Supplemental Information (SI) for
Purpose in life and conflict-related neural responses during health decision-making
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SI 1. Association between purpose and health messages ratings across endorsement types. All analyses control for ethnicity as in the primary analyses. t and p values are displayed. p<.05* p<.01**

	How	**Why**	**Risk**
Agree	2.72 0.01**	1.57 0.12	0.58 0.56
Confidence	2.55 0.01*	1.98 0.05*	0.95 0.34

SI 2. Self-relevance processing. To test whether health-related conflict processing might directly alter self-related processing of health information, we used a standard self localizer task to create group-level functional ROIs (fROIs) associated with self-related processing. Functionally defined ROIs in the medial prefrontal cortex (MPFC) and posterior cingulate cortex (PCC) were identified. Participants were presented with 32 personality traits, selected from a list of 120 based on ratings they provided during the baseline assessment (Kang et al., 2018). Participants made binary judgments about a series of personality traits on their self-relevance (me/ not me); as a within-subject control trial, valence (good/bad). The task also included trials in which participants judged the case of the lettering (upper/lower) which is not the focus of the current report. Thirty-two personality traits were presented once for each type of judgment, for a total of 96 trials across one run. Trial types were blocked, so that participants always saw four trials of the same type consecutively. This resulted in eight blocks of each judgment type. Each block consisted of an initial screen showing the block type (2s), followed by four consecutive personality trait words and judgment ratings (3.2s each). Blocks were separated by fixation rest periods (4s, range 2-12s).

Activity in the neurosynth map of conflict was positively correlated with activity in the functionally defined self-relevance processing regions of interest (ROIs) during *how* (MPFC: r=.274, p=.0002; PCC: r=.208, p=.006) and *why* (MPFC only: r=.181, p=.017) messages, but not with other message types (ps>.10), which is partially consistent with the idea that conflict experienced may be in relation to self-views. However, we found no evidence that purpose was associated with neural activity in our functionally defined self-related processing ROIs (See SI 3).

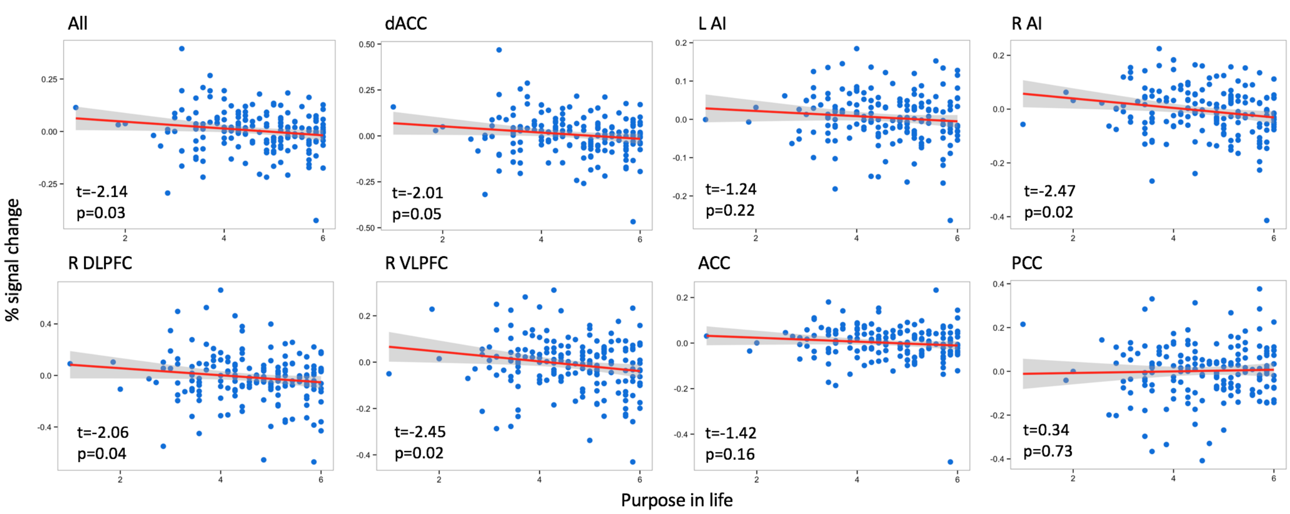
SI 3. Associations between purpose and activity in neural ROIs relevant to conflict, reward, self, salience, and executive processing during exposure to *why, how*, and *risk* health messages. All analyses controlled for ethnicity as in the primary analyses. t and p values are displayed. Meta-analytically defined ROIs associated with reward processing were identified by (Bartra, McGuire, & Kable, 2013), functionally defined ROIs (fROIs) associated with self-relevance processing were identified by a self-localizer task in the current study (SI.1), and

