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Supplemental information

Strategic disinformation outperforms honesty in competition for social influence

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Figure S1. Adviser 1's reduced payoff matrix in the last round when $w_1 \geq w_2$ (Related to Figure 1). The size of the $n \times n$ matrix depends on the value of w_1.

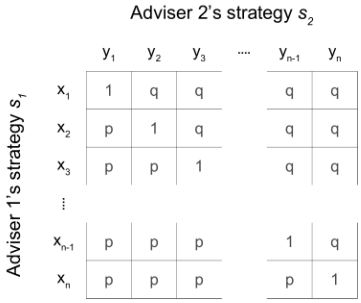

Figure S2. Obtaining Adviser 1's reduced payoff matrix in the last round (Related to Figure 1). The top matrices show Adviser 1's predicted (updated) weights, conditional on whether the winning colour is black (top left) or white (top right) for all possible combinations s_1 and s_2. Weights greater than or equal to 0.5 are shown in purple, resulting in Adviser 1 being selected for the following round. Weights below 0.5 are shown in yellow, resulting in Adviser 2 being selected for the following round. Note that $w_1 + w_2 = 1$. The bottom left matrix shows Adviser 1's expected payoffs (i.e., probabilities of being selected for the following round). These are obtained by taking *p* in each cell where Adviser 1's predicted weight, conditional on the winning colour being black, is shown in purple, and adding *q* where Adviser 1's predicted weight, conditional on the winning colour being white, is shown in purple. The highlighted strategies are deleted during iterative deletion of weakly dominated strategies. Bottom right is the reduced payoff matrix after these deletions, where strategies that are equivalent in terms of potential payoffs are lumped together. Matrices are shown for $w_1 = 0.6$. See https://osf.io/9gjyc/ for matrices using $w_1 = 0.5, 0.6, 0.7, 0.8$ and 0.9.

Adviser 2's strategy s2

Adviser 1's strategy s1

	0	1/9	2/9	3/9	4/9	5/9	6/9	7/9	8/9	1
0	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/9	1.00	0.60	0.27	0.14	0.09	0.06	0.04	0.03	0.02	0.02
2/9	1.00	0.86	0.60	0.40	0.27	0.19	0.14	0.11	0.09	0.07
3/9	1.00	0.93	0.77	0.60	0.46	0.35	0.27	0.22	0.17	0.14
4/9	1.00	0.96	0.86	0.73	0.60	0.49	0.40	0.33	0.27	0.23
5/9	1.00	0.97	0.90	0.81	0.70	0.60	0.51	0.43	0.37	0.32
6/9	1.00	0.98	0.93	0.86	0.77	0.68	0.60	0.52	0.46	0.40
7/9	1.00	0.99	0.95	0.89	0.82	0.75	0.67	0.60	0.53	0.48
8/9	1.00	0.99	0.96	0.91	0.86	0.79	0.73	0.66	0.60	0.54
1	1.00	0.99	0.97	0.93	0.88	0.83	0.77	0.71	0.65	0.60

Adviser 2's strategy s2

	0	1/9	2/9	3/9	4/9	5/9	6/9	7/9	8/9	1
0	0.60	0.65	0.71	0.77	0.83	0.88	0.93	0.97	0.99	1.00
1/9	0.54	0.60	0.66	0.73	0.79	0.86	0.91	0.96	0.99	1.00
2/9	0.48	0.53	0.60	0.67	0.75	0.82	0.89	0.95	0.99	1.00
3/9	0.40	0.46	0.52	0.60	0.68	0.77	0.86	0.93	0.98	1.00
4/9	0.32	0.37	0.43	0.51	0.60	0.70	0.81	0.90	0.97	1.00
5/9	0.23	0.27	0.33	0.40	0.49	0.60	0.73	0.86	0.96	1.00
6/9	0.14	0.17	0.22	0.27	0.35	0.46	0.60	0.77	0.93	1.00
7/9	0.07	0.09	0.11	0.14	0.19	0.27	0.40	0.60	0.86	1.00
8/9	0.02	0.02	0.03	0.04	0.06	0.09	0.14	0.27	0.60	1.00
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60

Adviser 1's strategy s1

	0	1/9	2/9	3/9	4/9	5/9	6/9	7/9	8/9	1
0	1	q	q	q	q	q	q	q	q	q
1/9	1	1	q	q	q	q	q	q	q	q
2/9	p	1	1	q	q	q	q	q	q	q
3/9	p	p	1	1	q	q	q	q	q	q
4/9	p	p	p	1	1	q	q	q	q	q
5/9	p	p	p	p	p	1	1	q	q	q
6/9	p	p	p	p	p	p	1	1	q	q
7/9	p	p	p	p	p	p	p	1	1	q
8/9	p	p	p	p	p	p	p	p	1	1
1	p	p	p	p	p	p	p	p	p	1

	y_1	y_2	y_3	y_4	y_5	y_6
x_1	1	q	q	q	q	q
x_2	p	1	q	q	q	q
x_3	p	p	1	q	q	q
x_4	p	p	p	1	q	q
x_5	p	p	p	p	1	q
x_6	p	p	p	p	p	1

Figure S3. Adviser 1's payoff matrices in the last round when, at the end of the penultimate round, $w_1 = 0.836$ (left) and $w_1 = 0.835$ (right) (Related to Figure 1).

