

WOMEN'S EATING, WEIGHT, AND SHAPE CONCERNS AND THE COUPLE
RELATIONSHIP DURING THE TRANSITION TO PARENTHOOD

A Dissertation

by

KRISTEN RAHBAR MORRISON

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

August 2009

Major Subject: Psychology

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ABSTRACT

Women's Eating, Weight, and Shape Concerns and the Couple Relationship during the
Transition to Parenthood. (August 2009)

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The transition to parenthood brings a host of changes to new parents; two key areas of change are decreases in relationship functioning and a worsening of women's eating, weight, and shape (EWS) concerns. Past research has suggested that a connection may exist between women's EWS concerns and relationship functioning during this transition. This study explored the impact of women's EWS concerns on both partners' relationship functioning in a sample of 74 couples (148 individuals) having their first baby. The study was part of a larger project exploring interventions during the transition to parenthood; thus, all couples had at least one risk factor for future relationship problems. Participants completed questionnaires approximately seven months into pregnancy and at one and three months postpartum.

Results revealed that relationship functioning and women's EWS concerns worsened from pregnancy to three months postpartum, which is consistent with previous literature. Changes in women's EWS concerns from before and during pregnancy to three months postpartum were not generally related to changes in either partner's relationship functioning during the same period. However, the EWS concerns that

predicted poorer relationship outcomes, including women's drive for thinness and bulimia symptoms, suggest the possible role of third factors such as negative affect or neuroticism. Also, increases in women's Body Mass Index from pre-pregnancy to three months postpartum predicted increases in relationship functioning, indicating the possibility of a larger construct such as general acceptance of the post-birth process, both in terms of weight changes and relationship changes. Thus, preventive efforts could include an emphasis on helping partners to accept the changes they will experience during this transition. Finally, the significant relations between women's EWS concerns and relationship functioning were often mediated by men's reported frequency of sexual activity, suggesting the importance of sex as a mediator. Although findings were limited, the results should be interpreted in light of previous research and the current study's limitations. Overall, this study indicates the need for future research exploring the relations between women's EWS concerns and the couple relationship during the transition to parenthood.

DEDICATION

To my parents and my Andrew –

This degree would not have been possible without your love and encouragement

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INTRODUCTION

The transition to parenthood brings a host of changes to new parents; these physical, emotional, and other changes make the transition to parenthood a challenging one for new mothers and fathers. One key area of change is the relationship between partners; relationship satisfaction tends to decline and relationship conflict tends to increase (Doss, Rhoades, Stanley, & Markman, 2009) throughout the period following the birth of the first child. Relationship functioning matters not only in its own right, but also because it relates to important outcomes for the entire family. For example, parents' marital satisfaction during children's formative years has been linked to children's later academic and social adjustment (Cowan, Cowan, Schulz, & Heming, 1994), and a review of 39 studies revealed that parents' preoccupation with their relationship conflict negatively impacted their parenting (Krishnakumar & Buehler, 2000). Another change during this transition is the transformation of women's physical bodies, which is often accompanied by poorer body image and a worsening of disordered eating attitudes and behaviors during pregnancy and the postpartum period (Abraham, King, & Llewellyn-Jones, 1994; Stein & Fairburn, 1996). Women's eating, weight, and shape concerns are also important not only for their own sake, but also because of their relation to other outcomes for both mothers and children. For example, women's eating, weight, and shape concerns during pregnancy have predicted their postnatal depression levels (Abraham, Taylor, & Conti, 2001), and poorer body image

during pregnancy has predicted poorer quality of maternal-fetal attachment (H. Huang, Wang, & Chen, 2004). The importance of these changes has led researchers to suggest that the transition to parenthood is an opportune time for interventions to strengthen the couple relationship (Feinberg, 2002) and to improve women's eating, weight, and shape concerns (Crow, Keel, Thuras, & Mitchell, 2004; Patel, Lee, Wheatcroft, Barnes, & Stein, 2005). Given the suggestion for intervention with both the couple relationship and women's eating, weight, and shape concerns, an intervention addressing both domains might be especially valuable. But before such an intervention is possible, it will be necessary to understand more about the connection between women's eating, weight, and shape concerns and the couple relationship during the transition to parenthood.

Relationship Functioning during the Transition to Parenthood

Many couples experience a deterioration of relationship satisfaction after the birth of their first child (Pacey, 2004), and only a small proportion of couples seem to avoid this decline in satisfaction. Indeed, in a literature review of relationship satisfaction during the transition to parenthood, 13 of 15 studies demonstrated a decline in satisfaction (Cowan & Cowan, 1995). Changes in relationship satisfaction during this transition may follow different patterns, but many of these patterns often include some level of deterioration; for instance, one study revealed four distinct patterns of change in which relationship satisfaction followed an "accelerating decline", "linear decline", "no change", or "modest positive increase" (Belsky & Rovine, 1990). Other couples have encountered relationship patterns that were labeled "stays good", "bad to worse", and "good gets worse"; notably, in this study none of the subgroups experienced relationship

improvement, leading the researchers to state that “marital improvement is rather exceptional” during the transition to parenthood (Belsky & Hsieh, 1998, p. 524). In addition to changes in overall satisfaction, couples seem to experience changes in other aspects of their relationships as well, with negative areas increasing and positive areas decreasing. For example, 92% of new parents reported more relationship conflict than they experienced before becoming parents (Cowan & Cowan, 2000). Other research has also shown increases in relationship conflict, with couples reporting increased problem intensity and demonstrating increased negative communication during a videotaped problem discussion that was later coded (Doss et al., 2009). Also, new parents have described reductions in spousal support, with women reporting that they asked for and received less support from their husbands, and men reporting that they provided less support to their wives than they did before the baby’s birth (Rholes, Simpson, Campbell, & Grich, 2001).

In considering declines in relationship functioning over the transition to parenthood, it is important to distinguish between changes due to the birth of a baby and changes due to the general decline in satisfaction over time. In order to distinguish between these two types of change, some studies have compared the relationships of couples who have children to those who do not have children. This research demonstrates that satisfaction declines in couples with and without children, but that there are also some differences in the relationship outcomes of parents and non-parents. For example, marital consensus, satisfaction, and affective expression have been shown to decline equally among parents and non-parents over time, but parents tend to

experience a sharper decrease in joint activities during the transition to parenthood than non-parents (Kurdek, 1993). Similarly, women in couples with children experienced steeper declines in satisfaction than women in childless couples, and more women with children reported a decrease in relationship satisfaction than women without children (Shapiro, Gottman, & Carrere, 2000). Further confirming this pattern, couples with children have been shown to experience steeper declines in relationship satisfaction following the birth of their first child, compared to a more consistent decline of relationship functioning in childless couples, even though the overall decline in both types of couples was similar at the end of an eight-year period (Doss et al., 2009). In sum, it appears that the transition to parenthood negatively impacts relationship satisfaction, likely by causing a sharper and more sudden deterioration of functioning than couples might experience without undergoing this transition.

One domain of relationship functioning that seems to be especially impacted during the transition to parenthood is the sexual relationship. Relationship and sexual satisfaction may be linked, as suggested by research demonstrating that relationship satisfaction predicts sexual outcomes both during pregnancy and up to twelve months postpartum (De Judicibus & McCabe, 2002). Even couples who remain satisfied with their relationship have been shown to experience sexual dissatisfaction, which highlights the difficulty in maintaining a satisfying sexual relationship during this period (Ahlborg, Persson, & Hallberg, 2005b). Sexual changes during the transition to parenthood tend to occur in most couples, and apply to domains such as frequency of intercourse, women's sexual desire, and both partners' sexual satisfaction. The frequency of sexual

intercourse during pregnancy tends to fluctuate in different trimesters but to decline overall; a review of sexual behavior during pregnancy concluded that sexual frequency decreases in the first trimester, returns almost to pre-pregnancy levels in the second trimester, and then decreases (often to no sex at all) during the third trimester (Hobbs, Bramwell, & May, 1999). Couples tend to abstain from intercourse for a period of time after the birth, with couples resuming intercourse seven weeks postpartum on average (Byrd, Hyde, DeLamater, & Plant, 1998). This period of abstinence is likely due to the time needed for women to recover physically from the delivery. Additionally, although sexual outcomes do improve in the months following the birth, many couples still report sexual problems at six months postpartum (De Judicibus & McCabe, 2002; Pacey, 2004).

Non-sexual physical affection is also an important domain to consider during this transition, and “sensual” (defined as hugging, kissing, and caressing) satisfaction has been shown to correlate with couples’ sexual and overall relationship satisfaction (Ahlborg, Dahlof, & Hallberg, 2005a). Physical affection seems to be important to couples during this transition; for instance, women in both the UK and Taiwan both reported that “cuddling and loving touch” was the most important factor in their satisfaction with the postpartum physical relationship (Y. C. Huang & Mathers, 2006). But couples may experience changes in this area as well; couples in Sweden reported a frequency of “sensuality” that was significantly lower than desired at six months postpartum, and these couples were only “partly content” with their sensual relationship

(Ahlborg et al., 2005a). Thus, although a research emphasis on the sexual relationship is appropriate, the non-sexual physical relationship also warrants attention.

One key factor in changes to couples' physical relationships is women's sexual desire, which seems to be impacted pervasively throughout the pregnancy and postpartum period (De Judicibus & McCabe, 2002; Regan, Lyle, Otto, & Joshi, 2003). It appears that both physical and psychological factors contribute to the changes in women's sexual desire, with variables such as fatigue, self-image, and physical pain all playing a role (Y. C. Huang & Mathers, 2006; Pacey, 2004). Notably, similar changes in sexual desire do not seem to occur for men, thus creating the potential for discrepancy and conflict between the partners. New fathers tend to experience much more sexual desire than their partners postpartum (Ahlborg et al., 2005a), and women in the postpartum period have reported that sex is more important to their partners than to themselves (Y. C. Huang & Mathers, 2006). Men have also been shown to have significantly greater sexual dissatisfaction than women postpartum (Ahlborg et al., 2005a). Further, men seem to anticipate that the sexual relationship will improve more than it does; in one study, men were asked four times between late pregnancy and one year postpartum whether their sexual activity at that point was similar to their expectations, and between a third and half of the men reported that sexual frequency and satisfaction were lower than they expected at all four assessment points (Condon, Boyce, & Corkindale, 2004). Even at one year postpartum, 52% of these men reported having intercourse less frequently than they expected by that point (Condon et al., 2004). Given the impact of the transition to parenthood on the sexual relationship, a more detailed

examination of the reasons behind declines in sexual dissatisfaction is warranted, and an exploration of the sexual changes experienced by women may further an understanding of changes to the broader couple relationship. Based on a limited body of previous research (described below), a woman's eating, weight, and shape concerns may be a factor in the development of sexual difficulties after birth.

Women's Eating, Weight, and Shape Concerns during the Transition to Parenthood

Sexual changes are not the only physical alterations women experience during this transition; indeed, one of the most salient changes for women is the transformation of their body size and shape during pregnancy and the postpartum period. These bodily changes are often accompanied by shifts in women's body image and eating attitudes, which will be referred to as eating, weight, and shape (EWS) concerns in the present study. Although a separate body of literature focusing on clinical eating disorders and pregnancy reveals that eating disorders can be problematic during this period (see Franko & Walton, 1993 for a review), the focus of this study will be on subclinical eating disorder pathology because these subclinical concerns are more prevalent.

