Supporting Information

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SI Materials and Methods

To localize brain regions associated with the processing of rewarding stimuli, participants completed a MID task (1). A separate set of 14 participants provided the MID data from study 1 (these data have been published previously; see ref. 2). In study 3, all participants completed the MID task after the self-disclosure task. Each trial of the MID task began with one of two cue symbols (green circle or blue circle), displayed for 500 ms. A green cue alerted participants that they would have the chance to win a $2 monetary reward on the trial (reward trial); a blue cue indicated that the participant could not earn any reward on the trial (neutral trial). Participants completed a total of 30 reward trials and 15 neutral trials. Cues were followed by a delay interval lasting between 2,000 and 2,500 ms. After this randomly determined interval, the target stimulus (white square) was briefly presented. On reward trials, participants would win $2 if they made a button press while the target was on screen, but would receive no reward if they responded before or after the target appeared. On neutral trials, participants were instructed to make a button press while the target was on screen, even though they could not earn any money on that trial. The target duration varied between 160 and 260 ms as a function of the participants' previous performance to make the task difficult enough that participants would be able to respond within the window on only two-thirds of the trials. This duration adjustment was successful in that participants were indeed rewarded on ~20 of the 30 reward trials (mean = 19.3). After the target offset, participants saw the amount of money earned on that trial ($0 or $2) along with the total amount earned during the task to that point.

The functional data from the MID task in study 1 were collected on a 3 Tesla Siemens Trio scanner using a gradient-echo echo-planar pulse sequence (TR = 2,000 ms; TE = 35 ms; 31 axial slices, 5 mm thick; 1 mm skip; 3.75 × 3.75 in-plane resolution). Acquisition parameters for the MID data in study 3 were identical to those used for the self-disclosure task in study 3 (TR = 2,500 ms; TE = 30 ms; 3T Siemens Trio scanners; 42 axial, interleaved slices, 0 skip; 2-mm isotropic voxels).

To localize neural regions responsive to reward using the MID task, we compared trials on which participants won money to neutral trials, inclusive of both the anticipation and the reward feedback periods within the trial. The contrast of *win* > *neutral* ($P < 0.05$ corrected) for both studies 1 and 3 revealed activity in our a priori region of interest, the bilateral NAcc. In study 1, we defined spherical regions of interest with a radius of 8 mm centered on peaks of activity from this contrast in both the left and the right NAcc [stereotaxic space of the Montreal Neurological Institute (MNI) coordinates: 10, 6, −4; −8, 4, −6]. In study 3, regions-of-interest were defined as a binary image of the contrast results for the contiguous cluster centered on the NAcc (cluster extent = 191 voxels; peak MNI coordinate: 0, 4, -6). To test how these regions-of-interest responded during opportunities to self-disclose, we extracted parameter estimates (betas) from these NAcc regions for the *self* and *other* trials in both studies 1a and 1b, and for the *self shared*, *self private*, *other shared*, and *other private* trials in study 3.

1. Knutson B, Westdorp A, Kaiser E, Hommer D (2000) FMRI visualization of brain activity during a monetary incentive delay task. *Neuroimage* 12:20–27.
2. Zaki J, Schirmer J, Mitchell JP (2011) Social influence modulates the neural computation of value. *Psychol Sci* 22:894–900.

