Standard amygdalar fMRI probe tasks

This data set contains scans for thirty-two young, self-reported healthy subjects. Participants completed four standard amygdala (AMG) probe tasks distributed across six functional runs. The tasks were:
- The TFM task (Hariri et al., 2002a; Hariri et al., 2002b): it consisted of a total of 4 blocks depicting facial emotional expressions (emotional blocks) interleaved with 5 blocks with geometrical shapes (sensorimotor blocks). Participants were presented with 2 different faces or shapes on the bottom of the screen and one on the top of the screen and were asked to select which of the two faces or shapes on the bottom matched the identical image on top. Facial expressions included angry, fearful, surprise and neutral and were balanced in terms of gender. Each block consisted of 6 slides, which were each presented for 4 seconds, with a 4 second interstimulus interval (ISI).
- The Cued Aversive Picture Task (CAP) included 2 functional runs and followed the design of a task implemented by Nitschke (Nitschke et al., 2009). Each run consisted of 15 neutral trials and 25 negative trials. Negative and Neutral images were preceded by a consistent cue. The intertrial and interstimuli interval (ISI) were reduced from that of the original design due to time constraints. In our version of the task, each trial lasted 10 sec. On 20% of the cued negative trials, subjects saw a blank screen to facilitate the identification of activity related to the cue versus the negative pictures.
- The Aversive and Erotica Picture Task (AEP) also involved 2 functional runs, and followed a design implemented by Heinzel (Heinzel et al., 2005) in which participants were exposed to emotional pictures without cueing, Participants were asked to press a button as quickly as possible whenever they saw a picture. Stimuli for this task consisted of a random selection of 40 images from a set of 20 neutral, 20 erotica and 20 negative. Images were shown for 2 seconds each with a jittered ISI (4-14 sec.).
- The screaming lady" paradigm or SLp (Lau et al., 2008) involved one functional run. This experiment had three phases. During the pre-acquisition phase individuals were shown faces of two different females (12 trials: 6 CS- and 6 CS+). During the acquisition phase individuals were shown the same faces but one of them (CS+) was followed by two aversive stimuli: a picture of the same female with an expression of fear at high intensity paired with a shrieking female scream (52 trials: 20 CS-; 12 CS+ unmatched with scream and 20 CS+ matched with scream). During last phase, the extinction phase, individuals were shown the same two female faces not followed by any aversive stimuli (20 trials: 10 CS- and 10 CS+). CS- and CS+ unmatched images were shown for 4 seconds, CS+ matched stimuli was shown for 6 seconds; an ISI of 2 seconds was used.

Anatomical and functional images were acquired on one of two identical 3-T Phillips Achieva scanners with a 32-channel head coil. Blood Oxygenation Level Dependent (BOLD) sensitive functional images were acquired using a gradient echo-planar imaging (EPI) sequence (TR=2000ms, TE=25ms, 38 slices, ascending acquisition, voxel size = 3x3x3, with 0.3 mm interslice gap, FA= 90◦, FOV = 240 mm). A total of 206 volumes were acquired for the TFM run; 203 volumes for each CAP run; 173 for each AEP run and 274 volumes for the SLp run. A high-resolution MP-RAGE T1-weighted anatomical scan was acquired for each participant (duration of 4'32.8", 170 sagittal slices, voxel size 1x1x1mm, FOV=256mm) to provide anatomical reference for normalization and displaying of functional data.