EWS concerns during pregnancy. Many women experience the bodily changes during pregnancy as striking, perhaps in part because women's bodies become susceptible to heightened public inspection and analysis during this period (Fox & Yamaguchi, 1997; Upton & Han, 2003). In addition, women's physical boundaries change involuntarily during pregnancy; for example, many people – and sometimes even strangers – will touch a pregnant woman's abdomen, although such an act would be considered completely inappropriate with a non-pregnant woman (Johnson, Burrows, &

Williamson, 2004). However, the literature on women's EWS concerns during pregnancy is mixed, with some studies suggesting a worsening of EWS concerns from before pregnancy (Strang & Sullivan, 1985), others indicating improvement (Rocco et al., 2005), and one study reporting no change (Fawcett, Bliss-Holtz, Haas, Leventhal, & Rubin, 1986).

In research suggesting an exacerbation of EWS concerns during pregnancy, Canadian women assessed two weeks after giving birth indicated that they felt worse about their bodies during the last three months of pregnancy than they did before pregnancy (Strang & Sullivan, 1985). Some women have even developed clinical eating disorders during pregnancy or early in the postpartum period (Tiller & Treasure, 1998). Interestingly, higher deviations from medically ideal weight during pregnancy predicted dysphoria for European American but not African American women in the U.S., suggesting that EWS concerns during pregnancy may be especially problematic for European American women (Cameron et al., 1996).

In contrast to the studies suggesting a worsening of EWS concerns, a large study in England revealed that almost 90% of women experienced little or no change in their EWS concerns, with about 10% showing improvement and only a negligible number of women experiencing a worsening of EWS concerns (Turton, Hughes, Bolton, & Sedgwick, 1999). Additionally, women in Italy who were assessed throughout their pregnancies tended to show an improvement in disordered eating and body image during pregnancy (Rocco et al., 2005). Finally, in a group of Swedish women with and without a history of clinical eating disorders, both groups reported similar positive feelings

toward their pregnant body shape, indicating that pregnancy may even improve body image in women with severe EWS concerns pre-pregnancy (Larsson & Andersson-Ellstrom, 2003).

Much of the literature on EWS concerns during pregnancy includes mixed findings within the same sample of women, with some aspects of EWS concerns improving and others worsening. For example, 20% of Australian women assessed shortly after giving birth reported that their EWS concerns were currently worse than they had ever been, with almost half of the women reporting weight control problems and binge eating during their pregnancy; however, these women's attempts at weight control during pregnancy were lower than they had been at pre-pregnancy (Abraham et al., 1994). And among English pregnant women who experienced improvements in their EWS concerns, women still chose an ideal female figure that was similar in size to the ideal figure chosen by non-pregnant women (Davies & Wardle, 1994), suggesting that even though these pregnant women experienced temporary relief from the pressure of the thin ideal, they did not differ from non-pregnant women in their adherence to this ideal. Similarly, even though 60% of women in England reported feeling positively about the changes in their bodies during pregnancy, 70% had a "definite fear" of not being able to lose the weight they gained during pregnancy (Fairburn & Welch, 1990, p. 136). Therefore, one potential explanation for the mixed findings is that pregnant women experience a temporary relief from attempts to lose weight, but do not experience relief from the thin ideal or from internal pressure to work toward that ideal after they give birth.

Another possible explanation for these contradictory findings is that women's pre-pregnancy weight may impact their reaction to pregnancy body changes. For instance, English women who were overweight before pregnancy were more likely to experience improvement in their body image during pregnancy, whereas women who were normal weight before pregnancy were more likely to experience a worsening of body image (Fox & Yamaguchi, 1997). Notably, even with these body image improvements, overweight women were still more likely to have body image concerns than normal weight women (Fox & Yamaguchi, 1997). Still another potential explanation for mixed findings is timing; a group of women in Canada who were assessed throughout their pregnancies demonstrated no significant body image changes from the third to the sixth month of pregnancy but a dramatic decline in body image by the ninth month, indicating that the timing of measurements may have an important impact on EWS results (Drake, Verhulst, Fawcett, & Barger, 1988). Finally, the heterogeneity of the samples in these studies makes the results hard to interpret. Some of the studies only included women in their first pregnancy, whereas other samples combined women in their first pregnancy and in subsequent pregnancies. It seems plausible that women experiencing the bodily changes associated with pregnancy for the first time may have different reactions from women who have already experienced these changes. Also, the research on women's EWS concerns during pregnancy has been conducted in many different countries, and although most are Westernized nations, there is the possibility that cultural differences play a role in the varying results. As a whole,

more research on women's EWS concerns during pregnancy is needed in order to clarify the nature of women's EWS experiences during this period.

EWS concerns postpartum. Although the literature on women's EWS concerns postpartum also contains inconsistencies (Jordan, Capdevila, & Johnson, 2005), overall the research suggests that women's EWS concerns worsen after giving birth. A literature review of postpartum weight retention revealed that on average, women tend to retain only between 1 and 7 pounds of the weight they gain during pregnancy, but postpartum weight retention varies greatly (Gore, Brown, & West, 2003). Along with these body changes, women's satisfaction with their weight and shape has been shown to decrease postpartum (Baker, Carter, Cohen, & Brownell, 1999), and women who have recently given birth have been shown to perceive themselves as larger than they actually are, regardless of their actual size (Morin, Brogan, & Flavin, 2002). Concern about residual weight from pregnancy has been particularly distressing to many women (Baker et al., 1999), which is consistent with the assertion that "getting the body back" takes on exaggerated importance to women in the postpartum period (Upton & Han, 2003). Further confirming the distress many women feel about their body changes postpartum, a study assessing three groups of women – with an eating disorder, at risk for an eating disorder, and without an eating disorder – revealed that all three groups were concerned about the weight they retained from pregnancy (Patel et al., 2005). Women in the postpartum period have also been shown to experience an increase in dieting (Baker et al., 1999) and eating disorder symptoms (Stein & Fairburn, 1996) compared to pregnancy levels; indeed, in one study the number of women reporting bulimic

symptoms more than doubled from pregnancy to postpartum (Lai, Tang, Tse, 2006).

Women with a history of EWS problems appear to be more susceptible to such concerns postpartum, with research demonstrating that pre-pregnancy dieting was associated with women's intention to diet postpartum (Jenkin & Tiggemann, 1997). Thus, even though previous research about EWS concerns during pregnancy is inconclusive, the postpartum literature more consistently suggests that women experience a worsening of EWS concerns after giving birth.

Relation between EWS Concerns and Relationship Functioning

Although virtually no research has specifically explored the link between women's EWS concerns and the couple relationship during the transition to parenthood, existing research suggests that these two constructs may be connected in meaningful ways. For example, Jordan and colleagues emphasized the importance of conceptualizing postpartum body image within the larger context of women's transition to parenthood, and suggested that a woman's relationship with her partner is a part of that context (2005). Another research team directly suggested that the transformation to women's bodies during pregnancy and postpartum can potentially impact their romantic relationships (Patel et al., 2005). One research group actually conducted multiple studies investigating the relation between women's body image and spousal relationships, but focused primarily on whether men's body image underwent similar changes to their partners' body image (Drake et al., 1988; Fawcett, 1977; Fawcett, 1978; Fawcett et al., 1986). Finally, in the only research to examine the relation between women's EWS and the couple relationship directly, women's drive for thinness during pregnancy was

related to poor spousal support (Lai, Tang, & Tse, 2005), and the spouse's instrumental support (but not emotional support) during pregnancy predicted women's disordered eating six months postpartum (Lai et al., 2006).

As with the connection between women's EWS concerns and relationship outcomes, there are suggestions in the literature that women's EWS concerns relate to couples' sexual outcomes. In a women's discussion group about sexual changes postpartum, "body image" was one of four themes to emerge, but in this instance "body image" was a much larger construct, with concerns about weight and shape being only a small aspect of the body image described (Olsson, Lundquist, & Faxelid, 2005). Negative body image related to weight and shape has been proposed as a contributing factor in sexual problems postpartum, but often by researchers who did not explore this idea empirically (Cowan & Cowan, 2000; Pacey, 2004). Similarly, one team of researchers suggested body image as a potential explanation for sexual changes during pregnancy because women may feel less attractive to their husbands; but even though body image was assessed, the authors did not include analyses relating body image to sexual outcomes (Gokyildiz & Beji, 2005). Finally, as part of an exploration of sexual changes for couples in the postpartum period, women were asked about their feelings toward their bodily appearance, and results revealed that most of the women were dissatisfied with their bodies at four months postpartum. Further, the authors added that the question about body changes elicited more anecdotal comments from participants than any other question in the study (Fischman, Rankin, Soeken, & Lenz, 1986). In this study, women's dissatisfaction with their appearance one year postpartum was not

related to decreased frequency of sexual intercourse (Fischman et al., 1986); however, given that almost twice as many women were dissatisfied with their appearance at four months postpartum than at one year postpartum, it is surprising that the researchers did not examine this association at four months postpartum. The lack of this important analysis, as well as the study's poorer response rates at one year postpartum (Fischman et al., 1986) point to the importance of future research exploring the connection between women's body satisfaction and the couple's sexual relationship.

In couples who are not currently experiencing the transition to parenthood, the relations between women's EWS concerns and relationship functioning appear to be similar to the relations suggested in the transition to parenthood literature. For example, among married couples, women's unhealthy dieting behaviors have been shown to relate to women's marital dissatisfaction (Markey, Markey, & Birch, 2001). Similarly, in a group of community women in marital or serious dating relationships, women's body satisfaction was related to their relationship satisfaction over and above their weight, age, and self-esteem (Friedman, Dixon, Brownell, Whisman, & Wilfley, 1999). Women's body satisfaction has also been shown to relate positively to mutual, constructive marital communication and to relate negatively to aversive marital communication (Pole, Crowther, & Schell, 2004).

Furthermore, previous research suggests that the relation between women's EWS concerns and relationship outcomes may be influenced by the impact of women's body image on their comfort with sex. For example, among college women, body image concerns related to physical intimacy were shown to predict women's avoidance of

sexual activity above and beyond their weight, body image, sexual anxiety, and overall psychological functioning (Wiederman, 2000). In addition, one in five college women responded to an open-ended question about their body image and relationships by saying that their negative body image caused them to feel uncertain about engaging in sexual activity with their partners (Ambwani & Strauss, 2007). And among women in dating relationships, body image during physical intimacy was the only EWS construct that significantly or marginally predicted all subsequent relationship outcomes for both partners (Morrison, Doss, & Perez, 2009). Thus, it seems possible that similar relations exist between women's EWS concerns and couples' general and sexual relationships during the transition to parenthood.

Another key component of the general literature on EWS concerns and relationships is women's perception of their partner's satisfaction with their bodies. Women's reports of their partners' dissatisfaction with their bodies have been shown to predict low body esteem when controlling for Body Mass Index (McKinley, 1999) and to predict body dissatisfaction when controlling for body weight (Pole et al., 2004). In addition, even healthy women tend to have a distorted perception of men's preferences: women in different western cultures and of different generations consistently believe that men desire women to be thinner than men actually prefer (Bergstrom, Neighbors, & Lewis, 2004). Women also consistently misjudge their partners' approval of their bodies (Markey, Markey, & Birch, 2004; Miller, 2001) and think that their partners wish they were thinner than their partners would actually like them to be (Markey et al., 2004; Tantleff-Dunn & Thompson, 1995). Notably, research has demonstrated that Caucasian

women tend to perceive their partners to be less satisfied with their bodies than African American women, even though Caucasian women's partners reported the most satisfaction with their bodies (Miller, 2001). Because women in pregnancy are not immune to perceptual errors about their bodies (Fawcett, 1977; Morin et al., 2002), they may also misperceive their partners' satisfaction with their bodies. One way to address this distortion is to assess men's actual satisfaction with their partners' bodies; indeed, this construct has significantly predicted subsequent drive for thinness and relationship satisfaction for women in previous research (Morrison et al., 2009), suggesting the potential importance of men's satisfaction with their partner's bodies. Thus, it will be important to explore men's actual satisfaction with their partners' bodies in the current study.