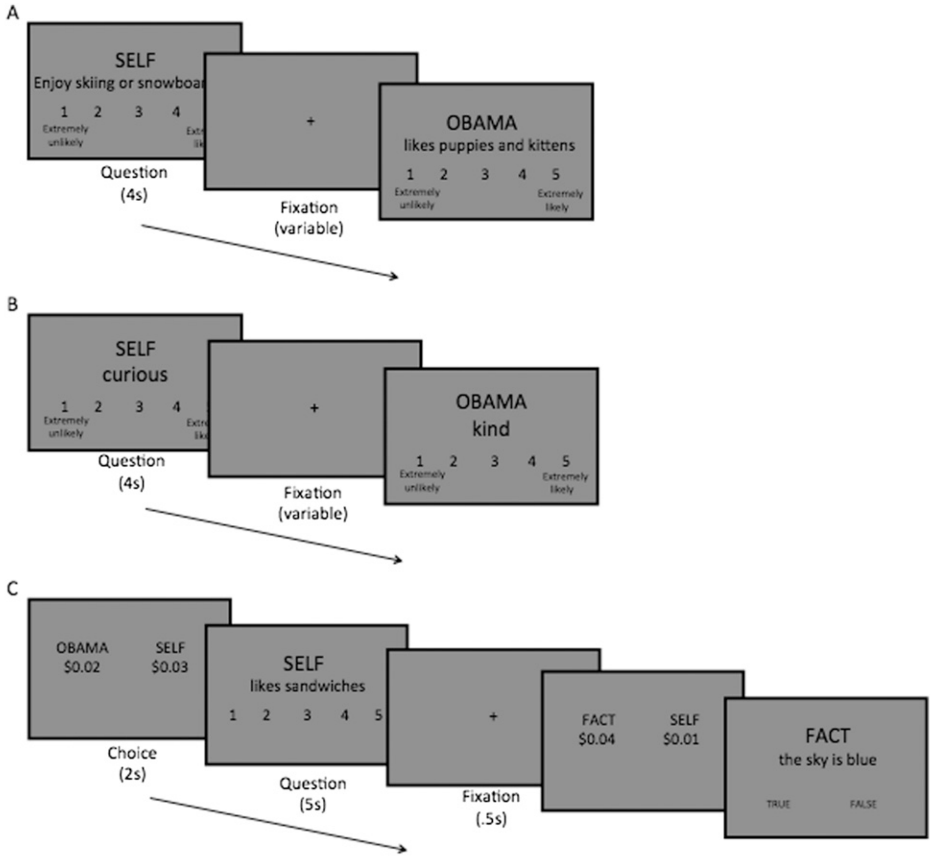

Fig. S1. Experimental designs of studies 1a, 1b, and 2. (*A*) In study 1a, participants answered questions about their own preferences and opinions and about those of another person. (*B*) In study 1b, participants answered questions about their own personality characteristics and about the personality of another person. (*C*) In study 2, participants chose which question type to answer (*self*, *other*, or *fact*). Each question type was associated with a variable amount of money. After deciding which question type to answer, participants then answered a question of the chosen type.