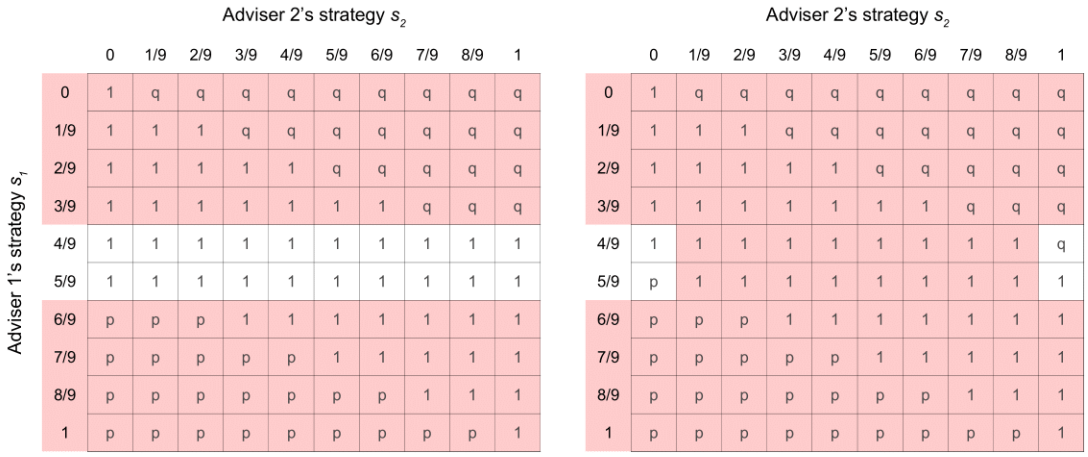

Figure S4. Adviser 1's payoff matrix in the penultimate round when $w_1 = 0.8$ (Related to Figure 1). a. Any p. **b.** $p = 0.4$. **c.** $p = 0.25$. **d.** $p = 0.1$. Colour-scaling indicates lowest (white) to highest (dark) payoff.

a

Adviser 1's strategy s1 \ Adviser 2's strategy s2	0	1/9	2/9	3/9	4/9	5/9	6/9	7/9	8/9	1
0	1.83	2q	2q	2q	2q	2q	2q	2q	2q	2q
1/9	1.83 + 0.17p	1.83	1.75 + 0.25q	0.23 + 1.77q	0.17 + 1.83q	2q	2q	2q	2q	2q
2/9	1.83 + 0.17p	1.83 + 0.17p	1.83	1.77 + 0.23q	1.75 + 0.25q	0.24 + 1.76q	0.23 + 1.77q	0.17 + 1.83q	0.17 + 1.83q	0.17 + 1.83q
3/9	1.77 + 0.23p	1.83 + 0.17p	1.83 + 0.17p	1.83	1.83 + 0.17q	1.76 + 0.24q	1.75 + 0.25q	0.24 + 1.76q	0.23 + 1.77q	0.23 + 1.77q
4/9	1.75 + 0.25p	1.77 + 0.23p	1.77 + 0.23p	1.83 + 0.17p	1.83	1.83 + 0.17q	1.77 + 0.23q	1.76 + 0.24q	1.75 + 0.25q	0.75 + 1.25q
5/9	0.75 + 1.25p	1.75 + 0.25p	1.76 + 0.24p	1.77 + 0.23p	1.83 + 0.17p	1.83	1.83 + 0.17q	1.77 + 0.23q	1.77 + 0.23q	1.75 + 0.25q
6/9	0.23 + 1.77p	0.23 + 1.77p	0.24 + 1.76p	1.75 + 0.25p	1.76 + 0.24p	1.83 + 0.17p	1.83	1.83 + 0.17q	1.83 + 0.17q	1.77 + 0.23q
7/9	0.17 + 1.83p	0.17 + 1.83p	0.17 + 1.83p	0.23 + 1.77p	0.24 + 1.76p	1.75 + 0.25p	1.77 + 0.23p	1.83	1.83 + 0.17q	1.83 + 0.17q
8/9	2p	2p	2p	2p	2p	0.17 + 1.83p	0.23 + 1.77p	1.75 + 0.25p	1.83	1.83 + 0.17q
1	2p	2p	2p	2p	2p	2p	2p	2p	2p	1.83

b

Adviser 1's strategy s1 \ Adviser 2's strategy s2	0	1/9	2/9	3/9	4/9	5/9	6/9	7/9	8/9	1
0	1.83	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
1/9	1.90	1.83	1.90	1.29	1.27	1.20	1.20	1.20	1.20	1.20
2/9	1.90	1.90	1.83	1.91	1.90	1.30	1.29	1.27	1.27	1.27
3/9	1.86	1.90	1.90	1.83	1.93	1.90	1.90	1.30	1.29	1.29
4/9	1.85	1.86	1.86	1.90	1.83	1.93	1.91	1.90	1.90	1.50
5/9	1.25	1.85	1.86	1.86	1.90	1.83	1.93	1.91	1.91	1.90
6/9	0.94	0.94	0.94	1.85	1.86	1.90	1.83	1.93	1.93	1.91
7/9	0.90	0.90	0.90	0.94	0.94	1.85	1.86	1.83	1.93	1.93
8/9	0.80	0.80	0.80	0.80	0.80	0.90	0.94	1.85	1.83	1.93
1	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	1.83

c

Adviser 1's strategy s1 \ Adviser 2's strategy s2	0	1/9	2/9	3/9	4/9	5/9	6/9	7/9	8/9	1
0	1.83	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
1/9	1.87	1.83	1.94	1.56	1.54	1.50	1.50	1.50	1.50	1.50
2/9	1.87	1.87	1.83	1.94	1.94	1.56	1.56	1.54	1.54	1.54
3/9	1.83	1.87	1.87	1.83	1.96	1.94	1.94	1.56	1.56	1.56
4/9	1.81	1.83	1.83	1.87	1.83	1.96	1.94	1.94	1.94	1.69
5/9	1.06	1.81	1.82	1.83	1.87	1.83	1.96	1.94	1.94	1.94
6/9	0.67	0.67	0.68	1.81	1.82	1.87	1.83	1.96	1.96	1.94
7/9	0.63	0.63	0.63	0.67	0.68	1.81	1.83	1.83	1.96	1.96
8/9	0.50	0.50	0.50	0.50	0.50	0.63	0.67	1.81	1.83	1.96
1	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	1.83

d

Adviser 1's strategy s1 \ Adviser 2's strategy s2	0	1/9	2/9	3/9	4/9	5/9	6/9	7/9	8/9	1
0	1.83	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
1/9	1.85	1.83	1.98	1.82	1.82	1.80	1.80	1.80	1.80	1.80
2/9	1.85	1.85	1.83	1.98	1.98	1.82	1.82	1.82	1.82	1.82
3/9	1.79	1.85	1.85	1.83	1.98	1.98	1.98	1.82	1.82	1.82
4/9	1.78	1.79	1.79	1.85	1.83	1.98	1.98	1.98	1.98	1.88
5/9	0.88	1.78	1.78	1.79	1.85	1.83	1.98	1.98	1.98	1.98
6/9	0.41	0.41	0.42	1.78	1.78	1.85	1.83	1.98	1.98	1.98
7/9	0.35	0.35	0.35	0.41	0.42	1.78	1.79	1.83	1.98	1.98
8/9	0.20	0.20	0.20	0.20	0.20	0.35	0.41	1.78	1.83	1.98
1	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	1.83