Purpose of the Present Study

Previous research has demonstrated that the transition to parenthood is often accompanied by deterioration in the couple relationship in general (Cowan & Cowan, 1995), in sexual activity (Hobbs et al., 1999), and in women's body image (Patel et al., 2005) and disordered eating (Stein & Fairburn, 1996). Further, past research has suggested that there may be a connection between women's eating, weight, and shape concerns and couples' relationship satisfaction (Patel et al., 2005) and sexual outcomes (Cowan & Cowan, 2000) during this transition. However, only one team of researchers has directly explored the connections between these constructs during the transition to parenthood (Lai et al., 2005; Lai et al., 2006). Although Lai and colleagues' work is an important first step in understanding these connections, the limitations in this research

prevent it from answering some critical questions. First, the only relationship construct assessed was spousal support, so questions about the link between EWS concerns and general relationship satisfaction, as well as the couples' sexual relationship, cannot be answered. In addition, this study explored whether spousal support predicted concurrent and subsequent EWS concerns, but did not explore whether women's EWS concerns could predict subsequent reports of spousal support.

Perhaps the most crucial limitation to Lai and colleagues' (2005, 2006) work is its exclusive focus on women. When exploring any relationship-level outcome, assessment of both partners is crucial because differences often emerge between men's and women's experiences of the relationship (e.g., Jacobson & Moore, 1981), and the transition to parenthood is no exception (Ahlborg et al., 2005a; Shapiro et al., 2000). In addition, the literature demonstrating women's tendency to misperceive their partners' satisfaction with their bodies (Markey et al., 2004; Miller, 2001; Tantleff-Dunn & Thompson, 1995) further argues for the necessity of assessing both partners. Finally, although the relations between women's own EWS concerns and their relationship outcomes is a critical question, a study with both partners allows for questions about the potential influence of women's EWS concerns on men's relationship outcomes, which is a previously unexplored question for this population.

Thus, the present study explored more thoroughly the connection between women's EWS concerns and relationship functioning, with a focus on the impact of women's EWS concerns on relationship and sexual outcomes for both partners. Because these relations have not been examined before, the present study was a preliminary

investigation into the connections between these constructs; once the more general questions have been addressed, future research can undergo a more fine-grained investigation of these relations. The first basic question was how the changes in each of these constructs were related over time. In addition, it was important to explore whether EWS concerns were related to couple relationship outcomes, since these relations have not yet been investigated during the transition to parenthood. Finally, the role of potential two potential mediators in these relations – the sexual relationship and men’s satisfaction with their partners’ bodies – was examined.

Hypotheses

Overall, there is a dearth of research directly exploring the connections between the couple relationship and women’s eating, weight, and shape concerns throughout the transition to parenthood. The current study sought to answer some of the preliminary questions about the relations between these constructs, with a focus on exploring the ways in which women’s EWS concerns predict relationship outcomes.

Hypothesis 1. To replicate previous studies, changes in the couple relationship and in women’s EWS concerns over the transition were explored separately, with the expectation that both partners’ relationship outcomes and women’s EWS concerns would worsen from pregnancy to three months postpartum. Additionally, changes from *before* pregnancy to three months postpartum were explored for the variables in which pre-pregnancy values were gathered. The relationship constructs examined were each partner’s relationship satisfaction, and frequency and acceptability of affection, closeness, demanding, and violation behaviors. The EWS constructs examined were

women's Body Mass Index, drive for thinness, bulimic symptoms, and both partners' satisfaction with the woman's body.

Hypothesis 2. Expanding on previous research demonstrating that relationship support can predict subsequent EWS concerns in women (Lai et al., 2006), the relation between women's EWS concerns and relationship functioning was also explored. I hypothesized that changes in women's eating, weight, and shape concerns would be related to changes in both partners' relationship functioning over the transition to parenthood. Specifically, I predicted that increases in women's Body Mass Index, drive for thinness, bulimic symptoms, and body dissatisfaction from *pregnancy* to three months postpartum would be related to deterioration in both partners' relationship satisfaction, and frequency and acceptability of affection, closeness, demanding, and violation behaviors. Additionally, I hypothesized that decreases in men's satisfaction with their partner's bodies would be related to deterioration in relationship functioning for both partners.

Hypothesis 3. This hypothesis explored the relation between the changes in women's Body Mass Index and both partners' satisfaction with the woman's body from *before* pregnancy to three months postpartum with changes in relationship functioning from pregnancy to three months postpartum. The expectation was that increases in women's weight or decreases in either partner's satisfaction with the woman's body compared to the pre-pregnancy levels would predict decreases in relationship satisfaction, and the frequency and acceptance of affection, closeness, demanding, and violation behaviors from pregnancy to three months postpartum. This hypothesis was

examined in addition to Hypothesis 2 because it was believed that changes to women's bodies from before their pregnancy may also be related to changes in both partners' relationship functioning.

Hypothesis 4. Finally, two potential mediators of the relations between EWS concerns and relationship outcomes were explored. First, I expected that the relation between changes in women's EWS concerns from pregnancy to three months postpartum and changes in both partners' relationship functioning over the same time period would be at least partially mediated by sexual frequency and acceptance at three months postpartum. It should be noted that sexual outcomes are not expected to be meaningful for the majority of couples during pregnancy or at one month postpartum, which is why sexual outcomes at three months were explored. Although previous researchers have suggested a link between women's EWS concerns and sexual changes postpartum (Cowan & Cowan, 2000; Gokyildiz & Beji, 2005), between sexual and relationship changes for couples (De Judicibus & McCabe, 2002), and between women's EWS concerns and the couple relationship (Lai et al., 2006), no study has yet explored the role of sex as a potential mediator in these relations.

Second, I investigated whether men's satisfaction with their partners' bodies mediated the relation between women's EWS concerns and the couple relationship. In other research, men's satisfaction with their partner's bodies predicted both partners' relationship satisfaction (Morrison et al., 2009), indicating the potential importance of men's satisfaction with their partners' bodies for both men and women's relationship happiness.

METHOD

Participants

The current study was conducted as part of a larger ongoing project exploring the effects of providing different types of support to couples during their transition to parenthood. Ninety married or cohabiting couples (180 participants) having their first child participated in the study. However, due to the EWS questionnaires being added to the study after its start, data from only 74 couples were utilized for the current study.

Participants were heterosexual community couples pregnant with their first baby. In order to be eligible, participants had to be at least 18 years old, currently living together, fluent in English, not planning to move out of the geographical area within the next year, and could not have any other children (including biological, step, or adopted children). For reasons related to the larger project, couples also had to meet at least one risk criteria for relationship or coparenting problems over the transition to parenthood, with risk factors including: (a) partners not being married, (b) either partner feeling ambivalent about wanting a baby at this time, (c) either partner reporting mild to moderate levels of depression, (d) either partner experiencing relationship distress, (e) either partner having been married previously, and (f) either partner reporting low-level couple violence within the past year. There were two additional risk factors that were gender-specific; if a woman's parents had divorced or if a man's father had been physically violent towards his mother, the couple was eligible. In addition, the following criteria rendered couples ineligible for the study: (a) either partner currently receiving psychological treatment for psychotic, bipolar, or organic brain disorder, or for

borderline, schizotypal, or antisocial personality disorder, (b) either partner reporting moderate to severe suicidal risk, and (c) either partner reporting moderate to severe couple violence within the past year. Referral information was available to all ineligible couples, but was specifically offered for couples meeting the above rule-out criteria.

Among the study couples, the majority of participants (84.4%) were married, with the average length of marriage being 2.44 years ($SD = 2.42$). Men ranged in age from 19 to 47 years old, with a mean age of 28.60 ($SD = 5.64$), and women ranged from 18 to 35 years old, with a mean age of 26.49 ($SD = 4.00$). Among the men, 85.7% identified themselves as Caucasian, 9.5% as Hispanic, 2.4% as Asian or Pacific Islander, 3.6% as African American, 4.8% as Native American or Alaskan Native, and 2.4% as another ethnicity. For the women, 86.9% described themselves as Caucasian, 8.3% as Hispanic, 2.4% as Asian or Pacific Islander, 1.2% as African American, 2.4% as Native American or Alaskan Native, and 2.4% as another ethnicity.¹ Men's years of education ranged from 4 to 25 ($M = 16.52$, $SD = 3.55$), and women's years of education ranged from 12 to 26 ($M = 16.73$, $SD = 2.63$). Among participants who worked outside of the home, annual individual income ranged from \$3,600 to \$96,000, with a mean individual income of \$29,522.07 ($SD = 17,104.98$). Ten couples who were eligible for the current study withdrew from the larger study, with nine of these couples dropping out before receiving any interventions and one couple dropping out after receiving the pre-birth

¹The percentages for the racial/ethnic categories add up to more than 100% because some participants selected more than one ethnicity.

interventions but before completing any follow-up assessments. None of these couples were included in the present analyses.

Procedure

Couples were recruited for the study through a variety of sources, including announcements made at childbirth and infant care classes, information provided by doctor's offices, newspaper advertisements, and pamphlets and flyers displayed in community businesses. Interested partners were screened separately on the phone approximately seven months into their pregnancy, both to inform them about the project and to determine the couple's eligibility. Eligible couples provided informed consent before completing an initial in-person assessment, after which they were randomly assigned to one of three intervention conditions that were part of the larger study: Couple, Coparenting, or Information Control. All conditions consisted of meetings with both partners and a graduate student working on the project. Participants in the Couple and Coparenting conditions had two 90-minute meetings before their baby's birth and two 90-minute meetings about 14 weeks after the baby's birth, and participants in the Control condition had one 90-minute meeting before the baby's birth and no meetings after the birth.

The Couple condition focused on the partners' relationship with each other, and the pre-birth meetings were designed to help the couple develop a relationship theme and identify ways to maintain positives and limit negatives in the relationship throughout the transition. The Coparenting condition instead emphasized the ways in which the

partners would work together as a parenting team, and the pre-birth meetings focused on the hopes and fears each partner had about becoming parents, as well as developing a detailed “Coparenting Plan” outlining each partner’s expectations on issues such as division of childcare labor. The Control condition was designed to provide a minimal-intervention comparison group; during the Control meeting partners were provided with information about topics ranging from obtaining life insurance to changing a diaper. The post-birth meetings for the Couple and Coparenting interventions occurred after all data collection for the current study was completed; thus, these meetings are not described here. None of the pre-birth meetings directly targeted the sexual relationship or women’s EWS concerns. As described below, the type of intervention the couple received was entered as a control variable in all analyses.

Data from three assessments conducted as part of the larger study were used in the present study, including data from pregnancy, one month postpartum, and three months postpartum. Participants’ initial assessments were conducted when couples were about seven to eight months pregnant, and consisted of partners completing questionnaire packets in the presence of a research assistant. Although men and women completed the assessments in the same room, they were seated with enough distance between partners to ensure that partners’ answers were confidential from each other. After the first assessment, all questionnaires were mailed to couples for them to complete at home and mail back to the study. With each assessment, participants were reminded about the importance of completing all questionnaires separately from their partner. After mailing in the completed follow-up questionnaires, couples received \$50

total (\$25 per individual) for the one-month and \$75 total (\$37.50 per individual) for the three-month follow-up.

