Supporting online material for:

Predicting Persuasion-Induced Behavior Change from the Brain

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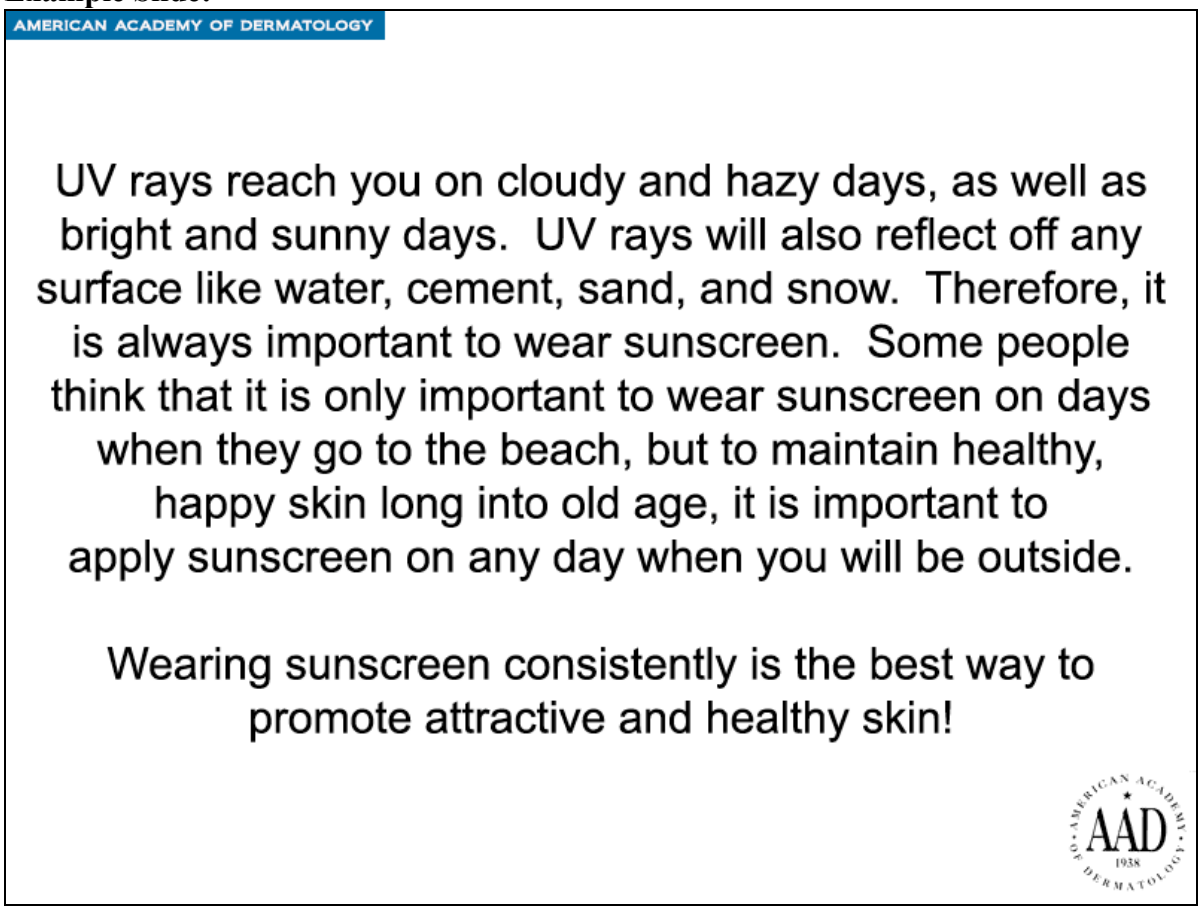
This document contains:
Example Slide
Supplementary Tables with results from whole-brain searches

Example Slide:



Supplementary Tables: Results from whole brain searches.

Whole-brain analyses. For whole-brain exploratory analyses, attitude, intention and behavior change scores were regressed onto brain activity at the group level. Results are reported for behavior change (S1), intention change (S3) and attitude change (S4) separately, as well as for behavior change controlling for attitude and intention change (S2), and for the overlap between intention and behavior change (S5). While the main manuscript focuses primarily on using neural activity to explain variability in behavior change that is not explained by traditional self-report variables, the neural regions that are associated with each process individually, and the regions of overlap (that are associated with both intention change, and behavior change, for example) are also of interest. Several important theories of behavior change (e.g. The Theory of Planned Behavior) have demonstrated that attitudes and intentions are interrelated, and hence, it is also of theoretical interest to explore common neural mechanisms that predict each of these constructs. All whole brain exploratory analyses were conducted using a threshold of p=.005, uncorrected, with a cluster threshold of 10 voxels. All coordinates are reported in MNI space.