Figure S5. Adviser 1's payoff matrix in the penultimate round when $w_1 = 0.6$ (Related to Figure 1). a. Any p. **b.** $p = 0.4$. **c.** $p = 0.25$. **d.** $p = 0.1$. Colour-scaling indicates lowest (white) to highest (dark) payoff.

a

Adviser 1's strategy s1 \ Adviser 2's strategy s2	0	1/9	2/9	3/9	4/9	5/9	6/9	7/9	8/9	1
0	1.76	1.77q	1.83q	1.83q	1.83q	2q	2q	2q	2q	2q
1/9	1.75 + 0.25p	1.76	0.17 + 1.6q	1.83q	1.83q	2q	2q	2q	2q	2q
2/9	0.75 + 1.25p	1.75 + 0.25p	1.76	0.24 + 1.53q	0.17 + 1.66q	0.17 + 1.66q	2q	2q	2q	2q
3/9	0.24 + 1.76p	0.75 + 1.25p	1.75 + 0.08p	1.76	0.75 + 1.02q	0.23 + 1.6q	0.17 + 1.83q	0.17 + 1.83q	0.17 + 1.83q	2q
4/9	0.23 + 1.77p	0.23 + 1.77p	0.24 + 1.76p	1.75 + 0.08p	1.76	0.75 + 1.08q	0.24 + 1.59q	0.23 + 1.77q	0.17 + 1.83q	0.17 + 1.83q
5/9	0.17 + 1.83p	0.17 + 1.83p	0.23 + 1.77p	0.24 + 1.59p	0.75 + 1.08p	1.76	1.75 + 0.08q	0.24 + 1.76q	0.23 + 1.77q	0.23 + 1.77q
6/9	2p	0.17 + 1.83p	0.17 + 1.83p	0.17 + 1.83p	0.23 + 1.6p	0.75 + 1.02p	1.76	1.75 + 0.08q	0.75 + 1.25q	0.24 + 1.76q
7/9	2p	2p	2p	2p	0.17 + 1.66p	0.17 + 1.66p	0.24 + 1.53p	1.76	1.75 + 0.25q	0.75 + 1.25q
8/9	2p	2p	2p	2p	2p	1.83p	1.83p	0.17 + 1.6p	1.76	1.75 + 0.25q
1	2p	2p	2p	2p	2p	1.83p	1.83p	1.83p	1.77p	1.76

b

Adviser 1's strategy s1 \ Adviser 2's strategy s2	0	1/9	2/9	3/9	4/9	5/9	6/9	7/9	8/9	1
0	1.76	1.06	1.10	1.10	1.10	1.20	1.20	1.20	1.20	1.20
1/9	1.85	1.76	1.13	1.10	1.10	1.20	1.20	1.20	1.20	1.20
2/9	1.25	1.85	1.76	1.16	1.17	1.17	1.20	1.20	1.20	1.20
3/9	0.94	1.25	1.78	1.76	1.36	1.19	1.27	1.27	1.27	1.20
4/9	0.94	0.94	0.94	1.78	1.76	1.40	1.19	1.29	1.27	1.27
5/9	0.90	0.90	0.94	0.88	1.18	1.76	1.80	1.30	1.29	1.29
6/9	0.80	0.90	0.90	0.90	0.87	1.16	1.76	1.80	1.50	1.30
7/9	0.80	0.80	0.80	0.80	0.83	0.83	0.85	1.76	1.90	1.50
8/9	0.80	0.80	0.80	0.80	0.80	0.73	0.73	0.81	1.76	1.90
1	0.80	0.80	0.80	0.80	0.80	0.73	0.73	0.73	0.71	1.76

c

Adviser 1's strategy s1 \ Adviser 2's strategy s2	0	1/9	2/9	3/9	4/9	5/9	6/9	7/9	8/9	1
0	1.76	1.33	1.37	1.37	1.37	1.50	1.50	1.50	1.50	1.50
1/9	1.81	1.76	1.37	1.37	1.37	1.50	1.50	1.50	1.50	1.50
2/9	1.06	1.81	1.76	1.39	1.42	1.42	1.50	1.50	1.50	1.50
3/9	0.68	1.06	1.77	1.76	1.52	1.43	1.54	1.54	1.54	1.50
4/9	0.67	0.67	0.68	1.77	1.76	1.56	1.43	1.56	1.54	1.54
5/9	0.63	0.63	0.67	0.64	1.02	1.76	1.81	1.56	1.56	1.56
6/9	0.50	0.63	0.63	0.63	0.63	1.01	1.76	1.81	1.69	1.56
7/9	0.50	0.50	0.50	0.50	0.59	0.59	0.62	1.76	1.94	1.69
8/9	0.50	0.50	0.50	0.50	0.50	0.46	0.46	0.57	1.76	1.94
1	0.50	0.50	0.50	0.50	0.50	0.46	0.46	0.46	0.44	1.76

d

Adviser 1's strategy s1 \ Adviser 2's strategy s2	0	1/9	2/9	3/9	4/9	5/9	6/9	7/9	8/9	1
0	1.76	1.59	1.65	1.65	1.65	1.80	1.80	1.80	1.80	1.80
1/9	1.78	1.76	1.61	1.65	1.65	1.80	1.80	1.80	1.80	1.80
2/9	0.88	1.78	1.76	1.62	1.66	1.66	1.80	1.80	1.80	1.80
3/9	0.42	0.88	1.76	1.76	1.67	1.67	1.82	1.82	1.82	1.80
4/9	0.41	0.41	0.42	1.76	1.76	1.72	1.67	1.82	1.82	1.82
5/9	0.35	0.35	0.41	0.40	0.86	1.76	1.82	1.82	1.82	1.82
6/9	0.20	0.35	0.35	0.35	0.39	0.85	1.76	1.82	1.88	1.82
7/9	0.20	0.20	0.20	0.20	0.34	0.34	0.39	1.76	1.98	1.88
8/9	0.20	0.20	0.20	0.20	0.20	0.18	0.18	0.33	1.76	1.98
1	0.20	0.20	0.20	0.20	0.20	0.18	0.18	0.18	0.18	1.76

Figure S6. Probabilities with which advisers randomize between their pure strategies in mixed-strategy Nash equilibria in the penultimate round (Related to Figure 1). The selected Adviser 1 randomizes with probabilities shown in purple. The ignored Adviser 2 randomizes with probabilities shown in yellow. The striped column indicates pure strategy that is closest to the observed evidence (p).

