Supplementary Online Content


Appendix. Supplementary eMethods.

eFigure 1. Median scores for all 108 images.
eFigure 2. Median scores for the 4 categories of images.

This supplementary material has been provided by the authors to give readers additional information about their work.
eMETHODS

Pilot Study to Validate and Select Stimuli

A pilot study was undertaken to choose image stimuli that selectively targeted positive and negative feelings in social group and individual contexts. A total of 108 images displaying positive, negative, and neutral scenes involving groups of people or individuals were obtained from a Web-based image database (http://pro.corbis.com). One person in each image was highlighted by a red circle to form a focus person. A pilot group of 20 subjects (an independent sample of healthy controls with similar demographics to those in the fMR imaging study) rated these 108 images on 3 bipolar scales: socially included/socially excluded, individual success/individual failure, and happy/sad.

The socially included/socially excluded measure was designed to identify group-positive and group-negative images, and the individual success/individual failure rating was designed to identify individual-positive and individual-negative images. Ratings for each of the 108 images were made on visual analogue scales requiring subjects to indicate their rating with a cross on a 100-mm line. Thus, the maximum rating on each item was 50. Median scores on the exclusion/inclusion and success/failure ratings are shown in eFigure 1.

Groups of 8 images for the fMR imaging task were selected as clusters of images around the maximum point of each axis. Sixteen images for each neutral group were chosen from around the axis near zero.

Individual-Positive Images

For the 8 selected images, the minimum and maximum median ratings for “successful” images were 39 and 46, respectively, with all these images scoring below 20 for “included.”

Group-Positive Images

For the 8 selected images, the minimum and maximum median ratings for “included” images were 39.5 and 45, respectively, with all these images scoring below 23 for “successful.”

Individual-Negative Images
For the 8 selected images, the minimum and maximum ratings for images depicting “failure” were 28 and 43, respectively, with all these images scoring below 20 for “exclusion.”

**Group-Negative Images**

For the 8 selected images, the minimum and maximum medial ratings for images of “exclusion” were 32 and 41, respectively, with all images rating below 20 for “failure.” Median scores for each set of images are given in eFigure 2.

**Happy/Sad Ratings**

All 8 group-positive images were rated above 31 for happiness, and all 8 group-negative images were rated above 23 for sadness. All 8 individual-positive images were rated above 34 for happiness, and all 8 individual-negative images were rated over 16 for sadness. None of the neutral images were rated above 8 for either happiness or sadness.
eFigure 1. Median Scores for All 108 images.
Graph shows median scores for all 108 images from the ratings of success/failure, and excluded/included.
eFigure 2. Median Scores for the 4 Categories of Images.
Graph shows the median scores for the 8 images in each category: individual negative (green), individual positive (yellow), group negative (blue), group positive (red), individual neutral (turquoise), and group neutral (pink). Note that points for neutral images overlap.