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Predictors of Body Dissatisfaction, Eating Disturbance, and Depressive Symptoms in Mothers

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by

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Abstract

Body image, eating disturbance, and depressive symptomatology have been examined extensively in the general population. The assessment of these variables within the postpartum period has also been a target of recent research. Unfortunately, no existing studies have examined the intercorrelations among these factors in mothers of young children, despite increasing media pressure for moms to maintain a slim, pre-pregnancy body. The current study examined predictors of body dissatisfaction, eating disturbance, and depressive symptoms in mothers of children aged 0-5. Simple correlations were followed by a series of linear multiple regressions incorporating sociocultural predictors alongside covariates identified in the extant literature. Findings suggest that sociocultural factors are significantly related to body image, eating disturbance, and depressive symptomatology in the mothers sampled, and BMI, perceived stress, and current exercise status accounted for significant variance in study outcomes. Limitations, implications and significance are addressed in turn.

Chapter 1. Introduction

Pregnancy is associated with substantial changes in a woman's weight and shape. Women are advised to gain between 25-35 pounds during pregnancy, and most retain an average of 2.2 pounds of the pregnancy weight (Institute of Medicine, 1990). Although this mean retention is seemingly modest, the degree of weight retention varies greatly, with 12-13 percent of women considered to experience substantial postpartum weight retention (SPPWR) at one-year post-delivery (Herring et al, 2008; Gunderson et al., 2008). During the postpartum period, women weigh more than they did before pregnancy and can no longer attribute the weight gain to the positive aspects associated with supporting a developing child (Carter et al., 2000). Postpartum women are often unprepared for the body changes and residual weight gain that persist after delivery (Stein & Fairburn, 1996), and if women retain pre-pregnancy expectations about how their bodies should look, they are at greater risk for body image disturbance in the postpartum months (Wertheim et al., 2004; Rallis, Skouteris, Wertheim, & Paxton, 2007).

Recent strides have been made to better understand the changes in body image that occur across pregnancy and postpartum. In particular, studies have assessed changes in level of body dissatisfaction over time (e.g. Rallis, Skouteris, Wertheim, & Paxton, 2007; Skouteris et al., 2005; Carter et al., 2000; Stein & Fairburn, 1996), and the relationships between body dissatisfaction, eating disturbances, and mood symptoms have been explored (Walker et al., 2002; Birkeland et al., 2005; Jenkin & Tiggemann, 1997; Stein & Fairburn, 1996). The pregnancy and postpartum body image literature will

be reviewed followed by an overview of studies that have examined the relationship between body dissatisfaction and depressive symptoms across pregnancy and postpartum. Limitations of the extant literature and the present study objectives will then be addressed. The current study identifies predictors of body image and eating disturbance as well as depressive symptomatology beyond the immediate peripartum period.

Body Image During Pregnancy

Several studies have examined body image experience during pregnancy and the findings are mixed (Baker et al., 1999). Although some evidence suggests that women feel more satisfied with their bodies during pregnancy (e.g., Davies & Wardle, 1994) relative to pre-pregnancy and postpartum, other studies have demonstrated continued body and weight concerns throughout the months of pregnancy (e.g., Fairburn et al., 1992; Baker et al., 1999). Variation in the way in which body image has been operationally defined across pregnancy studies can partially explain the discrepant findings.

Distinguishing between global and specific attitudes and behaviors provides some clarity in understanding the extant literature on body image during pregnancy (Baker et al., 1999). Baker and colleagues (1999) suggest that although global attitudes are particularly resistant to change, specific attitudes and behaviors may be affected by the body changes of pregnancy (e.g., altering intake to nurture a developing fetus). For example, Fairburn et al. (1992) report that positive body-related attitudinal and behavioral changes often occur during the early stages of pregnancy, but underlying weight and shape concerns persist throughout pregnancy and postpartum. Similarly,

Baker and colleagues (1999) report that although global eating attitudes remain stable across the peripartum period, weight/shape satisfaction is higher during pregnancy than postpartum, and dieting scores tend to increase during late pregnancy and early postpartum.

Overall, extant data suggests that women continue to experience underlying dissatisfaction during pregnancy, although the degree of dissatisfaction is generally lower than pre-pregnancy and postpartum levels, and most women report an increased ability to cope cognitively (positive attributions to weight gain) and behaviorally (lower levels of dieting) with existing body image concerns as they nurture a developing baby. Although burgeoning, the existing literature base is quite limited, and additional prospective studies are needed that distinguish between state and trait constructs of body image to further elucidate body image experiences during pregnancy.

Postpartum Body Image

Hiser (1987) reports that 75 percent of new mothers are concerned with their weight and 70 percent are worried about their ability to return to a pre-pregnancy figure in the first few postpartum weeks. Consistent with these numbers, Fischman et al. (1986) report that 70 percent of women are dissatisfied with their weight 6 months postpartum, and that 39 percent remained dissatisfied one-year post delivery. Additionally, Baker and colleagues (1999) report that 70 percent of 4-month postpartum mothers are actively dieting to lose weight compared to a 53 percent pre-pregnancy rate.

The importance of understanding postpartum body image is well documented (e.g., Carter et al., 2000; Stein & Fairburn, 1996; Rallis et al., 2007). Postpartum body image disturbance has important implications for both maternal and infant well-being. Body image disturbance in new mothers has been linked to excessive dieting and eating disturbances (Stein & Fairburn, 1996; Baker et al., 1999), as well as depressive symptomatology (Jenkin & Tiggemann, 1997; Birkeland et al., 2005; Walker et al., 2002). Maternal body image and eating disturbances during postpartum have also been linked to impaired milk production, energy deficiency, infant feeding issues and compromised development (Dewey & McCrory, 1994; Wendy & Tiggemann, 1997; Lacey & Smith, 1987; Stein & Fairburn, 1989; Stein et al., 1994).

Although the existing research base on postpartum body image is limited, several notable studies have begun to disentangle the pattern of body dissatisfaction symptoms in the months following childbirth. In an assessment of specific body image concerns experienced by Anglo, African American, and Hispanic women within the immediate 6 weeks following delivery, Walker and colleagues (2002) report that overall weight is of most concern at post-delivery whereas the waist body site is the leading area of dissatisfaction at 6 weeks postpartum. In addition, Anglo women reported significantly more body dissatisfaction than did African American and Hispanic women in the early postpartum weeks. A recent longitudinal study of Australian women assessed changes in body image across pregnancy and postpartum (Rallis et al., 2007). Results indicate that women experience significantly greater body image dissatisfaction in postpartum relative to pre-pregnancy and late pregnancy, with dissatisfaction peaking around 6 months postpartum.

A prospective study by Stein and Fairburn (1996) examined changes in eating habits and attitudes across pregnancy and 6 months postpartum. Findings indicate that eating disturbance and weight and shape concerns increased significantly in the first three postpartum months. Interestingly, shape concerns decreased between postpartum months 3 and 6 whereas weight concerns continued to increase. In addition, excessive concern over residual weight retention preceded the onset of clinically significant eating disorder symptoms in some cases (Stein & Fairburn, 1996). The Stein and Fairburn (1996) study offers valuable insight into the complexity of body image concerns during pregnancy and postpartum. The authors elucidate the need to assess the construct of body image using multidimensional assessments that accurately disentangle specific aspects of dissatisfaction in postpartum women, such as making the distinction between dissatisfaction with weight versus dissatisfaction with shape. Although the prospective design of the study is commendable, the final assessment occurred at only 6 months postpartum. In addition, single items were used to assess weight/shape concerns, and future studies would benefit from employing a more psychometrically sound body image measure.

Until recently, little was known about predictors of body image disturbance in postpartum women with the exception of BMI and pregnancy weight gain. Both postpartum BMI and pregnancy weight gain have received consistent support as significant predictors of postpartum body dissatisfaction (e.g., Carter et al., 2000; Stein & Fairburn, 1996; Walker, 1998; Jenkin & Tiggemann, 1997). In a recent and direct examination of postpartum body image predictor variables, Rallis and colleagues (2007) revealed that a higher frequency of appearance comparisons at 6 weeks postpartum

significantly predicted a multidimensional assessment of body image at 12 months postpartum. In addition, depressive symptomatology and dieting behaviors at 6 months postpartum were also found to predict body image one year post-delivery.

Unfortunately, this limited number of studies forms our current understanding of predictors of postpartum body image disturbance. However, several risk factors for body image disturbance have been identified in the general female population and these variables merit examination in mothers. Perceived pressure to be thin, internalization of the societal appearance ideal, higher frequency of appearance comparisons (e.g., Thompson et al., 1999; Wertheim et al., 2004), and genetics (e.g. Rutherford et al., 1993; Keski-Rahkonen et al., 2005) have consistently predicted body image disturbance in women and girls, thereby warranting systematic examination of their predictive validity in pregnant women and mothers.

Postpartum Body Image, Eating Disturbance, and Depressive Symptomatology

Depressive Symptoms and Clinical Depression in Postpartum Women. Studies suggest that one in four postpartum women will experience some form of emotional distress (Alexander & Higgins, 1993; Pierce, Strauman, & Vandell, 1999), and approximately 13 percent will endure the debilitating effects of postpartum depression (O'Hara & Swain, 1996). Postpartum depression can be distinguished from "baby blues" in that symptoms persist beyond the first ten days post-delivery and may last for up to one year (APA, 2000). Symptoms generally begin between postpartum months 3 and 6, and persist for at least two weeks. Postpartum depression symptoms include tearfulness, despondency, emotional lability, guilty feelings, sleep and eating disturbances, feelings of

inadequacy as a parent, poor concentration, fatigue, and irritability. In addition to the personal consequences of postpartum depression on new mothers, maternal depression has been linked to disturbed mother-infant relationships and impaired infant emotional and cognitive development (e.g., Beck, 1995; Weinberg & Tronick, 1998; Weinberg et al., 2006). If left untreated, postpartum depression can serve as a precursor to recurrent depression (Miller, 2002) and can contribute to emotional, cognitive, behavioral, and interpersonal problems for the child as he/she develops (Jacobsen, 1999).

Because of the covert nature of postpartum depression and the social stigma attached to the disorder, early recognition is challenging and the identification of risk factors is imperative (Beck, 2001). Although findings have often been inconsistent, several variables have been identified as true risk factors for the onset of postpartum depression. In 2001, Beck conducted a meta-analysis of 84 studies that individually assessed predictors of postpartum depression to replicate the findings from two previous meta-analyses (Beck, 1996; O'Hara & Swain, 1996). Ten predictors with medium effect sizes were identified: prenatal depression, low self-esteem, childcare stress, prenatal anxiety, life stress, low social support, quality of marital relationship, history of previous depression, infant temperament, and maternity blues. Unfortunately, existing meta-analyses did not assess the predictive validity of body image disturbance despite the presence of recent notable attempts to understand the relationship between body image and depressive symptomatology in the postpartum period.

Postpartum Depressive Symptomatology and Body Image and Eating Disturbances. The relationship between depressive symptomatology and body image and eating disturbances has been consistently reported in the literature (Grubb, Sellers, &

Waligrowski, 1993; Noles, Cash, & Winstead, 1985; Paxton et al., 2006), although the direction of the relationship has been debated. In most empirically supported models of depression and body image, however, it is suggested that body image disturbance precedes the onset of depressive symptoms (e.g., Thompson et al., 1999; Paxton et al., 2006). In postpartum women, it is possible that eating and weight concerns are exacerbated by elevated levels of depression, but consistent with existing models, it is also likely that increased body image concerns and dieting behaviors contribute to depressive symptomatology following childbirth (Carter et al., 2000).

Several recent studies have examined body image and eating issues as potential predictors of postpartum depression. Using a sample of young mothers, Birkeland et al. (2005) found that weight/shape concerns, along with parental stress variables, significantly predicted depressive symptoms in adolescent mothers. Collectively, weight/shape concerns and parental stress accounted for 38 percent of the variance in depressive symptoms. The cross-sectional nature of the study was an obvious limitation that has been addressed, to some extent, in a limited number of longitudinal studies of postpartum depression and body image disturbance.

Carter et al. (2000) conducted a prospective assessment of BMI, eating attitudes, and affective symptoms across pregnancy and postpartum. The authors report that BMI was associated with depressive symptoms at 4 months and 14 months postpartum, and that eating attitudes were related to depressive symptoms at 14 months postpartum. In addition, 4-month postpartum maternal BMI and eating attitudes significantly predicted 14-month postpartum depressive symptoms. Walker and colleagues (2002) report a similar association between depressive symptoms and body dissatisfaction at post-

delivery and 6 weeks postpartum in Anglo and Hispanic women but not in African American mothers. Finally, a prospective investigation by Jenkin and Tiggemann (1997) revealed a significant positive relationship between weight retention, body dissatisfaction, and depressive symptomatology in the early weeks post-delivery.

Overall, the association between depressive symptoms and body image disturbance in postpartum women has been relatively well supported. Although structural models depicting the relationship between body image and depression in the general population suggest body image disturbance to precede subclinical and clinical depressive symptoms (e.g., Thompson et al., 1999; Holsen, Kraft, & Roysamb, 2001), the sparse extant data on depressed mood and body image disturbance in postpartum women is insufficient to confidently tout a causal pathway between body image disturbance and postpartum depressive symptoms. With existing studies serving as an informative basis from which variable selection and research design decisions can be pulled, future prospective studies will ideally further delineate the relationship between depressive symptoms and body image disturbance in postpartum women as well as identify potential moderating and mediating factors.

