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Preparing for parenthood: How feelings of responsibility and efficacy impact expectant parents

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Abstract
Relatively little is known about what impacts perinatal outcomes in expectant mothers and fathers. In the current study, we examined the association between expected parenting efficacy and feelings of pregnancy responsibility on mental health and relationship satisfaction in 104 primiparous couples during their third trimester. Parenting efficacy was related to better perinatal mental health and relationship satisfaction for both mothers and fathers, while communal pregnancy responsibility was more important for mothers. At the couple level, being concordant on feelings of pregnancy responsibility was related to better mental health and relationship satisfaction for expectant mothers only. These results suggest the importance of examining predictors of perinatal outcomes, as well as the dynamic interplay between mothers' and fathers' feelings of pregnancy responsibility.

Keywords
efficacy, mental health, parenthood, pregnancy, relationship satisfaction

The transition to parenthood is a period of disequilibrium, with first-time parents experiencing new expectations and situations (Levy-Shiff, 1999). Many first-time parents report feeling unprepared for the transition and its accompanying adjustments (Vanzetti &

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Duck, 1996), including their relationship, which tends to deteriorate across the transition to parenthood (e.g., Belsky & Kelly, 1994; Cowan & Cowan, 1995; Doss, Rhoades, Stanley, & Markman, 2009; Twenge, Campbell, & Foster, 2003). Less focus has been placed on the perinatal period, which is surprising given that an important predictor of postpartum outcomes is perinatal measures, such as mental health and relationship satisfaction, during pregnancy (e.g., Austin, Tully, & Parker, 2007; Hoffenaar, Balen, & Hermanns, 2009; Robinson, Olmsted, & Garner, 1989). Moreover, while numerous studies have examined expectant mothers' experiences during pregnancy, fewer have examined the perspective of the expectant father. It is hard to say whether this neglect is due to an assumption that fathers are less impacted by the transition to parenthood than mothers, or that their experiences would mirror those of mothers. The period surrounding a first pregnancy is a time of major life changes for both expectant mothers and fathers, but the way they approach the situation may be different. For women, pregnancy is a period of primarily direct changes (e.g., bodily changes, potential work changes). For men, on the other hand, pregnancy may involve more indirect changes (e.g., completing household tasks their partner cannot, spending less time with their partner) (e.g., Goodman, 2005). In addition, while mothering happens soon after delivery with mothers bonding with the baby, fathering may be less evolutionary and is more dependent on bonding with both the mother and child (e.g., Anderson, 1996; Mehall, Spinrad, Eisenberg, & Gaertner, 2009). These biological differences suggest that mothers and fathers approach the transition to parenthood uniquely and, therefore, may be impacted differentially during pregnancy. In the current study, we aim to investigate two theoretically relevant factors for both expectant mothers and fathers in the prediction of perinatal mental health and relationship satisfaction. Specifically, we argue that expected parenting efficacy and communal feelings of responsibility for the pregnancy will be important for expectant parents – albeit differently for mothers versus fathers. We examine these variables in both expectant mothers and fathers at an individual and couple level using a community-based sample of married/cohabiting adults expecting their first child.

Perinatal mental health and relationship satisfaction

Pregnancy is known to be a potential trigger for depression and anxiety in expectant parents (e.g., Entwisle & Doering, 1988; Matthey, Barnett, Howie, & Kavanagh, 2003). One reason for women is biological. Pregnancy involves hormonal changes, which can increase the risk of depression and anxiety for pregnant women (Wisner, Gelenberg, Leonard, Zarin, & Frank, 1999). For women with a history of depression or anxiety, pregnancy can prompt a relapse of symptoms, while other women may have their first episode of depression or anxiety during pregnancy (e.g., Bennett, Einarson, Taddio, Koren, & Einarson, 2004). Other psychological variables may be related to depression and anxiety in pregnant women, including lack of support, low self-esteem, and fears about parenting (e.g., Beck, 1996, 2001). Comparatively little is known about how men's depression and anxiety levels are influenced by their partner's pregnancy. Researchers have found that some men experience depression both during pregnancy and in the postpartum period (e.g., Morse, Buist, & Durkin,

2000; Raskin, Richman, & Gaines, 1990), but anxiety is highest for men during pregnancy and then declines after the birth – suggesting that increased anxiety for men may be a result of concerns about the transition to parenthood (e.g., Glazer, 1980; Teixeira, Figueiredo, Conde, Pacheco, & Costa, 2009). In general, though, factors influencing perinatal depression and anxiety in expectant fathers are not well understood.