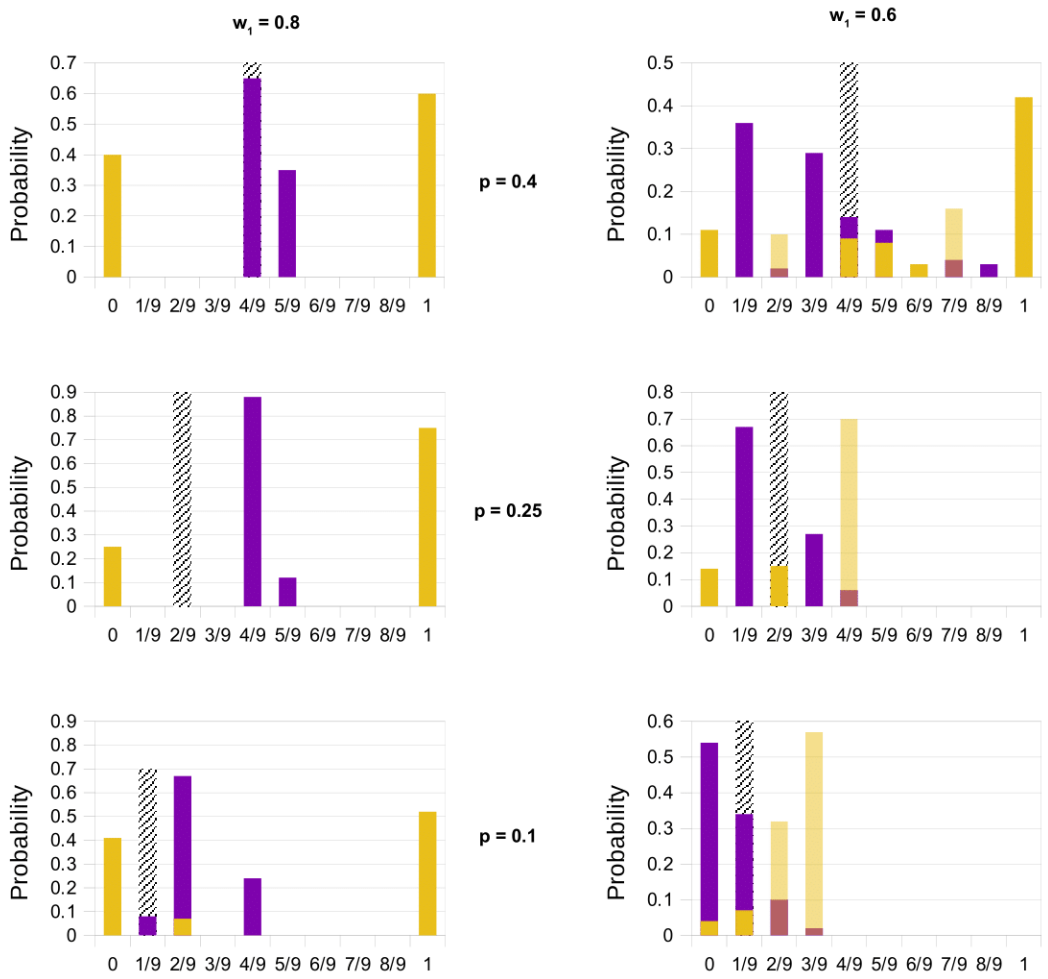

Figure S7. Strategic versus honest adviser when $w_1 = 0.2$. (Related to Figure 1) a. Adviser 1's updated weights, conditional on whether the winning colour is black (matrix on the left) or white (matrix on the right) for all possible combinations s_1 and s_2. Weights greater than or equal to 0.5 are shown in yellow, resulting in Adviser 1 being selected for the following round. Weights below 0.5 are shown in purple, resulting in Adviser 2 being selected for the following round. **b.** Adviser 1's expected payoffs, i.e., probabilities of being selected in the following round. **c.** Adviser 1's expected payoffs in the penultimate round, i.e., probabilities of being selected at the end of the penultimate round plus probabilities of being selected at the end of the last round, when, at the start of the penultimate round, $w_1 = 0.2$. Colour-scaling indicates lowest (white) to highest (dark) payoff.

a

Advisor 1's strategy s_1 (rows) × Advisor 2's strategy s_2 (columns)

	0	1/9	2/9	3/9	4/9	5/9	6/9	7/9	8/9	1
0	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/9	1.00	0.20	0.06	0.03	0.02	0.01	0.01	0.01	0.00	0.00
2/9	1.00	0.50	0.20	0.10	0.06	0.04	0.03	0.02	0.02	0.01
3/9	1.00	0.69	0.36	0.20	0.12	0.08	0.06	0.04	0.03	0.03
4/9	1.00	0.80	0.50	0.31	0.20	0.14	0.10	0.08	0.06	0.05
5/9	1.00	0.86	0.61	0.41	0.28	0.20	0.15	0.11	0.09	0.07
6/9	1.00	0.90	0.69	0.50	0.36	0.26	0.20	0.16	0.12	0.10
7/9	1.00	0.92	0.75	0.58	0.43	0.33	0.25	0.20	0.16	0.13
8/9	1.00	0.94	0.80	0.64	0.50	0.39	0.31	0.25	0.20	0.16
1	1.00	0.95	0.84	0.69	0.56	0.45	0.36	0.29	0.24	0.20

Advisor 1's strategy s_1 (rows) × Advisor 2's strategy s_2 (columns)