Existing Limitations and the Current Study

Selection of Meaningful Variables and Reliable Measures. As is easily discerned from the extant literature on pregnancy and postpartum body image, ongoing and future research needs to focus on the selection of meaningful variables and reliable measures in an attempt to draw a more accurate picture of body image concerns across the childbearing experience. The distinction between global versus specific body image attitudes and behaviors (Baker et al., 1999) warrants further exploration as does the

delineation between weight dissatisfaction, shape dissatisfaction, and overall appearance dissatisfaction (Stein & Fairburn, 1996) in postpartum women. It was the intention of the current study to include valid, psychometrically sound measures of body image and eating disturbances, depressive symptomatology, and relevant predictor variables. The use of the Eating Disorder Examination Questionnaire 6.0 (EDE-Q 6.0; Fairburn & Beglin, 1994, 2008) to permit the distinction between weight and shape body dissatisfaction, along with the inclusion of psychometrically sound measures of body image disturbance, media ideal internalization, social comparison, and depressive symptomatology, will nicely supplement the existing literature base.

Identifying Predictors of Body Image and Eating Disturbances in Mothers. With the exception of the few extant studies that have examined the moderating effect of BMI on postpartum body image disturbance, little is known of other potential predictors of body image concerns in the months/years following childbirth. Preliminary evidence suggests that frequency of appearance comparisons does in fact predict body dissatisfaction in postpartum women (Rallis et al., 2007). The current study sought to examine the relationship between sociocultural influences and body image and eating disturbances in mothers, given the substantial support that exists for such predictors in the general population (Thompson et al., 1999). Media internalization, perceived pressures, and social comparison were examined as potential predictors of body dissatisfaction and disordered eating in mothers.

Finally, the role of breastfeeding in the postpartum body image experience is unknown. The present study also explored the relationship between breastfeeding status, postpartum weight retention, and body image disturbance in mothers of young children.

Body Image and Psychological Functioning Beyond the First Postpartum Year. Although the growing research focus on maternal psychological and physical health during the peripartum period is invaluable, no studies to date have assessed body image concerns in mothers beyond the immediate postpartum period, with the longest reported follow-up occurring at 14 months post-delivery (Carter et al., 2000). Preliminary evidence suggests that significant levels of body dissatisfaction persist beyond the postpartum year (Carter et al., 2000), and although depressive symptoms peak in the early postpartum months, a significant number of women remain depressed up to two years post-delivery (Horowitz & Goodman, 2004). In fact, in a recent study examining the persistence of depressive symptoms beyond the immediate postpartum period, 56% of mothers diagnosed with postpartum depression at 4 months following childbirth reported ongoing symptoms up to four years later (McMahon, Trapolini, & Barnett, 2008).

Implications and Significance. Understanding changes in a woman's body image in the months and years following childbirth is important both for maternal health and child development. As children grow from infants, to toddlers, to young children, the degree to which they internalize and process messages in their environment increases exponentially (e.g., Nelson, 2007). Unfortunately, this increased awareness does not preclude internalization of societal appearance ideals and attitudes surrounding food and weight. Parents of young children serve an important role in the development of a child's body image (Wertheim et al., 2004), and a parent's approach to body image can either serve to support or buffer against societal appearance pressures.

The role of mothers (as well as fathers, peers, and siblings) as proximal transmitters of the societal appearance ideal has been well documented (e.g., Thompson at al., 1999; Wertheim et al., 2004). In general, children with body image concerns are more likely to have parents who encourage them to lose weight or who make negative comments about the child's weight (Wertheim et al., 2004). Unfortunately, even less intentional and overt parental attitudes and behaviors can negatively impact a child's body image. For example, Lowes and Tiggemann (2003) report that a child's perception of his/her mother's body dissatisfaction alone can significantly predict his/her own body satisfaction. A better understanding of body image and psychological functioning in mothers of young children would greatly inform intervention and early prevention efforts in hopes of reducing future risk for body image and eating disturbances for mom and child alike. The current study seeks to contribute to the extant literature base by extending our knowledge of body image, eating and mood disturbances beyond the immediate postpartum period through the examination of these constructs in mothers of children aged 0-5 years.

Hypotheses

1. Higher levels of body dissatisfaction and eating disturbance will be significantly related to depressive symptomatology, such that woman who experience higher levels of body dissatisfaction and eating disturbance will report increased depressive symptomatology.

2. Level of media internalization, perceived pressures and social comparison will significantly and positively relate to body dissatisfaction and eating disturbance, such that women who report higher levels of media internalization, perceived pressures and social comparison will also report increased body dissatisfaction and eating disturbance.
3. Relationship dissatisfaction, perceived stress, and pregnancy weight gain will significantly and positively relate to degree of depressive symptomatology, body dissatisfaction, and eating disturbance, such that higher levels of relationship dissatisfaction, perceived stress, and pregnancy weight gain will be related to increased depressive symptoms and body image and eating disturbances.
4. Postpartum weight loss, exercise status, and breastfeeding status will be negatively related to degree of depressive symptomatology, body dissatisfaction, and eating disturbance such that increased levels of postpartum weight loss and exercise rates and a positive breastfeeding status will be related to lower levels of the outcome variables (e.g., fewer depressive and eating symptoms and reduced body dissatisfaction).
5. Body dissatisfaction and eating disturbance will predict unique variance in depressive symptomatology above and beyond other predictor variables (relationship satisfaction, perceived stress, pregnancy weight gain, postpartum weight loss).

6. Perceived pressures, social comparison, and internalization will predict unique variance in body image and eating disturbance above and beyond BMI, pregnancy weight gain, postpartum weight loss, breastfeeding status, exercise status, and depressive symptomatology.

Chapter 2. Method

Participants

Participants included mothers of young children recruited from a pediatric clinic affiliated with a large university medical center. Mothers were invited to participate if they had a child born within the previous five years. Both primiparious and multiparious women age 18 and older were included so as to support the external validity of the study. The only exclusion criterion (other than age<18) was current pregnancy status. An a priori power analysis suggested a sample size of N=114 to detect a medium effect at a power of .80 for a linear regression analysis including nine predictor variables (the anticipated largest number of predictor variables entered into a regression). The data for those participants who completed at least 60 percent of the survey packet were included in the analyses, leaving a total sample size of 112 females.

The mean age of the sample was 30.16 (SD = 6.09) with an age range of 19 to 47 years. Most participants were Caucasian (55.4%), with 23.2% identifying as African-American/Black/Caribbean, 16.1% as Hispanic-Latino, 1.8% as Asian-American, 0.9% as Arab/Middle Eastern, and 2.7% of the sample chose "other". Fifty-seven percent of the moms sampled reported their relationship status as married, 22.3% were single, 3.6% were separated, 4.5% were divorced, and 12.5% stated that they were living with a partner but were not married. The mean BMI of the mothers sampled was 26.83 (SD =

6.50), falling within the overweight range based on the Center for Disease Control classification system.

Forty-nine percent of the mothers sampled had only one child, 33% had two children, 10.7% had three children, 4.5% had four children, and 2.7% had 5 children at the time of recruitment. The age of the youngest child ranged from 1 week to 5.5 years, with a maximum age for all children reported to be 24 years.

In terms of time elapsed since the birth of the last child, the mean number of months since childbirth was 19.62 months (SD = 17.60) for the mothers sampled. 44.7% of mothers gave birth within the prior year, 73.8% within the prior two years, 83.5% within the prior three years, and 91.3% gave birth within the four years leading up to survey completion. Sample demographic data is presented in table 1 below.

Table 1. *Sample demographics*

Variable	**Range**	**Mean**	**Standard Deviation**
Age (years)	19 - 47	30.16	6.09
BMI	18.17 – 53.25	26.83	6.50
Time Since Birth of Last Child (months)	.24 - 64.00	19.62	17.60
Number of Children	1-5	1.79	.99
Age of Youngest Child (months)	.24 - 66	21	18.84
Age of Oldest Child (years)	.02 - 24	7.07	5.57

Measures

General Demographic and Personal Information Questionnaire for Mothers (Adapted from Skouteris et al., 2005, and Rallis et al., 2007). This demographic questionnaire was adapted from surveys created for use as a part of a longitudinal study on maternal peripartum psychological and physical health (e.g., Skouteris et al., 2005; Rallis et al., 2007). The questionnaire has been completed by women during pregnancy and postpartum to assess relevant demographic and behavioral variables, including marital status, BMI, number of children, work status, household income, exercise habits, etc. The survey also includes items intending to elicit information on both current weight status and retrospective weight history across pre-pregnancy, pregnancy, and post-delivery. The demographic questionnaire can be found in Appendix A.

Multidimensional Body-Self Relations Questionnaire- Appearance Evaluation and Body Areas Satisfaction Subscales (MBSRQ-AES and MBSRQ-BASS; Brown, Cash & Mikulka, 1990; Cash, 2005). The MBSRQ-AE is a widely used measure of overall appearance satisfaction and evaluation. The 7-item scale consists of questions such as "My body is sexually appealing" and "I dislike my physique". Participants are asked to match their agreement with these statements on a likert scale from 1 (Definitely Disagree) to 5 (Definitely Agree). A high score on the AE subscale is indicative of greater appearance satisfaction. In a sample of over 2,000 males and females, the AES has an internal consistency of .88 and a test-retest reliability of .81 (Cash, 1994). The internal consistency reliability for the current study was high (.90).

The MBSRQ-BASS is a measure of body site satisfaction. The BASS assesses dissatisfaction with both weight-related (mid torso) and non-weight-related (face) body sites. Participants are asked to indicate how satisfied/dissatisfied they are with different areas of the body on a likert scale from 1 (Very Dissatisfied) to 5 (Very Satisfied), with higher scores indicating greater satisfaction. The BASS has an internal consistency of .77 and a test-retest reliability of .86 in a sample of men and women (Cash, 1994). For the current study, the Cronbach's alpha was .85. The MBSRQ-AES and BASS items can be found in Appendix B.

Sociocultural Attitudes Toward Appearance Questionnaire 3-Mothers: (SATAQ 3-M; Adapted from the SATAQ-3, Thompson et al., 2004). The SATAQ 3-M was created for this study as an extension of the psychometrically supported SATAQ-3 (Thompson et al., 2004). SATAQ-3 is the latest revision of the SATAQ (Cusumano & Thompson, 1997) and the SATAQ-R (Heinberg et al., 1995). The SATAQ-3 is comprised of four dimensions of media influence: awareness, internalization, pressures, and information as opposed to the two-factor structure (internalization and awareness) of the SATAQ-R. The SATAQ-3 also divides the Internalization subscale into general media internalization and athletic and sports figure internalization. The Internalization-General subscale consists of 9 items with a response set of 1(Definitely Disagree) to 5(Definitely Agree). Items include such statements as "I would like my body to look like the people who are on TV" and "I compare my appearance to the people in magazines." The Internalization-Athlete subscale consists of 5 items and uses the same response set. Items include "I try to look like sports athletes" and "I compare my body to people who are athletic." The internal consistencies for the Internalization-General and

Internalization-Athlete subscales are .92 and .89 respectively. The Pressures subscale consists of 7 items assessing perceived media ideal pressures, such as "I've felt pressure from TV and magazines to lose weight." Cronbach's alpha estimates for the Pressures subscale range from .94-.95 (Calogero, Davis & Thompson, 2004). The Awareness and Information subscales were omitted from the current study.

The SATAQ 3-M contains all internalization and pressures items from the SATAQ-3, however, several modifications were made to the measure to facilitate the assessment of retrospective pre-pregnancy internalization/pressures as well as perceived pressure/internalization following the birth of a woman's last child. Part one of the scale instructs mothers to report on pressures felt and comparisons made prior to their first pregnancy, and part two of the scale is structured to elicit pressures felt following the birth of a mother's last child. Items were added to both sections of the scale to assess perceived pressure from the multiple sources supported by existing research including peers and significant other (Thompson et al., 2004). Additional items were also added to evaluate comparison target (e.g., are mothers comparing themselves to general media figures or to celebrity mothers specifically?).

An EFA was conducted on both the pre-pregnancy and postpartum measures to inform the true structure of the modified scale and elucidate possible differences in social comparison, perceived pressures, and internalization from pre-pregnancy to motherhood. As further described in the analyses section, a four-factor structure emerged for both the pre-pregnancy and postpartum measures. Interpretation of the emergent factors suggests four subscales: Media Pressures, Significant Other Pressures, Peer Pressures, and Comparison/Internalization. Additionally, the mother-specific items added to the

postpartum SATAQ were best conceptualized as comprising a separate and distinct measure of motherhood internalization and comparison. The SATAQ 3-M can be found in Appendix C.

For the present study, all alpha internal consistency reliability estimates for the composite and subscales of the retrospective pre-pregnancy SATAQ were high (Composite: .97, Media: .98, Significant Other: .96, Peer: .97, Internalization/Comparison: .97). Similarly, all alpha estimates for the composite and subscales of the postpartum SATAQ were high (Composite: .98, Media: .99, Significant Other: .97, Peer: .98, Internalization/Comparison: .97). The internal consistency alpha coefficient for the Mother subscale of the postpartum SATAQ was also high (alpha = .97).