Table S1: Activity associated with increased behavior change

Behavior Change			
Region	**x,y,z**	**t-stat**	**voxels**
MPFC	-2 60 -6	3.57	42
Precuneus	8 -66 66	3.64	55
pSTS	40 -38 10	3.57	35
Temporal Pole	42 6 -20	3.41	13
	34 24 -28	4.94	24
	-26 8 -22	3.37	63
TPJ (inferior parietal)	-48 -40 56	6.12	2390
Amygdala/Parahippocampal gyrus	-32 2 -26	3.31	
Anterior Cingulate	-2 14 28	4.17	48
DLPFC	-36 30 46	3.26	38
	36 -4 54	3.52	174
Middle Frontal Gyrus/ DMPFC	-14 42 24	3.49	364
Hippocampus	38 -8 -24	3.48	103
Insula	-30 28 12	3.52	61
	-38 12 -8	4.79	354
Motor cortex	44 -38 66	3.98	338
OFC	24 28 -12	3.88	105
Parahippocampal gyrus/ fusiform	-32 -38 -14	3.23	14
SMA/ ACC	8 22 48	3.54	111
Ventral Striatum	2 6 2	3.17	16
VLPFC	50 2 26	3.57	163
	42 32 18	3.88	208
Inferior Temporal Gyrus	-50 -58 -12	4.98	787
Middle Frontal Gyrus	-26 54 12	3.29	69

Middle Occipital Gyrus	52 -66 -16	6.77	2229
Middle Temporal Gyrus	-52 -68 20	3.13	10
Paracentral lobule	-6 -18 78	4.02	37
Postcentral gyrus	66 -20 42	3.23	13
Superior Parietal Lobe/ Angular gyrus	-38 -72 44	4.35	199
Supramarginal Gyrus	42 -32 46	3.31	74

Table S2: Activity associated with increased behavior change controlling for intention change and attitude change

Behavior Change, Controlling Intention Change and Attitude Change			
Region	**x,y,z**	**t-stat**	**voxels**
MPFC	-8 52 -10	3.27	37
Precuneus	8 -66 64	3.14	13
pSTS	40 -38 10	3.45	25
Temporal Pole	34 24 -28	4.00	13
Angular_Gyrus	36 -66 40	3.16	12
Hippocampus	28 -4 46	3.42	35
	38 -8 -24	3.38	36
Insula	-38 12 -6	4.39	111
IPS	-36 -72 46	4.24	135
Middle Frontal Gyrus	-26 52 14	3.26	30
Motor Cortex	42 -38 68	3.26	41
Parahippocampal gyrus	36 -20 -26	3.49	27
SMA	6 20 48	3.15	40
TPJ (inferior parietal)	-48 -40 56	5.12	1494
VLPFC	42 32 18	3.60	30
DLPFC	50 4 28	3.23	30
Anterior Cingulate	-2 14 28	3.93	31
OFC	24 32 -10	3.78	47
Inferior Occipital Lobe	52 -66 -16	6.04	1007
Inferior Temporal Gyrus	-50 -58 -12	4.53	416
Medial frontal gyrus	-16 40 34	3.66	70
Paracentral lobule	-6 -18 78	3.57	22
Superior Frontal Gyrus	-30 50 28	3.85	127
Superior Occipital	-40 -88 22	3.36	18
	42 -86 22	3.65	21
Superior Temporal Gyrus	-44 -20 -10	3.07	28

Table S3: Activity associated with increased intention change.

Intention Change			
Region	**x,y,z**	**t-stat**	**voxels**
Precuneus	10 -78 56	4.32	1025
Temporal Pole	-30 12 -28	4.46	337

DLPFC	-42 6 52	3.35	16
SMA	2 -14 52	3.21	14
	12 -12 60	3.37	16
	14 -2 64	3.36	23
VLPFC	62 8 14	3.4	36
VLPFC/OFC	-46 32 -16	3.19	17
Amygdala	-28 -6 -14	3.51	28
Anterior Cingulate	-8 -8 46	3.26	16
Insula	44 4 12	3.33	24
OFC	28 22 -22	3.91	65
Fusiform Gyrus	44 -56 -20	3.67	116
	-36 -12 -40	3.55	40
	-36 -58 -12	3.22	124
Inferior Temporal Gyrus	-46 -26 -26	3.44	53
Middle Occipital Gyrus	-28 -86 10	3.44	12
	-16 -90 14	3.31	12
	-28 -78 30	5.00	339
	-68 -40 -8	4.22	16
	64 -52 2	3.37	20
	56 -68 16	3.34	36
Occipital Lobe	32 -68 -2	3.38	14
Postcentral Gyrus	24 -44 64	3.52	58
Precentral Gyrus	42 -10 38	3.29	27
	36 2 50	3.95	85
Superior Parietal Lobule	30 -54 56	3.27	20
	-30 -54 64	3.78	110

Table S4: Activity associated with increased attitude change

Attitude change			
Region	**x,y,z**	**t-stat**	**voxels**
DLPFC	-58 2 38	4.33	31

Table S5: Conjunction analysis of regions associated with intention change and behavior change. Note: there are no regions overlap between behavior change and attitude change at p<.005,k=10.

Conjunction of Activity associated with intention change and behavior change		
Region	**x,y,z**	**voxels**
Precuneus	24 -78 38	137
Pre-SMA	36 -2 54	35
VLPFC	58 8 12	4
Temporal pole	-26 10 -24	1
Oribitofrontal cortex	24 28 -18	14
Middle Temporal Gyrus/ Middle Occipital Gyrus	56 -68 14	24

Superior parietal lobe	-30	-52	66	3
	-22	-54	70	4
Fusiform Gyrus	42	-68	-18	78
Cuneus	-22	-80	32	56
Middle Occipital Gyrus	-32	-70	30	1
	-42	-80	0	20