	0	1/9	2/9	3/9	4/9	5/9	6/9	7/9	8/9	1
0	0.20	0.24	0.29	0.36	0.45	0.56	0.69	0.84	0.95	1.00
1/9	0.16	0.20	0.25	0.31	0.39	0.50	0.64	0.80	0.94	1.00
2/9	0.13	0.16	0.20	0.25	0.33	0.43	0.58	0.75	0.92	1.00
3/9	0.10	0.12	0.16	0.20	0.26	0.36	0.50	0.69	0.90	1.00
4/9	0.07	0.09	0.11	0.15	0.20	0.28	0.41	0.61	0.86	1.00
5/9	0.05	0.06	0.08	0.10	0.14	0.20	0.31	0.50	0.80	1.00
6/9	0.03	0.03	0.04	0.06	0.08	0.12	0.20	0.36	0.69	1.00
7/9	0.01	0.02	0.02	0.03	0.04	0.06	0.10	0.20	0.50	1.00
8/9	0.00	0.00	0.01	0.01	0.01	0.02	0.03	0.06	0.20	1.00
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20

b

Advisor 1's strategy s_1 (rows) × Advisor 2's strategy s_2 (columns)

	0	1/9	2/9	3/9	4/9	5/9	6/9	7/9	8/9	1
0	0	0	0	0	0	4/9	3/9	2/9	1/9	1/36
1/9	1/36	0	0	0	0	0	3/9	2/9	1/9	1/36
2/9	1/36	0	0	0	0	0	3/9	2/9	1/9	1/36
3/9	1/36	1/9	0	0	0	0	0	2/9	1/9	1/36
4/9	1/36	1/9	0	0	0	0	0	2/9	1/9	1/36
5/9	1/36	1/9	2/9	0	0	0	0	0	1/9	1/36
6/9	1/36	1/9	2/9	0	0	0	0	0	1/9	1/36
7/9	1/36	1/9	2/9	3/9	0	0	0	0	0	1/36
8/9	1/36	1/9	2/9	3/9	0	0	0	0	0	1/36
1	1/36	1/9	2/9	3/9	4/9	0	0	0	0	0

c

Advisor 1's strategy s_1 (rows) × Advisor 2's strategy s_2 (columns)

	0	1/9	2/9	3/9	4/9	5/9	6/9	7/9	8/9	1
0	0.25	0.24	0.21	0.23	0.36	0.89	0.67	0.44	0.22	0.06
1/9	0.20	0.25	0.23	0.19	0.27	0.29	0.67	0.44	0.22	0.06
2/9	0.20	0.21	0.25	0.21	0.23	0.23	0.69	0.47	0.25	0.06
3/9	0.13	0.36	0.19	0.25	0.22	0.20	0.27	0.47	0.25	0.08
4/9	0.13	0.29	0.26	0.19	0.25	0.20	0.21	0.51	0.29	0.08
5/9	0.08	0.29	0.51	0.21	0.20	0.25	0.19	0.26	0.29	0.13
6/9	0.08	0.25	0.47	0.27	0.20	0.22	0.25	0.19	0.36	0.13
7/9	0.06	0.25	0.47	0.69	0.23	0.23	0.21	0.25	0.21	0.20
8/9	0.06	0.22	0.44	0.67	0.29	0.27	0.19	0.23	0.25	0.20
1	0.06	0.22	0.44	0.67	0.89	0.36	0.23	0.21	0.24	0.25

Figure S8. Strategic versus honest adviser when $w_1 = 0.4$ (Related to Figure 1). a. Adviser 1's updated weights, conditional on whether the winning colour is black (matrix on the left) or white (matrix on the right) for all possible combinations s_1 and s_2. Weights greater than or equal to 0.5 are shown in yellow, resulting in Adviser 1 being selected for the following round. Weights below 0.5 are shown in purple, resulting in Adviser 2 being selected for the following round. **b.** Adviser 1's expected payoffs, i.e., probabilities of being selected in the following round. **c.** Adviser 1's expected payoffs in the penultimate round, i.e., probabilities of being selected at the end of the penultimate round plus probabilities of being selected at the end of the last round, when, at the start of the penultimate round, $w_1 = 0.4$. Colour-scaling indicates lowest (white) to highest (dark) payoff.

a

Advisor 2's strategy s_2

Advisor 1's strategy s_1	0	1/9	2/9	3/9	4/9	5/9	6/9	7/9	8/9	1
0	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/9	1.00	0.40	0.14	0.07	0.04	0.03	0.02	0.01	0.01	0.01
2/9	1.00	0.73	0.40	0.23	0.14	0.10	0.07	0.05	0.04	0.03
3/9	1.00	0.86	0.60	0.40	0.27	0.19	0.14	0.11	0.09	0.07
4/9	1.00	0.91	0.73	0.54	0.40	0.30	0.23	0.18	0.14	0.12
5/9	1.00	0.94	0.81	0.65	0.51	0.40	0.32	0.25	0.21	0.17
6/9	1.00	0.96	0.86	0.73	0.60	0.49	0.40	0.33	0.27	0.23
7/9	1.00	0.97	0.89	0.78	0.67	0.57	0.48	0.40	0.34	0.29
8/9	1.00	0.98	0.91	0.83	0.73	0.63	0.54	0.47	0.40	0.35
1	1.00	0.98	0.93	0.86	0.77	0.68	0.60	0.52	0.46	0.40

Advisor 2's strategy s_2

	0	1/9	2/9	3/9	4/9	5/9	6/9	7/9	8/9	1
0	0.40	0.46	0.52	0.60	0.68	0.77	0.86	0.93	0.98	1.00
1/9	0.35	0.40	0.47	0.54	0.63	0.73	0.83	0.91	0.98	1.00
2/9	0.29	0.34	0.40	0.48	0.57	0.67	0.78	0.89	0.97	1.00
3/9	0.23	0.27	0.33	0.40	0.49	0.60	0.73	0.86	0.96	1.00
4/9	0.17	0.21	0.25	0.32	0.40	0.51	0.65	0.81	0.94	1.00
5/9	0.12	0.14	0.18	0.23	0.30	0.40	0.54	0.73	0.91	1.00
6/9	0.07	0.09	0.11	0.14	0.19	0.27	0.40	0.60	0.86	1.00
7/9	0.03	0.04	0.05	0.07	0.10	0.14	0.23	0.40	0.73	1.00
8/9	0.01	0.01	0.01	0.02	0.03	0.04	0.07	0.14	0.40	1.00
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40