Eating Disorder Examination Questionnaire 6.0 (EDE-Q 6.0; Fairburn & Beglin, 1994, 2008). The EDE-Q 6.0 is a self-report questionnaire version of its well-established interview counterpart, the Eating Disorder Examination (EDE; Fairburn & Cooper, 1993). The questionnaire consists of 28 likert items assessing frequency of eating disorder symptomatology as well as symptom severity. Psychopathology severity is organized into four subscales: Restraint, Eating Concern, Shape Concern, and Weight Concern in addition to the global EDE-Q score. In a sample of 18-45 year-old women, alpha coefficients ranged from .73 for the Eating Concern subscale to .87 for the Shape Concern subscale, with a global EDE-Q alpha = .93 (Mond et al., 2004). The EDE-Q can be found in Appendix D. For the current study, the internal consistency reliability for the global EDE-Q was high (.93), and the alpha coefficients for the subscales ranged from

adequate to high (Dietary Restraint: .82, Eating Concern: .87, Weight Concern: .85, Shape Concern: .91).

Edinburgh Depression Scale (EDS; Cox, Chapman, Murray, & Jones, 1996). The EDS (also known as the Edinburgh Postnatal Depression Scale; EPDS) is a 10-item self-report measure of depressive symptomatology and emotional distress. The measure was originally designed as a postpartum depression screener (Cox, Holden, & Sagovsky, 1987), and has been used extensively with postnatal women (e.g., Murray & Cox, 1990; Cox & Holden, 1994; O'Hara, 1994). Each item is scored on a 4-point scale (0-3), thereby providing for a total score range between 0-30. The authors suggest a cut-off score of 13 as an indicator of potential postpartum depression. Internal consistency estimates reported in the literature have been high, and the validity of the measure has been established in women beyond the immediate postpartum period (Cox, Chapman, Murray, & Jones, 1996). Due to inherent liability constraints, the suicide item was removed from the current study, thereby leaving a 9-item scale. The internal consistency reliability for the 9-item measure was high (alpha = .90). The EDS items can be found in Appendix E.

Perceived Stress Scale 10 (PSS-10; Cohen & Williamson, 1988). The PSS-10 is a 10-item self-report measure of perceived stress that assesses the degree to which an individual perceives his/her situation as uncontrollable, unpredictable, and overloading. The 5-point likert responses (0=Never, 4=Very Often) evaluate how often a respondent has felt or thought a particular way in the past month. An initial Cronbach's alpha was estimated to be .78 (Cohen & Williamson, 1988), and a more recent internal consistency reliability estimate of .89 was found using a college student population (Roberti,

Harrington & Storch, 2006). A similar alpha of .86 was found in the current study. The PSS-10 can be found in Appendix F.

Couples Satisfaction Index 16 (CSI(16); Funk & Rogge, 2007). The CSI(16) is a condensed version of the CSI(32) created by the authors using item response theory and principal-components analysis in the evaluation of existing relationship satisfaction measures, namely the Dyadic Adjustment Scale (DAS; Spanier, 1976) and the Marital Adjustment Test (MAT; Locke & Wallace, 1959), and an additional item pool. The CSI affords greater measurement precision and higher power for detecting differences in satisfaction (Funk & Rogge, 2007) relative to existing measures of relationship quality. The authors report excellent internal consistency for both the 16- and 32-item CSI scales and a high level of convergent validity with established relationship satisfaction measures. The 16-item CSI will be used as a measure of relationship satisfaction in the current study, as it is nearly as reliable as the 32-item scale and will minimize fatigue. The items require the participant to respond in a likert format to questions such as "How rewarding is your relationship with partner?" from *Not at all* to *Completely*. The internal consistency reliability of the CSI for the current study was high (alpha = .98). The CSI(16) items can be found in Appendix G.

Procedure

Mothers meeting eligibility criteria (age 18 with a child under age 5) were provided a brief and general overview of the study followed by informed consent, and subsequently given the questionnaire packet to be completed in the office if participation was desired. A debriefing form was then provided following completion of the packet that included an overview of the study objectives and relevant contact information.

Analyses

Preliminary Analyses. A series of exploratory univariate analyses were performed to examine relations among demographic variables from the General Demographic and Personal Information Questionnaire for Mothers. Specifically, Pearson correlations assessing the relationship between weeks/months post-delivery and the study outcome variables (body image and eating disturbances and depressive symptomatology) were explored. Finally, an exploratory factor analysis was performed on the SATAQ-3 to examine the factor structure of the revised measure for mothers to inform subsequent analyses evaluating media internalization, pressures, and social comparison.

Analyses by Hypothesis.

1. *Higher levels of body dissatisfaction and eating disturbance will be significantly related to depressive symptomatology, such that woman who experience higher levels of body dissatisfaction and eating disturbance will report increased depressive symptomatology.* This hypothesis was tested with the examination of simple Pearson correlations between the body image and eating disturbance measures (MBSRQ-AES and –BASS, EDE-Q total score and subscale scores) and

the measure of depressive symptomatology (EDS).

2. *Level of media internalization, perceived pressures and social comparison will significantly and positively relate to body dissatisfaction and eating disturbance, such that women who report higher levels of media internalization, perceived pressures and social comparison will also report increased body dissatisfaction and eating disturbance*. This hypothesis was tested via the examination of simple Pearson correlations between media internalization, perceived pressures, and social comparison (SATAQ-3-M) and the body image and eating disturbance measures (MBSRQ-AES and –BASS, EDE-Q total score and subscale scores).
3. *Relationship dissatisfaction, perceived stress, and pregnancy weight gain will significantly and positively relate to degree of depressive symptomatology, body dissatisfaction, and eating disturbance, such that higher levels of relationship dissatisfaction, perceived stress, and pregnancy weight gain will be related to increased depressive symptoms and body image and eating disturbances*. This hypothesis was tested via the examination of Pearson correlations between relationship dissatisfaction (CSI), perceived stress (PSS), and pregnancy weight gain (Demographic Questionnaire), and the primary study outcome variables including depressive symptomatology (EDS) and the body image and eating disturbance indices (MBSRQ-AES and –BASS, EDE-Q total and subscale scores).
4. *Postpartum weight loss, exercise status, and breastfeeding status will be negatively related to degree of depressive symptomatology, body dissatisfaction, and eating disturbance such that increased levels of postpartum weight loss and*

exercise rates and a positive breastfeeding status will be related to lower levels of the outcome variables (e.g., fewer depressive and eating symptoms and reduced body dissatisfaction). This hypothesis was tested by examining Pearson correlations between postpartum weight loss (Demographic Questionnaire) and the primary study outcome variables including depressive symptomatology (EDS) and the body image and eating disturbance measures (MBSRQ-AES and –BASS, EDE-Q total and subscale scores). Product-moment correlation coefficients were computed to examine the relationship between dichotomous variables (breastfeeding status and exercise status) and the outcome variables of depressive symptomatology (EDS) and body image and eating disturbance (MBSRQ-AES and –BASS, EDE-Q total and subscale scores).

5. *Body dissatisfaction and eating disturbance will predict unique variance in depressive symptomatology above and beyond other predictor variables (relationship satisfaction, perceived stress, pregnancy weight gain, postpartum weight loss).* To test this hypothesis, a linear multiple regression was conducted using the measure of depressive symptomatology as the outcome variable regressed upon the measures of body image and eating disturbance (MBSRQ-AE and –BASS, EDE-Q total and subscale scores), as well as other relevant predictor variables including relationship satisfaction (CSI), perceived stress (PSS), and pregnancy weight gain and postpartum weight loss (Demographic Questionnaire).
6. *Perceived pressures, social comparison, and internalization will predict unique variance in body image and eating disturbance above and beyond BMI, pregnancy weight gain, postpartum weight loss, breastfeeding status, exercise*

status, and depressive symptomatology. To test this hypothesis, a series of linear multiple regressions was conducted using the primary body image and eating disturbance indicators as outcome variables (MBSRQ-AE and –BASS, EDE-Q total and subscale scores) regressed upon a measure of perceived pressure, social comparison, and internalization (SATAQ-3-M), and relevant predictor variables, including BMI, pregnancy weight gain, breastfeeding status, postpartum weight loss, exercise status (Demographic Questionnaire) and depressive symptomatology (EDS).

Chapter 3. Results

Preliminary Demographic Findings

Age. Participant age was significantly related to number of children and age of the youngest child, such that younger mothers tended to have fewer children ($r = .269$, $p < .05$) and the youngest child was generally younger than that reported by their older mother counterparts ($r = .289$, $p < .01$). In addition, older mothers reported a higher income ($r = .271$, $p < .01$). Finally, participant age was related to overall body dissatisfaction (MBSRQ-AES), such that older moms are reporting more dissatisfaction with their appearance when compared to younger mothers ($r = -.228$, $p < .05$).

BMI. Participant BMI was inversely related to months postpartum, such that those moms who most recently gave birth are reporting a higher BMI ($r = -.228$, $p < .05$). BMI was also related to breastfeeding status, whereby breastfeeding moms reported a generally lower BMI relative to their non-breastfeeding counterparts ($r = .191$, $p < .05$).

Participant BMI was also related to eating disorder symptomatology, such that moms with a higher BMI endorsed significantly more eating concern (EDE-Q Eating Concern; $r = .328$, $p < .01$), shape concern (EDE-Q Shape Concern; $r = .305$, $p < .01$), weight concern (EDE-Q Weight Concern; $r = .358$, $p < .001$), and overall eating disorder symptoms (EDE-Q Total; $r = .324$, $p < .01$). Interestingly, BMI was not significantly related to dietary restraint (EDE-Q Restraint; $p > .05$).

Finally, participant BMI was significantly related to body site dissatisfaction (MBSRQ-BASS; $r = -.339$, $p < .001$), global body dissatisfaction (MBSRQ-AES; $r = -.255$, $p < .01$), and the MBSRQ composite ($r = -.318$, $p < .01$). As expected, mothers with a higher BMI were more dissatisfied than their lower BMI counterparts.

Months Since Birth of Last Child. The amount of time elapsed since the birth of a mother's last child was significantly related to overall perceived sociocultural pressure, tendency to engage in social comparisons, and internalization of societal ideals both before becoming a mother (pre-pregnancy SATAQ; $r = .231$, $p < .05$) and following the birth of their last child (postpartum SATAQ; $r = .204$, $p < .05$). Interestingly, mom-specific sociocultural comparisons/internalization was not significantly related to months postpartum (SATAQ-Mother; $p > .05$). Finally, months postpartum was not significantly related to EDS score ($p > .05$), suggesting that the moms sampled are reporting similar levels of depressive symptoms, irrespective of how recently they gave birth.

Number of Children. Number of children was inversely related to financial income, such that mothers with more children reported overall lower family income ($r = -.280$, $p < .01$). Number of children was significantly related to global body image dissatisfaction (MBSRQ-AES), whereby mothers with more children endorsed more body dissatisfaction than mothers with fewer children ($r = -.199$, $p < .05$).

Breastfeeding Status. Breastfeeding status was significantly related to financial income, such that breastfeeding moms reported a higher income than their non-breastfeeding counterparts ($r = .327$, $p < .01$). Interestingly, breastfeeding moms were less likely to endorse eating concerns than their non-breastfeeding counterparts (EDE-Q Eating Concerns; $r = .202$, $r < .05$). Breastfeeding status was not significantly related to the other eating disorder symptoms, body dissatisfaction, or depression (all p-values $> .05$).

SATAQ-3 Exploratory Factor Analysis

A common factor analysis using principal component analysis and promax rotation was first conducted using the 35 items of the pre-pregnancy SATAQ. Four factors were extracted with eigenvalues greater than 1 which accounted for 81.5% of the total scale variance. An examination of the pattern matrix revealed four distinct factors with no cross-loadings other than items 26 and 27 ("I wish I looked as athletic as the people in magazines" and "I wished I looked as athletic as sports stars"). Given the cross-loadings and theoretical relevance of removing these items, another factor analysis was run without items 26 and 27. As predicted, a four-factor solution again emerged with no cross-loading. The four factors extracted with eigenvalues greater than 1 then accounted for 82.0% of the total scale variance. Items 1-7 mapped onto the Media Pressure subscale, with Factor loadings ranging from .83 to .97. Items 8-14 comprised the Significant Other Pressure subscale, with Factor loadings ranging from .71 to .99. Items 15-21 mapped onto the Peer Pressure subscale, with loadings ranging from .86 to 1.02. Finally, items 22-35 (excluding items 26 and 27) loaded on the

Comparison/Internalization subscale. Factor loadings for this subscale ranged from .71 to .99.

Another common factor analysis using principal component analysis and promax rotation was then conducted using the 46 items of the postpartum SATAQ. Due to low factor loadings, excessive cross-loadings, and limited interpretability, the mother-specific items (36-46) were extrapolated and used to comprise a separate mother-specific internalization/comparison measure. As was done with the pre-pregnancy SATAQ, items 26 and 27 were also removed due to significant cross-loading. A final EFA was conducted on items 1-35 (excluding items 26 and 27) of the postpartum SATAQ. The same four factor structure emerged as was seen in the pre-pregnancy measure. The four factors extracted with eigenvalues greater than 1 then accounted for 86.6% of the total scale variance. Items 1-7 mapped onto the Media Pressure subscale, with Factor loadings ranging from .89 to 1.00. Items 8-14 comprised the Significant Other Pressure subscale, with Factor loadings ranging from .83 to .98. Items 15-21 mapped onto the Peer Pressure subscale, with loadings ranging from .90 to .97. Finally, items 22-35 (excluding items 26 and 27) loaded on the Comparison/Internalization subscale. Factor loadings for this subscale ranged from .73 to .92.

A final EFA was conducted using the added mother items of the postpartum SATAQ (items 36-46). A single factor emerged that accounted for 76.3% of scale variance. The mother scale appears to capture mother-specific social comparison and internalization. The internal consistency reliability of the mother scale is high (alpha = .97).

