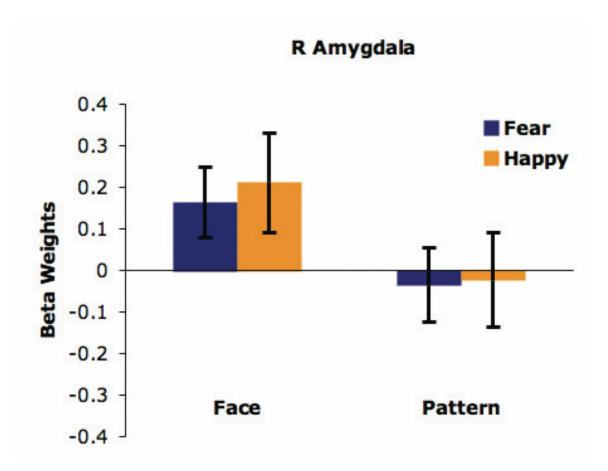**Supplementary Materials**

In order to determine whether pattern masks alone could produce decreases in amygdala signal, eleven healthy volunteers (6 women, 24.64 ± 2.77 years of age, 8 right-handed) were recruited for this separate study. All screening procedures were identical to the main study (see Materials and Methods). The experimental paradigm was also identical, with one exception— no target fearful or happy stimuli were presented during the experiment (i.e., only the neutral face and pattern masks were shown on the screen). All subjects were scanned while viewing 18-sec blocks of neutral faces or pattern images, interleaved with fixation blocks. Neutral faces and pattern images were arbitrarily separated into "fearful" and "happy" conditions according to stimulus classifications from the main study.

Voxelwise analysis showed significantly increased activity in the bilateral amygdala to neutral faces (Right: MNI 21, -3, -27, $t_{(10)}$ = 7.78; Left: MNI -18, 0, -24, $t_{(10)}$ = 7.41, p < 0.05 corrected), but no significant differences between face- or pattern-masked fearful vs. happy faces. When using the amygdala voxels defined from the main experiment as functional region of interest (MNI 18, -3, -18; cluster size = 297 mm^3), results showed no significant changes in amygdala signal to neutral faces ($t_{(10)}$ = 1.98, p = 0.076) and no significant differences between the face-masked "fearful" and "happy" conditions were observed ($t_{(10)}$ = -0.574, p = 0.579) (Supplementary Figure 1). There were no significant signal increases or decreases to pattern images ($t_{(10)}$ = -0.346, p = 0.737) and no significant differences between the pattern-masked "fearful" and "happy" conditions were observed ($t_{(10)}$ = -0.095, p = 0.926). Findings from this experiment show that the observed amygdala signal decreases to pattern-masked fearful faces in the main study are not due to the pattern mask *per se*, but an active signal decrease in response to the fearful face targets.

Supplementary Figure 1. Amygdala signal changes to neutral faces and pattern images when not masking fearful and happy targets. Amygdala signal presented here was extracted from the voxels identified with the face-masked fearful vs. happy faces in the main study (see Figure 2). Results did not change when an anatomical ROI of the amygdala was used instead of these voxels.