Supplementary Material

Methods

Procedure

In both versions of the task (pre-EEG and EEG), participants completed one practice block consisting of 20 trials followed by four, 60 trial blocks with pseudorandomized flanker conditions. Breaks between blocks were not timed and all blocks were initiated by the task administrator after verbally checking-in with the participant. The EEG version of the task was identical to the preliminary version except jitter levels were held constant during the EEG unless accuracy in any condition fell below 60%. In such cases, jitter was reduced by one step (i.e., 4.5°) for that condition.

At the beginning of each trial, a fixation cross appeared for 1000ms. Gabor stimuli were then presented for 250ms followed by a jittered response window of 500, 600, 700, 800, 900, or 1000ms. Following the response window, a 250ms feedback cue was shown in which a green fixation cross signified a correct response, a red fixation cross signified an incorrect response and a white fixation cross signified a missed response. The interstimulus interval ranged from 2000-2500ms depending on the duration of the response window.

EEG data collection and analyses

The BioSemi amplifier utilized a fixed first order analog anti-aliasing filter with a 3.6 kHz half power cut-off frequency (-3dB) and a 6dB/octave roll off. Malfunctioning electrodes (i.e., electrodes that were significantly uncorrelated with neighboring electrodes) were identified by visual inspection and replaced via spherical spline interpolation. The data were then epoched from -500 to 1500 ms relative to onset of the Gabor stimuli. Non-neural electrical activity

including ocular, cardiac, muscular, and electrical noise were identified by applying independent component analysis (ICA) to the epoched data. Independent components (ICs) were then visually inspected and labeled; only ICs reflecting neural activity were included in the final reconstituted data. Denoised data were then re-referenced to the average scalp signal from all electrodes. ERPs were baseline corrected 200ms prestimulus, and lowpass filtered at 30hz (3rd order butterworth with an 18dB/octave roll off; frequency cutoff was half power).