To determine whether mothers experience similar sociocultural pressures prior to and following childrearing, a paired sample t-test was conducted comparing pre-pregnancy SATAQ with postpartum SATAQ scores. The effect was not significant, t (103) = -1.502, p = .136, suggesting that mothers are reporting similar sociocultural pressures prior to and following childbirth.

Scale Descriptives and Reliability

Descriptives for the primary composite and subscale measures are presented in Table 2 below.

Table 2. *Item and scale means, standard deviations and alpha coefficients*

Scale	**Score Range (Scale Range)**	**Scale Mean**	**Scale SD**	**Cronbach's Alpha Coefficient**
Body Image Satisfaction MBSRQ-Total	1-5 (1.38-5)	3.50	.77	.93
Overall body image (MBSRQ-AE)	1-5 (1-5)	3.52	.94	.90
Body site satisfaction (MBSRQ-BASS)	1-5 (1.67-5)	3.48	.73	.85
Pre-pregnancy SATAQ-Total	1-5 (1-5)	1.93	.87	.97
Pre-pregnancy SATAQ-Media Pressure	1-5 (1-5)	2.36	1.28	.98
Pre-pregnancy SATAQ-Significant Other Pressure	1-5 (1-5)	1.75	1.03	.96
Pre-pregnancy SATAQ-Peer Pressure	1-5 (1-5)	1.59	.97	.97
Pre-pregnancy SATAQ-Comparison/Internalization	1-5 (1-5)	2.03	1.08	.97
Postpartum SATAQ- Total	1-5 (1-5)	1.97	1.00	.98
Postpartum SATAQ- Media Pressure	1-5 (1-5)	2.28	1.40	.99
Postpartum SATAQ-	1-5 (1-5)	1.95	1.20	.97

Significant Other Pressure				
Postpartum SATAQ- Peer Pressure	1-5 (1-5)	1.65	1.05	.98
Postpartum SATAQ- Comparison/Internalization	1-5 (1-5)	2.09	1.17	.97
Postpartum SATAQ- Motherhood Comparison/Internalization	1-5 (1-5)	2.24	1.23	.97
EDE-Q- Total	0-6 (0-5.95)	1.47	1.42	.93
EDE-Q- Restraint	0-6 (0-6)	1.43	1.60	.82
EDE-Q- Eating Concern	0-6 (0-5.8)	0.67	1.26	.87
EDE-Q- Weight Concern	0-6 (0-6)	1.79	1.64	.85
EDE-Q- Shape Concern	0-6 (0-6)	1.99	1.74	.91
EDS	0-3 (0-27)	6.83	5.41	.90
PSS	0-4 (0-37)	14.90	7.02	.86
CSI	0-6 (0-81)	62.10	19.48	.98

Correlation Matrices

The composite and subscale SATAQ-3 correlation matrix for the pre-pregnancy, postpartum and motherhood measure is provided in Table 3 below.

Table 3. *SATAQ-3 correlation matrix*

	Pre-pregnancy SATAQ-Total	**Pre-pregnancy SATAQ-Media Pressure**	**Pre-pregnancy SATAQ-Signif Other Pressure**	**Pre-pregnancy SATAQ-Peer Pressure**	**Pre-pregnancy SATAQ-Compare/ Internalize**	**Postpart SATAQ-Total**	**Postpart SATAQ-Media Pressure**	**Postpart SATAQ-Signif Other Pressure**	**Postpart SATAQ-Peer Pressure**	**Postpart SATAQ-Compare/ Internalize**	**Postpart SATAQ-Mother**
Pre-pregnancy SATAQ-Total	1										
Pre-pregnancy SATAQ-Media Pressure	.843***	1									
Pre-pregnancy SATAQ-Signif Other Pressure	.696***	.491***	1								
Pre-pregnancy SATAQ-Peer Pressure	.732***	.444***	.583***	1							

Pre-pregnancy SATAQ-Compare/ Internalize	.860***	.671***	.351**	.478***	1						
Postpart SATAQ-Total	.879***	.738***	.542***	.634***	.807***	1					
Postpart SATAQ-Media Pressure	.749***	.812***	.351***	.399***	.703***	.861***	1				
Postpart SATAQ-Signif Other Pressure	.684***	.538***	.741***	.526***	.468***	.788***	.554***	1			
Postpart SATAQ-Peer Pressure	.670***	.406***	.531***	.879***	.470***	.735***	.465***	.625***	1		
Postpart SATAQ-Compare/ Internalize	.777***	.671***	.318**	.415***	.886***	.891***	.751***	.519***	.480***	1	
Postpart SATAQ-Mother	.760***	.693***	.340***	.415***	.826***	.839***	.783***	.478***	.471***	.900***	1

***p<.001
**p<.01
*p<.05

The correlation matrix for the primary outcome measures is provided in Table 4 below.

Table 4. *Primary outcome correlation matrix*

	Pre- preg SATAQ-Total	**Postpart SATAQ-Total**	**Postpart SATAQ-Mother**	**MBSRQ-Total**	**MBSRQ-AES**	**MBSRQ-BASS**	**EDE-Q-Total**	**EDE-Q-Restraint**	**EDE-Q-Eating Concern**	**EDE-Q-Weight Concern**	**EDE-Q-Shape Concern**	**EDS**	**PSS**	**CSI**
Pre- preg SATAQ-Total	1													
Postpart SATAQ-Total	.879***	1												
Postpart SATAQ-Mother	.770***	.839***	1											
MBSRQ-Total	-.328**	-.288**	-.337***	1										
MBSRQ-AES	-.311**	-.296**	-.325**	.947***	1									
MBSRQ-BASS	-.312**	-.256**	-.305**	.947***	.794***	1								
EDE-Q-Total	.400***	.490***	.408***	-.552***	-.553***	-.504***	1							

EDE-Q-Restraint	.244*	.338**	.238*	-.327**	-.325**	-.295**	.847***	1						
EDE-Q-Eating Concern	.332**	.422***	.313**	-.360***	-.417***	-.272**	.844***	.601***	1					
EDE-Q-Weight Concern	.350***	.438***	.381***	-.566***	-.557***	-.528***	.957***	.715***	.747***	1				
EDE-Q-Shape Concern	.432***	.492***	.428***	-.664***	-.652***	-.621***	.942***	.704***	.729***	.928***	1			
EDS	.343**	.452***	.391***	-.297**	-.328**	-.241*	.496***	.350***	.460***	.476***	.481***	1		
PSS	.296**	.366***	.329**	-.379***	-.384***	-.341***	.518***	.375***	.426***	.487***	.524***	.699***	1	
CSI	-.076	-.028	.048	.372**	.340*	.383**	-.151	-.043	-.025	-.188	-.269*	-.290*	-.358**	1

Note: SATAQ = Sociocultural Attitudes Towards Appearance Questionnaire; MBSRQ = Multidimensional Body-Self Relations Questionnaire (AES = Appearance Evaluation Subscale, BASS = Body Areas Satisfaction Subscale); EDE-Q = Eating Disorder Examination-Questionnaire; EDS = Edinbergh Depression Scale; PSS = Perceived Stress Scale; CSI = Couples Satisfaction Index

***p<.001
**p<.01
*p<.05

Results by Hypothesis

Hypothesis 1. It was hypothesized that elevated body dissatisfaction and eating disturbance would be related to higher levels of depressive symptomatology in our sample of mothers. As predicted, all indices of body dissatisfaction (MBSRQ composite, BASS, and AES) and eating disturbance (EDE-Q total and subscales) were significantly related to elevated levels of depression (EDS), with correlation coefficients ranging from r=.24 (MBSRQ-BASS) to r = .50 (EDE-Q Composite). This suggests that mothers who are dissatisfied with their appearance and more readily endorse engagement in maladaptive eating behaviors are also experiencing more depressive symptoms. Correlation coefficients and significance levels are offered in Table 5 below.

Table 5. *Correlations between body dissatisfaction, eating disturbance and depressive symptoms*

	MBSRQ-Total	**MBSRQ-AES**	**MBSRQ-BASS**	**EDE-Q-Total**	**EDE-Q-Restraint**	**EDE-Q-Eating Concern**	**EDE-Q-Weight Concern**	**EDE-Q-Shape Concern**	**EDS**
MBSRQ-Total	1								
MBSRQ-AES	.947***	1							
MBSRQ-BASS	.947***	.794***	1						
EDE-Q-Total	-.552***	-.553***	-.504***	1					
EDE-Q-Restraint	-.327**	-.325**	-.295**	.847***	1				

EDE-Q-Eating Concern	-.360***	-.417***	-.272**	.844***	.601***	1			
EDE-Q-Weight Concern	-.566***	-.557***	-.528***	.957***	.715***	.747***	1		
EDE-Q-Shape Concern	-.664***	-.652***	-.621***	.942***	.704***	.729***	.928***	1	
EDS	-.297**	-.328**	-.241*	.496***	.350***	.460***	.476***	.481***	1

Note: MBSRQ = Multidimensional Body-Self Relations Questionnaire (AES = Appearance Evaluation Subscale, BASS = Body Areas Satisfaction Subscale); EDE-Q = Eating Disorder Examination-Questionnaire; EDS = Edinbergh Depression Scale

***p<.001
**p<.01
*p<.05

Hypothesis 2. It was hypothesized that level of media internalization, perceived pressures, and social comparison would significantly and positively relate to body dissatisfaction and eating disturbance. As expected, all indices of sociocultural influence (pre-pregnancy SATAQ, postpartum SATAQ, and postpartum SATAQ-Mother) were significantly related to all measures of body dissatisfaction and eating disturbance (MBSRQ and EDE-Q composites and subscales), with coefficients ranging from r = .24 (EDE-Q Restraint and SATAQ-Mother) to r = .49 (EDE-Q Shape Concern and Postpartum SATAQ). This suggests that mothers who are more apt to perceive appearance-related pressures, engage in social comparisons, and internalize sociocultural messages about appearance are also more likely to report heighted body dissatisfaction and engagement in maladaptive eating behaviors. Correlation coefficients and significance levels are offered in Table 6 below.

Table 6. *Correlations between body dissatisfaction, eating disturbance and sociocultural internalization and comparison*

	Pre-pregnancy SATAQ-Total	**Postpartum SATAQ-Total**	**Postpartum SATAQ-Motherhood Comparison/ Internalization**	**MBSRQ-Total**	**MBSRQ-AES**	**MBSRQ-BASS**	**EDE-Q-Total**	**EDE-Q-Restraint**	**EDE-Q-Eating Concern**	**EDE-Q-Weight Concern**	**EDE-Q-Shape Concern**
Pre- pregnancy SATAQ- Total	1										
Postpartum SATAQ- Total	.879***	1									
Postpartum SATAQ-Motherhood Comparison/ Internalization	.770***	.839***	1								
MBSRQ-Total	-.328**	-.288**	-.337***	1							
MBSRQ- AES	-.311**	-.296**	-.325**	.947***	1						
MBSRQ- BASS	-.312**	-.256**	-.305**	.947***	.794***	1					
EDE-Q-Total	.400***	.490***	.408***	-.552***	-.553***	-.504***	1				
EDE-Q-Restraint	.244*	.338**	.238*	-.327**	-.325**	-.295**	.847***	1			

EDE-Q- Eating Concern	.332**	.422***	.313**	-.360***	-.417***	-.272**	.844***	.601***	1		
EDE-Q- Weight Concern	.350***	.438***	.381***	-.566***	-.557***	-.528***	.957***	.715***	.747***	1	
EDE-Q- Shape Concern	.432***	.492***	.428***	-.664***	-.652***	-.621***	.942***	.704***	.729***	.928***	1

Note: SATAQ = Sociocultural Attitudes Towards Appearance Questionnaire; MBSRQ = Multidimensional Body-Self Relations Questionnaire (AES = Appearance Evaluation Subscale, BASS = Body Areas Satisfaction Subscale); EDE-Q = Eating Disorder Examination-Questionnaire

***p<.001
**p<.01
*p<.05

Hypothesis 3. It was hypothesized that relationship dissatisfaction, perceived stress, and pregnancy weight gain would significantly and positively relate to depressive symptomatology, body dissatisfaction, and eating disturbance. As predicted, relationship dissatisfaction was significantly related to endorsement of depressive symptoms and perceived stress. Relationship dissatisfaction was also related to global and site-specific body dissatisfaction (MBSRQ composite, BASS, and AES; r = .34 - .38) as well as shape concern (EDE-Q Shape Concern; r = .27). Relationship dissatisfaction was not significantly related to pregnancy weight gain, overall eating disturbance, weight concern, dietary restraint, or eating concern (all coefficients > .05).

As predicted, pregnancy weight gain was significantly related to current eating concern (EDE-Q Eating Concern; r = .26), shape concern (EDE-Q Shape Concern; r = .21), and overall eating disturbance (EDE-Q Composite; r = .23). However, amount of weight gained during pregnancy was not significantly related to current body image, dietary restraint, weight concern, depressive symptomatology or perceived stress (all coefficients > .05).

As hypothesized, perceived stress (PSS) was significantly related to body dissatisfaction (MBSRQ composite and subscales; r = .34 - .38) and eating disturbance (EDE-Q composite and subscales; r = .38 - .52), such that mothers who endorsed higher levels of stress also reported more dissatisfaction with their bodies and higher levels of eating disturbance relative to mothers who reported lower levels of perceived stress. Perceived stress was also significantly related to depressive symptomatology (EDS; r = .70), whereby mothers who endorsed higher stress levels also reported more depressive symptoms. Correlation coefficients and significance levels are offered in Table 7 below.