salience and executive fROIs were defined by (Shirer, Ryali, Rykhlevskaia, Menon, & Greicius, 2012). R = right; L = left; (d)ACC = (dorsal) anterior cingulate cortex; AI = anterior insula; DLPFC = dorsolateral prefrontal cortex; PCC = posterior cingulate cortex; VLPFC = ventrolateral prefrontal cortex; (V)MPFC = (ventro)medial prefrontal cortex; VS = ventral striatum.
p<.05*

ROIs		***k***	**Why**	**How**	**Risk**
Neurosynth conflict	All	816	0.717 0.474	-2.138 0.034 *	0.596 0.552
	dACC	607	0.852 0.395	-2.013 0.046 *	0.649 0.517
	L AI	7	1.106 0.270	-1.239 0.217	-0.844 0.400
	R AI	79	0.358 0.721	-2.469 0.015 *	-0.463 0.644
	R DLPFC	37	-0.134 0.893	-2.064 0.041 *	1.107 0.270
	R VLPFC	7	0.766 0.444	-2.448 0.015 *	0.214 0.831
	ACC	12	-0.707 0.480	-1.421 0.157	-0.013 0.990
	PCC	9	-2.159 0.032 *	0.341 0.733	1.134 0.258
Neurosynth reward	All	10971	0.101 0.920	-0.947 0.345	-0.257 0.797
Bartra et al. ROI reward	VMPFC	448	0.752 0.453	-0.939 0.349	-0.004 0.997

	VS	498	0.265 0.792	0.487 0.627	0.717 0.474
Neurosynth self	All	3707	-0.281 0.779	-1.225 0.222	0.466 0.642
fROI self	MPFC	402	-0.330 0.741	0.985 0.326	1.725 0.086
	PCC	402	-0.298 0.766	0.049 0.961	1.385 0.168
fROI salience	Anterior	4727	0.064 0.949	-1.681 0.095	0.705 0.481
	Posterior	3155	-0.495 0.622	-0.859 0.391	0.372 0.710
fROI executive	L	4716	0.221 0.825	-0.974 0.331	0.810 0.419
	R	6996	-0.132 0.895	-1.829 0.069	1.219 0.225

SI 4. Activity in separate regions within the neurosynth map of conflict predicted by purpose during how (vs. control) messages.



SI 5. Neural activity during health messages task across message types. Contrasts were computed focusing on within-subjects activation for each message type, and then comparing across the message types (*n*=177). All health message trials are compared to respective everyday activity (control) trials. Clusters in occipital poles, cerebellum, and white matter are not reported. (*p*<.005, uncorrected)
Note: L = left; R = right; (d)ACC = (dorsal) anterior cingulate cortex; DLPFC = dorsolateral prefrontal cortex; PCC = posterior cingulate cortex; VLPFC = ventrolateral prefrontal cortex; VTA = ventral tegmental area.
* Clusters surviving correction based on 3dClustSim (*p*<.005, *k*=236, corresponding to *p*<.05, corrected)
+Clusters near our focal ROIs within the 'reverse inference map of conflict'

Region	x	y	z	size	t
How > Control					
precuneus*	-12	-49	16	388	3.91
R insula+	36	-7	16	37	-2.61
midcingulate cortex+	3	-19	52	23	-2.61
dACC+	-6	47	34	12	-2.63
L frontal inferior triangularis	-39	26	22	10	3.20
R fusiform gyrus	27	-76	-5	18	3.17
R postcentral gyrus	48	-31	61	148	-2.60
Why > Control					
R precuneus+	6	-49	70	43	-2.60
L precuneus+	-12	-37	1	18	-2.61
R VLPFC+	30	62	-11	21	-2.63
L supramarginal gyrus	-54	-52	37	8	-2.60

