Supporting Appendix

Cooperative Behavior Cascades in Human Social Networks

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In Tables S1a-S1d, we show regression results used to estimate the total effects shown in Fig. 3 of the main text.

In Tables S1a and S2a-S2d, we show regression results used to estimate the effects shown in the top two panels of Fig. 4 of the main text.

In Tables S1b and S3a-S3c, we show regression results used to estimate the effects shown in the bottom two panels of Fig. 4 of the main text.

In Tables S4a-b we show regression results used to estimate the mediation effect of alter's contribution on the relationship between alter's alter's contribution and ego's contribution. What this mediation analysis shows is that, as we theorized, the total effect of alter's alter on ego disappears when we control for the effect of alter on ego. This is a classic mediation result. Suppose that *X* affects *M* and *M* affects *Y*, then *X* can affect *Y* via its influence on *M*. In this case *X* is the alter's alter, *M* is the alter, and *Y* is the ego. To test whether or not a mediation effect is present requires two regressions, (1) regress *M* on *X* (first model in Tables S4a and S4b), and (2) regress Y on M and X (second model in Tables S4a and S4b). According to Sobel (1982), *M* is a mediator if the product of the coefficients on *X* in the first regression and *M* in the second regression is significant ($p<0.001$ in both the public goods game and the public goods game with

punishment). Furthermore, we note that the effect of alter's alter is no longer significant in the second regression, suggesting that *X* has no independent influence on *Y*. In other words, alter's alter's effect on ego results from alter's alter's effect on alter and then alter's effect on ego.

In Tables S5a-b we show regression results used to estimate the effect of alter's alter's and alter's alter's alter's punishment behavior on ego's contribution.

In Tables S6a and S6b, we demonstrate that egos are not more influenced by "selfish" behavior than by "generous" behavior. In other words, alter's effect on ego does not vary for high and low contributions (increasing alter's contribution from 0MUs and 10MUs has the same effect on ego as increasing from 10MUs to 20MUs). In Table S6a, we use the *median contribution of the group* as a point of reference to divide high and low contributions, and in Table S6b we use the *ego's own contribution* as a point of reference.

In Table S7a and S7b, we explore the possibility that groups rather than specific individuals influence ego's behavior. In Table S7a, we show that alter significantly influences ego even when we include the contributions made by the other two members of the group as a control. In Table S7b, we test the influence of the other two member's contributions on alter's effect on ego by adding an interaction term to the model. The effect is significant in the public goods game but not in the public goods game with punishment, and in both cases the effect size is negligible. When other members of the group increase their contributions, it decreases the influence of alter on ego by 0.004. If we hold other group members' contributions constant at 10 each, the model suggests that an additional MU contributed by alter increases the contribution of ego in the next period by 0.160MUs, but if we increase other group members' contributions by 1MU, then an additional MU contributed by alter increases the contribution of ego in the next

period by 0.156MUs. And even when others contribute maximally, alter's effect on ego remains significant (p=0.04).

In Table S8, we show that punishment behavior does not spread from alters to ego.

In Tables S9a-S9c, we study the effect of groups of alters rather than individual alters. These models show that the sum total of contributions by all alters in the group significantly influence ego's contribution up to two degrees of separation in the normal public goods game and up to three degrees of separation in the public goods game with punishment, mirroring the individual-level results in Tables S1a-S1c. We present these results to show that the effects are robust to specification. However, it is important to remember that the estimates in the Table S9 regressions will be downwardly biased because they do not account for censoring of individual decisions (*47*). For example, a group of alters that contributes 15+15+15=45 will have the same value as a group that contributes 20+20+5=45, but in the latter group the two individuals who gave 20 may have wanted to give more and could not because of the interval constraints of the experiment (20 was the maximum permitted contribution). In the group-based models, an observation is only counted as censored if all three alters contribute the maximum (60) so information about censoring at the individual level is lost.

In Tables S10a and S10b, we add additional lags to the model of alter's influence on ego and alter's alter's influence on ego. Note that the model results reported in Table S10 indicate that alter and alter's alter significantly influence ego in both the public goods game and the public goods game with punishment, and the effect sizes are nearly identical. However, the cost of these models is dramatically reduced sample size (an therefore the efficiency of estimation) since each additional lag eliminates one period of observations.