Measures

The present study used a subset of the measures administered as part of the larger study; relevant measures are described below.

Dyadic Adjustment Scale (DAS; Spanier, 1976). The DAS is a 32-item measure of global relationship satisfaction. The DAS total score, as well as its four subscales, all demonstrate acceptable internal consistency, with alphas of .96 for the total score, .90 for Dyadic Consensus, .94 for Dyadic Satisfaction, .73 for Affectional Expression, and .86 for Dyadic Cohesion (Spanier, 1976). The DAS has good test-retest reliability, content validity, criterion-related validity, and convergent validity (Spanier, 1976).

Frequency and Acceptability of Partner Behavior Inventory (FAPBI, Doss & Christensen, 2006). The FAPBI is a 20-item questionnaire that assesses the frequency and acceptability of both positive and negative relationship behaviors. The FAPBI has four subscales: Affection, Closeness, Demand, and Violation. The Affection subscale measures verbal, physical and sexual affection; a sample item is “In the past month, my partner was verbally affectionate (e.g., complimented me, told me he/she loves me, said nice things to me)”. The Closeness subscale assesses positive activities and closeness in the relationship, and includes items addressing support, partner confiding in me, partner discussing relationship problems with me, time together, social activities, financial responsibilities, child care, and housework. The Demand subscale measures critical and verbal conflict behaviors; a sample item is “In the past month, my partner was critical of

me (e.g., blamed me for problems, put down what I did, made accusations about me)”. Finally, the Violation subscale assesses lack of respect, and includes items addressing one’s partner being dishonest, not keeping agreements, invading privacy, being physically abusive, flirting or having affairs, and using substances.

In a sample of heterosexual married/cohabiting participants without children, the Affection, Closeness, Demand, and Violation subscales had Cronbach alphas of .78, .79, .79, and .67, respectively, for frequency and Cronbach alphas of .80, .86, .79, and .63, respectively, for acceptance of behaviors. This measure has been shown to have criterion validity, and to predict global satisfaction beyond the contribution of behavior frequency alone (Doss & Christensen, 2006). The FAPBI items for frequency and acceptability of “sexual activity” (defined as intercourse as well as other sexual activity) was used to measure changes in sex throughout the transition to parenthood.

Body Mass Index (BMI). Women were asked to report their height and weight in order to determine their BMI. Women provided their pre-pregnancy weight at the first assessment, as well as their current weight at each assessment. Although research has shown that self-reported height and weight may lead to underestimates of participants’ BMI (Visscher, Viet, Kroesbergen, & Seidell, 2006), the measurement of participants’ weight at each time point was not feasible due to the project design.

Eating Disorder Inventory-2 (EDI-2; Garner, 1991). Women completed select subscales from the EDI-2, which assesses eating disorder behaviors and attitudes. Specifically, the Drive for Thinness, Bulimia, and Body Dissatisfaction subscales were administered for this study. These subscales have been shown in previous research to

have good internal consistency, with alphas of .85 for Drive for Thinness, .83 for Bulimia, and .91 for Body Dissatisfaction (Garner, Olmstead, Polivy, 1983).

Satisfaction with woman's body. Women's satisfaction with their own bodies and men's satisfaction with their partner's bodies was assessed with the following statement: "Currently, I feel _____ about the shape and look of (my/my partner's) body." Answer choices ranged from 1 (Extremely Negative) to 7 (Extremely Positive). Women and men were also asked to retrospectively rate their satisfaction with the woman's pre-pregnancy body with a modified version of the above question that stated "Before (I/my partner) became pregnant, I felt..."

RESULTS

The data were first assessed for normality and assumptions; all scales were normally distributed except for the frequency subscales of the FAPBI. Log transformations were applied to all four of the FAPBI frequency subscales in order to normalize the distributions. In all analyses, couples' intervention condition was controlled for by adding two dummy variables in the Level 2 equations as predictors of variables at Level 1 (with the Control condition coded as the comparison group).

Non-Independent Nature of the Present Data

In the present study, some of the error terms of the data are dependent for two reasons. First, assessments over time are nested within individuals; and second, individuals' data are nested within couples. When data from more than two time periods are used, or when data from both spouses are used as dependent variables, it is necessary to statistically account for the nested nature of the data. This dependence is important because it fails to meet the assumption of independence of errors and thus precludes the use of ordinary least-squares regression (Raudenbush, Brennan, & Barnett, 1995).

In the present study, multilevel modeling was used to account for the dependence of the data. Specifically, analyses were conducted in the Hierarchical Linear Modeling program (HLM 6.04; Raudenbush, Bryk, & Congdon, 2007) following Raudenbush and colleagues' (1995) guidelines of for couples' data. In this approach, variation within couples was modeled in "Level 1", in which each partner's change in an outcome measured repeatedly over time (measured in weeks) was modeled. Then at "Level 2",

each couple's parameters (intercept and slope) were compared to the overall parameters for all couples in the sample.

Hypothesis 1: Relationship Functioning and EWS Concerns over the Transition to Parenthood

The first study question explored the changes in both partners' relationship functioning and women's EWS concerns over the transition to parenthood, with the expectation that couple functioning and EWS concerns would worsen from pregnancy to three months postpartum. Changes from *before* pregnancy to three months postpartum were also explored for the variables for which pre-pregnancy data were collected; for the analyses examining changes from pre-pregnancy, the pregnancy values were excluded. The relationship constructs explored included each partner's relationship satisfaction (DAS) and the frequency and acceptability (FAPBI subscales) of Affection, Closeness, Demanding, and Violation behaviors. The EWS constructs included women's Body Mass Index (BMI), the EDI Drive for Thinness subscale, EDI Bulimia subscale, EDI Body Dissatisfaction subscale, and both partners' satisfaction with the woman's body assessed by a single item. Separate equations were used for each relationship construct and each EWS construct, and were analyzed with hierarchical linear modeling (HLM) as described above. Equation 1 was utilized for this analysis:

Level 1: (1)

$$Y_{ii} = (\text{Man})_{ii} [\pi_{M0i} + \pi_{MIi}(\text{Time})_{ii}] + (\text{Woman})_{ii} [\pi_{W0i} + \pi_{WIi}(\text{Time})_{ii}] + e_{ii}$$

Level 2:

$$\pi_{M0i} = \beta_{M00} + \beta_{M01}(\text{Dummy1}) + \beta_{M02}(\text{Dummy2}) + u_{M0i}$$

$$\pi_{MIi} = \beta_{MI0} + \beta_{MI1}(\text{Dummy1}) + \beta_{MI2}(\text{Dummy2}) + u_{MIi}$$

$$\pi_{W0i} = \beta_{W00} + \beta_{W01}(\text{Dummy1}) + \beta_{W02}(\text{Dummy2}) + u_{W0i}$$

$$\pi_{W1i} = \beta_{W10} + \beta_{W11}(\text{Dummy1}) + \beta_{W12}(\text{Dummy2}) + u_{W1i}$$

Results for Hypothesis 1 revealed that only two relationship constructs changed significantly for both partners from pregnancy to three months postpartum; Hypothesis 1 results are summarized in Table 1. Specifically, both women ($b = -0.03$, $t(72) = -3.20$, $p < .05$) and men ($b = -0.03$, $t(72) = -3.89$, $p < .05$) reported a decrease in the log frequency of their partners' Affection behaviors. Women and men also both reported a decrease in acceptance of their partners' Closeness behaviors ($b = -0.07$, $t(72) = -4.37$, $p < .05$; $b = -0.07$, $t(72) = -5.76$, $p < .05$, respectively). Men experienced two additional significant changes in relationship functioning; men reported an increase in their partners' log frequency of Closeness behaviors ($b = 0.04$, $t(72) = 4.84$, $p < .05$) and men's acceptance of their partners' Affection behaviors decreased ($b = -0.04$, $t(72) = -2.02$, $p < .05$). Finally, there were two non-significant trends in which men reported an increase in their partners' log frequency of Demanding behaviors ($b = 0.02$, $t(72) = 1.88$, $p < .10$), and women reported a decrease in acceptance of their partners' Demanding behaviors ($b = -0.05$, $t(72) = -1.71$, $p < .10$).

For EWS constructs, results indicated that women's BMI significantly decreased from pregnancy to three months postpartum ($b = -0.16$, $t(70) = -6.18$, $p < .05$). Despite women's weight loss during this period, women's EDI Drive for Thinness increased ($b = 0.27$, $t(72) = 5.10$, $p < .05$), as did women's EDI Body Dissatisfaction ($b = 0.49$, $t(72) = 8.01$, $p < .05$).

When exploring change from *before* pregnancy to three months postpartum, results revealed that women's BMI significantly increased from pre-pregnancy to three months postpartum ($b = 0.04, t(71) = 4.35, p < .05$). Additionally, there were significant decreases in women's satisfaction with their bodies ($b = -0.02, t(72) = -2.84, p < .05$) and men's satisfaction with their partners' bodies ($b = -0.005, t(72) = -2.22, p < .05$).

Importantly, there were also some significant differences between the active intervention conditions and the Control condition in the changes observed from pregnancy to three months postpartum. In particular, men who were in the Couple condition reported smaller increases in their partners' log frequency of Demanding behaviors ($t(72) = -2.41, p < .05$) compared to the men in the Control condition. Men in the Couple condition also reported significantly smaller decreases in acceptance of their partners' Closeness behaviors ($t(72) = 2.19, p < .05$) than men in the Control condition. Additionally, there were two non-significant trends indicating less relationship deterioration for participants in the active conditions; first, men in the Couple condition showed somewhat smaller decreases in satisfaction on the DAS ($t(72) = 1.89, p < .10$) than men in the Control condition. Also, women in the Parent condition showed a somewhat smaller decrease in acceptance of their partners' Demanding behaviors ($t(72) = 1.82, p < .10$) compared to women in the Control condition.

There was also evidence that the active intervention conditions had an impact on women's EWS concerns, even though this topic was not addressed in either the Couple or Parent conditions. Results revealed that women in the Couple condition experienced significantly smaller increases in their EDI Drive for Thinness ($t(72) = -2.52, p < .05$)

and EDI Body Dissatisfaction ($t(72) = -2.15, p < .05$) than the women in the Control condition. Similarly, women in the Parent condition had significantly smaller increases in their EDI Drive for Thinness ($t(72) = -3.33, p < .05$) and a non-significant trend toward smaller increases in EDI Body Dissatisfaction ($t(72) = -1.72, p < .10$) compared to women in the Control condition. These results confirm the necessity of controlling for intervention condition in all analyses.