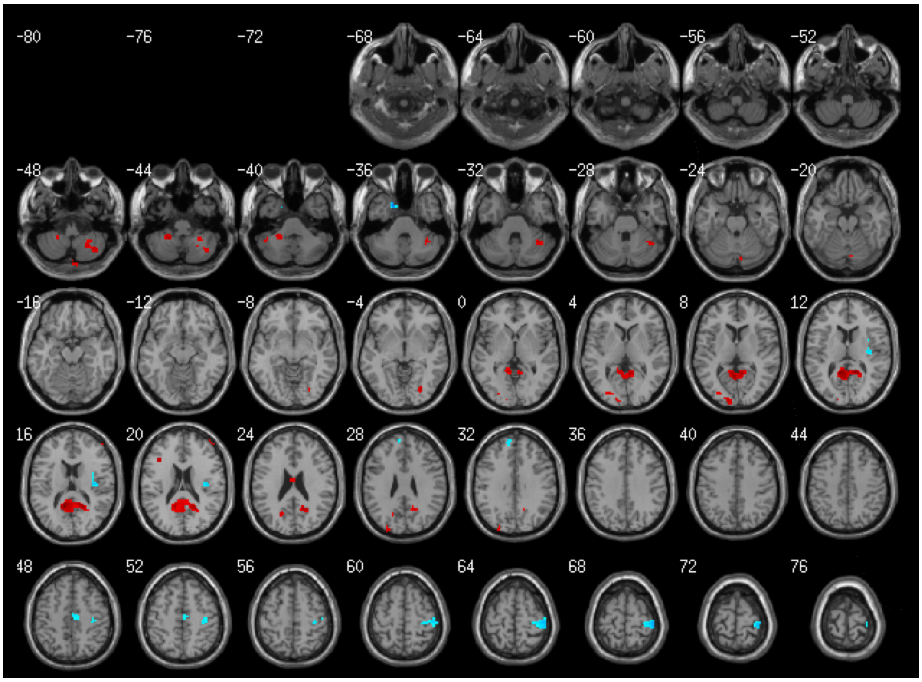
R caudate	24	26	16	199	-2.61
R precentral gyrus	36	-19	61	44	-2.61
R inferior frontal gyrus	51	14	40	54	-2.61
L parietal superior lobe	-18	-70	52	20	-2.61
L caudate	-3	11	1	82	-2.61
R temporal pole	69	-22	-17	6	-2.66
Risk > Control					
Superior frontal gyrus*	12	44	52	1213	4.84
precuneus*	-9	-49	31	242	3.95
L inferior frontal gyrus*	-51	38	-14	300	3.56
dACC⁺	3	-7	52	21	-2.61
L dorsal PCC⁺	-18	-22	43	6	-2.61
midcingulate cortex⁺	0	-31	52	19	-2.61
R DLPFC⁺	27	32	28	6	-2.63
L middle temporal gyrus	-57	-46	-2	229	4.28
R insula	27	17	-11	114	3.93
R caudate	9	5	16	18	3.63
R middle temporal gyrus	54	-34	-2	64	3.57

R temporal pole	48	23	-26	23	3.42
L angular gyrus	-48	-67	49	143	3.32
R middle frontal gyrus	54	26	34	15	3.22
ACC	9	35	-5	22	3.18
VTA	6	-13	-14	38	3.09
R angular gyrus	54	-67	43	16	3.03
L middle temporal gyrus	-63	-16	-8	11	2.89
R middle temporal gyrus	57	-19	-17	11	2.85
R pallidum	24	-7	-5	10	2.84
R superior temporal gyrus	48	-58	28	7	2.77
R supramarginal gyrus	57	-25	31	18	-2.62
R middle frontal gyrus	24	2	67	30	-2.62
L supramarginal gyrus	-66	-22	34	74	-2.62
L precentral gyrus	-27	-16	76	19	-2.62
L postcentral gyrus	-48	-16	58	12	-2.66
All messages (How + Why + Risk) > Control					
precuneus*	0	-58	25	339	3.93
midcingulate cortex*+	3	-31	46	1331	-2.60