Table 7. *Correlations between relationship dissatisfaction, perceived stress, pregnancy weight gain, body dissatisfaction, eating disturbance and depressive symptoms*

	Pregnancy Weight Gain	**MBSRQ-Total**	**MBSRQ-AES**	**MBSRQ-BASS**	**EDE-Q-Total**	**EDE-Q-Restraint**	**EDE-Q-Eating Concern**	**EDE-Q-Weight Concern**	**EDE-Q-Shape Concern**	**EDS**	**PSS**	**Relationship Dissatisfaction (CSI)**
Pregnancy Weight Gain	1											
MBSRQ-Total	.045	1										
MBSRQ- AES	.042	.947***	1									
MBSRQ- BASS	.048	.947***	.794***	1								
EDE-Q-Total	.232*	.552***	.553***	.504***	1							
EDE-Q-Restraint	.176	.327**	.325**	.295**	.847***	1						
EDE-Q- Eating Concern	.258*	.360***	.417***	.272**	.844***	.601***	1					

EDE-Q- Weight Concern	.189	.566***	.557***	.528***	.957***	.715***	.747***	1				
EDE-Q- Shape Concern	.212*	.664***	.652***	.621***	.942***	.704***	.729***	.928***	1			
EDS	.144	.297**	.328**	.241*	.496***	.350***	.460***	.476***	.481***	1		
PSS	.189	.379***	.384***	.341***	.518***	.375***	.426***	.487***	.524***	.699***	1	
Relationship Dissatisfaction (CSI)	.000	.372**	.340*	.383**	.151	.043	.025	.188	.269*	.290*	.358**	1

Note: SATAQ = Sociocultural Attitudes Towards Appearance Questionnaire; MBSRQ = Multidimensional Body-Self Relations Questionnaire (AES = Appearance Evaluation Subscale, BASS = Body Areas Satisfaction Subscale); EDE-Q = Eating Disorder Examination-Questionnaire; EDS = Edinbergh Depression Scale; PSS = Perceived Stress Scale; CSI = Couples Satisfaction Index

***p<.001
**p<.01
*p<.05

Hypothesis 4. It was hypothesized that postpartum weight loss, exercise status, and breastfeeding status would be inversely related to body dissatisfaction, eating disturbance, and depressive symptomatology. As predicted, postpartum weight loss was significantly related to body dissatisfaction (MBSRQ composite and subscales; r = -.21 - -.24). Mothers who lost the most weight following the birth of their last child endorsed more satisfaction with their bodies relative to mothers with a more modest postpartum weight loss. Counter to a priori prediction, however, postpartum weight loss was not significantly related to eating disturbance or depressive symptomatology (all p-values > .05).

As hypothesized, positive breastfeeding status was inversely related to eating concern (EDE-Q Eating Concern; r = -.20), such that mothers who breastfed their youngest child were less likely to endorse concern surrounding eating when compared to their non-breastfeeding counterparts. However, breastfeeding status was not significantly related to body image, depressive symptomatology, or other indicators of eating disturbance (all p-values > .05). Interestingly, length of breastfeeding was significantly related to postpartum weight loss, such that mothers endorsing a longer breastfeeding duration reported higher overall postpartum weight loss compared to mothers breastfeeding for a shorter length of time (r = .23, p < .05).

Although it was predicted that mothers who exercise would endorse lower levels of eating disturbance than mothers who do not exercise, the reverse was actually discovered in the current sample of mothers. Mothers who endorsed exercising within the past six weeks were more likely to report elevated eating disturbance across all eating disturbance indicators assessed (EDE-Q composite and subscales; r = .22 - .26). Also,

positive exercise status was not significantly related to body image or depressive symptomatology (all p-values >.05). Correlation coefficients and significance levels are offered in Table 8 below.

Table 8. *Correlations between postpartum weight loss, exercise status, breastfeeding status, body dissatisfaction, eating disturbance and depressive symptoms*

	MBSRQ-Total	**MBSRQ-AES**	**MBSRQ-BASS**	**EDE-Q-Total**	**EDE-Q-Restraint**	**EDE-Q-Eating Concern**	**EDE-Q-Weight Concern**	**EDE-Q-Shape Concern**	**EDS**	**Postpartum Weight Loss**	**Breastfeeding Status**	**Exercise Status**
MBSRQ-Total	1											
MBSRQ- AES	.947***	1										
MBSRQ-BASS	.947***	.794***	1									
EDE-Q-Total	.552***	.553***	.504***	1								
EDE-Q-Restraint	.327**	.325**	.295**	.847***	1							

EDE-Q-Eating Concern	.360***	.417***	.272**	.844***	.601***	1						
EDE-Q-Weight Concern	.566***	.557***	.528***	.957***	.715***	.747***	1					
EDE-Q- Shape Concern	.664***	.652***	.621***	.942***	.704***	.729***	.928***	1				
EDS	.297**	.328**	.241*	.496***	.350***	.460***	.476***	.481***	1			
Postpartum Weight Loss	-.236*	-.226*	-.212*	-.031	.013	.078	-.089	-.129	.073	1		
Breastfeeding Status	-.036	-.029	-.066	-.160	-.026	-.202*	-.180	-.164	-.078	.108	1	
Exercise Status	-.067	.066	.067	.263**	.226*	.229*	.219*	.230*	.067	.066	.048	1

Note: MBSRQ = Multidimensional Body-Self Relations Questionnaire (AES = Appearance Evaluation Subscale, BASS = Body Areas Satisfaction Subscale); EDE-Q = Eating Disorder Examination-Questionnaire; EDS = Edinbergh Depression Scale

***p<.001
**p<.01
*p<.05

Hypothesis 5. It was hypothesized that body dissatisfaction and eating disturbance would predict unique variance in depressive symptomatology above and beyond other predictor variables. A linear multiple regression was conducted using EDS score as the outcome regressed upon significantly related body image and eating disturbance indices (MBSRQ and EDE-Q subscales), as well as other significantly related predictor variables (e.g., relationship satisfaction). To address collinearity concerns, the MBSRQ and EDE-Q composite scores were not included in the regression, but instead, the subscale scores were collectively entered to represent the body image and eating disturbance constructs. In addition, the weight concern and shape concern EDE-Q subscales were composited prior to regression entry. In the same vein, the sociocultural influence variable was represented by postpartum and mother-specific SATAQ scores, and the pre-pregnancy SATAQ score was dropped from the regression analysis. Upon examination of tolerance and VIF values along with consideration of the conceptual rationale for variable section, no other variables were removed secondary to collinearity concerns.

The overall effect for depressive symptomatology (EDS) was significant, $F(9, 41) = 8.36$, $p < .001$. The overall adjusted R^2 was .570. Squared semi-partial correlations indicated that perceived stress (PSS) explained 14.1% unique variance ($\beta = .51$, $t = 4.06$, $p < .001$), suggesting that heightened perceived stress is predictive of reported depressive symptomatology. No other predictor entered accounted for significant variance in depression score. Counter to prediction, none of the MBSRQ, SATAQ or EDE-Q subscales predicted significant variance in depressive symptomatology. Regression results are presented in Table 9.

Table 9. *Regression results for depressive symptomatology (EDS)*

Overall Model: F(9,41) = 8.36, p<.001		**R^2** = .647	**Adjusted R^2** = .570	
Predictor	**Standardized Coefficient (β)**	**p-value**	**sr^2**	
Postpartum SATAQ-Total	.030	.882	.0002	
Postpartum SATAQ-Mother	.133	.516	.0037	
MBSRQ- AES	.007	.974	<.0001	
MBSRQ- BASS	.309	.141	.0193	
EDE-Q- Restraint	.183	.183	.0159	
EDE-Q- Eating Concern	-.095	.557	.0030	
EDE-Q- Weight/Shape Concern	.323	.150	.0185	
PSS	**.508**	**<.001**	**.1414**	
Relationship Satisfaction (CSI)	-.184	.114	.0225	

Given the high correlation between perceived stress and depressive symptomatology (r = .699), the regression predicting depressive symptomatology was re-run excluding PSS score. The overall effect for depressive symptomatology (EDS) was significant, $F(8,42) = 5.368$, $p < .001$. The overall adjusted R^2 was .411. Squared semi-partial correlations indicated that relationship satisfaction explained 8.3% unique variance ($\beta = -.334$, $t = -2.66$, $p = .011$), and shape/weight concerns explained 5.7% unique variance ($\beta = .548$, $t = 2.20$, $p = .034$), suggesting that relationship dissatisfaction and weigh/shape concerns are each predictive of elevated depressive symptomatology when stress is removed as a covariate. No other predictor entered accounted for significant variance in EDS score.

Hypothesis 6. It was hypothesized that perceived pressures, social comparison, and internalization would predict unique variance in body image and eating disturbance above and beyond other predictor variables. A series of linear multiple regression were conducted using The MBSRQ and EDE-Q composite and subscales scores as outcomes

regressed separately upon the postpartum SATAQ, mother-specific SATAQ, BMI, as well as other significantly related predictor variables (e.g., pregnancy weight gain).

The effect for overall body image (MBSRQ-Total) was significant, $F(7,47) = 4.201$, $p = .001$. The overall adjusted R^2 was .293. Squared semi-partial correlations indicated that BMI explained 7.9% unique variance ($\beta = -.29$, $t = -2.46$, $p = .018$), suggesting that high BMI is predictive of heightened body dissatisfaction. Interestingly, no other predictor entered accounted for significant variance in total MBSRQ score. Counter to a priori hypothesis, sociocultural pressures, comparison, and internalization did not remain significant predictors of global body image. Regression results are presented in Table 10.

Table 10. *Regression results for overall body image (MBSRQ-Total)*

Overall Model: F(7,47) = 4.20, p=.001		**R^2** = .385	**Adjusted R^2** = .293	
Predictor	**Standardized Coefficient (β)**	**p-value**	**sr^2**	
Postpartum SATAQ-Total	.114	.604	.0036	
Postpartum SATAQ-Mother	-.417	.063	.0475	
PSS	-.221	.192	.0228	
Relationship Satisfaction (CSI)	.219	.119	.0331	
Depressive Symptoms (EDS)	.048	.779	.0010	
BMI	**-.293**	**.018**	**.0790**	
Postpartum Weight Loss	-.140	.266	.0166	

The overall effect for general appearance satisfaction (MBSRQ-AES) was significant, $F(7,47) = 3.277$, $p = .006$. The overall adjusted R^2 was .228. However, examination of standardized Beta coefficients and squared semi-partial correlations did not reveal any significant predictors of MBSRQ-AES when entered into the model (all p-values > .05). Counter to prediction, sociocultural pressures, comparison, and

internalization did not remain significant predictors of general appearance satisfaction. Regression results are presented in Table 11.

Table 11. *Regression results for general appearance satisfaction (MBSRQ-AES)*

Overall Model: F(7,47) = 3.28, p=.006		**R^2** = .328	**Adjusted R^2** = .228	
Predictor	**Standardized Coefficient (β)**	**p-value**	**sr^2**	
Postpartum SATAQ-Total	.053	.816	.0008	
Postpartum SATAQ-Mother	-.318	.170	.0281	
PSS	-.209	.236	.0204	
Relationship Satisfaction (CSI)	.176	.226	.0213	
Depressive Symptoms (EDS)	-.023	.899	.0002	
BMI	-.225	.077	.0467	
Postpartum Weight Loss	-.156	.238	.0204	

The overall effect for site-specific body satisfaction (MBSRQ-BASS) was significant, $F(7,47) = 3.943$, $p = .002$. The overall adjusted R^2 was .276. Squared semi-partial correlations indicated that BMI explained 9.0% unique variance ($\beta = -.31$, $t = -2.59$, $p = .013$), suggesting that high BMI is predictive of elevated site-specific body dissatisfaction. No other predictor entered accounted for significant variance in MBSRQ-BASS score. Counter to a priori hypothesis, sociocultural pressures, comparison, and internalization did not remain significant predictors of site-specific body image. Regression results are presented in Table 12.

Table 12. *Regression results for body site satisfaction (MBSRQ-BASS)*

Overall Model: F(7,47) = 3.94, p=.002		**R^2** = .370	**Adjusted R^2** = .276	
Predictor	**Standardized Coefficient (β)**	**p-value**	**sr^2**	
Postpartum SATAQ-Total	.119	.592	.0038	
Postpartum SATAQ-Mother	-.426	.060	.0450	
PSS	-.208	.223	.0204	
Relationship Satisfaction (CSI)	.262	.066	.0475	
Depressive Symptoms (EDS)	.114	.510	.0059	
BMI	**-.313**	**.013**	**.0900**	
Postpartum Weight Loss	-.097	.446	.0079	

The overall effect for global eating disturbance (EDE-Q Composite) was significant, $F(7,87) = 13.766$, $p < .001$. The overall adjusted R^2 was .487. Squared semi-partial correlations indicated that BMI explained 9.7% unique variance ($\beta = .32$, $t = 4.23$, $p < .001$), perceived stress (PSS) explained 4.5% unique variance ($\beta = .30$, $t = 2.85$, $p < .01$), and current exercise status explained 3.5% unique variance ($\beta = -.20$, $t = -2.54$, $p < .05$). This suggests that high BMI, heightened perceived stress, and positive exercise status are each predictive of elevated eating disturbance. No other predictor entered accounted for significant variance in EDE-Q Composite score. Counter to a priori hypothesis, sociocultural pressures, comparison, and internalization did not remain significant predictors of global eating disturbance. Regression results are presented in Table 13.