Finally, in Table S11, we add 235 fixed effects for each unique subject (except the baseline subject, since a constant is in the model). This method has the advantage of controlling for all fixed differences between individuals and/or sessions, but it is well known to generate coefficients that are biased towards zero, especially when the number of fixed effects is large, as it is here. In spite of the conservative nature of this technique, we find that alter continues to have large and significant effects on ego as in the models without fixed effects.

Table S1a: Effect of Alter's Contribution on Ego's Contribution

	Dependent Variable:					
	Ego's Contribution in Period t					
	Public Goods Game			***Public Goods Game with Punishment***		
	Coef.	*S.E.*	*p*	*Coef.*	*S.E.*	*p*
Alter's Contrib. Period t – 1	**0.19**	**0.03**	**0.00**	**0.18**	**0.02**	**0.00**
Ego's Contribution Period t – 1	0.98	0.03	0.00	0.82	0.02	0.00
Period 3	-1.11	0.54	0.04	-0.20	0.30	0.50
Period 4	-1.11	0.52	0.03	-0.62	0.28	0.03
Period 5	-1.24	0.54	0.02	-0.16	0.30	0.60
Period 6	-2.64	0.60	0.00	-0.91	0.37	0.01
Constant	-3.89	0.51	0.00	2.26	0.38	0.00
Log Likelihood		-7721			-8190	
Null Log Likelihood		-8499			-9035	
N		3480			3480	

Interval regression models of effect of alter's contribution on ego's contribution, controlling for ego's prior contribution, period fixed effects, and multiple observations of the same ego and multiple observations of the same alter using Huber-White sandwich standard errors.

Table S1b: Effect of Alter's Alter's Contribution on Ego's Contribution

	Dependent Variable:					
	Ego's Contribution in Period t					
	Public Goods Game			***Public Goods Game with Punishment***		
	Coef.	*S.E.*	*p*	*Coef.*	*S.E.*	*p*
Alter's Alter's Contribution Period t – 2	**0.07**	**0.02**	**0.00**	**0.05**	**0.01**	**0.00**
Ego's Contribution Period t – 2	0.90	0.04	0.00	0.70	0.03	0.00
Period 4	-0.69	0.60	0.25	-0.56	0.33	0.09
Period 5	-0.77	0.63	0.23	-0.33	0.34	0.34
Period 6	-1.60	0.68	0.02	-0.68	0.40	0.09
Constant	-4.57	0.60	0.00	6.49	0.43	0.00
Log Likelihood	-18346			-19870		
Null Log Likelihood	-19553			-21156		
N	8316			8316		

Interval regression models of effect of alter's alter's contribution on ego's contribution, controlling for ego's prior contribution, period fixed effects, and multiple observations of the same ego and multiple observations of the same alter using Huber-White sandwich standard errors.

Table S1c: Effect of Alter's Alter's Alter's Contribution on Ego's Contribution

	Dependent Variable:					
	Ego's Contribution in Period t					
	Public Goods Game			***Public Goods Game with Punishment***		
	Coef.	*S.E.*	*p*	*Coef.*	*S.E.*	*p*
Alter's Alter's Alter's Contrib. Period t – 3	**0.03**	**0.02**	**0.17**	**0.06**	**0.02**	**0.00**
Ego's Contribution Period t – 3	0.77	0.03	0.00	0.65	0.02	0.00
Period 5	-0.53	0.35	0.14	0.06	0.20	0.77
Period 6	-1.65	0.40	0.00	-0.63	0.23	0.01
Constant	-4.85	0.47	0.00	7.74	0.39	0.00
Log Likelihood		-13767			-15086	
Null Log Likelihood		-14353			-15796	
N		6355			6355	

Interval regression models of effect of alter's alter's alter's contribution on ego's contribution, controlling for ego's prior contribution, period fixed effects, and multiple observations of the same ego and multiple observations of the same alter using Huber-White sandwich standard errors.