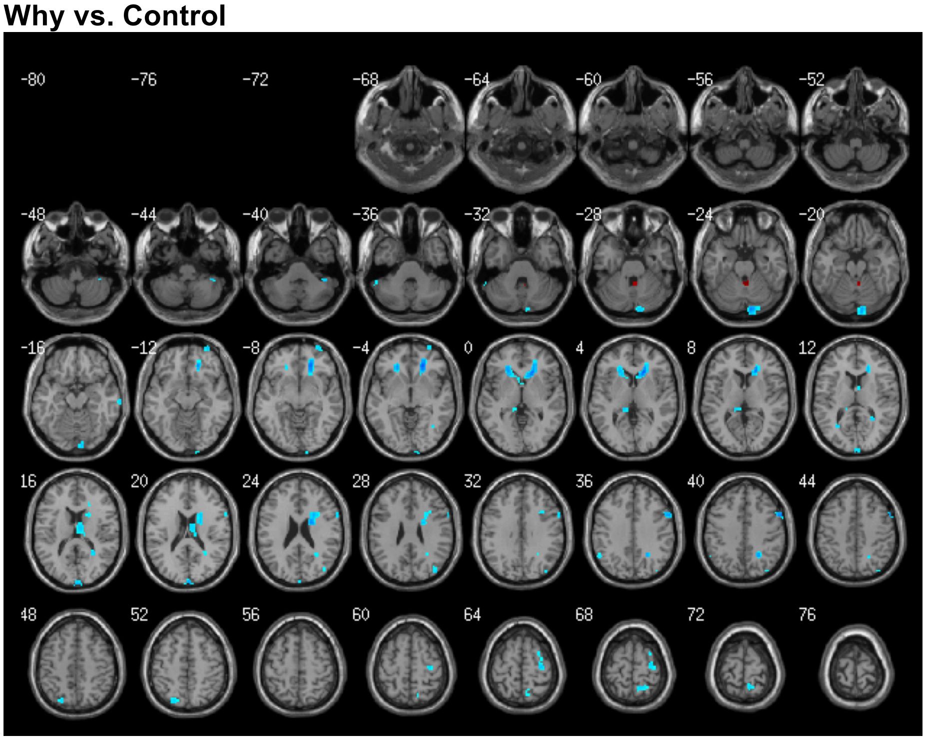
R insula⁺	57	-4	1	25	-2.61
R VLPFC⁺	27	38	4	26	-2.63
R DLPFC⁺	30	38	25	11	-2.67
R superior temporal gyrus	51	-46	13	13	2.99
PCC	3	-16	3	12	2.89
VTA	6	-13	-11	8	2.87
L superior temporal gyrus	-60	-43	4	11	2.87
L inferior frontal gyrus	-54	14	31	6	2.78
L precentral gyrus	-57	-13	43	44	-2.60
R parietal superior lobe	30	-67	55	14	-2.61
R operculum	42	-19	7	164	-2.61
L superior temporal gyrus	-48	-22	4	47	-2.61
L supramarginal gyrus	-63	-31	34	60	-2.61

SI 6. Slice views of neural activity during health messages task across message types.
(p<.005, uncorrected)