Hypothesis 2: Changes in Women's EWS Concerns from Pregnancy to Three Months Postpartum Will Be Related to Changes in Relationship Functioning

The second study question explored the relations between changes in women's EWS concerns and the changes in both partners' relationship functioning during the transition to parenthood. Because it was unclear whether changes in all EWS variables would be linear, a change score for these variables was created rather than fitting a linear slope for these variables in HLM. Specifically, signed change scores for women's EWS concerns from pregnancy to three months postpartum were used to predict changes in both partners' relationship functioning across the three time points in the study, with the hypothesis that greater increases in EWS concerns would predict greater decreases in relationship functioning. A signed change score for men's satisfaction with their partners' bodies was also used to predict change in relationship functioning, and was entered as a predictor instead of an EWS variable. For all signed change scores, a positive value indicated an increase in that variable from pregnancy to three months postpartum, whereas a negative value indicated a decrease in the variable. All of the relationship and EWS constructs explored in Hypothesis 1 were also examined in

Hypothesis 2, with separate equations for each combination of relationship and EWS constructs. Equation 2 was utilized for this analysis:

Level 1: (2)

$$Y_{ii} = (\text{Man})_{ii} [\pi_{M0i} + \pi_{M1i}(\text{Time})_{ii}] + (\text{Woman})_{ii} [\pi_{W0i} + \pi_{W1i}(\text{Time})_{ii}] + e_{ii}$$

Level 2:

$$\begin{aligned} \pi_{M0i} = & \beta_{M00} + \beta_{M01}(\text{Dummy1}) + \beta_{M02}(\text{Dummy2}) \\ & + \beta_{M03}(\text{Change in W's EWS Variable}) + u_{M0i} \end{aligned}$$

$$\begin{aligned} \pi_{M1i} = & \beta_{M10} + \beta_{M11}(\text{Dummy1}) + \beta_{M12}(\text{Dummy2}) \\ & + \beta_{M13}(\text{Change in W's EWS Variable}) + u_{M1i} \end{aligned}$$

$$\begin{aligned} \pi_{W0i} = & \beta_{W00} + \beta_{W01}(\text{Dummy1}) + \beta_{W02}(\text{Dummy2}) \\ & + \beta_{W03}(\text{Change in W's EWS Variable}) + u_{W0i} \end{aligned}$$

$$\begin{aligned} \pi_{W1i} = & \beta_{W10} + \beta_{W11}(\text{Dummy1}) + \beta_{W12}(\text{Dummy2}) \\ & + \beta_{W13}(\text{Change in W's EWS Variable}) + u_{W1i} \end{aligned}$$

The results for Hypothesis 2 revealed that in general, the changes in women's EWS concerns from pregnancy to three months postpartum were not significantly related to changes in women's relationship functioning over the same period (see Table 2). The only exception was symptoms of bulimia; results revealed that increases in women's EDI Bulimia symptoms from pregnancy to three months postpartum significantly predicted greater decreases in women's relationship satisfaction over the same time period, after controlling for women's intervention condition ($b = -0.05$, $t(64) = -2.64$, $p < .05$). Increases in women's EDI Bulimia symptoms from pregnancy to three months postpartum also significantly predicted greater increases in the log frequency of

Violation behaviors women reported for their partners ($b = 0.004$, $t(64) = 2.22$, $p < .05$). Additionally, there were two non-significant trends for increases in EDI Bulimia symptoms predicting greater decreases in women's acceptance of their partner's Demanding behaviors ($b = -0.007$, $t(64) = -1.97$, $p < .10$) and greater decreases in women's acceptance of their partners' Violation behaviors ($b = -0.004$, $t(64) = -1.86$, $p < .10$). Changes in men's satisfaction with women's bodies from pregnancy to three months postpartum did not predict changes in women's relationship functioning.

As a whole, the changes in women's EWS concerns from pregnancy to three months postpartum also did not significantly predict changes in men's relationship functioning over the same time points (Table 2). There was only one significant finding for the prediction of men's relationship functioning; increases in women's BMI from pregnancy to three months postpartum predicted greater decreases in the log frequency of Violation behaviors men reported for their partners ($b = -0.003$, $t(64) = -3.21$, $p < .05$). There was also a non-significant pattern in which increases in women's EDI Drive for Thinness predicted poorer relationship outcomes for men. Specifically, an increase in women's EDI Drive for Thinness from pregnancy to three months postpartum non-significantly predicted fewer increases in the log frequency of Closeness behaviors ($b = -0.001$, $t(64) = -1.75$, $p < .10$) and greater increases in the log frequency of Demanding behaviors ($b = 0.002$, $t(64) = 1.74$, $p < .10$) men reported for their partners. Increases in women's EDI Drive for Thinness also non-significantly predicted greater decreases in men's acceptance of their partners' Closeness behaviors ($b = -0.002$, $t(64) = -1.72$, $p < .10$) and greater decreases in men's acceptance of their partners' Demanding behaviors

($b = -0.005$, $t(64) = -1.70$, $p < .10$). Changes in men's satisfaction with women's bodies from pregnancy to three months postpartum did not predict changes in men's own relationship functioning. There were no other significant findings for Hypothesis 2.

Hypothesis 3: Changes in Women's EWS Concerns from Pre-Pregnancy Will Be Related to Changes in Relationship Functioning

The third study question explored whether increases in women's EWS concerns from *before* the pregnancy to three months postpartum would predict decreases in relationship functioning from pregnancy to three months postpartum. This hypothesis was explored in the same way as Hypothesis 2, with the only difference being that for Hypothesis 3, the signed change scores were from *pre*-pregnancy levels to three months postpartum. All relationship constructs were utilized, and the EWS constructs included were women's Body Mass Index and women's satisfaction with their bodies. The change score for men's satisfaction with their partners' bodies was also used as a predictor, and was entered in place of an EWS variable. Each combination of relationship and EWS constructs was explored in a separate analysis. Equation 3 was utilized for this analysis:

Level 1: (3)

$$Y_{it} = (\text{Man})_{it} [\pi_{M0i} + \pi_{M1i}(\text{Time})_{it}] + (\text{Woman})_{it} [\pi_{W0i} + \pi_{W1i}(\text{Time})_{it}] + e_{it}$$

Level 2:

$$\pi_{M0i} = \beta_{M00} + \beta_{M01}(\text{Dummy1}) + \beta_{M02}(\text{Dummy2}) \\ + \beta_{M03}(\text{Change in W's EWS Variable}) + u_{M0i}$$

$$\pi_{M1i} = \beta_{M10} + \beta_{M11}(\text{Dummy1}) + \beta_{M12}(\text{Dummy2})$$

$$+ \beta_{MI3}(\text{Change in W's EWS Variable}) + u_{MIi}$$

$$\pi_{W0i} = \beta_{W00} + \beta_{W01}(\text{Dummy1}) + \beta_{W02}(\text{Dummy2})$$

$$+ \beta_{W03}(\text{Change in W's EWS Variable}) + u_{W0i}$$

$$\pi_{W1i} = \beta_{W10} + \beta_{W11}(\text{Dummy1}) + \beta_{W12}(\text{Dummy2})$$

$$+ \beta_{W13}(\text{Change in W's EWS Variable}) + u_{W1i}$$

Results from Hypothesis 3 revealed that the change score in women's BMI from pre-pregnancy to three months postpartum was the only EWS variable that significantly predicted changes in women's relationship functioning from pregnancy to three months postpartum; refer to Table 3 for a summary of the results. Specifically, increases in women's BMI predicted fewer decreases in the log frequency of Affection behaviors women reported for their partners ($b = 0.002$, $t(65) = 2.13$, $p < .05$), as well as fewer increases in the log frequency of Demanding behaviors women reported for their partners ($b = -0.003$, $t(65) = -2.34$, $p < .05$). Increases in women's BMI also predicted fewer decreases in women's acceptance of their partners' Affection behaviors ($b = 0.006$, $t(65) = 2.87$, $p < .05$) and fewer decreases in women's acceptance of their partners' Demanding behaviors ($b = 0.002$, $t(65) = 2.13$, $p < .05$). Change in men's satisfaction with their partner's bodies from before pregnancy to three months postpartum did not predict changes in women's relationship functioning.

For men's relationship functioning, the only significant predictor was changes in women's BMI from pre-pregnancy to three months postpartum (see Table 3). Increases in women's BMI from pre-pregnancy to three months postpartum predicted greater decreases in the log frequency of Violation behaviors men reported for their partners (b

= -0.003, $t(65) = -2.79$, $p < .05$). Notably, all of the significant predictions for men and women were in the opposite direction of the hypotheses, such that increases in women's BMI from before pregnancy predicted increases in relationship functioning over the transition to parenthood. Changes in men's satisfaction with their partners' bodies also did not predict changes in men's relationship functioning, and no other predictions were significant.

Hypothesis 4: Mediators of the Relations between Changes in Women's EWS Concerns and Changes in Relationship Functioning

The fourth study question explored two potential mediators in the relations investigated above. First, I predicted that the relation between changes in women's EWS concerns from pregnancy to three months postpartum and changes in both partners' relationship functioning over the same time period would be at least partially mediated by sexual frequency and acceptance at three months postpartum. Additionally, I predicted that men's satisfaction with their partners' bodies at three months postpartum would mediate the relation between changes in women's EWS concerns and changes in relationship functioning from pregnancy to three months postpartum.

The mediation analyses in Hypothesis 4 were conducted using the product of coefficients test with asymmetric confidence intervals through the PRODCLIN program (Fritz & MacKinnon, 2007; MacKinnon, Fritz, Williams, & Lockwood, 2007). This approach is similar to the Sobel (1982) test except that it does not assume a normal distribution of the product of the "a" and "b" paths. In the product of coefficients test, the product of the "a" pathway (independent variable to mediator) and the "b" pathway

(mediator to dependent variable controlling for independent variable) is divided by an empirically-determined pooled standard error of the two pathways. In a large simulation study that determined the sample size needed for adequate power in tests of mediation, the PRODCLIN test was able to detect mediation with a smaller sample size than the Baron and Kenny (1986) approach (Fritz & MacKinnon, 2007), thus making it a good choice for the current study. Equations 4 and 5 were used to analyze the fourth hypothesis, with Equation 4 representing the “a” pathway and Equation 5 representing the “b” pathway:

Level 1: (4)

$$Y_{ii} = \text{Man}_{ii} (\pi_{M0i}) + \text{Woman}_{ii} (\pi_{W0i}) + e_{ii}$$

Level 2:

$$\pi_{M0i} = \beta_{M00} + \beta_{M01}(\text{Dummy1}) + \beta_{M02}(\text{Dummy2}) + \beta_{M03}(\text{EWS}) + u_{M0i}$$

$$\pi_{W0i} = \beta_{W00} + \beta_{W01}(\text{Dummy1}) + \beta_{W02}(\text{Dummy2}) + \beta_{W03}(\text{EWS}) + u_{W0i}$$

Level 1: (5)

$$Y_{ii} = (\text{Man})_{ii} [\pi_{M0i} + \pi_{M1i}(\text{Time})_{ii}] + (\text{Woman})_{ii} [\pi_{W0i} + \pi_{W1i}(\text{Time})_{ii}] + e_{ii}$$

Level 2:

$$\begin{aligned} \pi_{M0i} = & \beta_{M00} + \beta_{M01}(\text{Dummy1}) + \beta_{M02}(\text{Dummy2}) \\ & + \beta_{M03}(\text{ChangeEWS}) + \beta_{M04}(\text{MEDIATOR}) + u_{M0i} \end{aligned}$$

$$\begin{aligned} \pi_{M1i} = & \beta_{M10} + \beta_{M11}(\text{Dummy1}) + \beta_{M12}(\text{Dummy2}) \\ & + \beta_{M13}(\text{ChangeEWS}) + \beta_{M14}(\text{MEDIATOR}) + u_{M1i} \end{aligned}$$

$$\begin{aligned} \pi_{W0i} = & \beta_{W00} + \beta_{W01}(\text{Dummy1}) + \beta_{W02}(\text{Dummy2}) \\ & + \beta_{W03}(\text{ChangeEWS}) + \beta_{W04}(\text{MEDIATOR}) + u_{W0i} \end{aligned}$$

$$\pi_{w1i} = \beta_{w10} + \beta_{w11}(\text{Dummy1}) + \beta_{w12}(\text{Dummy2}) \\ + \beta_{w13}(\text{ChangeEWS}) + \beta_{w04}(\text{MEDIATOR}) + u_{w1i}$$

Mediation analyses were only conducted in the PRODCLIN program when the “a” and “b” pathways (Equations 4 and 5 above) were significant; refer to Tables 4 and 5 for the path “a” and “b” results, respectively. None of the “a” pathway relations were significant for men’s satisfaction with their partners’ bodies, so these mediation analyses were not pursued further.

