Supplementary Methods

Reversal Learning (Abend et al., 2021; Michalska et al., 2018). Psychophysiological measures, including skin conductance responses (SCRs), were collected throughout the task (see Abend et al., 2021 for full details). Briefly, data were acquired from the middle and ring fingers on each participant's non-dominant hand using Ag/AgCl electrodes and collected via BIOPAC AcqKnowledge software. Skin conductance was recorded at 1000Hz. Skin conductance data were deconstructed into tonic and phasic components using MATLAB's Ledalab package (Benedek & Kaernbach, 2010). To obtain a single SCR value for each participant, phasic values from the participant's high pain cue trials were averaged.

Screaming Lady (Abend et al., 2020; Britton et al., 2013). SCRs were collected throughout the task (see Abend et al., 2020 for full details). Briefly, data were acquired from the middle and ring fingers on each participant's non-dominant hand using Ag/AgCl electrodes and collected via BIOPAC AcqKnowledge software. Skin conductance was recorded at 1000Hz. Square-root-transformed difference in trough-to-peak amplitude was calculated at each trial across the paradigm. Then, to obtain a single score for each participant, CS+ trial values were averaged during the conditioning phase of the experiment.

Virtual Public Speaking. Eye gaze duration on virtual audience members was collected throughout the task using Tobii Pro Glasses 2. Each participant spoke to a virtual audience as if introducing themselves to a new class and then silently viewed the audience for the same length of time. Eye contact during the silent phase subtracted from eye contact during the speech phase was calculated as the avoidance value for each participant.

Yale Interactive Kinect Environment Software Behavioral Avoidance Task (YIKES; Lebowitz et al., 2015). Calculations of physical avoidance were obtained (see Lebowitz et al., 2015 for full details). Briefly, participants could move laterally within a 3m wide space, up to 1.5m on either side of the midpoint. Throughout the experiment, movement was collected as pairs of time and location (20 datapoints per second). Physical avoidance was calculated by

obtaining two average "turning points" for each participant: "turning point" refers to the location where the participant turned their back away from one of the images flanked on either end of the screen. One turning point was the average of times when the participant was turning toward the threatening image, and the other was the average from the times when the participant was turning toward the neutral image. Avoidance was operationalized as turning away at a greater distance when moving toward threatening images compared to moving toward neutral images. The behavioral avoidance index value was derived from the additive inverse of the average distance that participants turned away from the threatening stimulus subtracted by the neutral stimulus turning point average. Higher scores indicated higher levels of avoidance.

References

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Supplementary Table 1

Descriptive Statistics for Threat Appraisals across Tasks

Task	Acute Threat Appraisal M (SD), range	Post-Threat Appraisal M (SD), range
Peer-Observed Flanker (n=46)[a]	30.64 (5.24), 20-42	29.61 (4.76), 20-42
Reversal Learning (n=40)	10.83 (6.54), 1-23	10.80 (6.91), 0-24
Safety Learning (n=25)[a]	31.37 (6.56), 20-47	29.96 (5.35), 20-39
Scary Movie (n=29)	34.62 (26.37), 0-100	27.90 (23.79), 0-79
Screaming Lady (n=41)	5.34 (6.26), 0-24	13.15 (7.98), 0-26
Trier Social Stress Test (n=28)	16.32 (26.00), 0-100	30.00 (33.00), 0-100
Virtual Public Speaking (n=23)[b]	5.96 (7.70), 0-25	8.45 (7.98), 0-24
YIKES (n=55)[b]	29.93 (5.99), 20-45	29.44 (5.91), 20-50

Note. YIKES=Yale Interactive Kinect Environment Software Behavioral Avoidance Task.
[a]Data were missing for 2 participants due to data collection error.
[b]Data were missing for 1 participant due to data collection error.

Supplementary Table 2

Bivariate Correlations between Threat Appraisals and Pediatric Anxiety Symptoms

	Peer-Observed Flanker	Reversal Learning	Safety Learning	Scary Movie	Screaming Lady	Trier Social Stress Test	Virtual Public Speaking	YIKES
Pearson's *r*				Factor Score / Single-Task Measure				
Acute Threat Appraisal								
SCARED Self-Report	.59 / .55	.51 / .35	.51 / -.19	.55 / .54	.51 / .44	.56 / .53	.62 / .49	.59 / .59
SCARED Parent-Report	.58 / .54	.44 / .36	.44 / -.24	.29 / .40	.37 / .31	.35 / .32	.68 / .59	.59 / .49
EMA Self-Report	.42 / .29	.39 / .22	.53 / -.22	.57 / .22	.54 / .43	.71 / .70	.57 / .47	.45 / .47
Post-Threat Appraisal								
SCARED Self-Report	.56 / .55	.53 / .36	.29 / -.24	.64 / .53	.68 / .39	.75 / .66	.66 / .48	.69 / .63
SCARED Parent-Report	.41 / .42	.48 / .39	.22 / -.34	.50 / .43	.59 / .37	.65 / .48	.65 / .60	.66 / .50
EMA Self-Report	.31 / .25	.34 / .22	.44 / .05	.37 / .22	.54 / .42	.68 / .68	.32 / .33	.48 / .49

Note. EMA=ecological momentary assessment; SCARED=Screen for Child Anxiety-Related Emotional Disorders; YIKES=Yale Interactive Kinect Environment Software Behavioral Avoidance Task.
p<.05, *p*<.01

Supplementary Table 3

Bivariate Correlations between Threat Appraisals and Task Performance Indices

	Acute Threat Appraisal	Post-Threat Appraisal
Pearson's *r*	Factor Score / Single-Task Measure	
Reversal Learning	.33 / .19	.35 / .24
Screaming Lady	-.02 / -.08	.31 / .31
Virtual Public Speaking	.42 / .41	.40 / .28
YIKES	.19 / .02	.24 / .18

Note. YIKES=Yale Interactive Kinect Environment Software Behavioral Avoidance Task.
p<.05