What is well known is that depression and anxiety are negatively related to relationship satisfaction for both men and women (e.g., Dush, Taylor, & Kroeger, 2008; Fincham, Beach, Harold, & Osborne, 1997). Moreover, one of the most consistent findings during the transition to parenthood is a decrease in relationship satisfaction following the birth of a couple's first child (e.g., Belsky & Kelly, 1994; Doss et al., 2009; Twenge et al, 2003). However, relationship satisfaction is found to be at a high in the last trimester of pregnancy and generally declines thereafter (Cowan et al., 1985; Waldron & Routh, 1981). While the majority of studies report that couples experience a decline in relationship satisfaction and an increase in relationship conflict over the transition, some researchers have found that as many as 50% of couples may not experience these detrimental changes, but rather may experience stability or even an increase in their relationship satisfaction (Belsky & Rovine, 1990). Thus, it is important to understand what predicts relationship satisfaction during pregnancy in order to better understand how to prevent deterioration after pregnancy.

Parenting efficacy

One theoretically relevant factor that may impact perinatal relationship satisfaction and mental health in expectant parents is their concerns about whether they will be a good mother or father – that is, expected parenting efficacy. Bandura (1977) defined self-efficacy as an individual's judgment of their own personal capability to be successful in carrying out activities required of them. More specifically, self-efficacy is the gaining of knowledge and skills, as well as the belief in one's ability to effectively use this increased knowledge and skills. Efficacy for tasks can develop from relationships with others, from personal experiences, and/or from the individual's physiological states (Bandura, 1999). Parenting efficacy concerns how competent a parent feels about their ability to positively influence both the development and behavior of their child (Coleman & Karraker, 2003; Jones & Prinz, 2005; Porter & Hsu, 2003), and has been found to be related to parenting behaviors and the mental health of the parent. For instance, parents with high parenting efficacy engage in better parenting practices, and mothers with high parenting efficacy experience less psychological distress (Halpern & McLean, 1997). Postpartum parenting efficacy has been consistently linked with postpartum anxiety, depression, and relationship satisfaction (e.g., Teti & Gelfand, 1991). While researchers have repeatedly found that postpartum parenting efficacy is important for both the parent and child (e.g., Jones & Prinz, 2005; Leerkes & Burney, 2007), relatively little is known about the role of *expected* parenting efficacy; to our knowledge, no studies have examined the role of expected parenting efficacy on perinatal mental health or relationship satisfaction. Based on the prior literature, we predict that those who believe they will be efficacious in parenting will report lower levels of anxiety and depression and better

relationship satisfaction during pregnancy. In addition to these individual level predictions, we also examined the role of expected parenting efficacy at the couple level. Specifically, we proposed that those couples who were more similar in their levels of expected parenting efficacy would report better perinatal mental health and relationship satisfaction. We reasoned that those couples who felt similarly confident about parenting were most likely providing support and encouragement to each other about this major transition, which would make them feel better about themselves and their relationship. Finally, given the dearth of research on expectant fathers, we did not make a specific prediction about sex differences between expectant mothers and fathers with respect to expected parenting efficacy as a predictor of perinatal outcomes.