Results indicated that men’s reported frequency of sexual activity mediated the relation between changes in women’s EWS concerns and changes in both partners’ relationship functioning from pregnancy to three months postpartum. In particular, men’s reported frequency of sexual activity at three months postpartum mediated the relation between changes in women’s EDI Drive for Thinness and changes in the log frequency of Demanding behaviors men reported for their partners (95% CI = .0004 to .002). Men’s reported frequency of sexual activity also mediated the relation between changes in women’s EDI Drive for Thinness and changes in men’s and women’s acceptance of their partners’ Demanding behaviors (95% CI = -.004 to -.00007; 95% CI = -.003 to -.00004, respectively). In addition, there was a non-significant trend in which men’s frequency of sexual activity at three months postpartum mediated the relation between changes in women’s EDI Drive for Thinness and changes in the log frequency of Violation behaviors women reported for their partners (95% CI = .00000 to .001; 90% CI = 10.59 to .001). No other mediations were significant.

DISCUSSION AND CONCLUSIONS

This study explored the relations between women's EWS concerns and the couple relationship during the transition to parenthood. Overall, there was partial support for the first hypothesis that relationship functioning and women's EWS concerns would worsen from pregnancy to three months postpartum. Women and men both reported decreases in the frequency of their partners' Affection behaviors, and they also both reported decreases in acceptance of their partners' Closeness behaviors. Men's acceptance of their partners' Affection behaviors also decreased significantly. Additionally, men reported an increase in their partners' log frequency of Closeness behaviors. There were also some non-significant trends indicating relationship deterioration; in particular, there was an increase in the log frequency of Demanding behavior men reported for their partners, as well as a decrease in women's acceptance of their partners' Demanding behaviors. All of the findings were in the expected direction, with the exception of the increase in men's reports of the log frequency of their partners' Closeness behaviors. One possible explanation for this unexpected finding is that the Closeness scale includes child care and housework, which were likely both high for women in the postpartum period, given the research demonstrating that couples tend to have a highly traditional division of labor after having a baby (Cowan & Cowan, 1995; Cowan & Cowan, 2000).

Overall, the findings demonstrating a decline in relationship functioning are consistent with the previous literature, but there were fewer changes than expected. The most salient factor in explaining the small number of significant changes is the timing of

the assessments for this study compared to other research on the transition to parenthood. In previous research, most couples were assessed through at least six months postpartum. Thus, the study's window of assessment (pregnancy through three months) may have been too short to capture all of the changes in relationship functioning that typically occur during the transition to parenthood.

With regard to EWS concerns, most of the women's EWS variables did change significantly from pregnancy to three months postpartum. Women's Body Mass Index decreased over this time period, which is not surprising given that gaining weight is expected during pregnancy, and given the research demonstrating that most women retain only a small amount of their pregnancy weight (Gore et al., 2003). Women's EDI Drive for Thinness and EDI Body Dissatisfaction both increased during this period, which is consistent with previous research demonstrating that women's EWS concerns worsen during the postpartum period (Baker et al., 1999; Morin et al., 2002). Women's satisfaction with their bodies was also measured with a single face-valid item, and this item did not demonstrate significant changes from pregnancy to three months postpartum. Men's satisfaction with their partners' bodies, as measured by a single item, also did not change significantly.

In terms of changes from *before* pregnancy to three months postpartum, women's BMI significantly increased and satisfaction with their bodies significantly decreased from pre-pregnancy to three months postpartum. Men's satisfaction with their partners' bodies also decreased significantly from pre-pregnancy to three months postpartum. Thus, both women and men were less satisfied with the shape and look of the woman's

postpartum body when her pre-pregnancy body was used as the first data point in the analysis. These results are not surprising, even in light of the non-significant changes in the same constructs from pregnancy to three months postpartum, because the comparison of a woman's postpartum body to her pre-pregnancy body is more salient than the comparison of her postpartum body to her pregnant body.

There was little support for the second hypothesis that changes in women's EWS concerns from pregnancy to three months postpartum would be related to changes in both partners' relationship functioning during the same period. Women's EDI Bulimia was the only construct to significantly predict women's relationship functioning, with increases in EDI Bulimia predicting greater decreases in women's relationship satisfaction, as well as greater increases in the log frequency of Violation behaviors women reported for their partners. Increases in women's bulimia symptoms also non-significantly predicted greater decreases in women's acceptance of their partners' Demanding and Violation behaviors. There were no other significant predictions for women's relationship functioning. In light of the lack of significant changes in women's EDI Bulimia scale in Hypothesis 1, these findings indicate that for the women whose bulimia symptoms did change, those changes were related to relationship functioning.

An examination of the items on the EDI Bulimia scale reveals that most of the items assess women's over-eating, binge eating secret eating, with only one item assessing purging behaviors. Thus, perhaps women whose overeating, binge eating and eating in secrecy increases over the transition to parenthood may also become less satisfied in their relationships because both changes are driven by a third factor such as

negative affect or poor emotion regulation. Indeed, previous research among non-clinical populations of college women has linked binge eating to emotional lability (Greenberg & Harvey, 1987) and has suggested that some women binge eat in an attempt to regulate negative emotions (Deaver, Miltenberger, Smyth, Meidinger, & Crosby, 2003).

Changes in women's EWS concerns also did not significantly relate to changes in men's relationship functioning. There was only one significant prediction and it was in the opposite direction of expectations; specifically, increases in women's BMI predicted greater decreases in the log frequency of Violation behaviors men reported for their partners. Possible interpretations for this unexpected result are described below in the discussion of results for Hypothesis 3. Additionally, there were four non-significant trends in which increases in women's EDI Drive for Thinness predicted fewer increases in the log frequency of Closeness behaviors and greater increases in the log frequency of Demanding behaviors men reported for their partners, as well as greater decreases in men's acceptance of their partners' Closeness and Demanding behaviors. There were no other significant predictors of men's relationship functioning. Although none of the findings for EDI Drive for Thinness and relationship outcomes were significant, the pattern of trends suggests that for women who become preoccupied with thinness or losing weight after the baby's birth, this preoccupation may take energy away from the emotional and instrumental support they are able to provide (both of which are assessed through the Closeness scale) and may also contribute to being more demanding of their partners.

Another potential interpretation is that a third variable, perhaps a personality construct, is driving both the changes in women's EDI Drive for Thinness and in men's reports of relationship functioning. One such variable might be women's neuroticism, which has been shown in previous research to relate to women's subclinical EWS concerns, and especially their EDI Drive for Thinness (Miller, Schmidt, Vaillancourt, McDougall, & Laliberte, 2006). High levels of neuroticism in one partner in a relationship have also been connected with lower relationship satisfaction for both partners (Fisher & McNulty, 2008). The findings for the current study, in which women's drive for thinness was related to poorer outcomes for closeness and demanding behaviors men reported for their partners, as well as men's acceptance of those behaviors, is consistent with this interpretation because it seems plausible that women with higher levels of neuroticism might be perceived by their partners as less supportive and more demanding of their partners.

Changes in men's satisfaction with women's bodies from pregnancy to three months postpartum did not predict changes in women's or men's relationship functioning over the same time period. This finding is inconsistent with other literature demonstrating that men's satisfaction with their partners' bodies can predict subsequent relationship functioning (Morrison et al., 2009). This finding is difficult to interpret because it is unclear whether men were uncomfortable reporting their true feelings about their partners' bodies or whether men's satisfaction with their partners' bodies did not change from pregnancy to three months postpartum.

There was also little support for the third study hypothesis that changes in women's weight and body satisfaction from *before* pregnancy to three months postpartum would predict changes in relationship functioning from pregnancy to three months postpartum. For this hypothesis, change in women's BMI was the only variable that significantly predicted changes in relationship functioning. The results revealed that increases in women's BMI predicted fewer decreases in the log frequency of Affection behaviors and fewer increases in the log frequency of Demanding behaviors women reported for their partners. Additionally, increases in women's BMI predicted fewer decreases in women's acceptance of their partners' Affection and Demanding behaviors.

Changes in women's BMI from pre-pregnancy to three months postpartum was also the only significant predictor for men's relationship functioning, with an increase in women's BMI predicting greater decreases in the log frequency of Violation behaviors men reported for their partners. Unexpectedly, all of the relations between BMI and both partners' relationship functioning were in the opposite direction of predictions, with increases in women's BMI predicting increases in relationship functioning. These results were similar to a finding for Hypothesis 2 in which increases in BMI also predicted increases in relationship functioning for men. It may be possible that these results are related to a larger construct about general acceptance of the post-birth process. For example, women who are comfortable with the idea that it may take time to "get the body back" after the birth might lose weight at a slower rate, and through the same generally accepting attitude, they might also be comfortable with the changes they

are experiencing in their relationship postpartum, especially if they view these changes as temporary.

As with the second hypothesis, changes in men's satisfaction with their partners' bodies from before pregnancy to three months postpartum did not significantly predict any changes in either partners' relationship functioning from pregnancy to three months postpartum.

Finally, the fourth study hypothesis explored whether the relations between women's EWS concerns and relationship functioning would be mediated by sexual behaviors and by men's satisfaction with their partners' bodies. Results revealed that the changes in EWS concerns and relationship functioning generally were not related, but the relations that were significant were often mediated by the sexual relationship. There was support for one mediator in particular, which was men's reported frequency of sexual activity. The FAPBI item for sexual activity explicitly states that partners can report on "sexual intercourse or any other significant sexual activity, whether initiated by you or your partner" (Doss & Christensen, 2006), so sexual activity was not limited to intercourse. Men's reported frequency of sexual activity at three months postpartum mediated the relation between changes in women's EDI Drive for Thinness and changes in the log frequency of Demanding behaviors men reported for their partners. Thus, increases in women's drive for thinness predicted a lower frequency of sexual behavior reported by men at three months, which in turn predicted an increase in men's reports of their partners' Demanding behaviors. The log frequency of sexual behavior also mediated the relation between women's EDI Drive for Thinness and both partners'

acceptance of Demanding behaviors. In other words, increases in women's drive for thinness predicted a lower frequency of sexual behavior reported by men at three months, which in turn predicted a decrease in both men's and women's acceptance of their partners' Demanding behaviors. Additionally, there was a non-significant trend for men's frequency of sexual activity mediating the relation between changes in women's EDI Drive for Thinness and changes in the log frequency of Violation behaviors women reported for their partners. No other mediations were significant.

Notably, men's reported log frequency of sexual activity, but not women's reports of frequency or either partner's acceptance of sexual activity, was a significant mediator. This finding is consistent with previous research that men's sexual satisfaction may be especially important in the time after the baby's birth (Ahlborg et al., 2005a) and that the frequency of sexual behaviors plays a role in satisfaction (Condon et al., 2004). Interestingly, all of the significant mediation analyses were for women's drive for thinness, which was discussed above in terms of its connection with the possible third variable of women's neuroticism. Further supporting this argument, previous research has demonstrated that the relation between neuroticism and relationship satisfaction is mediated by sexual satisfaction (Fisher & McNulty, 2008), which parallels the findings in this study for women's drive for thinness.

