and depression.²⁴

Implications for Policy

Trauma-informed care is needed in perinatal service delivery, and policy changes may be needed for this to happen. Institutional support for doulas or more intensive nursing support, continuity of care, choice of birth place, choice of midwife, and greater control over choices in labor practices may all contribute to less traumagenic birth experiences among all women. When pre-existing posttraumatic stress is likely to complicate labor, prenatal birth planning, and prenatal counseling or therapy for at-risk women, are approaches that warrant consideration and research to establish an evidence base. Technical support for trauma-informed care tailored to the maternity care setting is not yet available, but general resources from the Substance Abuse and Mental Health Services Administration's National Center for Trauma-Informed Care (NCTIC) are nevertheless useful.⁴⁰ NCTIC fosters trauma-informed and trauma-specific interventions, as well as trainings and technical support for a variety of service systems.

CONCLUSION

Dissociation, a stress reaction characterized by loss of integration of perception of the environment, cognition, emotion, and judgment, can happen to any woman in labor, but it is more likely to happen to those whose life history includes early childhood maltreatment, use of dissociation as a survival mechanism, and subsequent PTSD. These women are particularly at risk to be re-traumatized or overwhelmed by birth and to dissociate. Dissociation during labor is an important predictor of PTSD, depression, and impaired bonding following childbirth. Although it would be optimal to assess for predisposing factors, the PDEQ is a useful tool to couple with assessment of the birth experience to help evaluate risk for postpartum mental health and bonding problems and intervene.

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QUICK POINTS

- Dissociation in labor is when a woman experiences feelings of detachment from her body or mind in response to a birth-related traumatic stressor or reminder of a past trauma during birth.
- Childhood maltreatment trauma, pre-existing psychopathology, and a negative appraisal of labor are predisposing and precipitating risk factors for dissociation during labor.
- Although it would be optimal to assess for dissociative coping prenatally, it can be also be assessed following birth to evaluate risk for postpartum mental health and bonding problems.
- Dissociation in response to labor can be assessed with the widely-used Peritraumatic Dissociative Experiences Questionnaire (PDEQ).

Figure 1. Histogram of Peritraumatic Dissociative Experiences Questionnaire Score Frequencies

The distribution of Peritraumatic Dissociative Experiences Questionnaire scores for this sample was heavily right-skewed with a mode of 10 on a scale of 10–50, indicating that most women did not report any symptoms on the questionnaire.

Table 1

Brief summary of APA Diagnostic Criteria for Posttraumatic Stress Disorder

Exposure to actual or threatened death, serious injury, or sexual violence ^{a,b}	Direct exposure
	Witnessing, in person
	Indirectly (relative or friend exposed to trauma)
	Indirect exposure in the course of professional duties
Persistent re-experiencing of the traumatic event ^{a,b}	Recurrent, involuntary, and intrusive memories
	Traumatic nightmares
	Dissociative reactions
	Marked physiologic reactivity after exposure
Persistent avoidance of distressing trauma-related stimuli ^{a,b}	Trauma-related thoughts or feelings
	Trauma-related external reminders
Negative alterations in cognition and mood after the traumatic event ^{a,c}	Inability to recall key features
	Negative beliefs about oneself or the world
	Distorted blame of self or others
	Negative trauma-related emotions
	Diminished interest in significant activities
	Feeling alienated from others
	Constricted affect
Trauma-related alterations in arousal and reactivity after the traumatic event ^{a,c}	Irritable or aggressive behavior
	Self-destructive or reckless behavior
	Hypervigilance
	Exaggerated startle response
	Problems in concentration
	Sleep disturbance
Dissociative subtype ^{a,b}	Depersonalization (experience of being an outside observer or detached from oneself)
	Derealization (experience of unreality, distance, or distortion)

^aSource: American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 5th.⁹^bOne or more symptoms required. Symptoms must persist for more than one month, significantly impair functioning, and not be due to medication, substance abuse, or other illness.⁹^cTwo or more symptoms required. Symptoms must persist for more than one month, significantly impair functioning, and not be due to medication, substance abuse, or other illness.⁹