Table 13. *Regression results for global eating disturbance (EDE-Q Composite)*

Overall Model: F(7,87) = 13.77, p<.001		**R^2** = .526	**Adjusted R^2** = .487	
Predictor	**Standardized Coefficient (β)**	**p-value**	**sr^2**	
Postpartum SATAQ-Total	.260	.074	.0177	
Postpartum SATAQ-Mother	.060	.674	.0010	
PSS	**.301**	**.005**	**.0445**	
Depressive Symptoms (EDS)	.095	.386	.0041	
BMI	**.320**	**<.001**	**.0973**	
Pregnancy Weight Gain	.060	.458	.0030	
Current Exercise Status	**-.203**	**.013**	**.0353**	

The overall effect for dietary restraint (EDE-Q Restraint) was significant, $F(6,89) = 5.059$, $p < .001$. The overall adjusted R^2 was .204. Squared semi-partial correlations indicated that current exercise status explained 3.5% unique variance ($\beta = -.19$, $t = -2.05$, $p < .05$), suggesting that positive exercise status is predictive of elevated dietary restraint. No other predictor entered accounted for significant variance in EDE-Q Restraint score. Counter to a priori hypothesis, sociocultural pressures, comparison, and internalization did not remain significant predictors of dietary restraint. Regression results are presented in Table 14.

Table 14. *Regression results for dietary restraint (EDE-Q Restraint)*

Overall Model: F(6,89) = 5.06, p<.001		**R^2** = .254	**Adjusted R^2** = .204	
Predictor	**Standardized Coefficient (β)**	**p-value**	**sr^2**	
Postpartum SATAQ-Total	.282	.113	.0216	
Postpartum SATAQ-Mother	-.109	.524	.0035	
PSS	.255	.051	.0328	
Depressive Symptoms (EDS)	.061	.653	.0017	
BMI	.147	.120	.0207	
Current Exercise Status	**-.193**	**.043**	**.0353**	

The overall effect for eating concern (EDE-Q Eating Concern) was significant, $F(8,87) = 8.583$, $p < .001$. The overall adjusted R^2 was .390. Squared semi-partial correlations indicated that BMI explained 8.2% unique variance ($\beta = .30$, $t = 3.58$, $p = .001$), suggesting that high BMI is predictive of elevated eating concern. No other predictor entered accounted for significant variance in EDE-Q Eating Concern score. Counter to a priori hypothesis, sociocultural pressures, comparison, and internalization did not remain significant predictors of eating concern. Regression results are presented in Table 15.

Table 15. *Regression results for rating concern (EDE-Q Eating Concern)*

Overall Model: F(8,87) = 8.58, p<.001		**R^2** = .441	**Adjusted R^2** = .390	
Predictor	**Standardized Coefficient (β)**	**p-value**	**sr^2**	
Postpartum SATAQ-Total	.293	.074	.0210	
Postpartum SATAQ-Mother	-.055	.729	.0008	
PSS	.133	.257	.0083	
Depressive Symptoms (EDS)	.191	.111	.0166	
BMI	**.298**	**.001**	**.0824**	
Current Exercise Status	-.143	.103	.0174	
Pregnancy Weight Gain	.154	.084	.0196	
Breastfeeding Status	.098	.265	.0081	

The overall effect for weight/shape concern (EDE-Q Shape and Weight Concern Composite) was significant, $F(8,40) = 12.33$, $p < .001$. The overall adjusted R^2 was .654. Squared semi-partial correlations indicated that BMI explained 16.32% unique variance ($\beta = .44$, $t = 4.76$, $p < .001$), and perceived stress (PSS) explained 4.2% unique variance ($\beta = .31$, $t = 2.41$, $p = .021$), suggesting that high BMI and heightened perceived stress are each predictive of elevated shape/weight concern. No other predictor entered accounted for significant variance in EDE-Q Shape Concern score. Counter to a priori hypothesis,

sociocultural pressures, comparison, and internalization did not remain significant predictors of shape concern. Regression results are presented in Table 16.

Table 16. *Regression results for shape/weight concern (EDE-Q Shape and Weight Concern Composite)*

Overall Model: F(8,40) = 12.33, p<.001		**R^2** = .712	**Adjusted R^2** = .654	
Predictor	**Standardized Coefficient (β)**	**p-value**	**sr^2**	
Postpartum SATAQ-Total	.312	.095	.0210	
Postpartum SATAQ-Mother	.011	.953	<.0001	
PSS	**.311**	**.021**	**.0420**	
Depressive Symptoms (EDS)	.234	.085	.0225	
BMI	**.437**	**<.001**	**.1632**	
Current Exercise Status	-.086	.372	.0059	
Pregnancy Weight Gain	.087	.364	.0061	
Relationship Satisfaction (CSI)	.024	.818	.0004	

Chapter 4. Discussion

The current investigation sought to expand our understanding of mothers' health beyond the first postpartum year through the examination of body image, eating and mood disturbances in mothers of children aged 0-5 years. An initial series of exploratory correlations provided more in-depth descriptive information about the mothers sampled. Notably, older mothers endorsed higher levels of body dissatisfaction than did younger moms, and mothers of higher BMI reported more body image and eating disturbance symptoms than their lower BMI counterparts.

The relationship between months since childbirth and relevant study variables was also explored. Interestingly, the longer the time period since the birth of a mother's last child, the more likely she was to report heightened perceived sociocultural pressure, tendency to engage in social comparisons, and internalization of general societal appearance ideals. Months since childbirth was not related to mother-specific sociocultural influence, suggesting that the farther a mother gets from childbirth, the more likely she is to internalize general media messages and engage in comparisons not specific to mothers. Finally, the amount of time elapsed since the birth of a mother's last child was not significantly related to depressive symptomatology, suggesting that mothers are experiencing similar levels of depression regardless of childbirth proximity. This finding is consistent with past assertion (e.g. Carter et al., 2000; Horowitz &

Goodman, 2004) that women continue to experience depressive symptoms beyond the immediate postpartum period.

Prior to primary analysis, an EFA was first conducted to determine the factor structure of the SATAQ-3 with mothers. A four factor solution was supported for both the pre-pregnancy and postpartum SATAQ measures. The factors reflect Media Pressure, Significant Other Pressure, Peer Pressure, and General Comparison/Internalization. The mother-specific items were extrapolated and most accurately reflect mother-specific comparison and internalization. All three indices of sociocultural influence demonstrated high reliability in the current sample of mothers. Finally, a paired sample t-test was conducted to determine whether mothers experience similar sociocultural pressures prior to and following childrearing (comparing pre-pregnancy and postpartum SATAQ scales). The effect was not significant, suggesting that mothers report similar sociocultural pressures prior to and following childbirth. Notably, the retrospective nature of the pre-pregnancy SATAQ is an obvious limitation that constrains the reliability of pre-pregnancy SATAQ scores. It is possible that pre- to postpartum differences would be found within the parameters of a prospective study.

To test a priori hypotheses 1-4, simple correlations between study variables first elucidated potential predictors of body image, eating disturbance, and depressive symptomatology. As was predicted, and in concordance with past research (e.g., Paxton et al., 2006), depressive symptomatology was significantly related to all indices of body image and eating disturbance. It was also hypothesized that sociocultural appearance pressures, internalization, and comparison would significantly relate to body dissatisfaction and eating disturbance; a phenomenon that has been largely established in

the general population (Thompson et al., 1999). All correlations between sociocultural variables (pre-pregnancy SATAQ, postpartum SATAQ, and SATAQ-Mothers) and body image and eating disturbance (EDE-Q and MBSRQ composite and subscales) were significant, suggesting that mothers who are more apt to perceive appearance-related pressures, engage in social comparisons, and internalize sociocultural messages both before and after childrearing are also more likely to report recent body dissatisfaction and engagement in maladaptive eating behaviors.

As predicted, relationship dissatisfaction was significantly related to endorsement of depressive symptoms and perceived stress in the mothers sampled. Relationship dissatisfaction was also related to shape concern and global and site-specific body dissatisfaction. Counter to a priori prediction, relationship dissatisfaction was not significantly related to pregnancy weight gain, overall eating disturbance, weight concern, dietary restraint, or eating concern.

As predicted, pregnancy weight gain was significantly related to current eating concern (EDE-Q Eating Concern), shape concern (EDE-Q Shape Concern), and overall eating disturbance (EDE-Q Composite). However, amount of weight gained during pregnancy was not significantly related to current appearance satisfaction, dietary restraint, weight concern, depressive symptomatology or perceived stress.

As hypothesized, perceived stress was also significantly related to body dissatisfaction and eating disturbance, such that mothers who endorsed higher levels of stress also reported more dissatisfaction with their bodies and higher levels of eating disturbance relative to mothers who reported lower levels of perceived stress. Perceived

stress was also significantly related to depressive symptomatology, whereby mothers who endorsed higher stress levels also reported more depressive symptoms.

The relationship between postpartum weight loss, exercise status, breastfeeding status and the depression, body image and eating disorder outcomes were also examined. As expected, postpartum weight loss was significantly related to all indices of body image, whereby mothers reporting a larger postpartum weight loss endorsed more satisfaction with their bodies. However, counter to prediction based on earlier findings highlighting the relationship between weight, body image, and postpartum depression (e.g., Carter et al., 2000, Stein & Fairburn, 1996; Walker, 1998; Jenkin & Tiggemann, 1997), postpartum weight loss was not related to eating disturbance or depressive symptomatology in the current sample of mothers. This negative finding could potentially reflect participant error in retrospective reporting of weight and weight change throughout the peripartum period. Future prospective investigation that involves actual anthropometric measurement would further elucidate the relationship between weight and relevant psychological and behavioral outcomes across pregnancy, postpartum and beyond.

As predicted, breastfeeding mothers endorsed lower levels of eating concern compared to non-breastfeeding mothers. Breastfeeding status was not, however, related to body image, depressive symptomatology, or other indicators of eating disturbance. Of note, the temporal relationship between childbirth, breastfeeding period, and time of assessment varied among the mothers sampled (i.e., some mothers had stopped breastfeeding for several years). Coupled with error in retrospective reporting, these variables could account for the lack of positive result. Future longitudinal investigation

would clarify the relationship between breastfeeding status, body image, eating disturbance, and depression.

Interestingly, the prediction that exercising mothers would report lower levels of eating disturbance was not supported, and in fact, the reverse held true for the current sample of moms. Mothers who endorsed exercising within the past six weeks endorsed higher levels of restraint, eating concern, weight concern, shape concern, and overall eating disturbance relative to their non-exercising counterparts. However, exercise status was not related to body image or reported depressive symptoms. This set of findings could potentially suggest that the mothers sampled are exercising as a means of weight loss and control. Past research with non-mothers has indicated that exercising for weight and appearance reasons is related significantly to level of eating disturbance (Thompson et al., 1999). The degree to which exercise is of a compensatory nature for these mothers in response to appearance dissatisfaction and desire to change one's appearance for aesthetic purposes is unclear. Future studies could further disentangle these relations through exploration of exercise motivation in mothers.

Following initial correlations, linear regressions were conducted to further examine significantly related constructs as predictors of the primary study outcomes (depressive symptomatology, body image, and eating disturbance). It was first hypothesized that body dissatisfaction and eating disturbance would predict depressive symptomatology beyond other variables entered. Although the overall model was significant, perceived stress remained the only significant predictor of depressive symptoms. After removal of perceived stress to allow for examination of other predictors less highly correlated with the dependent variable, relationship dissatisfaction and

weight/shape concerns surfaced as significant predictors of depressive symptoms. This suggests that relationship dissatisfaction and concerns with weight and shape do predict depressive symptoms when stress is excluded as a covariate. Future studies should further examine the temporal relations among stress, relationship satisfaction, concerns with weight and shape, and depressive symptoms in mothers. This would be best accomplished via longitudinal study design.

A series of multiple regressions was then conducted to determine significant predictors of body image and eating disturbance. BMI remained the most consistent predictor of outcome, with high BMI predicting overall body dissatisfaction, site-specific body dissatisfaction, overall eating disturbance, eating concern, and shape/weight concern. This is consistent with prediction and extant literature (e.g., Stein & Fairburn, 1996) supporting a link between body weight and shape in the postpartum period.

Perceived stress also remained a significant predictor of shape/weight concern and overall eating disturbance in the mothers sampled, suggesting that mothers who perceive heightened stress are reporting increased weight/shape concern and overall eating disturbance relative to their non-stressed counterparts. Finally, exercise status accounted for significant variance in dietary restraint and general eating disturbance whereby mothers who are currently exercising are reporting heightened dietary restraint and overall eating disturbance when compared to mothers who are less physically active. As was aforementioned, the motivation for exercise is unclear, and future studies should more closely examine the relations between weight, body image, and exercise motivation in mothers.

Overall, hypotheses tested through simple correlations were largely supported, and it is evident that body dissatisfaction, eating disturbance, depressive symptomatology, and sociocultural influences are relevant and interrelated during the months following childbirth. However, the hypothesized regression findings were not supported. Specifically, the sociocultural variables hypothesized to predict depressive symptomatology, body image, and eating disturbance did not account for substantial variance in these outcomes. Of note, the mean EDS score for the current sample is 6.83, with a possible score range of 0-27. An EDS score of 13 or above is suggested as clinically significant in the literature (e.g., Cox, Chapman, Murray, & Jones, 1996), and it is apparent that the level of depressive symptomatology reported by the mothers sampled in the current study is well below cut-off. It is possible that DV range restriction is clouding findings that would support the predictive nature of the body image, eating disturbance, and sociocultural variables entered into the EDS regression. In addition, restriction of range could potentially contribute to the limited predictive significance of sociocultural variables in the regressions predicting body image and eating disturbance. Specifically, the sample means for the MBSRQ and EDE-Q indices reflect less body image and eating disturbance pathology (and the SDs were small) than is typically reported in non-mother populations (Thompson et al., 1999). This is also true for SATAQ scores, where established college norms suggest generally higher sociocultural impact than was reported by the mothers sampled in the current study (Thompson et al., 2004). Coupled with the fact that other predictors were entered into the regressions that generally account for significant variance in body image and eating disturbance outcomes (e.g., Thompson et al., 1999), the limited predictive ability of the SATAQ indices in the

regressions, despite consistently significant simple correlation coefficients, becomes easier to understand.