b

Advisor 1's strategy s_1	0	1/9	2/9	3/9	4/9	5/9	6/9	7/9	8/9	1
0	0	0	7/9	6/9	5/9	4/9	3/9	2/9	1/9	1/36
1/9	1/36	0	0	6/9	5/9	4/9	3/9	2/9	1/9	1/36
2/9	1/36	1/9	0	0	5/9	4/9	3/9	2/9	1/9	1/36
3/9	1/36	1/9	2/9	0	0	4/9	3/9	2/9	1/9	1/36
4/9	1/36	1/9	2/9	3/9	0	4/9	3/9	2/9	1/9	1/36
5/9	1/36	1/9	2/9	3/9	4/9	0	3/9	2/9	1/9	1/36
6/9	1/36	1/9	2/9	3/9	4/9	0	0	2/9	1/9	1/36
7/9	1/36	1/9	2/9	3/9	4/9	5/9	0	0	1/9	1/36
8/9	1/36	1/9	2/9	3/9	4/9	5/9	6/9	0	0	1/36
1	1/36	1/9	2/9	3/9	4/9	5/9	6/9	7/9	0	0

c

	0	1/9	2/9	3/9	4/9	5/9	6/9	7/9	8/9	1
0	0.47	0.58	1.56	1.33	1.11	0.89	0.67	0.44	0.22	0.06
1/9	0.40	0.47	0.54	1.36	1.12	0.91	0.69	0.47	0.22	0.06
2/9	0.32	0.53	0.47	0.52	1.18	0.93	0.72	0.51	0.25	0.08
3/9	0.30	0.46	0.72	0.47	0.48	1.03	0.77	0.56	0.29	0.13
4/9	0.30	0.44	0.65	0.90	0.47	1.04	0.83	0.64	0.36	0.20
5/9	0.20	0.36	0.64	0.83	1.04	0.47	0.90	0.65	0.44	0.30
6/9	0.09	0.29	0.56	0.77	1.03	0.48	0.47	0.72	0.46	0.30
7/9	0.08	0.25	0.51	0.72	0.93	1.18	0.52	0.47	0.53	0.32
8/9	0.06	0.22	0.47	0.69	0.91	1.12	1.36	0.54	0.47	0.40
1	0.06	0.22	0.44	0.67	0.89	1.11	1.33	1.56	0.58	0.47

Figure S9. Probabilities with which advisers randomize between their pure strategies in mixed-strategy Nash equilibria in the last round when the client uses the *softmax* decision rule (Related to Figure 1). The higher-weighted Adviser 1 randomizes with probabilities shown in purple. The lower-weighted Adviser 2 randomizes with probabilities shown in yellow. The striped column indicates the pure strategy that is closest to the observed evidence (p).

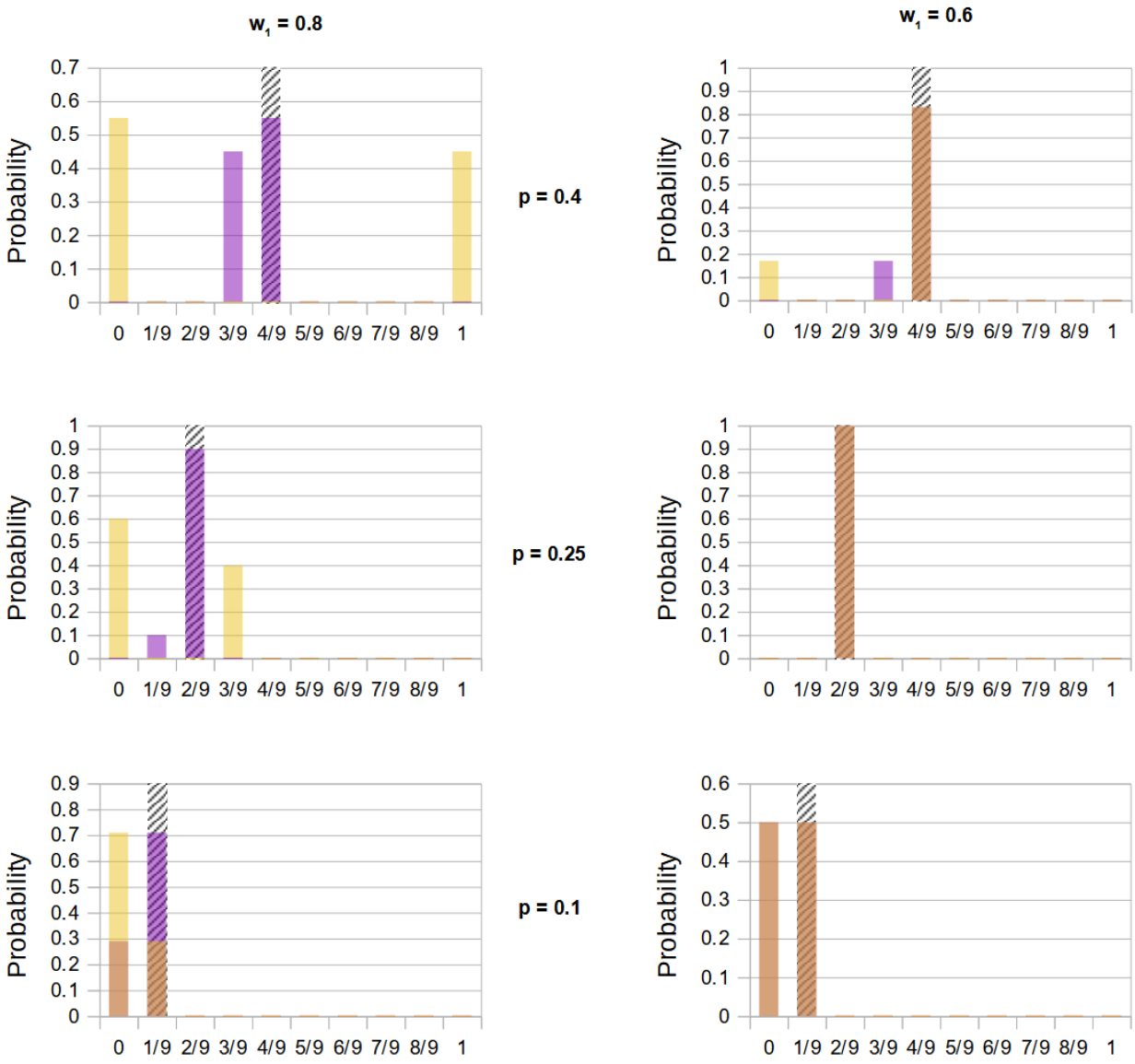

Figure S10. Probabilities with which advisers randomize between their pure strategies in mixed-strategy Nash equilibria in the penultimate round when the client uses the *softmax* decision rule (Related to Figure 1). The higher-weighted Adviser 1 randomizes with probabilities shown in purple. The lower-weighted Adviser 2 randomizes with probabilities shown in yellow. The striped column indicates the pure strategy that is closest to the observed evidence (p).