Table S1d: Effect of Alter's Alter's Alter's Alter's Contribution on Ego's Contribution

	Dependent Variable: ***Ego's Contribution in Period t***					
	Public Goods Game			***Public Goods Game with Punishment***		
	Coef.	*S.E.*	*p*	*Coef.*	*S.E.*	*p*
Alter's Alter's Alter's Alter's Contrib. Period t – 4	**0.00**	**0.07**	**0.98**	**-0.02**	**0.04**	**0.60**
Ego's Contribution Period t – 4	0.79	0.08	0.00	0.51	0.05	0.00
Period 6	1.39	1.18	0.24	-1.33	0.48	0.01
Constant	-8.08	1.50	0.00	12.02	1.01	0.00
Log Likelihood		-2097			-2559	
Null Log Likelihood		-2161			-2636	
N		1026			1080	

Interval regression models of effect of alter's alter's alter's alter's contribution on ego's contribution, controlling for ego's prior contribution, period fixed effects, and multiple observations of the same ego and multiple observations of the same alter using Huber-White sandwich standard errors.

Table S2a: Effect of Alter's Contribution on Ego's Contribution Two Periods Later

	Dependent Variable:					
	Ego's Contribution in Period t					
	Public Goods Game			***Public Goods Game with Punishment***		
	Coef.	*S.E.*	*p*	*Coef.*	*S.E.*	*p*
Alter's Contrib. Period t – 2	**0.15**	**0.03**	**0.00**	**0.15**	**0.02**	**0.00**
Ego's Contribution Period t – 2	0.90	0.04	0.00	0.70	0.03	0.00
Period 4	-0.58	0.60	0.33	-0.69	0.33	0.04
Period 5	-0.58	0.64	0.37	-0.55	0.34	0.11
Period 6	-1.29	0.69	0.06	-0.96	0.40	0.02
Constant	-5.38	0.66	0.00	5.31	0.48	0.00
Log Likelihood		-6106			-6605	
Null Log Likelihood		-6518			-7052	
N		2772			2772	

Interval regression models of effect of alter's contribution on ego's contribution, controlling for ego's prior contribution, period fixed effects, and multiple observations of the same ego and multiple observations of the same alter using Huber-White sandwich standard errors.

Table S2b: Effect of Alter's Contribution on Ego's Contribution Three Periods Later

	Dependent Variable:					
	Ego's Contribution in Period t					
	Public Goods Game			***Public Goods Game with Punishment***		
	Coef.	*S.E.*	*p*	*Coef.*	*S.E.*	*p*
Alter's Contrib. Period t – 3	**0.08**	**0.04**	**0.04**	**0.11**	**0.03**	**0.00**
Ego's Contribution Period t – 3	0.78	0.04	0.00	0.63	0.03	0.00
Period 5	-0.64	0.65	0.33	-0.06	0.35	0.86
Period 6	-1.34	0.71	0.06	-0.73	0.41	0.07
Constant	-5.35	0.74	0.00	7.13	0.63	0.00
Log Likelihood		-4499			-4926	
Null Log Likelihood		-4699			-5169	
N		2064			2064	

Interval regression models of effect of alter's contribution on ego's contribution, controlling for ego's prior contribution, period fixed effects, and multiple observations of the same ego and multiple observations of the same alter using Huber-White sandwich standard errors.

Table S2c: Effect of Alter's Contribution on Ego's Contribution Four Periods Later

	Dependent Variable:					
	Ego's Contribution in Period t					
	Public Goods Game			***Public Goods Game with Punishment***		
	Coef.	*S.E.*	*p*	*Coef.*	*S.E.*	*p*
Alter's Contrib. Period t – 4	**0.17**	**0.05**	**0.00**	**0.14**	**0.04**	**0.00**
Ego's Contribution Period t – 4	0.77	0.06	0.00	0.63	0.04	0.00
Period 6	-1.34	0.78	0.09	-1.03	0.42	0.02
Constant	-8.09	1.02	0.00	7.79	0.73	0.00
Log Likelihood		-2825			-3166	
Null Log Likelihood		-2928			-3317	
N		1356			1356	

Interval regression models of effect of alter's contribution on ego's contribution, controlling for ego's prior contribution, period fixed effects, and multiple observations of the same ego and multiple observations of the same alter using Huber-White sandwich standard errors.