Limitations

Although this study addressed some important questions that have not yet been explored, its findings must be considered in light of several limitations. Perhaps the most important limitation is that the data for the present study came from a larger

intervention project designed to help couples successfully navigate the transition to parenthood. Results revealed that the active (i.e., Couple and Parent) intervention conditions impacted not only relationship functioning, but also women's EWS concerns, which was unexpected because EWS concerns were not directly addressed in the interventions. Additionally, although the Control condition was designed not to impact relationship functioning or women's EWS concerns, it is possible that this condition led to improvements in these domains as well. Even though the intervention conditions were controlled for in all analyses, it is nonetheless a limitation that the current study attempted to answer basic questions using data from an intervention study.

Additionally, the limited time points of the study, which followed couples from late pregnancy to three months postpartum, likely had a negative impact on the study's ability to detect the full magnitude of changes during this transition, as well as any possible relations between women's EWS concerns and the couple relationship. This limitation is further highlighted by comparing the current study to other research on the transition to parenthood, which typically follows couples for at least six months postpartum and often much longer. Also, some research has indicated that the largest changes in men's relationship functioning begin occurring much later in the postpartum period (Cowan & Cowan, 1995). However, despite the restricted time frame in which change was examined, the study was adequately powered to detect relations that were medium or larger in magnitude. Thus, the most likely explanation for the lack of findings is that these relations were small or non-existent during the period under investigation.

Another limitation is that women's height and weight were self-reported in the current study, which likely reduced the accuracy of women's BMI measurements. This is problematic given research demonstrating that individuals, and particularly those with a high body weight, tend to underreport their weight (Visscher et al., 2006). It seems possible that during pregnancy, participants were more aware of their weight, and thus more accurate in their reporting, due to the medical interest in weight during this time; indeed, during the third trimester, many women are weighed by their healthcare professional every one or two weeks. However, the lack of similar factors during the postpartum period means that the accuracy of women's BMI was likely limited for the postpartum assessments.

Future Directions

The limited number of significant findings in the current study, if replicated, would indicate that changes in women's EWS concerns are generally not related to changes in the couple relationship over the transition to parenthood. However, given the research supporting the relation between these constructs outside of the transition to parenthood (Friedman et al., 1999), as well as literature demonstrating changes in women's EWS concerns (Baker et al., 1999) and the couple relationship (Doss et al., 2009) during the transition to parenthood, alternate interpretations should be considered. For the current study, the most likely alternative explanation is that these changes, and thus the relations between them, occur over a longer time period than from pregnancy to three months postpartum. This interpretation is consistent with the limited significant changes in the couple relationship that were found in this study when compared with

other research following couples for a longer postpartum time period. Thus, future studies in this area should follow couples for a longer period of time, ideally at least up to one year postpartum, in order to determine whether significant relations exist over time.

For the significant relations that were found in the current study, future research could explore the possible influence of third variables, such as women's neuroticism and affect regulation, in the relations between women's EWS concerns and the couple relationship. Additionally, the finding that different EWS concerns were significantly related to different aspects of relationship functioning for men and women highlights the importance of assessing both partners in any future research. The mediation findings also warrant additional attention, because if results were to replicate, they suggest that recovery of the sexual relationship is an important mechanism through which changes in women's EWS concerns predict changes in relationship functioning during the transition to parenthood. If replicated in future research, these findings suggest that it would be especially important for interventions over the transition to parenthood to focus on the return of sexuality post-birth. Finally, the unexpected finding that increases in women's BMI were related to better relationship outcomes for both men and women, if replicated, could improve preventive interventions offered to couples during the transition to parenthood. These findings suggest that a focus on acceptance (both of bodily changes and changes in the couple relationship) during this transition might mitigate some of the worsening of women's EWS concerns and both partners' relationship functioning. Thus,

preventive efforts could include an emphasis on helping partners not only anticipate, but also accept the changes they will experience during the transition to parenthood.

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APPENDIX A

The following section details the response to recommendations that were made during the dissertation proposal meeting for the current study.

Body Size versus Body Shape

The dissertation committee suggested an exploration of whether women's body dissatisfaction as measured by the EDI was driven by women's dissatisfaction with their size or with their shape. This comment was made in consideration of the scenario in which a woman loses all of the weight she gained from pregnancy and thus is satisfied with her body size, but is dissatisfied with changes to the shape of her body. In order to address this question, two "subscales" were created from within the EDI Body Dissatisfaction subscale: one solely focused on body size and one only about body shape. Partial correlations were then used to determine the link between the Size and Shape "subscales" while controlling for intervention conditions. Results revealed that the Size and Shape subscales were highly correlated at pregnancy ($r = .81, p < .05$), one month postpartum ($r = .79, p < .05$) and three months postpartum ($r = .77, p < .05$). These results suggest that the dissatisfaction women experience with their body size and body shape during the transition to parenthood are highly related.

Partial correlations were also utilized to investigate whether the EDI Shape "subscale" correlated with the single item that assessed women's satisfaction with the "shape and look" of their bodies, again controlling for intervention condition. The EDI Shape dissatisfaction subscale was significantly correlated with the single item about satisfaction with body shape at pregnancy ($r = -.71, p < .05$), one month postpartum ($r =$

-.66, $p < .05$) and three months postpartum ($r = -.70, p < .05$). These results indicate that the EDI Shape dissatisfaction “subscale” was closely related to the single item about women’s satisfaction with their body shape and look. As part of the main dissertation analyses, the single item assessing women’s satisfaction with body shape was utilized as one of the EWS variables in all hypotheses. Thus, the analyses in the core part of the dissertation were able to explore the relation between women’s satisfaction with their body shape and relationship functioning.

Cross-sectional versus Longitudinal Relations

The dissertation committee also recommended that relations between women’s EWS concerns and relationship functioning be explored cross-sectionally in addition to longitudinally. Thus, all of the relations investigated in Hypothesis 2 were also explored cross-sectionally using multiple regressions, with intervention condition dummy codes entered as control variables for all analyses. Overall, results for women’s relationship functioning were largely non-significant at both one and three months postpartum (see Table 6). Although the significant results were somewhat scattered, some patterns did emerge. For example, women’s satisfaction with the shape of their bodies (assessed through a single item) produced more significant cross-sectional relations with women’s relationship functioning than any other EWS variable, followed by women’s EDI Drive for Thinness. For both of these variables, greater EWS problems were related to poorer relationship functioning. Among the relationship variables, women’s EWS concerns were most often related to women’s acceptance of their partners’ Affection behaviors,

followed by women's acceptance of their partners' Closeness behaviors, with greater EWS concerns being related to lower acceptance levels.

For men's relationship functioning, the results were also somewhat scattered (refer to Table 7), but there were a few patterns as well. First, women's EDI Drive for Thinness had the greatest number of cross-sectional relations with men's relationship functioning, with a higher drive for thinness in women being related to poorer relationship functioning in men. Men's satisfaction with their partners' bodies also produced many significant relations, with lower satisfaction relating to poorer relationship functioning for men.

The finding that EDI Drive for Thinness was a strong predictor for both men and women's relationship functioning is consistent with previous research in romantic dating relationships (Morrison et al., 2009). In addition, the results revealed that there were more significant cross-sectional findings for men's relationship functioning than for women's relationship functioning, particularly at three months postpartum. This indicates that women's EWS concerns may be relevant to men's relationship functioning, which has also been demonstrated in previous research (Morrison et al., 2009).

A comparison of the cross-sectional and longitudinal results reveals some notable differences. First of all, both women's and men's satisfaction with women's bodies was significantly related to relationship functioning cross-sectionally, whereas relations between these variables were not significant longitudinally. This difference suggests that in regards to both partners' satisfaction with the woman's body, the immediate

connection with relationship functioning is more salient than the relation between changes in each variable over time. Conversely, changes in women's EDI Bulimia were related to changes in relationship functioning over time, although these variables were not related cross-sectionally. Finally, there was one EWS variable – women's drive for thinness – that produced significant relations with relationship functioning both cross-sectionally and longitudinally, which suggests that this EWS concern may be particularly relevant to relationship functioning. Overall, the different results from the cross-sectional and longitudinal analyses point to the importance of using both approaches to explore the relations between women's EWS concerns and relationship functioning, since different types of EWS concerns seem to matter differentially in cross-sectionally versus longitudinal approaches.

Women's Depression as a Predictor of Relationship Functioning

Finally, the committee recommended an exploration into the role of women's depression as a predictor of both women's EWS concerns and relationship functioning, in order to address the possibility that depression may be driving changes in both constructs.

Importantly, many measures of depression (including the Beck Depression Inventory) include physical symptoms such as fatigue, changes in appetite, disrupted sleep patterns, and loss of interest in sex, which overlap with symptoms women often experience during pregnancy and the postpartum period. In order to alleviate this potential confound in measurement, the Depression subscale of the Brief Symptom Inventory 18-item scale (Derogatis, 2000) was used to measure women's depression.

The BSI Depression subscale assesses only the emotional symptoms of depression, and does not include any physiological symptoms, thus preventing erroneously elevated results based on women's physical symptoms during the transition to parenthood.

First, partial correlations with BSI Depression and women's EWS variables, controlling for condition, were conducted; and results revealed that women's depression and some EWS concerns were significantly related. Specifically, women's BSI Depression was related to their satisfaction with their bodies during pregnancy ($r = -.25, p < .05$), and at one ($r = -.27, p < .05$) and three months ($r = -.27, p < .05$) postpartum. Additionally, women's BSI Depression correlated with EDI Bulimia during pregnancy ($r = .50, p < .05$) and at three months postpartum ($r = .39, p < .05$). Finally, women's BSI Depression was related to their EDI Body Dissatisfaction during pregnancy ($r = .34, p < .05$). No other correlations between women's depression and EWS concerns were significant.

Notably, the significant correlations between women's depression and EWS variables seemed to occur in the EWS variables that produced significant results in the analyses relating EWS concerns to relationship functioning. For example, in the analyses for Hypothesis 2, women's EDI Bulimia was the only EWS variable that was significantly related to changes in women's relationship functioning. Also, in the cross-sectional analyses described in this appendix, women's satisfaction with their bodies was the overall strongest predictor of women's relationship functioning. Based on these patterns, the Hypothesis 2 analyses with women's EDI Bulimia and the appendix cross-sectional analyses with women's body satisfaction were both computed again, with

women's BSI Depression as a control variable. Analyses that (a) were not significant and/or (b) did not involve EWS variables which correlated significantly with depression, were not computed again because the question of depression as a third variable driving the relations was not relevant for analyses meeting these criteria.

Results for the re-examination of Hypotheses 2 analyses revealed that depression may have been driving some of the relations between changes in women's EDI Bulimia and changes in relationship functioning, because three out of four significant relations were no longer significant once controlling for depression. Specifically, the relation between changes in women's EDI Bulimia and women's acceptance of their partners' Demanding and Violation behaviors were no longer significant when changes in women's BSI Depression was entered as a control variable. The relation between changes in women's EDI Bulimia and the log frequency of Violation behaviors women reported for their partners changed from a significant to a trend finding when including changes in women's BSI Depression ($b = 0.003$, $t(60) = 1.81$, $p < .10$). However, the relation between changes in women's EDI Bulimia and women's relationship satisfaction remained significant even when controlling for BSI Depression ($b = -0.04$, $t(60) = -2.40$, $p < .05$).

