



# Perinatal eating disorder symptoms, parenting stress, and infant feeding

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## Abstract

**Introduction:** We sought to quantify associations between postpartum eating disorder symptoms, maternal mood, parenting, and infant feeding.

**Study Design:** We analyzed participants in an ongoing longitudinal study of women intending to breastfeed. At baseline all participants underwent a Structured Clinical Interview (SCID) to determine history of anorexia, bulimia, or binge eating disorder (EDHx). At 2 months postpartum, we quantified current symptoms using the Eating Disorder Examination Questionnaire (EDE-Q4). We measured outcomes using the Beck Depression Inventory (BDI), the Edinburgh Postnatal Depression Scale (EPDS), the Parenting Stress Index – Short Form, the Breastfeeding Self-Efficacy Scale, and the modified Differential Emotions Scale (mDES). We used multivariable linear regression to model associations between outcomes and EDE-Q4, EDHx and interactions between EDHx and EDE-Q4.

**Results:** Of the 62 women, 1 had a SCID-verified current eating disorder and 8 had an EDHx. At 2 months postpartum, women with EDHx were more likely to meet clinical thresholds for depression indexed by BDI  $\geq 17$  (40 vs. 5%, Fisher's exact  $p < .01$ ). Adjusting for EDHx, higher EDE-Q4 score was associated with higher BDI ( $R^2 = .44$ ,  $p < .0001$ ) and EPDS ( $R^2 = .22$ ,  $p < .001$ ) scores and reduced breastfeeding self-efficacy ( $R^2 = .12$ ,  $p < .01$ ). EDHx moderated other associations: among women without EDHx, higher EDE-Q4 score was associated with greater parenting stress ( $R^2 = .23$ , interaction  $p < .05$ ), more negative emotions during feeding ( $R^2 = .36$ , interaction  $p < .003$ ), and reduced breastfeeding intensity ( $R^2 = .16$ , interaction  $p < .03$ ).

**Conclusion:** Maternal eating disorder symptoms were associated with depression symptoms, parenting stress, and negative breastfeeding outcomes. Parenting support may improve outcomes for mothers with disordered eating symptoms.

## Background

- Known risk factors for postpartum depression (PPD) include lifetime history of depression or anxiety and prior history of PPD.
- One in 5 women with PPD also experience failed lactation, defined as unplanned, undesired weaning due to physiologic problems with breastfeeding.
- Limited research has shown a relationship between anxiety and depression and infant feeding difficulties in women with current/prior eating disorders.

## Methods

- We performed a secondary analysis of participants in Mood, Mother and Infant (MMI): The psychobiology of impaired dyadic development, a longitudinal cohort study of mother-baby dyads recruited between May 2013 and April 2014.
- For the current analysis, we used questionnaires at the enrollment visit in the third trimester of pregnancy and at 1 and 2 months postpartum.

### Sample Questions

EDE-Q4	Sample Questions
Restraint	On how many days out of the past 28 days, have you gone for long periods of time (8 hours or more) without eating anything in order to influence your shape or weight?
Eating Concern	On how many days out of the past 28 days, has thinking about food or its calorie content made it much more difficult to concentrate on things you are interested in; for example, read, watch TV, or follow a conversation?
Shape Concern	Over the past four weeks (28 days), have you felt uncomfortable seeing your body, for example, in the mirror, in shop window reflections, while undressing, or while taking a bath or shower?
Weight Concern	Over the past four weeks (28 days), has your weight influenced how you think about (judge) yourself as a person?
Parenting Stress Index-Short Form	I often have the feeling that I cannot handle things well.
Breastfeeding Self Efficacy Scale	I can always successfully breastfeed my baby without using formula as a supplement.
mDES	Please think back to how you felt while you were feeding your baby during the past week. What is the most angry, irritated, or annoyed you felt?