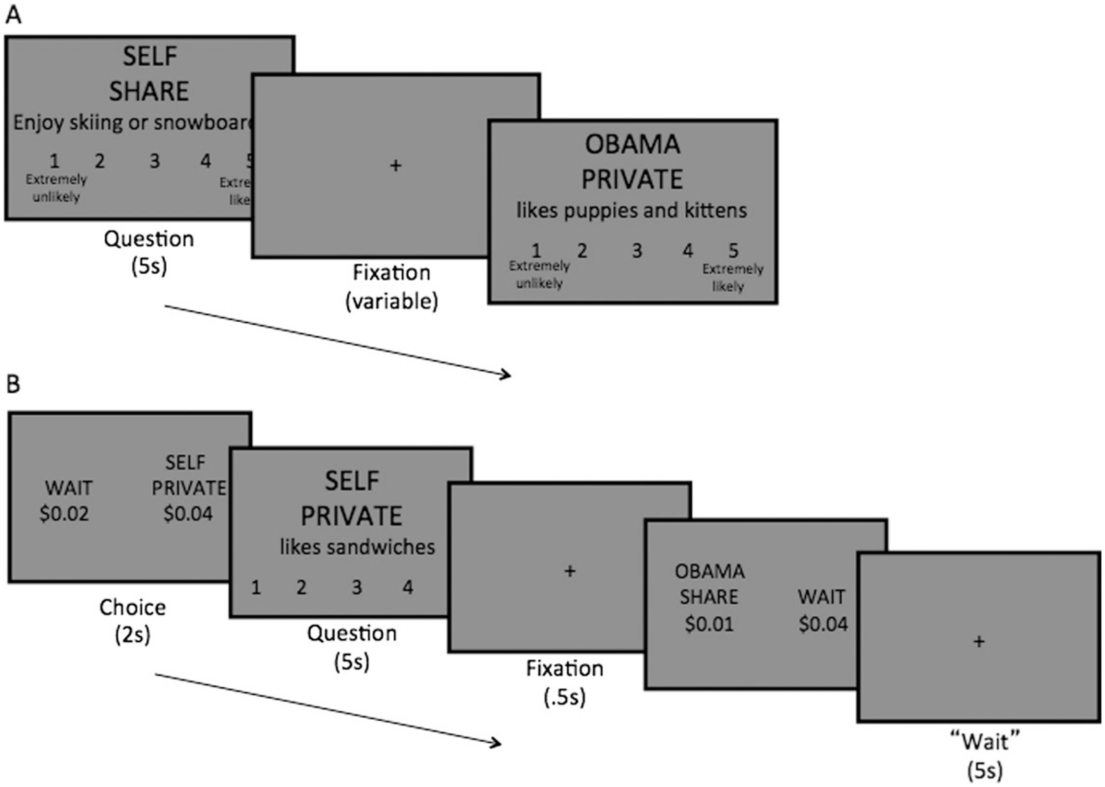

Fig. S2. Experimental designs of studies 3 and 4. (*A*) In study 3, participants responded to questions about their own preferences and opinions and those of another person. Half of the participants' responses were shared with a friend or relative sitting outside the scanner, and half remained private. (*B*) In study 4, participants chose between answering a question and resting passively for 5 s. Each option was associated with a variable amount of money. Depending on their choice, participants then either answered one question or viewed a fixation cross. Participants believed their answers to each trial either remained private or were shared with the friend who was sitting in an adjacent room.

Table S1. Peak voxel and cluster size for all regions obtained from the whole-brain random-effects contrast of *self* > *other* and *shared* > *private* in studies 1a, 1b, and 3 ($P < 0.05$, corrected)

Study/anatomic label	*x*	*y*	*z*	Volume (voxels)	Max *t*
Study 1a: *self* > *other*					
Inferior parietal lobe/inferior temporal lobe/medial parietal lobe	−52	−40	22	19,314	6.67
Medial prefrontal cortex/NAcc/ventral striatum	−6	44	2	17,482	12.59
Superior temporal gyrus	46	−22	0	338	4.69
Cerebellum	−22	−72	−48	328	4.63
	26	−64	−48	93	4.23
Middle frontal gyrus	−28	−16	64	193	3.77
Precuneus	20	−54	16	97	4.42
Study 1b: *self* > *other*					
Medial prefrontal cortex/posterior temporal lobe/NAcc/ventral striatum	−10	46	4	41,888	12.43
Cerebellum	14	−90	6	1,496	5.58
Posterior cingulate	−8	−54	16	251	6.60
Study 3: *self* > *other*					
Superior frontal gyrus/medial prefrontal cortex	−26	54	34	3,642	6.15
Insula	−24	18	−28	1,860	6.48
Cerebellum	−24	−48	−36	1,001	6.67
	−26	−46	−18	134	3.50
	−12	−70	−14	59	3.52
	34	−58	−38	40	3.32
	22	−56	−36	34	3.77
	42	−54	−48	18	3.52
Inferior temporal gyrus	−52	−26	−22	914	5.94
	54	−48	−22	143	4.36
	−50	2	−42	36	4.21
Inferior frontal gyrus	48	24	−4	613	4.84
Parahippocampus	26	−18	−12	235	5.46
	−28	−18	−30	45	4.05
	−20	−52	0	17	3.59
Occipital cortex	44	−70	0	233	4.14
	14	−82	8	216	4.68
	−40	−86	6	157	3.46
	34	−62	−16	49	4.14
	2	−78	−2	34	3.95
	26	−96	−6	19	4.25
Superior temporal sulcus	48	−52	16	214	4.28
Midbrain/VTA	−6	−16	−8	197	4.36
Striatum/NAcc	14	4	−20	158	3.93
Superior frontal gyrus	24	48	46	107	4.80
	38	50	34	17	3.48
Thalamus	10	−26	6	89	5.21
Insula	−38	−12	12	87	3.84
Middle frontal gyrus	−48	14	47	86	3.48
	56	22	38	69	3.45
	−40	30	46	34	3.53
	34	18	32	33	3.87
	32	48	−2	30	3.64
	48	2	36	19	3.10
White matter	−22	−18	22	64	3.86
Hippocampus	34	−10	−22	53	4.40
Orbitofrontal cortex	−28	38	−10	39	4.49
Middle temporal gyrus	50	−32	−6	34	3.19
Caudate nucelus	−10	8	6	32	2.99
Fusiform gyrus	32	−58	2	27	3.36
	34	−36	−20	16	3.43
Study 3: *share* > *private*					
Striatum/NAcc	16	2	−8	2,451	8.30
	−14	12	−10	448	6.71
Anterior cingulate	−8	24	28	768	5.76
Middle temporal gyrus	48	−42	−10	479	6.32

Table S1. Cont.