Pregnancy responsibility

A second theoretically relevant factor for perinatal mental health and relationship satisfaction has been virtually unstudied to date – namely, feelings of responsibility about the pregnancy and the issues arising from it. Belsky and Kelly (1994) argued that it is important for couples to view the transition to becoming parents as happening to the couple communally rather than individually. They proposed that couples who view the experience collectively rather than separately will work together to discuss issues that arise and determine ways to reduce potential negative stress on their lives. In this way, pregnancy may actually bring them closer as a couple, which can increase their relationship satisfaction and lower their anxiety and depression. While the physical pregnancy is an event occurring exclusively to the mother, many of the issues that arise during the perinatal period can be addressed jointly or individually depending on how expectant parents view their responsibility for the pregnancy. For example, attending birthing classes, preparing the nursery, attending doctor's appointments, and gathering information about parenting are all tasks that can be addressed separately by the mother or by the couple jointly. As marital relationships become more egalitarian, having a baby is no longer exclusively viewed as an event that solely concerns the mother. However, surprisingly, the empirical literature on pregnancy has been silent on the role of pregnancy responsibility in expectant mothers and fathers. Based on Belsky and Kelly's (1994) argument, we hypothesized that expectant parents who feel the women has primary responsibility for the pregnancy will report more anxiety and depression and less relationship satisfaction than those who feel a communal sense of responsibility about the pregnancy. Moreover, at the couple level, we predict that couples who are concordant in their views about responsibility for the pregnancy will report less anxiety and depression and better relationship satisfaction than those who view the responsibility discordantly. Finally, with respect to sex differences, we argue that pregnancy responsibility will be a more important predictor of perinatal outcomes for expectant mothers as opposed to fathers. We argue that because women are the ones who are often primarily responsible for the issues arising during pregnancy, their belief about whether the pregnancy is communal versus solely their responsibility should have stronger ramifications for their mental health and relationship satisfaction.

Present study

Researchers have long argued that men and women experience marriage differently (e.g., Bernard, 1974), and the period surrounding pregnancy in particular seems to impact mothers and fathers differently. Some researchers, in fact, have argued that there are three different experiences: his, hers, and theirs (Cowan et al., 1985). Yet, a recurring oversight in the literature is the focus on only one partner, traditionally the expectant mother (e.g., Bienat & Wortman, 1991). By only focusing on one partner rather than the couple, many potential implications of the dyadic interaction between partners goes unobserved. Furthermore, research examining the period during pregnancy is more limited. Yet, it is clear that what occurs during pregnancy is important for understanding what happens after the birth of the baby. In the present study, we examine two theoretically relevant factors – expected parenting efficacy and pregnancy responsibility – and their association with perinatal depression, anxiety, and relationship satisfaction in couples expecting their first child. By using couples to examine how expectant mothers and fathers interact with each other, as well as how the actions of one partner may impact the other, a more complete picture of this important period is revealed.

Methods

Participants

The sample was composed of 104 heterosexual married or cohabitating couples ($N =$ 208 individuals) who were primiparous (i.e., expecting their first child). Couples on average had been married (or cohabiting) for three years ($M = 3.30$). Approximately 70% of the participants reported having a college education or an advanced degree and a household income of $60,000 or more. The mean participant age was 34 years, ranging from 18 to 52 years with expectant fathers ($M = 30$; $SD = 4.77$) being significantly older than expectant mothers ($M = 28$; $SD = 3.80$; $F = [1, 206] = 10.45$, $p < .05$). Expectant mothers also had significantly higher depression ($M = 11.52$; $SD = 7.50$) than expectant fathers ($M = 8.78$; $SD = 6.71$; $F = [1, 206] = 7.71$, $p < .01$), marginally higher levels of anxiety (expectant mothers: $M = 5.03$; $SD = 3.95$; expectant fathers: $M = 4.23$; $SD = 4.16$), but similar levels of relationship satisfaction (expectant mothers: $M = 43.27$; $SD = 4.96$; expectant fathers: $M = 43.61$; $SD = 4.30$).

Procedure

Expectant mothers and fathers (hereafter referred to simply as mothers and fathers) who were in their third trimester of pregnancy and fluent in English were eligible to participate. In our recruitment strategy for the study, we only required that couples be married or cohabitating in a marriage-equivalent relationship and expecting their first child. These requirements allowed for new parents of a variety of ages and relationship durations to participate in the study, as we were most interested in examining couples transitioning through this significant life stage – and, in reality, the age at which people have their first child is quite variable, as is the length of time in a relationship before having a child. Participants were recruited from local birthing classes and online message boards.

Table 1. Descriptive statistics of demographic and major study variables.