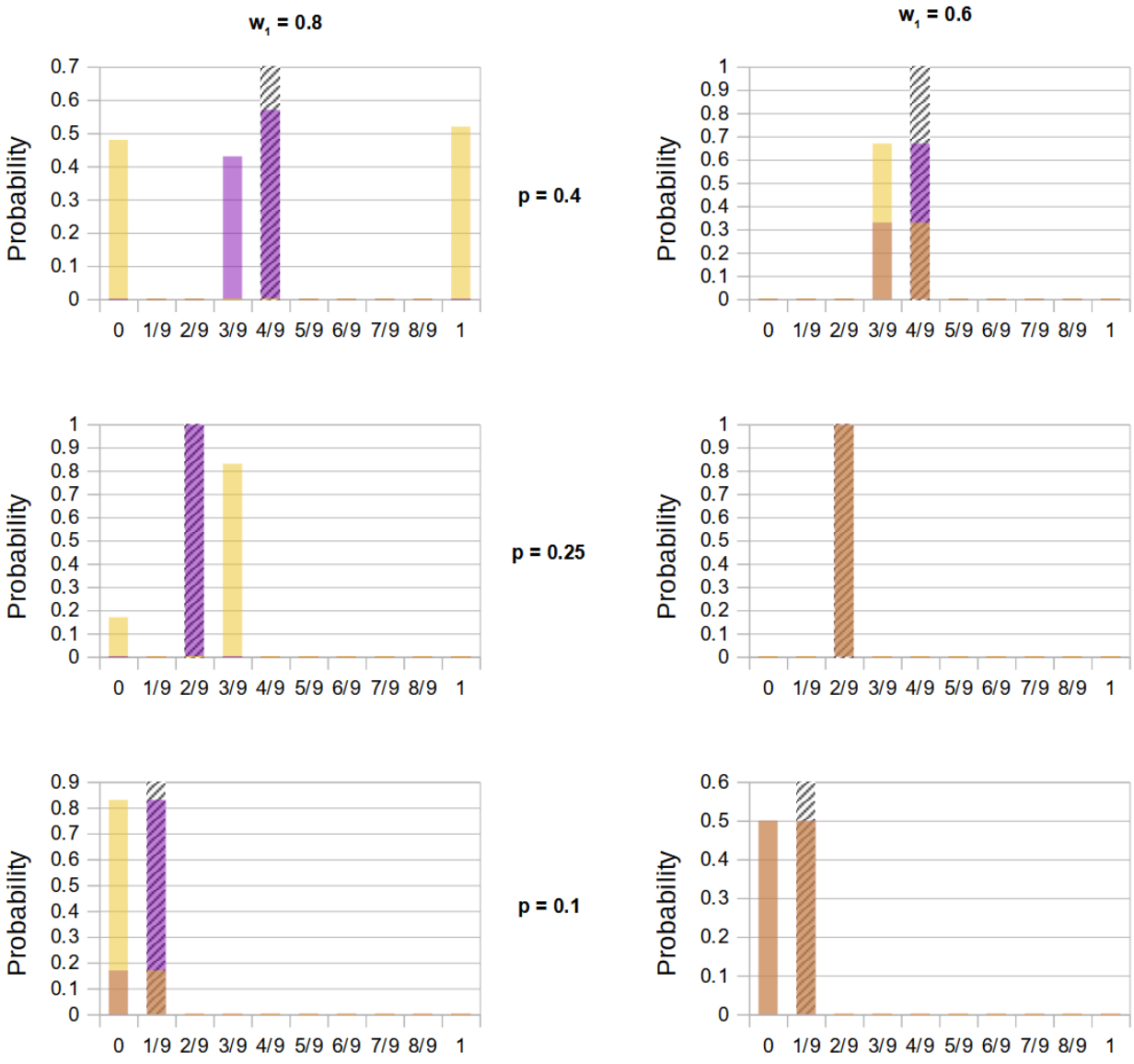

Table S1 (Related to Figure 1). Adviser 1's equilibrium strategies in the last round when $w_1 = 0.8$.

	Pure strategies which adviser 1 plays with probabilities *q* and *p* in the 15 Nash equilibria.														
q	0	1/9	2/9	3/9	4/9	1/9	2/9	3/9	4/9	2/9	3/9	4/9	3/9	4/9	4/9
p	5/9	5/9	5/9	5/9	5/9	6/9	6/9	6/9	6/9	7/9	7/9	7/9	8/9	8/9	1

Table S2 (Related to Figure 1). Sizes of the reduced payoff matrix in the last round and the corresponding expected equilibrium payoffs for all possible w_1 at the end of the penultimate round.