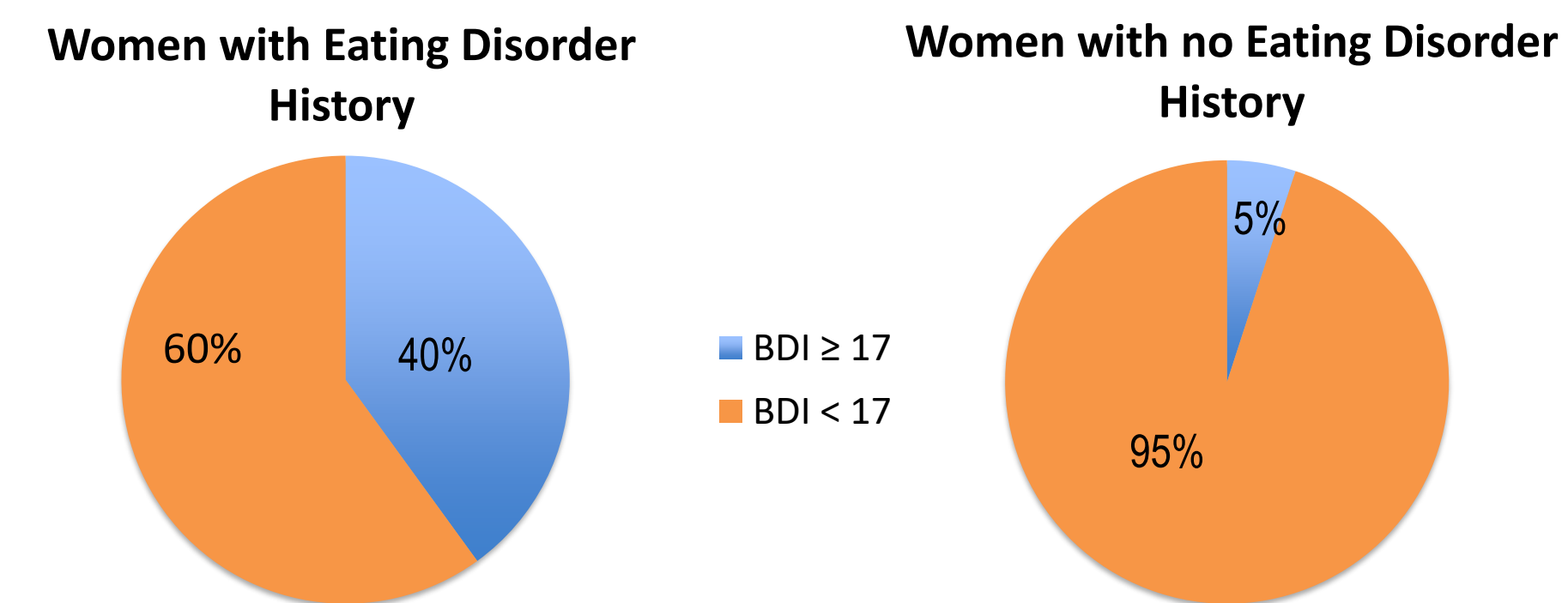
- Mothers were excluded from the study due to DSM Axis I disorders other than unipolar depression or anxiety, use of tobacco/illicit substances, major congenital anomaly, NICU admission  $> 12$ h, chronic medication/medical condition contraindicated for breastfeeding, or current use of tricyclic antidepressants.
- Eating disorder history was assessed via Structured Clinical Interview.
- Multivariable linear regression modeled associations between outcomes and EDE-Q4, EDHx and interactions between EDHx and EDE-Q4.