	Father			Mother		
	M	(*SD*)	Range	*M*	(*SD*)	Range
Age	29.99_a	(4.77)	19–52	28.06_b	(3.80)	18–41
Years married	3.29_a	(2.10)	0–12	3.38_a	(2.23)	0–12
Anxiety	4.23_a	(4.16)	0–22	5.03_a	(3.95)	0–18
Depression	8.78_b	(6.71)	0–40	11.52_a	(7.50)	1–38
Relationship satisfaction (*M*)	43.61_a	(4.30)	33–49	43.27_a	(5.00)	19–49
Pregnancy responsibility	0.97_a	(0.13)	0.50–1	0.61_b	(0.40)	0–1
Parenting efficacy	70.69_a	(5.84)	54–83	71.88_a	(5.80)	55–83

Note: Similar subscripts indicate no significant differences between mothers and fathers while different subscripts indicate a significant difference.

Couples who agreed to take part in the study completed interviews in their third trimester (between 24 and 32 weeks of pregnancy). Participants completed online questionnaires and then completed a second portion of the interview over the phone with trained interviewers. Participants completed both the online and phone questionnaires independent of their partner and an effort was made for both partners to complete their interviews within the same day. The combined online and phone interviews took each participant approximately one hour to complete, and couples were compensated $25 for their time.

Materials

Sociodemographics. The following demographic data were collected from participants and were considered as potential control variables: *age* (which ranged from 18 to 52); *time living with partner* (which ranged from one month to 12 years); *relationship status* (married or cohabiting), *household income*, and the *percentage of income* each spouse contributed. *Education level* was categorized as some high school, high school, some college, college education, or advanced degree. Information about *prior miscarriages* and *pregnancy symptoms* were also collected from the mothers in the study. See Table 1 for means and ranges of the sociodemographics for the current sample.

Parenting self-efficacy. Participants completed an adapted version of Self-Efficacy for Parenting Tasks (SEPTI-TS) (Coleman & Karraker, 2003), which was modified to 14 questions that reflected activities required to care for infants. Participants were asked items that included: "I will have difficulty determining what is and is not safe for my baby to do" and "My baby will feel very loved by me." Potential responses ranged from 1 to 6 (1 = disagree strongly, 2 = disagree somewhat, 3 = disagree a little, 4 = agree a little, 5 = agree somewhat, 6 = agree strongly). Appropriate items were reverse coded and a sum score of the items was created, with higher numbers indicating higher parenting efficacy (fathers: $\alpha = .65$; mothers: $\alpha = .70$). Although the alphas for this scale were

only moderate, they were similar to what Coleman and Karraker (2003) found for the domains of parenting efficacy with the original construction of the measure.

Pregnancy responsibility. In order to examine *responsibility for the pregnancy*, we created a measure of our own as no others existed. We decided to use two face-valid questions based on Belsky and Kelly's (1994) theory: (1) "When issues arise about the pregnancy, whose responsibility is it to try to deal with the issues?" and (2) "When thinking about the pregnancy, how do you consider it?" Although pregnancy responsibility is likely to be multidimensional, we decided in this initial study to focus more on overall responsibility for the pregnancy. Potential responses for both items ranged from 1 to 5 (1 = "completely my responsibility", 3 = "completely our responsibility", 5 = "completely my spouse's responsibility"). Because no fathers reported a 1 or 2 and no mothers reported a 4 or 5, the items were recoded to reflect mother's responsibility to communal responsibility: 1 = completely the mother's responsibility; 2 = partially the mother's responsibility; 3 = completely our responsibility. The mean of the two items was calculated to compose the pregnancy responsibility variable, with higher numbers reflecting more communal responsibility.

The idea of pregnancy responsibility is a new concept and as a result, we chose to address it in the current study with face-valid questions to get a sense of overall responsibility for the pregnancy, as proposed by Belsky and Kelly (1994). Because we only used two questions to tap into the concept of pregnancy responsibly, we have calculated the Spearman–Brown Prophecy formula (Nunnally, 1970) to determine how much reliability for the measure would increase if additional items were added. Assuming that the average correlation among the current items would be similar for an expanded measure with additional items, we found that increasing the scale by a factor of 3 (i.e., from two to six items) would increase the alpha of the scale to 0.71 for women – thus, suggesting that the reliability was restricted primarily because it consisted of only two items. For men, because over 95% reported communal responsibility, there was not enough variability in the measure to conduct a reliability analysis on the scale.