Table S2d: Effect of Alter's Contribution on Ego's Contribution Five Periods Later

	Dependent Variable:					
	Ego's Contribution in Period t					
	Public Goods Game			***Public Goods Game with Punishment***		
	Coef.	*S.E.*	*p*	*Coef.*	*S.E.*	*p*
Alter's Contrib. Period t – 5	**0.17**	**0.09**	**0.05**	**0.14**	**0.06**	**0.02**
Ego's Contribution Period t – 5	0.65	0.09	0.00	0.58	0.07	0.00
Constant	-9.52	1.51	0.00	9.13	1.16	0.00
Log Likelihood		-1287			-1500	
Null Log Likelihood		-1316			-1544	
N		648			648	

Interval regression models of effect of alter's contribution on ego's contribution, controlling for ego's prior contribution, period fixed effects, and multiple observations of the same ego and multiple observations of the same alter using Huber-White sandwich standard errors.

Table S3a: Effect of Alter's Alter's Contribution on Ego's Contribution Three Periods Later

	Dependent Variable:					
	Ego's Contribution in Period t					
	Public Goods Game			***Public Goods Game with Punishment***		
	Coef.	*S.E.*	*p*	*Coef.*	*S.E.*	*p*
Alter's Alter's Contribution Period t – 3	**0.03**	**0.02**	**0.25**	**0.04**	**0.02**	**0.01**
Ego's Contribution Period t – 3	0.78	0.04	0.00	0.64	0.03	0.00
Period 5	-0.70	0.65	0.29	0.01	0.35	0.98
Period 6	-1.46	0.70	0.04	-0.59	0.41	0.15
Constant	-4.81	0.66	0.00	7.92	0.54	0.00
Log Likelihood		-13501			-14798	
Null Log Likelihood		-14098			-15508	
N		6192			6192	

Interval regression models of effect of alter's alter's contribution on ego's contribution, controlling for ego's prior contribution, period fixed effects, and multiple observations of the same ego and multiple observations of the same alter using Huber-White sandwich standard errors.

Table S3b: Effect of Alter's Alter's Contribution on Ego's Contribution Four Periods Later

	Dependent Variable:					
	Ego's Contribution in Period t					
	Public Goods Game			***Public Goods Game with Punishment***		
	Coef.	*S.E.*	*p*	*Coef.*	*S.E.*	*p*
Alter's Alter's Contribution Period t – 4	**0.07**	**0.03**	**0.02**	**0.02**	**0.02**	**0.36**
Ego's Contribution Period t – 4	0.76	0.06	0.00	0.63	0.04	0.00
Period 6	-1.44	0.78	0.06	-0.82	0.43	0.05
Constant	-6.98	0.90	0.00	9.32	0.66	0.00
Log Likelihood		-8489			-9521	
Null Log Likelihood		-8785			-9951	
N		4068			4068	

Interval regression models of effect of alter's alter's contribution on ego's contribution, controlling for ego's prior contribution, period fixed effects, and multiple observations of the same ego and multiple observations of the same alter using Huber-White sandwich standard errors.

Table S3c: Effect of Alter's Alter's Contribution on Ego's Contribution Five Periods Later

	Dependent Variable:					
	Ego's Contribution in Period t					
	Public Goods Game			***Public Goods Game with Punishment***		
	Coef.	*S.E.*	*p*	*Coef.*	*S.E.*	*p*
Alter's Alter's Contribution Period t – 5	**0.01**	**0.05**	**0.77**	**-0.01**	**0.04**	**0.85**
Ego's Contribution Period t – 5	0.65	0.09	0.00	0.58	0.07	0.00
Constant	-8.02	1.31	0.00	10.98	1.05	0.00
Log Likelihood		-3867			-4508	
Null Log Likelihood		-3948			-4630	
N		1944			1944	

Interval regression models of effect of alter's alter's contribution on ego's contribution, controlling for ego's prior contribution, period fixed effects, and multiple observations of the same ego and multiple observations of the same alter using Huber-White sandwich standard errors.