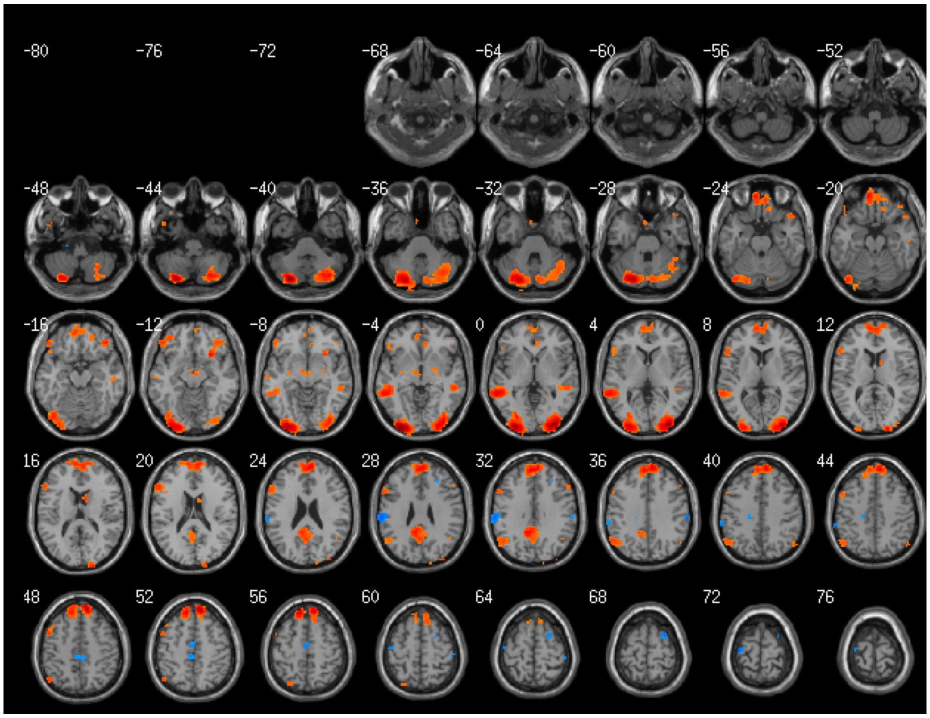
How vs. Control



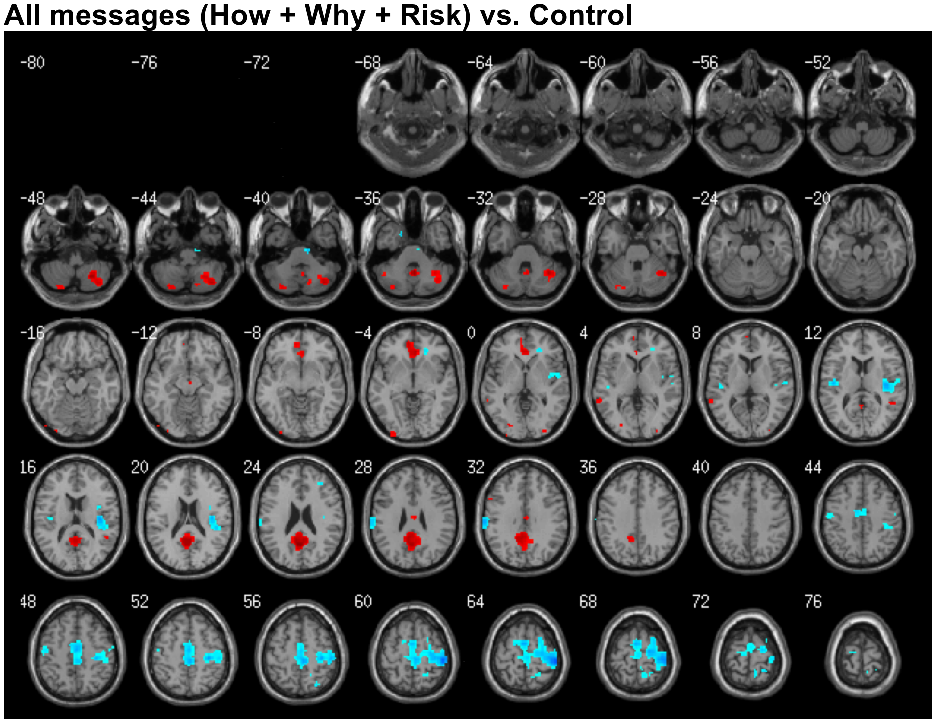
Why vs. Control