Anxiety. Participants' anxiety was assessed through self-report questions from the Symptom Checklist-90-Revised (SCL-90R; Derogatis, 1994), which has been shown to be a valid measure of anxiety symptomatology (see McDowell, 2006, for a review). Participants were asked to report how they felt in the last week in regards to 10 different items (e.g., "felt nervous"; "felt so restless you could not sit still"). Possible responses ranged from 0 to 3 (0 = none/rarely (<1 day); 1 = a little [1–2 days], 2 = moderate [3–4 days], 3 = most [5–7 days] for that week). A sum score was created from the responses, with higher scores indicating higher levels of anxiety (fathers: $\alpha = .83$; mothers: $\alpha = .77$).

Depression. To assess depression, the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977) was used as it has repeatedly been shown to be a valid and reliable measure of depressive symptomatology (see McDowell, 2006, for a review). Participants were asked to report how they had felt in the past week in regards to 20 different items (e.g., "felt sad"; "felt lonely"). Possible responses ranged from 0 to 3 (0 = none/rarely [<1 day], 1 = a little [1–2 days], 2 = moderate [3–4 days], or 3 = most [5–7 days]).

Table 2. Mothers' and fathers' correlations for study variables ($N = 104$ mothers and 104 fathers).

		1	2	3	4	5
1	Parenting efficacy	**.12**	.16	–.17	–.20*	.22*
2	Pregnancy responsibility	.07	**.12**	–.05	–.23*	.27**
3	Anxiety	–.42***	.08	**.06**	.61***	–.07
4	Depression	–.33***	.09	–.64***	**.05**	–.36***
5	Relationship satisfaction	.14	–.04	–.18	–.39	**.30****

Note: Correlations for mothers are above bolded numbers and below for fathers. Bold numbers indicate the correlation between mothers and fathers.
*$p < .05$; **$p \leq .01$; ***$p \leq .001$.

A sum score was created from the responses, with higher scores indicating higher levels of depression (fathers: $\alpha = .87$; mothers: $\alpha = .88$).

Relationship satisfaction. The Relationship Assessment Scale (Hendrick, 1988) was used to determine relationship satisfaction (e.g., "How well does your partner meet your needs?"; "How good is your relationship compared to most other couples?"), as it has been found to be a reliable and valid measure of relationship satisfaction (Vaughn & Baier, 1999). The measure consisted of seven questions with potential responses ranging from 1 = "never" to 7 = "very often". Appropriate items were reverse coded and a sum score of the seven items was created, with higher scores indicating more relationship satisfaction (fathers: $\alpha = .77$; mothers: $\alpha = .81$).

Results

Individual-level analyses

To test the current hypotheses, multiple linear regressions were conducted. In addition, for the individual models, to avoid any problems with interdependence of observations, analyses were conducted separately for mothers and fathers. See Table 1 for means, standard deviations, and ranges of major study variables, and Table 2 for correlations of major study variables. Prior to conducting the analyses, potential covariates were examined (e.g., age, time living with partner, relationship status, household income, education level, prior miscarriages, and pregnancy symptoms). For mothers, relationship status (i.e., married or cohabitating) was found to be a significant covariate for predicting depression, and both relationship status and age were found to be significant covariates for predicting relationship satisfaction. Therefore, in these models, age and relationship status were entered into the individual models at Step 1. As shown in Table 3, we found that mothers who expected to be more efficacious in parenting tasks reported significantly more relationship satisfaction ($p < .05$), less depression ($p < .05$), and marginally less anxiety ($p = .09$). Results for feelings of pregnancy responsibility indicated that as mothers felt more communal responsibility for the pregnancy, they also reported significantly more relationship satisfaction ($p < .05$) and marginally less depression ($p = .10$).