Adviser 1's weight at the end of the penultimate round	Size of the $n \times n$ reduced game in the last round	Adviser 1's expected equilibrium payoff in the last round when p is unknown
0.835… < w_1	1	$\int_0^1 P_1\, dp$ = 1
0.692… < w_1 < 0.835…	2	$\int_0^1 P_2\, dp$ = 0.833...
0.623… < w_1 < 0.692…	4	$\int_0^1 P_4\, dp$ = 0.774...
0.609… < w_1 < 0.623…	5	$\int_0^1 P_5\, dp$ = 0.765...
0.576… < w_1 < 0.609…	6	$\int_0^1 P_6\, dp$ = 0.761...
0.558… < w_1 < 0.576…	8	$\int_0^1 P_8\, dp$ = 0.756...
0.441… < w_1 < 0.558…	10	$\int_0^1 P_{10}\, dp$ = 0.754...
0.423… < w_1 < 0.441…	8	1 – $\int_0^1 P_8\, dp$ = 0.243...
0.390… < w_1 < 0.423…	6	1 – $\int_0^1 P_6\, dp$ = 0.239...
0.376… < w_1 < 0.390…	5	1 – $\int_0^1 P_5\, dp$ = 0.234...
0.307… < w_1 < 0.376…	4	1 – $\int_0^1 P_4\, dp$ = 0.226...
0.164… < w_1 < 0.307…	2	1 – $\int_0^1 P_2\, dp$ = 0.166...
w_1 < 0.164…	1	1 – $\int_0^1 P_1\, dp$ = 0

Table S3 (Related to Figure 4). Bayesian linear regression results of the likelihood to select the strategic adviser

Response: Selected_adviser (strategic versus honest)						
Predictor	Estimate	Est.Error	l−95% CI	u−95% CI	Eff.Sample	Rhat
Pilot						
Round	0.04	0.02	0.01	0.08	4490	1.00
Experiment 1						
Round:evidence1	0.10	0.02	0.07	0.14	5567	1.00
Round:evidence2	0.03	0.01	0.00	0.06	5597	1.00
Round:evidence3	0.06	0.01	0.03	0.09	5080	1.00
Round:evidence4	0.03	0.01	-0.00	0.06	5153	1.00
Experiment 2						
Round:evidence1	0.04	0.01	0.01	0.07	6616	1.00
Round:evidence2	0.03	0.01	0.00	0.06	6960	1.00
Round:evidence3	0.00	0.01	-0.02	0.03	7022	1.00
Round:evidence4	-0.01	0.01	-0.04	0.01	6990	1.00
Experiment 3						
Round	0.01	0.01	-0.01	0.04	5522	1.00
Experiment 4						
Round:individuals	0.09	0.01	0.06	0.11	5925	1.00
Round:indiv_maj_vote	0.03	0.01	0.01	0.04	4935	1.00
Round:majority_vote	0.06	0.02	0.03	0.09	6727	1.00
Experiment 5						
Round:individuals	0.10	0.01	0.08	0.13	5776	1.00
Round:indiv_maj_vote	0.06	0.01	0.04	0.08	6006	1.00
Round:majority_vote	0.10	0.02	0.07	0.14	5887	1.00
Experiment 6						
Round:individuals	0.08	0.01	0.06	0.10	8539	1.00
Round:dyads	0.05	0.01	0.03	0.07	8518	1.00

Table S4 (Related to Figures 5, 6). Bayesian linear regression results of the likelihood to change adviser

Response: Changed_adviser (yes / no)							
	Predictor	Estimate	Est.Error	l−95% CI	u−95% CI	Eff.Sample	Rhat
Singletons, Evidence 1							
	Intercept	-1.26	0.13	-1.52	-1.00	4432	1.00
	Lost	0.75	0.10	0.56	0.94	12051	1.00
	Opposed	0.14	0.12	-0.10	0.39	10695	1.00
	Round	-0.06	0.01	-0.08	-0.05	18455	1.00
	Lost:Opposed	1.03	0.17	0.70	1.36	9406	1.00
Singletons, Evidence 2							
	Intercept	-1.36	0.27	-1.90	-0.83	2730	1.00
	Lost	1.15	0.20	0.75	1.53	9105	1.00
	Opposed	0.38	0.20	-0.02	0.78	8731	1.00
	Round	-0.07	0.01	-0.09	-0.04	18043	1.00
	Lost:Opposed	0.31	0.31	-0.29	0.94	7768	1.00
Singletons, Evidence 3							
	Intercept	-0.73	0.28	-1.28	-0.20	2129	1.00
	Lost	0.93	0.19	0.55	1.31	10441	1.00
	Opposed	-0.27	0.21	-0.68	0.13	9372	1.00
	Round	-0.07	0.01	-0.10	-0.05	14854	1.00
	Lost:Opposed	0.88	0.35	0.20	1.56	7629	1.00
Singletons, Evidence 4							
	Intercept	-1.17	0.25	-1.68	-0.68	2271	1.00
	Lost	0.94	0.18	0.57	1.30	17896	1.00
	Round	-0.05	0.01	-0.08	-0.03	19625	1.00
Voting groups, in majority							
	Intercept	-1.38	0.16	-1.68	-1.08	6982	1.00
	Lost	0.94	0.11	0.72	1.17	12411	1.00
	Opposed	-0.01	0.16	-0.33	0.30	10640	1.00
	Round	-0.06	0.01	-0.08	-0.05	20260	1.00
	Lost:Opposed	1.18	0.21	0.78	1.59	9212	1.00
Voting groups, in minority							
	Intercept	-0.12	0.18	-0.47	0.23	7606	1.00
	Lost	-0.16	0.18	-0.51	0.17	7780	1.00
	Opposed	0.76	0.23	0.32	1.21	9267	1.00
	Round	-0.02	0.01	-0.04	0.01	11170	1.00
	Lost:Opposed	-1.57	0.33	-2.22	-0.93	5714	1.00
Dyads							
	Intercept	-0.72	0.22	-1.16	-0.30	6027	1.00
	Lost	0.75	0.15	0.45	1.05	10396	1.00
	Opposed	0.46	0.16	0.14	0.78	11552	1.00
	Round	-0.03	0.01	-0.05	-0.00	11853	1.00

Table S5 (Related to Figures 3-6). Overview of experimental studies.

Order of studies in main text	Treatments	Online/lab	Order of studies in preregistrations
Pilot experiment	Singletons, evidence 1, no incentives	Online	Pilot experiment
Experiment 1	Singletons, evidence 1-4, with incentives	Online	Experiment 6
Experiment 2	Singletons, evidence 1-4, no incentives	Online	Experiment 1
Experiment 3	Singletons, evidence 1, with incentives	Online	Experiment 2
Experiment 4	Majority vote, evidence 1, with incentives	Lab	Experiment 4
Experiment 5	Majority vote, evidence 1, with incentives	Online	Experiment 3
Experiment 6	Dyads, evidence 1, with incentives	Lab	Experiment 5