Controlling for depression in the cross-sectional analyses also changed the patterns of significance in relations between women's EWS concerns and their relationship functioning. Overall, three of the four relations between women's satisfaction with their bodies and women's relationship functioning became non-significant when controlling for women's BSI Depression. One of these relations,

between women's satisfaction with their bodies and overall relationship satisfaction, changed from a significant to a trend finding ($B = 1.53$, $\beta = .22$, $t(72) = 1.84$, $p < .10$). All three of the relations that were no longer significant when controlling for depression were for one-month postpartum. At three months postpartum, the relation between women's satisfaction with their bodies and women's acceptance of their partners' Affection behaviors remained significant after controlling for depression ($B = 0.27$, $\beta = .23$, $t(73) = 2.00$, $p < .05$).

These results are somewhat mixed, but as a whole they suggest that women's depression may be a factor in some relations between women's EWS concerns and relationship functioning. Given that the results were not consistent, it seems as if there may be exceptions to the general pattern of women's depression driving EWS concerns and relationship functioning. Also, the cross-sectional results indicate that women's depression may be particularly salient at one month, but not three months, postpartum. Finally, the results highlight the importance of controlling for depression in analyses exploring relations between women's EWS concerns and relationship functioning.

APPENDIX B

Table 1. Change in Relationship and Eating, Weight, and Shape Variables

Variable	Women	Men
Relationship		
Dyadic Adjustment Scale	ns	ns
Log Frequency		
Affection	$b = -0.03^*$	$b = -0.03^*$
Closeness	ns	$b = 0.04^*$
Demand	ns	$b = 0.02^+$
Violation	ns	ns
Acceptance		
Affection	ns	$b = -0.04^*$
Closeness	$b = -0.07^*$	$b = -0.07^*$
Demand	$b = -0.05^+$	ns
Violation	ns	ns
Eating, Weight, and Shape		
Pregnancy – 3 Months Postpartum		
Satisfaction with Woman's Body	ns	ns
Body Mass Index	$b = -0.16^*$	-
Eating Disorder Inventory		
Thinness	$b = 0.27^*$	-
Bulimia	ns	-
Body Dissatisfaction	$b = 0.49^*$	-
Pre-Pregnancy – 3 Months Postpartum		
Satisfaction with Woman's Body	$b = -0.02^*$	$b = -0.005^*$
Body Mass Index	$b = 0.04^*$	-

Note. * $p < .05$. + $p < .10$. - Analyses not conducted.

Table 2. Relation between Change in Women's EWS Concerns and Change in Relationship Functioning: Pregnancy to 3 Months Postpartum

EWS Variable	DAS	Log Freq. Affection	Log Freq. Closeness	Log Freq. Demand	Log Freq. Violate	Accept. Affection	Accept. Closeness	Accept. Demand	Accept. Violate
Women's Relationship Functioning									
Body Mass Index	ns	ns	ns	ns	ns	ns	ns	ns	ns
M's Satisfaction W's Body	ns	ns	ns	ns	ns	ns	ns	ns	ns
W's Satisfaction W's Body	ns	ns	ns	ns	ns	ns	ns	ns	ns
Eating Disorder Inventory									
Thinness	ns	ns	ns	ns	$b = 0.003^+$	ns	ns	ns	ns
Bulimia	$b = -0.05^*$	ns	ns	ns	$b = 0.004^*$	ns	ns	$b = -0.007^+$	$b = -0.004^+$
Body Dissatisfaction	ns	ns	ns	ns	ns	ns	ns	ns	ns
Men's Relationship Functioning									
Body Mass Index	$b = -0.03^+$	ns	ns	ns	$b = -0.003^*$	ns	ns	ns	ns
M's Satisfaction W's Body	ns	ns	ns	$b = 0.007^+$	ns	ns	ns	ns	ns
W's Satisfaction W's Body	ns	ns	ns	ns	$b = 0.003^+$	ns	ns	ns	ns
Eating Disorder Inventory									
Thinness	ns	ns	$b = -0.001^+$	$b = 0.002^+$	ns	ns	$b = -0.002^+$	$b = -0.005^+$	ns
Bulimia	ns	ns	ns	ns	ns	ns	ns	ns	ns
Body Dissatisfaction	ns	$b = -0.001^+$	ns	ns	ns	ns	ns	ns	ns

Note. * $p < .05$. $^+ p < .10$. DAS = Dyadic Adjustment Scale. Freq. = Frequency. Accept. = Acceptance. W = Woman. M = Man.

Table 3. Relation between Change in Women's EWS Concerns and Change in Relationship: Pre-Pregnancy to 3 Months Postpartum

EWS Variable	DAS	Log Freq. Affection	Log Freq. Closeness	Log Freq. Demand	Log Freq. Violate	Accept. Affection	Accept. Closeness	Accept. Demand	Accept. Violate
Women's Relationship Functioning									
Body Mass Index	ns	$b = 0.002^*$	ns	$b = -0.003^*$	ns	$b = 0.006^*$	ns	$b = 0.002^*$	ns
M's Satisfaction W's Body	ns	ns	ns	ns	ns	ns	ns	ns	ns
W's Satisfaction W's Body	ns	ns	ns	ns	ns	ns	ns	ns	ns
Men's Relationship Functioning									
Body Mass Index	ns	ns	ns	ns	$b = -0.003^*$	ns	ns	ns	ns
M's Satisfaction W's Body	ns	ns	ns	$b = 0.007^+$	ns	ns	ns	ns	ns
W's Satisfaction W's Body	ns	ns	ns	ns	$b = 0.003^+$	ns	ns	ns	ns

Note. * $p < .05$. + $p < .10$. DAS = Dyadic Adjustment Scale. Freq. = Frequency. Accept. = Acceptance. W = Woman. M = Man

Table 4. Relation between Change in Women's EWS Concerns and Hypothesized Mediators at Three Months Postpartum

EWS Variable	W Log Freq. Sexual Activity	M Log Freq. Sexual Activity	W Accept. Sexual Activity	M Accept. Sexual Activity	M's Satisfaction W's Body
Body Mass Index	ns	ns	ns	ns	ns
W's Satisfaction W's Body	ns	ns	ns	ns	ns
Eating Disorder Inventory					
Thinness	ns	$b = -0.25^*$	$b = -0.16^*$	ns	ns
Bulimia	ns	ns	ns	ns	ns
Body Dissatisfaction	ns	$b = -0.16^+$	ns	ns	ns

Note. * $p < .05$. + $p < .10$. Freq. = Frequency. Accept. = Acceptance. W = Woman. M = Man.

Table 5. Relation between Hypothesized Mediators and Relationship Functioning Controlling for Change in Women's EWS Concerns

Predictor and Control Variables	DAS	Log Freq. Closeness	Log Freq. Demand	Log Freq. Violate	Accept. Closeness	Accept. Demand	Accept. Violate
Women's Relationship Functioning							
M Log Freq. Sex Control for Thinness	ns	ns	$b = -0.001^+$	$b = -0.002^*$	$b = 0.003^+$	$b = 0.005^*$	$b = 0.002^*$
W Accept. Sex Control for Thinness	ns	ns	ns	ns	ns	ns	ns
M Log Freq. Sex Control for Body Dis.	ns	ns	$b = -0.001^*$	$b = -0.003^*$	$b = 0.003^*$	$b = 0.006^*$	$b = 0.003^*$
Men's Relationship Functioning							
M Log Freq. Sex Control for Thinness	ns	ns	$b = -0.003^*$	ns	ns	$b = 0.006^*$	ns
W Accept. Sex Control for Thinness	ns	ns	ns	ns	ns	ns	ns
M Log Freq. Sex Control for Body Dis.	$b = 0.02^*$	ns	$b = -0.003^*$	ns	ns	$b = 0.008^*$	$b = 0.001^+$

Note. * $p < .05$. $^+ p < .10$. Freq. = Frequency. Accept. = Acceptance. W = Woman. M = Man. Sex = Sexual Activity. Dis. = Dissatisfaction.

Table 6. Cross-sectional Relation between Women's Eating, Weight, and Shape Concerns and Women's Relationship Functioning

EWS Variables	DAS	Log Freq. Affection	Log Freq. Closeness	Log Freq. Demand	Log Freq. Violate	Accept. Affection	Accept. Closeness	Accept. Demand	Accept. Violate
One Month Postpartum									
Body Mass Index	ns	ns	ns	ns	ns	ns	ns	ns	ns
Satisfaction with Body	B = 2.00*	ns	ns	ns	ns	ns	B = 0.25*	B = 0.37*	ns
Eating Disorder Inventory									
Thinness	B = -0.42*	ns	ns	ns	ns	ns	ns	ns	ns
Bulimia	ns	ns	ns	ns	ns	ns	ns	ns	ns
Body Dissatisfaction	ns	B = .05 ⁺	ns	ns	ns	ns	ns	ns	B = 0.07*
Three Months Postpartum									
Body Mass Index	ns	ns	ns	ns	ns	ns	ns	ns	ns
Satisfaction with Body	ns	ns	ns	ns	ns	B = 0.36*	B = 0.18 ⁺	ns	ns
Eating Disorder Inventory									
Thinness	ns	ns	ns	ns	ns	B = -0.06*	B = -0.04*	B = -0.05 ⁺	ns
Bulimia	ns	ns	ns	ns	ns	B = -0.10 ⁺	ns	ns	ns
Body Dissatisfaction	ns	ns	ns	ns	ns	B = -0.04*	ns	ns	ns

Note. * $p < .05$. ** $p < .01$. ⁺ $p < .10$. DAS = Dyadic Adjustment Scale. Freq. = Frequency. Accept. = Acceptance

Table 7. Cross sectional Relation between Women's Eating, Weight, and Shape Concerns and Men's Relationship Functioning

	DAS	Log Freq. Affection	Log Freq. Closeness	Log Freq. Demand	Log Freq. Violate	Accept. Affection	Accept. Closeness	Accept. Demand	Accept. Violate
One Month Postpartum									
Body Mass Index	ns	ns	ns	ns	B = 0.02 ⁺	ns	ns	ns	ns
Satisfaction with Body	ns	B = 0.21*	ns	ns	B = -0.09*	ns	ns	ns	B = 0.16 ⁺
Eating Disorder Inventory									
Thinness	B = -0.45*	B = -0.03 ⁺	ns	B = 0.04*	B = 0.02**	B = -0.06 ⁺	ns	ns	ns
Bulimia	ns	B = -.05 ⁺	ns	ns	ns	ns	ns	ns	ns
Body Dissatisfaction	ns	ns	ns	ns	ns	ns	ns	ns	ns
Three Months Postpartum									
Body Mass Index	ns	ns	ns	ns	ns	ns	ns	ns	ns
Satisfaction with Body	ns	B = 0.22 ⁺	B = .18**	ns	ns	B = 0.42 ⁺	B = 0.26*	ns	ns
Eating Disorder Inventory									
Thinness	B = -0.40*	ns	ns	B = 0.03*	ns	ns	B = -0.03*	B = -0.07*	ns
Bulimia	ns	ns	ns	B = 0.07*	ns	ns	B = -0.06 ⁺	ns	ns
Body Dissatisfaction	ns	B = -0.02*	B = -0.01 ⁺	B = 0.02*	ns	ns	ns	B = -0.05*	ns

Note. * p < .05. ** p < .01. ⁺ p < .10. DAS = Dyadic Adjustment Scale. Freq. = Frequency. Accept. = Acceptance.

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