Table 3. Individual-level Results for Fathers and Mothers

	Fathers (n = 104)				Mothers (n = 104)			
	b	(se)	β	ΔR^2	b	(se)	β	ΔR^2
Anxiety				.19				.03
Parenting Efficacy	−0.30***	(0.06)	−.43		−0.11†	(0.07)	−.17	
Pregnancy Responsibility	3.68	(2.97)	.11		−0.27	(0.98)	−.03	
Depression				.12				.06
Parenting Efficacy	−0.38***	(0.11)	−.33		−0.23*	(0.11)	−.18	
Pregnancy Responsibility	5.88	(5.00)	.11		−2.79†	(1.67)	−.15	
Relationship Satisfaction	0.03	(0.09)		.03	0.09			.09
Parenting Efficacy	0.12	(0.07)	.17		0.17*	(0.07)	.19	
Pregnancy Responsibility	−1.14	(3.30)	−.03		2.59*	(1.07)	−.21	

Note: Regression analyses controlled for age and relationship status where appropriate.
†p < .10; *p < .05; **p < .01; *** p < .001.

For fathers, only one covariate was significant; relationship status was found to be significant for predicting relationship satisfaction and was entered into the model at Step 1. We found a different pattern of results for fathers than for mothers. Specifically, fathers who reported higher expected parenting efficacy reported significantly lower anxiety ($p < .001$) and depression ($p < .01$), as well as marginally higher relationship satisfaction ($p = .09$). No significant results were found for fathers with communal pregnancy responsibility.

Couple-level analyses

To test the couple model, the data were analyzed using analysis of covariance (ANCOVA) models with age and relationship status entered as covariates where appropriate. A check of the data revealed no violations of assumptions or problems with multicollinearity. To assess concordance of pregnancy responsibility at the couple level, couples where the mother felt the pregnancy was her responsibility and the father felt it was communal were coded as being discordant. While couples where both partners agreed on the pregnancy responsibility (as either communal or her responsibility) were coded as concordant. As shown in Table 4, results indicated that for mothers, being concordant with their partner in their view of pregnancy responsibility was related to more relationship satisfaction ($p < .05$) and less depression ($p < .05$). No significant results were obtained for fathers with concordance of pregnancy responsibility.

With regards to parenting efficacy, we created a couple-level variable reflecting the concordance between mothers' and fathers' expected parenting efficacy by taking a difference score of father's and mother's expected parenting efficacy. Couples where the mother expected to be more efficacious than the father by half a standard deviation or more were coded as 1, while couples with similar levels of expected parenting efficacy were coded as 2, and couples where the fathers expected to be more efficacious than the mother by at least half a standard deviation were coded as 3. Only one marginally significant result was found, such that fathers who expected to be less efficacious in

Table 4. Couple-level Results for Fathers and Mothers

	Pregnancy Responsibility					Parenting Efficacy						
	Discordance		Concordance			Women greater than men		Similar levels of efficacy		Men greater than women		
	x	(SD)	x	(SD)	F	x	(SD)	x	(SD)	x	(SD)	F
Fathers (M = 104)												
Anxiety	5.10	(4.16)	4.08	(4.16)	0.99	5.63	(5.69)	3.88	(3.18)	3.30	(3.08)	2.61†
Depression	9.10	(5.25)	8.70	(7.06)	0.06	9.91	(9.09)	8.41	(5.30)	8.78	(6.71)	0.68
Relationship Satisfaction	43.10	(4.97)	43.73	(4.14)	0.04	42.72	(4.96)	44.55	(3.82)	42.83	(4.05)	1.45
Mothers (M = 104)												
Anxiety	5.24	(4.45)	4.98	(3.84)	0.07	4.47	(4.13)	4.90	(4.01)	6.09	(3.50)	1.18
Depression	15.38	(10.47)	10.54	(6.25)	4.37 *	10.94	(5.81)	10.78	(8.06)	13.91	(8.14)	0.85
Relationship Satisfaction	40.29	(7.53)	44.02	(3.76)	8.89 **	43.03	(6.12)	44.29	(3.35)	41.43	(5.65)	1.39

Note: Analyses controlled for couple's education level.
†$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$.

parenting than their partners tended to report more anxiety than other fathers ($p = .08$). No significant results were obtained for mothers with parenting efficacy discordance.

Discussion

The current study examined expectant parents' views of parenting efficacy and pregnancy responsibility and whether these factors play a role in perinatal mental health and relationship satisfaction. One strength of our study is that these issues were examined at both the individual and couple levels. Three main findings emerged from the analyses. Firstly, at the individual level, parenting efficacy was an important predictor of fathers' perinatal mental health and mothers' relationship satisfaction. Secondly, pregnancy responsibility was only related to outcomes for mothers such that mothers who reported more communal responsibility for the pregnancy reported better mental health and relationship satisfaction than mothers who saw their pregnancy as primarily their sole responsibility. Thirdly, mothers' concordance with their partner on feelings of pregnancy responsibility was related to more relationship satisfaction and less depression. Each of these main findings will be discussed below with potential implications for theory and future research.

