SUPPLEMENTARY MATERIAL

Analysis of Behavioral Data. Response times detecting the correct location of the dot probe were compiled across 60 trials for each condition. The mean response times for the respective control conditions (e.g. neutral, symbol) were subtracted from the condition of interest (e.g. negative, math) to control for baseline levels of responding. To calculate attentional bias scores for math and negative conditions, we subtracted response times in the congruent condition from the incongruent condition, such that positive scores indicate an engagement bias due to a shorter latency in the congruent condition compared to the incongruent condition. Negative scores are indicative of a disengagement bias, or faster responding in the incongruent condition compared to the congruent condition. Residuals in math anxiety (MARS scores) were calculated accounting for the variance in test or trait anxiety, in order to create individual scores for math anxiety controlling for trait anxiety, and math anxiety controlling for test anxiety.

Analysis of Neuroimaging Data. Anatomical and functional imaging data were processed with FSL version 5.98 (Jenkinson, Beckmann, Behrens, Woolrich, & Smith, 2012; Smith et al., 2004). Functional data were preprocessed using standard procedures, including motion correction (using MCFLIRT, no subject moved more than 1.25 mm in any direction), slice timing correction, brain extraction (skull stripping), high pass temporal filtering (100 Hz), and removal of temporal autocorrelation (prewhitening; (Richardson & Suinn, 1972; Suinn & Winston, 2003; Woolrich, Ripley, Brady, & Smith, 2001). Spatial smoothing was applied to the functional images using a Gaussian kernel at 5 mm full-width at half maximum. Functional images were registered to the individual's high-resolution T1 structural scan, and all images were normalized to standard space using the Montreal Neurological Institute (MNI)—152 template (2 mm^3 voxels).

A GLM analysis with FSL's FEAT was conducted using a matrix constructed with four explanatory variables corresponding to each of the four task conditions: math, symbol, negative, and neutral. These conditions of interest were modeled as boxcar functions convolved with a double gamma hemodynamic response function and covariates of no interest (linear trends for each run). Individual subject GLMs were then submitted to a mixed-effects model across subjects (treating subjects as a random factor). To correct for multiple comparisons, we used cluster thresholding to detect contiguous clusters (Cox, 1996; Cox & Hyde, 1997; Friston, Worsley, Frackowiak, Mazziotta, & Evans, 1994; Hayasaka & Nichols, 2003; Worsley, Evans, Marrett, & Neelin, 1992), identifying the significance level of a group of voxels and comparing this Z-statistic to a threshold of $Z = 2.3$, a false positive detection rate of $p < .05$.

Multivariate methods using PyMVPA (Hanke et al., 2009) were also used to analyze these data and will be explored in future research.

Supplementary Table S1. *Regions of Interest defined from the Negative > Neutral contrast in the Trial Type x Congruency GLM.*

Region	*t*-value at peak	Coordinates *x*	*y*	*z*
Negative > Neutral				
Right inferotemporal cortex	7.11	46	-74	-16
Left inferotemporal cortex	9.34	-42	-54	-22
Bilateral dACC	6.02	0	16	38
Right middle frontal gyrus	5.31	52	28	8
Left intraparietal sulcus	5.16	-30	-64	58
Left posterior middle temporal gyrus	5.46	-56	-74	8
Left middle frontal sulcus (lateral frontal cortex)	5.63	-44	4	26
Right cerebellum	5.68	10	-82	-40
Left anterior insula/frontal lobe	4.95	-34	26	-6
Right amygdala/anterior medial temporal lobe	5.98	28	2	-38
Right temporoparietal junction	5.09	66	-42	36
Left precentral gyrus	4.9	-42	-4	52
Left Cerebellum	5.26	-8	-74	-24
Left Temporoparietal junction	4.49	-62	-46	36
Left Amygdala	4.42	-28	4	-28
Right intraparietal sulcus	4.68	34	-58	46
Right intraparietal sulcus	4.81	32	-78	40
Right Precentral sulcus (white matter)	4.71	46	2	22
Left Parietal Lobe (adjacent white matter)	4.26	-24	-72	28
Right postcentral gyrus	4.53	30	-32	68

Note: Coordinates (*x, y,* and z values) correspond to MNI space. Clusters were defined at t = 3.662 for *N* = 39.

Supplementary Table S2. *Regions in which BOLD activity during the Math > Symbol contrast is correlated with math anxiety (controlling for trait anxiety).*

Region	*t*-value at peak	Coordinates		
		x	*y*	*z*
Math > Symbol				
Right Amygdala	2.77	22	8	-24
Right Posterior Insula	3.12	28	-26	2
Right Dorsomedial Insula	3.21	28	-12	20
Right Thalamus: VA of the thalamus	3.24	10	-10	6
Left Hippocampus	3.31	-30	-20	-14
Left Precentral Gyrus	3.32	-32	-10	68
Right V1	3.37	2	-92	-4
Cerebellum	3.52	-10	-92	-24
Left Postcentral Gyrus	3.62	36	-12	68
Right Thalamus: Dorsomedial nucleus	3.66	10	-18	0
Right Precentral Gyrus	3.74	-36	-36	68
Left Anterior Temporal Lobe	3.81	62	-4	-18
Left Anterior Frontal Lobe	3.95	-12	58	-12

Note: Coordinates (x, y, and z values) correspond to MNI space. Clusters were defined at t = 2.51 for N = 39.

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