## Results

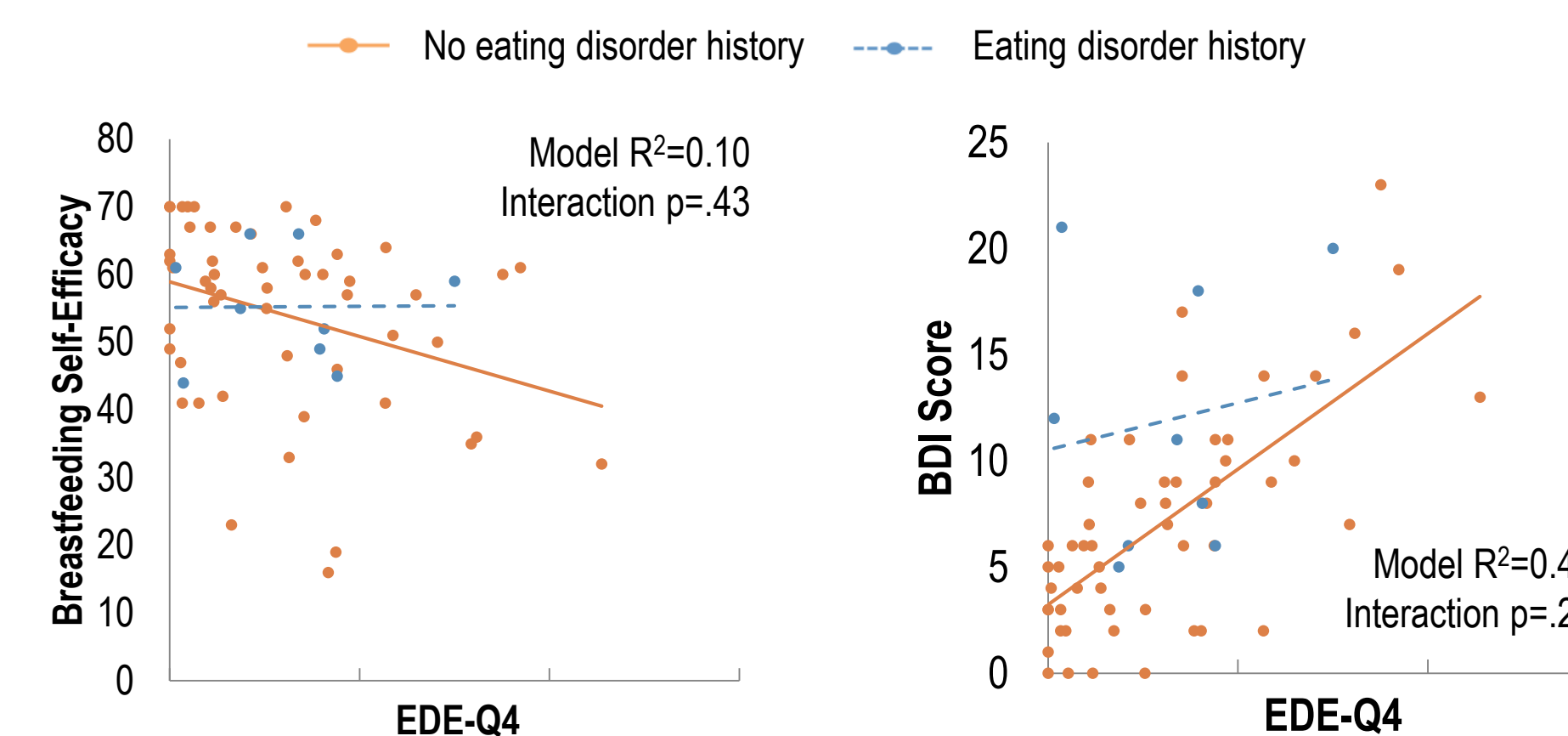
Demographics for women with no EDHx and with EDHx

	No EDHx	EDHx
N (%)	53 (85.5)	9 (14.5)
Education		
Some HS	1 (1.9)	0 (0)
HS Graduate	1 (1.9)	0 (0)
Some College	6 (11.3)	1 (11.1)
College Graduate	17 (32.1)	4 (44.4)
Post Graduate	28 (52.8)	4 (44.4)
Annual Income		
<30,000	6 (11.3)	1 (11.1)
30,000-60,000	12 (22.6)	3 (33.3)
60,000-100,000	17 (32.1)	4 (44.4)
100,000+	18 (34.0)	1 (11.1)
Employment Status		
Employed/Student	48 (90.6)	7 (77.8)
Not Employed or Student	5 (9.4)	2 (22.2)