Overall, findings suggest that the mothers sampled are reporting lower levels of psychopathology across most of the study outcomes and predictor variables when compared to extant postpartum and non-mother studies of depression, body image, and eating disturbance. It is plausible that the decision to include such a wide range of mothers (youngest child age 0-5), despite strengthening the external validity of the study findings, has clouded the ability to identify predictors of depressive symptoms and body image at particular timepoints where symptoms are more likely to occur in the transitional months and years following childbirth. For example, the majority of the mothers sampled (74%) gave birth within two years prior to survey completion, and SATAQ correlational findings suggest that mothers are more likely to internalize media messages, engage in social comparisons, and perceive appearance-related pressures the farther they get from delivery. It is possible that this selection bias that likely results from more frequent pediatric appoints scheduled in close proximity to a child's birth is, in part, contributing to why SATAQ variables did not significantly predict outcomes.

In addition, the relative oversampling of mothers who had given birth within the prior two years, coupled with the limited significant regression findings, may suggest that moms are buffered against body image and eating disorder symptoms and feel less sociocultural appearance impact in the months immediately following childbirth, similar to the effect noted in pregnant women (Fairburn et al., 1992; Baker et al., 1999). It is possible that the farther in proximity a mother gets from the birth of a child, the more likely she is to succumb to appearance-related pressures and internalize sociocultural

messages that would lead to higher levels of dissatisfaction and eating disturbance, an effect that would parallel the non-mother body image literature (Thompson et al., 1999). Given the inherent transitional nature of the peripartum period, a prospective study with frequent, sensitive, and reliable assessment is necessary to more accurately assess symptom change over time.

Additional limitations attributable to the study design should also be addressed. First, the study assessed all variables concurrently or elicited retrospective accounts of pre-pregnancy, pregnancy, and postpartum cognitions, behaviors, emotions and weight. The reliability of the information obtained is likely constrained on some level, therefore clouding study findings involving such retrospective accounts. In addition, the study sought to examine only relationships among variables, and causal inferences cannot be drawn based on the current data. Future research should strive for prospective evaluation of sociocultural pressures, body image, eating disturbance and mood across the peripartum period and throughout motherhood.

Despite these shortcomings, the current study was able to address several limitations found in the extant literature. To start, inclusion of valid, psychometrically sound measures of body image, eating disturbance, sociocultural influence and depressive symptomatology permitted a more accurate examination of these constructs in mothers, and correlations among demographic variables and outcomes provides rich descriptive information regarding the experiences of the mothers sampled. Additionally, with the exception of a few studies that examined the moderating effect of BMI on postpartum appearance satisfaction, and a single study that evaluated the relationship between appearance comparison and postpartum body image (Rallis et al., 2007), the current

project was the first to systematically evaluate sociocultural predictors of body experience in mothers. The current study was also the first to assess body image concerns in mothers beyond the months following childbirth, and one of few studies evaluating depressive symptoms beyond the immediate postpartum period.

Reinforcement of the necessity to employ precise, reliable, and frequent assessment of psychosocial constructs across the childrearing experience serves as one of the most significant contributions of the current project. The peripartum period has been recognized as a transitional period for women, and the relevance of studying mood, body image and overall health in the immediate postpartum months has been well supported (e.g., Beck, 2001). Current study findings present the need to further our understanding of how these constructs behave as women transition out of the peripartum phase into general motherhood, when preexisting sociocultural appearance pressures may come back into play after the "new mom" role dissipates. It is plausible that the positive child-nurturing attributions to weight and shape change noted during the peripartum period transition with time into more unhealthy self-appraisals, increased social comparison and sociocultural internalization, and increased body dissatisfaction and maladaptive eating behaviors. Current findings support and encourage the need to further examine these constructs prospectively in mothers beyond the immediate postpartum year.

Understanding the changes in a woman's body image, emotional status, and overall health across the peripartum period is relevant for both maternal well-being and healthy child development. The current study serves as a jumping off point to help guide future research through the exploration of relevant constructs, hypotheses and design development, and the identification of valid and reliable assessment tools. Ultimately,

current findings coupled with future research endeavors will collectively inform intervention and early prevention efforts to improve psychological functioning for mother and child alike.

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Appendices

Appendix A: General Demographic and Personal Information Questionnaire for Mothers

Date Completed ....._ _/_ _/_ _

1. Race/Ethnicity (please circle one)
    1. African-American/Black/Caribbean
    2. Caucasian
    3. Asian-American
    4. Hispanic-Latino
    5. Arab/Middle Eastern
    6. Other _____
2. Occupation.....
3. Age.....
4. Height.....ft .....inches
5. Current weight.....pounds
6. Prepregnancy weight (weight prior to LAST pregnancy if you have more than one child).....pounds
7. Total weight gained during last pregnancy.....pounds
8. Weight change since the birth of your last child.....pounds
   LOST/GAINED (circle one)
9. How many children do you have?.....
   Ages: _____ _____ _____ _____ _____ _____
10. Are you currently pregnant? YES/NO/UNSURE (circle one)
    If yes, how far along are you?.....WEEKS/MONTHS (circle one)
11. Number of weeks/months since the birth of your last child.....WEEKS/MONTHS (circle one)
12. Did you breastfeed (or are you currently breastfeeding) your last child?
    YES/NO (circle one)
    If YES, how long did you (or how long do you intend to) breastfeed your child?
    .....months
13. Sex of youngest child: Male/Female (circle one)

14. Marital status (circle one)

    1. Married
    2. Single
    3. Separated
    4. Divorced
    5. Living together but not married

15. Total annual household income (circle one)

    1. Under $30,000
    2. Between $30,000-$49,000
    3. Between $50,000-$69,000
    4. Over $70,000

16. What is the highest education level you have attained? (circle one)

    1. GED
    2. High school diploma
    3. Some college
    4. Associate's degree
    5. Bachelor's degree
    6. Graduate degree
    7. None of the above

17. Did you work prior to the birth of your last child? YES/NO (circle one)

18. Do you intend to return to work OR have you returned to work since the birth of your last child?

    (circle one)

    I. YES – I have returned to work [please go to 18 (a) below]

    II. YES – I intend to return to work [please go to 18 (a) below]

    III. NO – I do not intend to return to work [please go to question 19]

    a. If YES, will you be working (OR are you currently working) fulltime or parttime? FULLTIME/PARTTIME (circle one)
    b. IF PARTTIME, what fraction of time will you (OR have you) return(ed) to work?.....(e.g., 0.2, 0.4, etc.)

c. What length of maternity do you intend to (OR did you) take?.....weeks

d. What care arrangements do you intend to (OR do you) use for your child when you return to (OR are at) work? (Please circle and indicate the average number of hours per week – you may circle more than one)

   i. Grandparents.....hours/week
   ii. Nanny.....hours/week
   iii. Sister/other relative.....hours/week
   iv. Neighbor.....hours/week
   v. Center based childcare provided by your work.....hours/week
   vi. Center based childcare provided by your partner's work.....hours/week
   vii. Center based childcare away from work.....hours/week
   viii. Family/in-home daycare.....hours/week

19. How often has your last child experienced health problems?
    1. Not at all
    2. Occasionally
    3. Most of the time
    4. All of the time

20. What is the reason for your visit today?
    1. Well child visit/routine check-up
    2. Sick child visit
    3. Chronic health condition- (Please Explain) .....
    4. Behavioral/emotional concerns
    5. Other .....

21. Is your child having problems sleeping?
    1. Not at all
    2. Occasionally

3. Most of the time
4. All of the time

22. Did you engage in any form of exercise **<u>while pregnant with your last child</u>**?

YES/NO (circle one)

1. If you circled YES, please describe your exercise type (you may choose more than one):
    a. Power-walking
    b. Walking
    c. Yoga
    d. Aerobics
    e. Gym
    f. Team sports
    g. Swimming
    h. Running/jogging
    i. Other.....
2. Please estimate your average total weekly exercise duration **<u>(while pregnant)</u>**.....minutes per week
3. Please describe the intensity of your exercise **<u>(while pregnant)</u>** by circling one of the following:
    a. I was not at all out of breath at the end of my exercise sessions
    b. I was slightly out of breath at the end of my exercise sessions
    c. I was moderately out of breath at the end of my exercise sessions
    d. I was very out of breath at the end of my exercise sessions

23. During the **<u>past 6 weeks</u>**, have you engaged in any form of exercise?

YES/NO (circle one)

1. If you circled YES, please describe your exercise type (you

may choose more than one):

a. Power-walking
b. Walking
c. Yoga
d. Aerobics
e. Gym
f. Team sports
g. Swimming
h. Running/jogging
i. Other.....

2. Please estimate your average total weekly exercise duration **(for the past 6 weeks)**.....minutes per week
3. Please describe the intensity of your exercise **(over the past 6 weeks)** by circling one of the following:
    a. I am not at all out of breath at the end of my exercise sessions
    b. I am slightly out of breath at the end of my exercise sessions
    c. I am moderately out of breath at the end of my exercise sessions
    d. I am very out of breath at the end of my exercise sessions

Appendix B: MBSRQ-AES and MBSRQ-BASS

Instructions: Using the scale below, please circle the number that best matches your agreement with the following statements.

Definitely Disagree	Mostly Disagree	Neither agree nor disagree	Mostly agree	Definitely agree
1	2	3	4	5

1. My body is sexually appealing.	1	2	3	4	5
2. I like my looks just the way they are.	1	2	3	4	5
3. Most people would consider me good looking.	1	2	3	4	5
4. I like the way I look without my clothes.	1	2	3	4	5
5. I like the way my clothes fit me.	1	2	3	4	5
6. I dislike my physique.	1	2	3	4	5
7. I'm physically unattractive.	1	2	3	4	5

8-16. Use this 1 to 5 scale to indicate <u>how dissatisfied or satisfied you are</u> with each of the following areas or aspects of your body:

Very Dissatisfied	Mostly Dissatisfied	Neither Satisfied Nor Dissatisfied	Mostly Satisfied	Very Satisfied
1	2	3	4	5

_____ 8. Face (facial features, complexion)

_____ 9. Hair (color, thickness, texture)

_____ 10. Lower torso (buttocks, hips, thighs, legs)

_____ 11. Mid torso (waist, stomach)

_____ 12. Upper torso (chest or breasts, shoulders, arms)

_____ 13. Muscle tone

_____ 14. Weight

_____ 15. Height

_____ 16. Overall appearance

Appendix C: SATAQ 3-Mothers

Definitely disagree	Mostly disagree	Neither agree nor disagree	Mostly agree	Definitely agree
1	2	3	4	5

Instructions: Please answer the following questions about pressures you felt BEFORE your pregnancy (if you have more than one child, think about the pressures you felt before your FIRST pregnancy). Please use the 1-5 scale above for each question. If an item does not apply to you (e.g., you do not have a significant other), please select 3 (Neither agree nor disagree).

Before my pregnancy...

1. _____I felt pressure from TV or magazines to lose weight.
2. _____I felt pressure from TV or magazines to look pretty.
3. _____I felt pressure from TV or magazines to be thin.
4. _____I felt pressure from TV or magazines to have a perfect body.
5. _____I felt pressure from TV or magazines to diet.
6. _____I felt pressure from TV or magazines to exercise.
7. _____I felt pressure from TV or magazines to change my appearance.
8. _____I felt pressure from my spouse or significant other to lose weight.
9. _____I felt pressure from my spouse or significant other to look pretty.
10. _____I felt pressure from my spouse or significant other to be thin.
11. _____I felt pressure from my spouse or significant other to have a perfect body.
12. _____I felt pressure from my spouse or significant other to diet.
13. _____I felt pressure from my spouse or significant other to exercise.
14. _____I felt pressure from my spouse or significant other to change my appearance.
15. _____I felt pressure from my friends to lose weight.
16. _____I felt pressure from my friends to look pretty.
17. _____I felt pressure from my friends to be thin.
18. _____I felt pressure from my friends to have a perfect body.
19. _____I felt pressure from my friends to diet.
20. _____I felt pressure from my friends to exercise.
21. _____I felt pressure from my friends to change my appearance.
22. _____ I wanted my body to look like the people who were on TV.
23. _____I wanted my body to look like the models who appeared in magazines.
24. _____I wanted my body to look like the people who were in movies.
25. _____I wished I looked like the models in music videos.
26. _____I wished I looked as athletic as the people in magazines.
27. _____I wished I looked as athletic as sports stars.
28. _____I tried to look like the people on TV.
29. _____I tried to look like sports athletes.
30. _____I compared my body to the bodies of TV and movie stars.
31. _____I compared my appearance to the appearance of TV and movie stars.
32. _____I compared my body to the bodies of people who appeared in magazines.
33. _____I compared my appearance to the appearance of people in magazines.
34. _____I compared my body to that of people in “good shape”.
35. _____I compared my body to that of people who were athletic.