Table 2

Previous Studies on Dissociation in Labor

Study	Location	N	Predictors of Dissociation in Labor	Outcome Variable
Zambaldi, Cantilino, Farias, Moraes, Botelho Sougey, 2011 ²⁴	Brazil	328	Previous trauma (OR, 4.65; 95% CI, 2.04–11.32; $P = <.001$) Traumatic childbirth (OR, 11.05; 95% CI, 4.93–25.78; $P = <.001$) Unemployment (OR, 3.67; 95% CI, 1.50–10.09; $P = .007$)	Significant dissociation ^a
Lev-Wiesel, Daphna-Tekoah, 2010 ²¹	Israel	1003	Childhood sexual abuse ($\beta = .11$, $P = .15$) Prenatal PTSD symptoms ($\beta = .29$, $P = .001$) Depression history ($\beta = .11$, $P = .21$) Dissociation history ($\beta = .01$, $P = .007$)	Peritraumatic Dissociative Experiences Questionnaire Score ^b
Boudou, Sejourne, Chabrol, 2007 ¹⁷	France	117	Primiparity ($\beta = .19$, $P = .02$) Prolonged labor ($\beta = .16$, $P = .04$) Poor interactions with obstetric team ($\beta = .19$, $P = .04$) Dysphoric emotion ($\beta = .47$, $P = <.001$)	Peritraumatic Dissociative Experiences Questionnaire Score ^b

Abbreviations: CI, Confidence interval; OR, Odds ratio; PTSD, Posttraumatic stress disorder.

^aSignificant dissociation defined as Peritraumatic Dissociative Experiences Questionnaire Score greater than or equal to 15.

^bNo cutoff score used; questionnaire score used as an interval-level variable.

Table 3

Sample Characteristics (N= 564) and Correlation of Characteristics with Peritraumatic Dissociative Experiences Questionnaire (PDEQ) Scores Related to Labor

Demographic Characteristics	Value	Correlation (Tau-b)	P
Predisposing Factors			
Age, mean (SD), y	27.12 (5.43)	.084 ^a	.05
Unemployed, n (%)	14.4% (81)	-.015	<.001
Childhood maltreatment history, n (%)	19.5% (110)	.116	<.001
Lifetime Posttraumatic stress disorder Diagnosis, n (%)	27.5% (155)	.225	<.001
Past Year Depression, n (%)	12.2% (69)	.126	<.001
“Trait” Dissociation, n (%)	6.7% (38)	.152	<.001
Precipitating Factors			
Positive perception of Care, mean (SD)	57.85 (9.01)	-.147 ^a	<.001
Perception of labor as traumatic, (%) n	21.1% (119)	.191	<.001
Peritraumatic Dissociative Experiences Questionnaire score, mean (SD)	13.77 (4.90)	-	
Postnatal Mental Health Outcomes			
Postpartum posttraumatic stress disorder, n (%)	5.9% (33)	.216	<.001
Postpartum Depression, n (%)	21.5% (121)	.322	<.001
Impaired bonding, n (%)	22.0% (124)	.225	<.001

Correlation calculated with Pearson R for a interval-level

Table 4**Predictors of Peritraumatic Dissociation in Labor**

Predictors	Beta	P
Step 1: Predisposing Factors: Child Maltreatment ($R^2 = .022$, $R^2 = .022$, $p = .001$)		
Child maltreatment history	.147	.001
Step 2: Predisposing Factors: Socioeconomic Risk ($R^2 = .029$, $R^2 = .008$, $p = .127$)		
Child maltreatment history	.149	.001
Age	.096	.042
Unemployment	.035	.451
Step 3: Predisposing Factors: Psychopathology ($R^2 = .115$, $R^2 = .086$, $p < .001$)		
Child maltreatment history	.035	.759
Age	.112	.013
Unemployment	-.003	.942
Lifetime posttraumatic stress disorder diagnosis	.133	.008
Past year depression diagnosis	.151	.001
Trait dissociation	.168	<.001
Step 4: Precipitating Factors ($R^2 = .147$, $R^2 = .032$, $p = .001$)		
Child maltreatment history	.023	.614
Age	.090	.050
Unemployment	-.027	.546
Lifetime posttraumatic stress disorder diagnosis	.110	.027
Past year depression diagnosis	.146	.001
Trait dissociation	.126	<.001
Cesarean birth	.034	.428
Neonatal intensive care unit transfer	-.020	.639
Labor appraisal as traumatic	.115	.009
Perception of care questionnaire score	-.120	.006