Parenting efficacy

One of the major findings of the study was that higher *expected* parenting efficacy was related to better perinatal mental health for both mothers and fathers, and to better relationship satisfaction for mothers only. Consistent with prior literature, these results suggest that as individuals' beliefs about their ability to parent increase, they may feel more prepared for the baby's arrival and, thus, more at ease about the transition to parenthood than those who perceive themselves to be less efficacious. While researchers have found levels of parenting efficacy to be related to postpartum mood (e.g., Teti & Gelfand, 1991), prior to this study little was known about how expected parenting efficacy was related to mental health or relationship satisfaction *during pregnancy*. As perinatal mental health is an important predictor of postpartum mental health (Robinson et al., 1989), this result improves our understanding of how beliefs about one's ability to parent can begin to impact anxiety and depression before the birth of the baby. Moreover, we found evidence that expected parenting efficacy is more strongly linked to expectant fathers' mental health and expectant mothers' relationship satisfaction. One possible explanation is that fathers' expectations about their ability to care for their baby is directly linked with their anxieties and concerns about becoming a parent – but has little implication for the status of their relationship. On the other hand, expected parenting efficacy in mothers may speak more to their beliefs about whether they will be parenting together with their partner or alone. In other words, if they feel uncertain about their ability to parent, this may be related to a perceived lack of partner support in parenting rather than their parenting beliefs about themselves alone. Future research is needed to determine whether this sex difference in the link between parenting efficacy and mental health versus relationship satisfaction continues in the postpartum period, as well as possible mechanisms in these different associations. Finally, at the couple level,

we found no evidence that discordance in levels of expected parenting efficacy had any association with perinatal mental health or relationship satisfaction for either mothers or fathers. Thus, it does not appear that whether one's partner feels similarly efficacious plays a role in perinatal mental health or relationship satisfaction. It is unclear, however, whether this will continue to hold postpartum; future research is needed to determine if discordance is more important after the birth of the baby.

Pregnancy responsibility

A second important addition to the literature with the current study is how expectant parents view responsibility for the pregnancy. Overall, mothers felt more personal responsibility for the pregnancy than communal responsibility. In fact, the overwhelming majority of fathers (96.6%) were likely to say the pregnancy was communal, whereas mothers were more split in viewing the pregnancy as personal (61.1%) versus communal (38.9%). Moreover, perceptions of pregnancy responsibility were only related to outcomes for mothers. Specifically, the more mothers viewed the pregnancy as their personal responsibility, the more anxiety they reported and the less satisfied they were with their relationship during the pregnancy. For mothers, it appears that perceiving the pregnancy as a personal responsibility may be indicative of their partner's lack of engagement in the pregnancy and, thus, they may feel left on their own. No significant findings emerged for fathers between pregnancy responsibility and any of the outcomes – which is most likely due to the highly skewed nature of this variable for fathers, with only four fathers reporting that the pregnancy was the primarily the mother's responsibility. The question is why almost all of the fathers view the pregnancy as communal, but not the mothers. Although fathers may not be physically experiencing the pregnancy, they may be taking responsibility for their impending new role as a parent in other ways, such as preparing financially to have a baby. As a result, it may not be indicative of a father's relationship with their partner because, in their minds, they and their spouse are each taking responsibility for different aspects of the preparation for parenthood. This explanation suggests that possibly *after* the birth, perceptions of responsibility for the baby may be more variable and relevant to relationship satisfaction and mental health in fathers. Future studies should examine the idea of responsibility both prior to and after the birth of the baby.