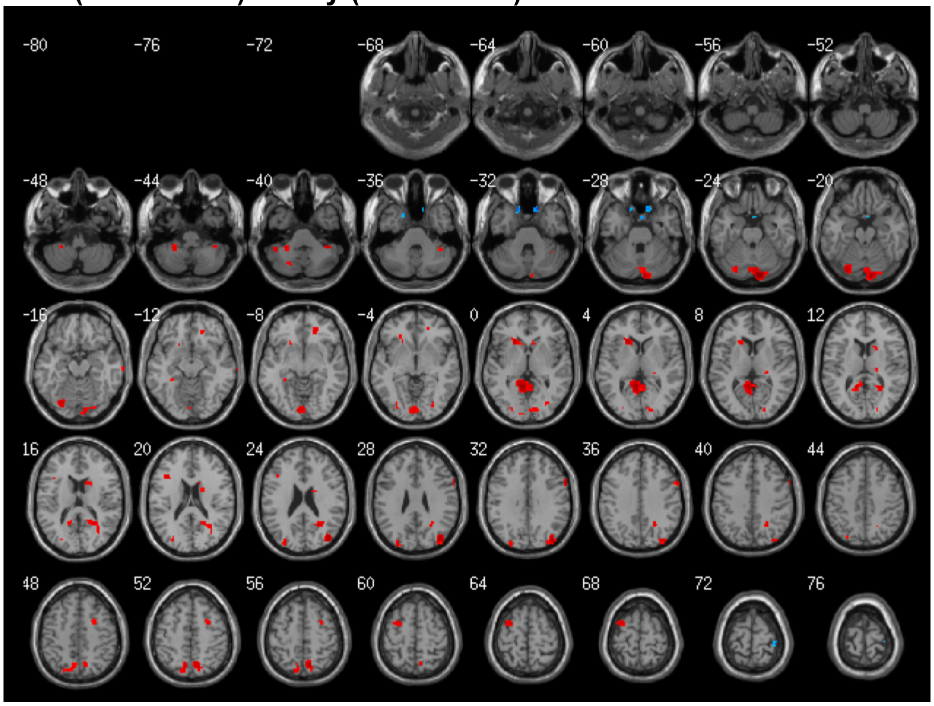
Risk vs. Control



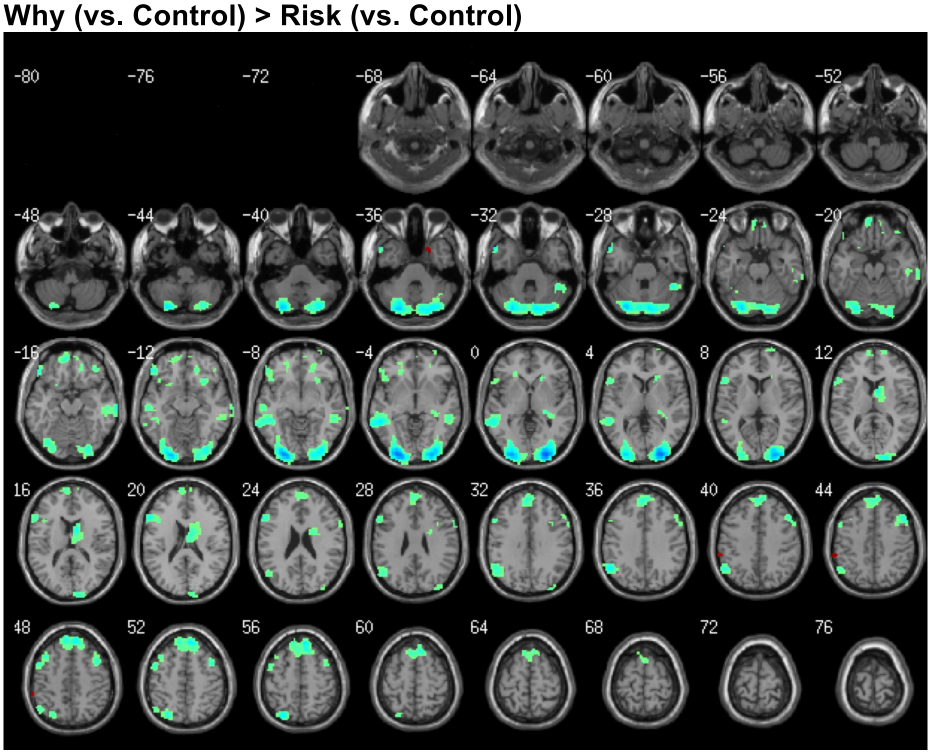
All messages (How + Why + Risk) vs. Control