2 months postpartum, women with EDHx were more likely to meet clinical thresholds for depression indexed by BDI  $\geq 17$  (Fisher's exact  $p < .01$ )

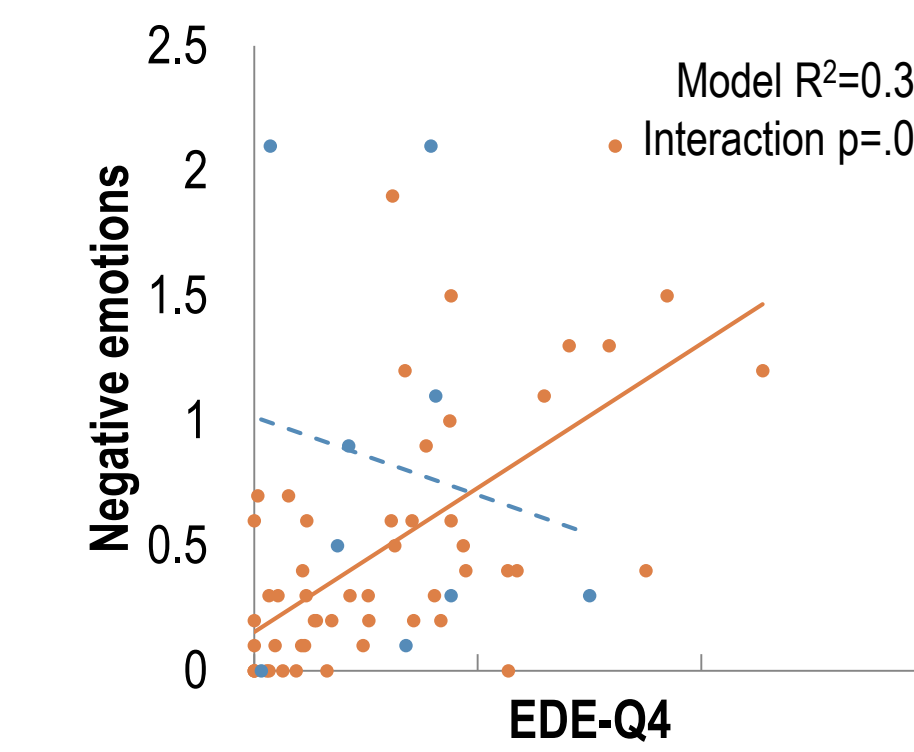


Regardless of EDHx, EDE-Q4 score was correlated with lower breastfeeding self-efficacy and greater depression symptoms