Study/anatomic label	x	y	z	Volume (voxels)	Max t
Medial prefrontal cortex	−10	38	18	251	5.26
Insula	−28	20	8	123	4.76
Occipital cortex	30	−84	16	121	5.27
Cerebellum	22	−68	−28	97	5.70
	40	−54	−30	95	5.70
	44	−56	−42	20	5.75
	38	−62	−50	18	4.65
	−4	−70	−24	16	4.54
Precuneus	20	−64	22	91	5.15
Posterior cingulate	−8	−56	8	82	5.46
	18	−50	8	21	4.47
Pons	2	−24	−28	52	5.11
Middle frontal gyrus	34	0	30	52	4.78
	50	10	34	26	4.21
Precuneus	−16	−66	22	32	5.67
Fusiform gyrus	36	−42	−14	30	3.48
Superior frontal gyrus	24	48	34	17	4.27
Temporal pole	30	20	−34	19	4.60

t tests reflect the statistical difference between the two conditions, as computed by statistical parametric mapping. Coordinates refer to the stereotaxic space of the Montreal Neurological Institute.

Table S2. Peak voxel and cluster size for all regions obtained from whole-brain random-effects contrasts of *other* > *self* and *private* > *share* in studies 1a, 1b, and 3 ($P < 0.05$, corrected)

Study/anatomic label	x	y	z	Volume (voxels)	Max t
Study 1a: *other* > *self*					
Occipital cortex/posterior cingulate/fusiform gyrus	6	−68	32	8,301	10.85
Study 1b: *other* > *self*					
Posterior cingulate cortex	6	−52	24	825	5.93
Inferior temporal gyrus	−56	−14	−22	333	7.58
	56	−8	−26	266	6.24
Supramarginal gyrus	−44	−66	30	316	5.28
	46	−60	30	131	4.16
Occipital lobe	16	−88	−6	156	4.68
Study 3: *other* > *self*					
Superior temporal gyrus	56	−2	−6	56	3.92
	44	18	−24	40	3.85
Orbitofrontal cortex	2	26	−22	36	4.54
Middle temporal gyrus	48	−4	−18	33	2.98
Occipital lobe	−12	−100	14	32	3.61
Temporal pole	40	16	−42	31	3.07
White matter	−30	−34	24	23	3.71
Middle frontal gyrus	36	64	0	21	3.66
Study 3: *private* > *share*					
Insula	44	−16	−2	51	3.76
	−42	−16	4	18	3.08
Parahippocampus	−14	−8	−28	17	3.29
	−24	−12	−24	29	3.43

t tests reflect the statistical difference between the two conditions, as computed by statistical parametric mapping. Coordinates refer to the stereotaxic space of the Montreal Neurological Institute.

Table S3. Design features of data collections included in studies 1a and 1b

Data collection no.	*n*	Functional MRI parameters	No. of trials
Study 1a			
1 (1)	15	1.5 T, 26 slices	198
2 (2)	17	3.0 T, 26 slices	320
3 (3)	14	3.0 T, 26 slices	240
4	17	3.0 T, 31 slices	240
5	15	3.0 T, 26 slices	216
Study 1b			
6	16	3.0 T, 31 slices	100
7 (4)	26	3.0T, 31 slices	100
8	11	3.0T, 26 slices	100
9	14	3.0T, 26 slices	100
10	7	3.0T, 26 slices	100
11	13	3.0T, 26 slices	100
12	15	3.0T, 26 slices	100
13	8	3.0T, 31 slices	100
14	7	3.0T, 31 slices	300

Data collections 1, 2, 3, and 7 are reanalyses of published data.

1. Mitchell JP, Macrae CN, Banaji MR (2006) Dissociable medial prefrontal contributions to judgments of similar and dissimilar others. *Neuron* 50:655.
2. Mitchell JP, Ames DL, Jenkins AC, Banaji MR (2008) Neural correlates of stereotype application. *J. Cogn. Neurosci* 21:594.
3. Ames DL, Jenkins AC, Banaji MR, Mitchell JP (2008) Taking another person's perspective increases self-referential neural processing. *Psychol Sci* 19:642.
4. Mitchell JP, Schirmer J, Ames DL, Gilbert DT (2011) Medial prefrontal cortex predicts intertemporal choice. *J Cogn Neurosci* 23:857.