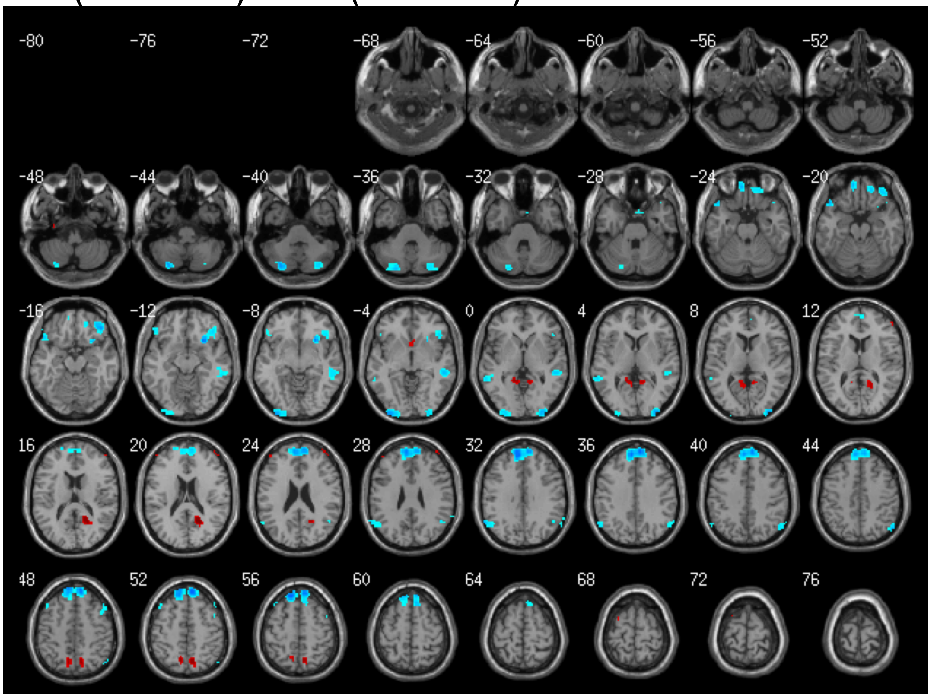
How (vs. Control) > Why (vs. Control)



Why (vs. Control) > Risk (vs. Control)



How (vs. Control) > Risk (vs. Control)



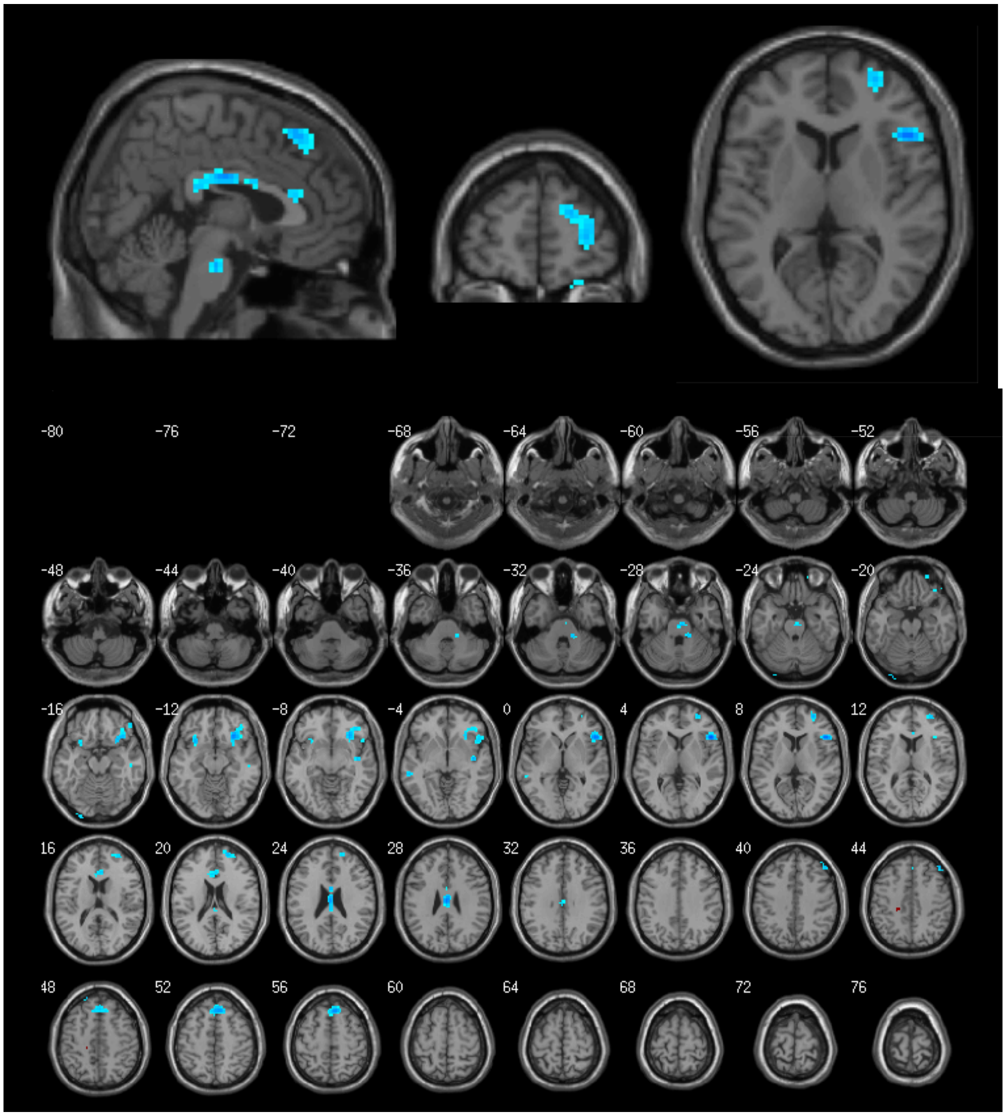
SI 7. Neural regions associated with purpose during health messages task across message types. Contrasts were computed focusing on within-subjects activation for each message type, and then comparing across the message types (n=177). All contrasts are compared to everyday activity (control) trials. (*p*<.005, uncorrected) Note: L = left; R = right; (d)ACC = (dorsal) anterior cingulate cortex; DLPFC = dorsolateral prefrontal cortex; PCC = posterior cingulate cortex; VLPFC = ventrolateral prefrontal cortex; VTA = ventral tegmental area.

