Supplementary Material

In addition to the primary prospective analyses presented in the results section, we conducted additional cross-sectional analyses. To examine the impact of MDD history and pre-flood depression symptoms on women's pupillary response to emotional stimuli, we used linear mixed models with an autoregressive (AR1) covariance structure. For these analyses, women's peak pupil dilation was entered as the dependent variable. Our analyses included women's MDD history and BDI-II scores from the pre-flood assessment as predictor variables, Emotion (angry, happy, sad) and Morph (high, medium, low) levels as repeated measures, and subject treated as a random effect. Results of these analyses are presented in Table S1.

As seen in Table S1, we found a significant main effect of Emotion on peak pupillary response such that all women exhibited greater peak pupil dilation to sad faces ($M = .05$, $SE = .003$) compared to happy ($M = .02$, $SE = .002$) ($p < .001$) or angry ($M = .02$, $SE = .002$) ($p < .001$) faces. In contrast, the difference in peak pupil dilation to happy faces compared to angry faces was nonsignificant ($p = 1.00$).

In addition, we found a significant MDD history × Emotion interaction (see Table S1). To probe this interaction, we examined the effect of MDD history on peak pupil dilation separately for each Emotion type. Women with a history of MDD, compared to women with no depression history, exhibited significantly lower peak pupil dilation to sad faces, $t(47) = -2.81$, $p = .01$, $r_{effect\ size} = -.38$, but not happy, $t(47) = -0.04$, $p = .97$, $r_{effect\ size} = .006$, or angry, $t(47) = -0.73$, $p = .47$, , $r_{effect\ size} = -.11$, faces.

Finally, there was a significant BDI-II × Emotion × Morph interaction (see Table S1). To examine the form of this interaction, we examined the BDI-II × Emotion
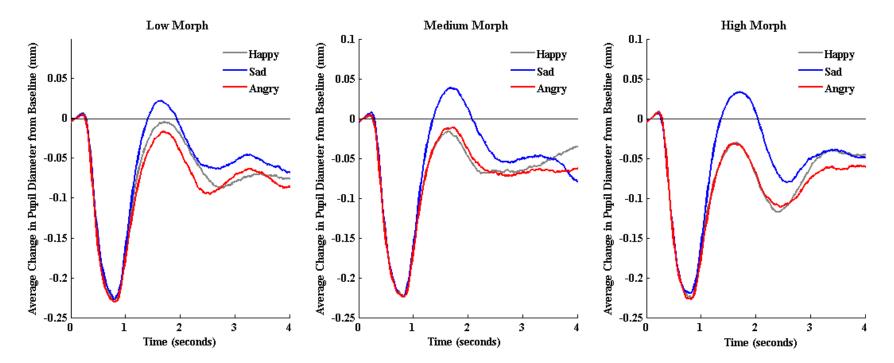
interaction separately for each Morph condition. For low and medium morph levels, the BDI-II × Emotion interaction was nonsignificant (lowest $p = .12$). However, for high morph levels, the BDI-II × Emotion interaction was significant, $F(2, 81.68) = 4.87$, $p = .01$. To examine this interaction, we conducted follow-up analyses examining the main effect of BDI-II on peak pupil dilation separately for each emotion type. For sad faces, higher BDI-II scores were associated with significantly decreased peak pupil dilation, $t(47) = -2.97$, $p = .01$ $r_{effect\ size} = -.40$. In contrast, BDI-II scores were not significantly associated with peak pupil dilation to happy, $t(47) = 0.08$, $p = .94$, $r_{effect\ size} = .01$, or angry, $t(47) = -0.71$, $p = .48$, $r_{effect\ size} = -.10$, faces.

Table S1. Results of the Linear Mixed Model analyses predicting peak pupil dilation

	F
MDD Life	2.16
BDI-II	0.41
Emotion	20.18***
Morph	1.37
MDD Life × BDI-II	1.46
MDD Life × Emotion	4.35**
MDD Life × Morph	1.03
BDI-II × Emotion	0.97
BDI-II × Morph	1.65
Emotion × Morph	1.73
MDD Life × BDI-II × Emotion	2.70
MDD Life × BDI-II × Morph	0.02
MDD Life × Emotion × Morph	1.18
BDI-II × Emotion × Morph	2.62*
MDD Life × BDI-II × Emotion × Morph	0.21

Figure S1. Average pupillary responses to each emotion type across each morph level for all participants