Definitely disagree	Mostly disagree	Neither agree nor disagree	Mostly agree	Definitely agree
1	2	3	4	5

Instructions: Please answer the following questions about the pressures you have felt SINCE the birth of your child (if you have more than one child, think about the pressures you have felt since the birth of your LAST child). Please use the same 1-5 scale for each question. If an item does not apply to you (e.g., you do not have a significant other), please select 3 (Neither agree nor disagree).

Since the birth of my child...

1. _____I've felt pressure from TV or magazines to lose weight.
2. _____I've felt pressure from TV or magazines to look pretty.
3. _____I've felt pressure from TV or magazines to be thin.
4. _____I've felt pressure from TV or magazines to have a perfect body
5. _____I've felt pressure from TV or magazines to diet.
6. _____I've felt pressure from TV or magazines to exercise.
7. _____I've felt pressure from TV or magazines to change my appearance.
8. _____I've felt pressure from my spouse or significant other to lose weight.
9. _____I've felt pressure from my spouse or significant other to look pretty.
10. _____I've felt pressure from my spouse or significant other to be thin.
11. _____I've felt pressure from my spouse or significant other to have a perfect body
12. _____I've felt pressure from my spouse or significant other to diet.
13. _____I've felt pressure from my spouse or significant other to exercise.
14. _____I've felt pressure from my spouse or significant other to change my appearance.
15. _____I've felt pressure from my friends to lose weight.
16. _____I've felt pressure from my friends to look pretty.
17. _____I've felt pressure from my friends to be thin.
18. _____I've felt pressure from my friends to have a perfect body.
19. _____I've felt pressure from my friends to diet.
20. _____I've felt pressure from my friends to exercise.
21. _____I've felt pressure from my friends to change my appearance.
22. _____I would like my body to look like the people who are on TV.
23. _____I would like my body to look like the models who appear in magazines.
24. _____I would like my body to look like the people who are in movies.
25. _____I wish I looked like the models in music videos.
26. _____I wish I looked as athletic as the people in magazines.
27. _____I wish I looked as athletic as sports stars.
28. _____I try to look like the people on TV.
29. _____I try to look like sports athletes.
30. _____I compare my body to the bodies of TV and movie stars.
31. _____I compare my appearance to the appearance of TV and movie stars.
32. _____I compare my body to the bodies of people who appear in magazines.
33. _____I compare my appearance to the appearance of people in magazines.
34. _____I compare my body to that of people in "good shape".
35. _____I compare my body to that of people who are athletic.
36. _____I compare my body to the bodies of celebrity *mothers.*
37. _____ I compare my body to the bodies of *mothers* who appear in magazines.
38. _____ I compare my body to the bodies of *mothers* in "good shape".
39. _____ I compare my body to that of *mothers* who are athletic.
40. _____ I compare my appearance to the appearance of celebrity *mothers.*
41. _____ I compare my appearance to the appearance of *mothers* who appear in magazines.
42. _____ I would like my body to look like that of celebrity *mothers.*
43. _____ I would like my body to look like that of *mothers* who appear in magazines.
44. _____ I wish I looked as athletic as *mothers* who appear in magazines.
45. _____ I try to look like celebrity *mothers.*
46. _____ I try to look like *mothers* who appear in magazines.

Appendix D: EDE-Q

Instructions: The following questions are concerned with the past four weeks (28 days) only. Please read each question carefully. Please answer all of the questions.

Questions 1 to 12: Please circle the appropriate number on the right. Remember that the questions only refer to the past four weeks (28 days) only.

	On how many of the past 28 days…	**No days**	**1-5 days**	**6-12 days**	**13-15 days**	**16-22 days**	**23-27 days**	**Every day**
1.	Have you been deliberately *trying* to limit the amount of food you eat to influence your shape or weight (whether or not you have succeeded)?	0	1	2	3	4	5	6
2.	Have you gone for long periods of time (8 waking hours or more) without eating anything at all in order to influence your shape or weight?	0	1	2	3	4	5	6
3.	Have you *tried* to exclude from your diet any foods that you like in order to influence your shape or weight (whether or not you have succeeded)?	0	1	2	3	4	5	6
4.	Have you *tried* to follow definite rules regarding your eating (e.g., a calorie limit) in order to influence your shape or weight (whether or not you have succeeded)?	0	1	2	3	4	5	6
5.	Have you had a definite desire to have an *empty* stomach with the aim of influencing your shape or weight?	0	1	2	3	4	5	6
6.	Have you had a definite desire to have a *totally flat* stomach?	0	1	2	3	4	5	6
7.	Has thinking about *food, eating, or calories* made it very difficult to concentrate on things you are interested in (e.g., working, following a conversation, or reading)?	0	1	2	3	4	5	6
8.	Has thinking about *shape or weight* made it very difficult to concentrate on things you are interested in (e.g., working, following a conversation, or reading)?	0	1	2	3	4	5	6
9.	Have you had a definite fear of losing control over eating?	0	1	2	3	4	5	6
10.	Have you had a definite fear that you might gain weight?	0	1	2	3	4	5	6
11.	Have you felt fat?	0	1	2	3	4	5	6
12.	Have you had a strong desire to lose weight?	0	1	2	3	4	5	6

Questions 13 – 18: Please fill in the appropriate number in the boxes on the right. Remember that the questions only refer to the past four weeks (28 days).

Over the past four weeks (28 days)…

13. How many *times* have you eaten what other people would regard as an unusually large amount of food (given the circumstances)? _____

14. On how many of these times did you have a sense of having lost control over your eating (at the time you were eating)? _____

15. How many DAYS have such episodes of overeating occurred (i.e., you have eaten an unusually large amount of food *and* have had a sense of loss of control at the time)? _____

16. How many *times* have you made yourself sick (vomit) as a means of controlling your shape or weight? _____

17. How many *times* have you taken laxatives as a means of controlling your shape or weight? _____

18. How many *times* have you exercised in a "driven" or "compulsive" way as a means of controlling your weight, shape or amount of fat, or to burn off calories? _____

Questions 19 – 21: Please circle the appropriate number. *Please note that for these questions, the term "binge eating" means* eating what others would regard as an unusually large amount of food for the circumstances, accompanied by a sense of having lost control over eating.

19.	Over the past 28 days, on how many days have you eaten in secret (i.e., furtively)? …Do not count episodes of binge eating.	**No days**	**1-5 days**	**6-12 days**	**13-15 days**	**16-22 days**	**23-27 days**	**Every day**
		0	1	2	3	4	5	6
20.	On what proportion of the times that you have eaten have you felt guilty (felt that you've done wrong) because of its effect on your shape or weight? …Do not count episodes of binge eating.	**None of the times**	**A few of the times**	**Less than half**	**Half of the times**	**More than half**	**Most of the times**	**Every time**
		0	1	2	3	4	5	6

21.	Over the past 28 days, how concerned have you been about other people seeing you eat? …Do not count episodes of binge eating.	**Not at all**	**Slightly**	**Moderately**	**Markedly**	
		0	1	2	3	4	5

Questions 22 – 28: Please circle the appropriate number on the right. Remember that the questions only refer to the past four weeks (28 days).

	Over the past 28 days…	**Not at all**		**Slightly**	**Moderately**		**Markedly**
22.	Has your weight influence how you think about (judge) yourself as a person?	0	1	2	3	4	5	6
23.	Has your shape influenced how you think about (judge) yourself as a person?	0	1	2	3	4	5	6
24.	How much would it have upset you if you had been asked to weigh yourself once a week (no more, or less, often) for the next four weeks?	0	1	2	3	4	5	6
25.	How dissatisfied have you been with your weight?	0	1	2	3	4	5	6

26.	How dissatisfied have you been with your shape?	0	1	2	3	4	5	6
27.	How uncomfortable have you felt seeing your body (e.g., seeing your shape in the mirror, in a shop window reflection, while undressing or taking a bath or shower)?	0	1	2	3	4	5	6
28.	How uncomfortable have you felt about others seeing your shape or figure (e.g., in communal changing rooms, when swimming, or wearing tight clothes)?	0	1	2	3	4	5	6

If female: Over the past three to four months, have you missed any menstrual periods? _____

- If so, how many? _____
- Have you been taking the "pill"? _____

Appendix E: EDS

INSTRUCTIONS:
We would like to know how you are feeling. Please check the answer that comes closest to how you have felt **IN THE PAST 7 DAYS**, not just how you feel today.

In the past 7 days:

1. I have been able to laugh and see the funny side of things:
   - ❑ As much as I ever did
   - ❑ Not quite so much now
   - ❑ Definitely not so much now
   - ❑ Not at all
2. I have looked forward with enjoyment to things:
   - ❑ As much as I ever did
   - ❑ Rather less than I used to
   - ❑ Definitely less than I used to
   - ❑ Hardly at all
3. I have blamed myself unnecessarily when things went wrong:
   - ❑ Yes, most of the time
   - ❑ Yes, some of the time
   - ❑ Not very often
   - ❑ No, never
4. I have been anxious or worried for no good reason:
   - ❑ No, not at all
   - ❑ Hardly ever
   - ❑ Yes, sometimes
   - ❑ Yes, very often
5. I have felt scared or panicky for no very good reason:
   - ❑ Yes, quite a lot
   - ❑ Yes, sometimes
   - ❑ No, not much
   - ❑ No, not at all
6. Things have been getting on top of me:
   - ❑ Yes, most of the time I haven't been able to cope at all
   - ❑ Yes, sometimes I haven't been coping as well as usual
   - ❑ No, most of the time I have coped quite well
   - ❑ No, I have been coping as well as ever
7. I have been so unhappy that I have had difficulty sleeping:
   - ❑ Yes, most of the time
   - ❑ Yes, sometimes
   - ❑ Not very often
   - ❑ No, not at all
8. I have felt sad or miserable:
   - ❑ Yes, most of the time
   - ❑ Yes, quite often
   - ❑ Only occasionally
   - ❑ No, never
9. I have been so unhappy that I have been crying:
   - ❑ Yes, most of the time
   - ❑ Yes, quite often
   - ❑ Only occasionally
   - ❑ No, never

Appendix F: PSS-10

Instructions: The questions in this scale ask you about your feelings and thoughts during the last month. In each case, please indicate with a check how often you felt or thought a certain way.

1. In the last month, how often have you been upset because of something that happened unexpectedly?

   _____0=never _____1=almost never _____2=sometimes _____3=fairly often _____4=very often

2. In the last month, how often have you felt that you were unable to control the important things in your life?

   _____0=never _____1=almost never _____2=sometimes _____3=fairly often _____4=very often

3. In the last month, how often have you felt nervous and "stressed"?

   _____0=never _____1=almost never _____2=sometimes _____3=fairly often _____4=very often

4. In the last month, how often have you felt confident about your ability to handle your personal problems?

   _____0=never _____1=almost never _____2=sometimes _____3=fairly often _____4=very often

5. In the last month, how often have you felt that things were going your way?

   _____0=never _____1=almost never _____2=sometimes _____3=fairly often _____4=very often

6. In the last month, how often have you found that you could not cope with all the things that you had to do?

   _____0=never _____1=almost never _____2=sometimes _____3=fairly often _____4=very often

7. In the last month, how often have you been able to control irritations in your life?

   _____0=never _____1=almost never _____2=sometimes _____3=fairly often _____4=very often

8. In the last month, how often have you felt that you were on top of things?

   _____0=never _____1=almost never _____2=sometimes _____3=fairly often _____4=very often

9. In the last month, how often have you been angered because of things that were outside of your control?

   _____0=never _____1=almost never _____2=sometimes _____3=fairly often _____4=very often

10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

    _____0=never _____1=almost never _____2=sometimes _____3=fairly often _____4=very often

Appendix G: CSI(16)

Are you currently in a relationship? YES/NO (Circle one)

a. If YES, Please answer the following questions (1-16) thinking about your CURRENT relationship.
b. If NO, Please leave these items blank.

1. Please indicate the degree of happiness, all things considered, of your relationship.

Extremely Unhappy	Fairly Unhappy	A Little Unhappy	Happy	Very Happy	Extremely Happy	Perfect
0	1	2	3	4	5	6

		Never	Rarely	Occasionally	More often than not	Most of the Time	All the Time
2.	In general, how often do you think that things between you and your partner are going well?	0	1	2	3	4	5

		Not at all True	A little True	Somewhat True	Mostly True	Almost Completely True	Completely True
3.	Our relationship is strong	0	1	2	3	4	5
4.	My relationship with my partner makes me happy	0	1	2	3	4	5
5.	I have a warm and comfortable relationship with my partner	0	1	2	3	4	5
6.	I really feel like part of a team with my partner	0	1	2	3	4	5

		Not at all	A little	Somewhat	Mostly	Almost Completely	Completely
7.	How rewarding is your relationship with your partner?	0	1	2	3	4	5
8.	How well does your partner meet your needs?	0	1	2	3	4	5
9.	To what extent has your relationship met your original expectations?	0	1	2	3	4	5
10.	In general, how satisfied are you with your relationship?	0	1	2	3	4	5

For each of the following items, select the answer that best describes *how you feel about your relationship*. Base your responses on your first impressions and immediate feelings about the item.

11.	BORING	0	1	2	3	4	5	INTERESTING
12.	BAD	0	1	2	3	4	5	GOOD
13.	EMPTY	0	1	2	3	4	5	FULL
14.	FRAGILE	0	1	2	3	4	5	STURDY
15.	DISCOURAGING	0	1	2	3	4	5	HOPEFUL
16.	MISERABLE	0	1	2	3	4	5	ENJOYABLE