Region	**x**	**y**	**z**	**size**	**t**
How > Control					
L mid cingulate gyrus	-18	-28	46	7	2.85
mid cingulate gyrus	0	5	28	9	-2.60
PCC	3	-16	31	58	-2.61
R DLPFC/VLPFC	15	62	22	80	-2.61

dACC	-3	23	16	28	-2.61
VTA	6	-22	-26	31	-2.61
R inferior frontal gyrus	33	32	-5	254	-2.61
R middle temporal gyrus	51	-19	-14	8	-2.61
L Inferior frontal gyrus	-33	23	-14	33	-2.61
L middle temporal gyrus	-57	-40	1	17	-2.61
R cerebellum	15	-31	-29	19	-2.61
supplementary motor area	-3	35	46	91	-2.61
L occipital pole	-30	-97	-26	14	-2.62
R Middle frontal gyrus	45	32	46	17	-2.62
R insula	42	-7	-5	14	-2.63
Why > Control					
L middle frontal gyrus	-57	32	19	9	2.78
L inferior frontal gyrus	-63	-7	37	14	-2.61
R operculum	51	-13	-2	23	-2.61
L cerebellum	-18	-58	-23	23	-2.61
cuneus	-6	-79	34	22	-2.62
parahippocampal gyrus	-21	-25	-17	16	-2.62

Risk > Control					
OFC	-3	53	-35	26	3.68
midbrain	3	-4	-20	13	3.53
L postcentral gyrus	-27	-40	76	28	3.41
R occipital pole	15	-109	-5	18	3.26
L cerebellum	-48	-76	-44	10	2.99
R cerebellum	36	-85	-41	12	2.77
L cingulate gyrus	-21	-13	34	15	-2.62
All messages (How + Why + Risk) > Control					
L occipital pole	-45	-82	31	7	3.07
R occipital pole	39	-82	40	8	2.99
R DLPFC	39	41	43	8	-2.62
R temporal pole	45	2	-26	10	-2.63
VTA	12	-25	-26	5	-2.64

SI 8. Neural activity associated with purpose during how vs. control messages. Regions shown are less active for people with greater purpose. The top panel highlights results consistent with our main ROIs, and the bottom panel illustrates that little else in the brain was related to purpose during this contrast. ($p<.005$, uncorrected)



-80 -76 -72 -68 -64 -60 -56 -52
-48 -44 -40 -36 -32 -28 -24 -20
-16 -12 -8 -4 0 4 8 12
16 20 24 28 32 36 40 44
48 52 56 60 64 68 72 76

References

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Shirer, W. R., Ryali, S., Rykhlevskaia, E., Menon, V., & Greicius, M. D. (2012). Decoding subject-driven cognitive states with whole-brain connectivity patterns. *Cerebral Cortex* , *22*(1), 158–165.