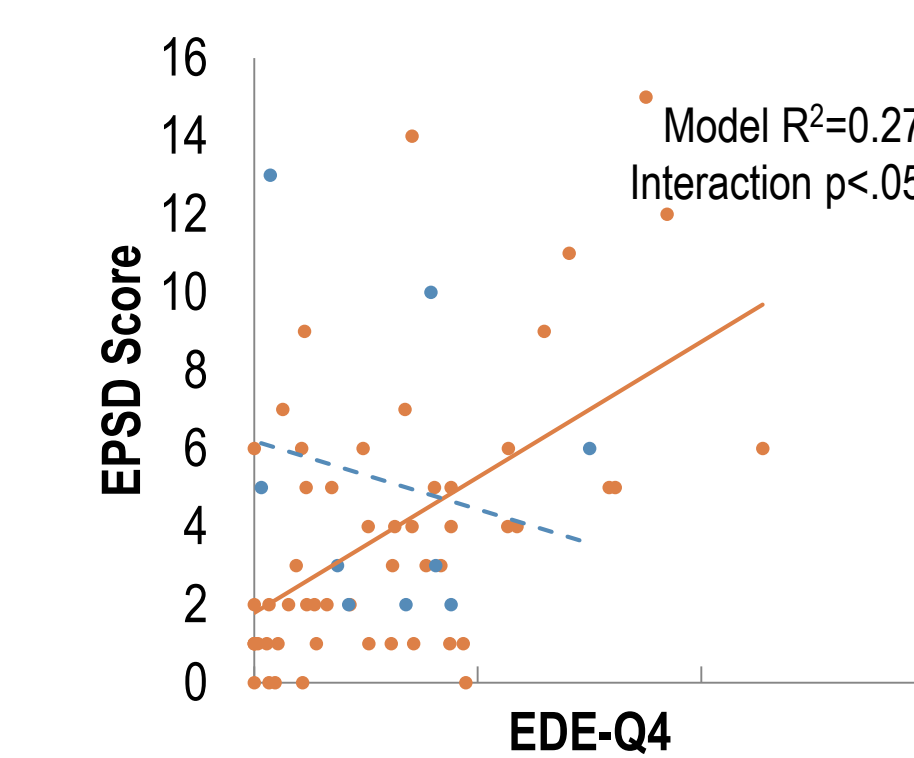


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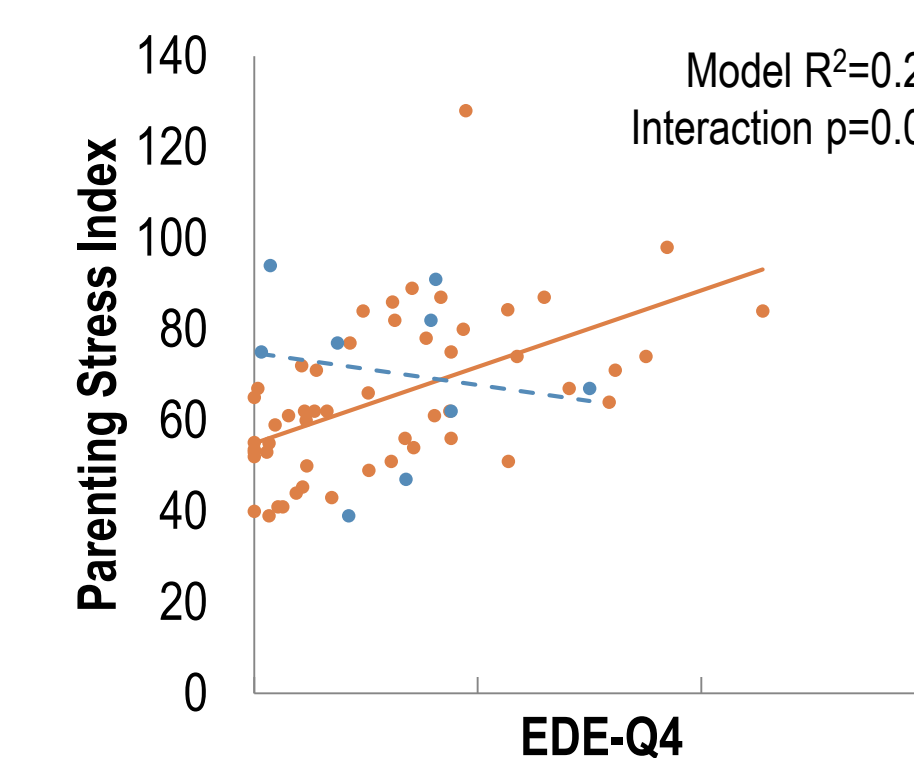
EDHx modified associations between EDE-Q4 score and emotions during feeding, EPDS and parenting stress.



Higher EDE-Q4 score was associated with more negative emotions during feeding for women without an EDHx, but with less negative emotions for women with an EDHx



Higher EDE-Q4 score more strongly associated with EPDS score among women with EDHx than among women without EDHx.



Higher EDE-Q4 score was associated with greater parenting stress among women without EDHx, but not for women with EDHx

## Conclusions

- Maternal eating disorder symptoms were associated with depression symptoms and parenting stress, and negative breastfeeding outcomes, even for women without EDHx.
- Significant negative breastfeeding outcomes included lower breastfeeding intensity, more negative emotions during breastfeeding, and a lack of breastfeeding self-efficacy.
- Targeted support may improve lactation and parenting outcomes for mothers with disordered eating symptoms during pregnancy and in the postpartum period.