Because of this striking difference in perceptions of pregnancy responsibility for mothers versus fathers, it was not surprising that results were found for discordance on pregnancy responsibility. At the couple level, we found that mother's concordance with their partner on feelings of pregnancy responsibility was related to more relationship satisfaction and less depression. However, no significant results were obtained for fathers. These findings are an important addition to the literature because of the lack of focus given to how mothers and fathers *jointly* experience the transition to parenthood. By examining the experience of the couple together, we see that the perspective of both the mother and father can combine to impact how the couple adjusts to the transition to parenthood. Belsky and Kelly (1994) argued that viewing the pregnancy and parenting experience as a communal event should be important because it provides an environment where problems and concerns can be dealt with as a couple – essentially doubling the

resources for dealing with potential issues that arise. We expected that since couples in the current study were experiencing parenthood for the first time, the pregnancy period may be particularly stressful to them, and having a spouse to rely on could help to provide the support needed to successfully make the transition to parenthood.

Limitations

There are several caveats to consider with respect to the current findings. One limitation of the current study is the homogenous nature of the sample. Because the study consisted primarily of White, middle-class couples experiencing their first pregnancy, it is unclear how much these results would generalize to other couples. It may be that first-time parents have higher levels of anxiety, depression, or relationship satisfaction than parents who already have children, and middle-class couples have more resources to deal with the transition than those with lower incomes or less education. Moreover, the results discussed here are qualified by the cross-sectional nature of the study design. All of the variables were measured at the same time, and a temporal relationship between the variables cannot be determined. It may be that preparation during pregnancy has a larger impact earlier in the pregnancy when expectant parents are less prepared to cope with issues that arise. Alternately, expectations about parenting efficacy may be more important to postpartum mental health and relationship satisfaction because parents are confronted with actually carrying out tasks they have been anticipating during pregnancy. Additional research is needed to examine these results both longitudinally and in comparison with multiparous parents.

While our study was one of the first to examine the construct of pregnancy responsibility, future studies need to examine the construct in greater depth. By examining how couples cope with parenthood and how they view responsibility about the child and childcare may be important to understanding declines in relationship satisfaction after the birth of the baby (Cowan et al., 1985; Waldron & Routh, 1981). It is possible that having one parent who views parenting responsibility as falling to the mother and the other parent who views it as communal could lead to conflict in the marital relationship. In addition, better measures of pregnancy responsibility are needed to more fully understand all three perspectives. In the current study, pregnancy responsibility was assessed with only two items on a single continuum from mother's responsibility to communal responsibility; however, it may be more appropriate to separately assess how much individual responsibility *and* how much communal responsibility mothers and fathers perceive with regard to the pregnancy. In addition, pregnancy responsibility may be considered on multiple dimensions (e.g., health issues, preparing for the baby, finances). As a result, our measure, although face valid and based on Belsky and Kelly (1994), may have failed to capture a more nuanced view of pregnancy responsibility. Therefore, future research should assess pregnancy responsibility as a multiple-item measure rather than through a single question.

In addition, our couple-level variables for parenting efficacy were created by evaluating concordance or discordance between mothers and fathers. Perhaps we obtained few results at the couple level because of the limitations of our measure. In the future, couple parenting efficacy should be assessed – in other words, a measure assessing how

efficacious they feel as a couple with the impending parenting tasks should be employed. Using a measure specifically designed for couples may be better at capturing how efficacious couples feel about handling parents' tasks together. Moreover, this type of research would help us to determine whether couple parenting efficacy versus individual parenting efficacy have separate links with anxiety, depression, and relationship satisfaction. In the end, though, the results of the current study highlight the need to examine not only the individual perspectives of both partners but also the combined perspective of the couple.

Conclusion

This study was the first to examine the relationship between parenting efficacy and pregnancy responsibility with mental health and relationship satisfaction during pregnancy. Findings from the current study suggest that expected parenting efficacy and perceived pregnancy responsibility are important in explaining perinatal mental health and relationship satisfaction at both individual and couple levels. Mothers' parenting efficacy and perceived pregnancy responsibility were most important for relationship satisfaction, whereas fathers' parenting efficacy was most important for their mental health. At the level of the couple, being concordant within the couple about how pregnancy responsibility was viewed was related to better relationship satisfaction and less depression for mothers only. These results provide the impetus to continue examining how first-time individuals and couples experience pregnancy, which will help us to understand what can be done to ease the stress of the transition to parenthood.

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Conflict of interest statement

The author(s) declared no conflicts of interest with respect to the authorship and/or publication of this article.

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