Table S4a: Mediation Analysis, Public Goods Game

	Dependent Variable:								
	Ego's Contribution in Period t			***Alter's Contribution in Period t-1***			***Ego's Contribution in Period t***		
	Coef.	*S.E.*	*p*	*Coef.*	*S.E.*	*p*	*Coef.*	*S.E.*	*p*
Alter's Alter's Contrib. Period t – 2	**0.07**	**0.02**	**0.00**	**0.28**	**0.03**	**0.00**	0.03	0.02	0.15
Alter's Contribution Period t – 1	---	---	---	---	---	---	**0.24**	**0.03**	**0.00**
Ego's Contribution Period t – 2	0.90	0.04	0.00	0.03	0.02	0.11	0.90	0.04	0.00
Period 4	-0.69	0.60	0.25	-2.17	0.67	0.00	-0.38	0.59	0.52
Period 5	-0.77	0.63	0.23	-3.42	0.67	0.00	-0.29	0.63	0.64
Period 6	-1.60	0.68	0.02	-4.49	0.72	0.00	-1.03	0.68	0.13
Constant	-4.57	0.60	0.00	4.51	0.62	0.00	-6.27	0.64	0.00
Log Likelihood	-18346			-20756			-18257		
Null Log Likelihood	-19553			-20970			-19553		
N	8316			8316			8316		

Interval regression models of ego and alter contributions, controlling for multiple observations of the same ego and multiple observations of the same alter using Huber-White sandwich standard errors. The results in the first model show that the size of the total effect of alter's alter on ego is 0.07 (95% C.I. 0.03 to 0.10). We can use the results of the second and third model to calculate the size of the indirect effect of alter's alter on ego that is mediated by alter, which is 0.07 (95% C.I. 0.05 to 0.09). We note that, as theorized, the effect of alter's alter is no longer significant when we control for alter. These results together mean we cannot reject the hypothesis that the total effect of alter's alter on ego is mediated by the effect of alter's alter on alter.

Table S4b: Mediation Analysis, Public Goods Game with Punishment

	Dependent Variable:								
	Ego's Contribution in Period t			***Alter's Contribution in Period t – 1***			***Ego's Contribution in Period t***		
	Coef.	*S.E.*	*p*	*Coef.*	*S.E.*	*p*	*Coef.*	*S.E.*	*p*
Alter's Alter's Contrib. Period t – 2	**0.05**	**0.01**	**0.00**	**0.19**	**0.03**	**0.00**	0.03	0.02	0.15
Alter's Contribution Period t – 1							**0.17**	**0.02**	**0.00**
Ego's Contribution Period t – 2	0.70	0.03	0.00	0.01	0.01	0.38	0.70	0.03	0.00
Period 4	-0.56	0.33	0.09	0.91	0.38	0.02	-0.70	0.33	0.03
Period 5	-0.33	0.34	0.34	1.20	0.38	0.00	-0.51	0.34	0.13
Period 6	-0.68	0.40	0.09	2.46	0.41	0.00	-1.00	0.40	0.01
Constant	6.49	0.43	0.00	12.17	0.44	0.00	4.40	0.50	0.00
Log Likelihood	-19870			-21631			-19791		
Null Log Likelihood	-21156			-21811			-21156		
N	8316			8316			8316		

Interval regression models of ego and alter contributions, controlling for multiple observations of the same ego and multiple observations of the same alter using Huber-White sandwich standard errors. The results in the first model show that the size of the total effect of alter's alter on ego is 0.05 (95% C.I. 0.03 to 0.08). We can use the results of the second and third model to calculate the size of the indirect effect of alter's alter on ego that is mediated by alter, which is 0.03 (95% C.I. 0.02 to 0.05). We note that, as theorized, the effect of alter's alter is no longer significant when we control for alter. These results together mean we cannot reject the hypothesis that the total effect of alter's alter on ego is mediated by the effect of alter's alter on alter.

Table S5a: Effect of Alter's Received Punishment on Ego's Contribution Two Rounds Later

	Dependent Variable: ***Ego's Contribution in Period t***		
	Coef.	*S.E.*	*p*
Punishment Rec'd by Alter in Period t – 2	**0.13**	**0.05**	**0.02**
Alter's Contribution in Period t – 2	0.18	0.03	0.00
Punishment Rec'd by Ego in Period t – 2	0.45	0.07	0.00
Ego's Contribution in Period t – 2	0.86	0.03	0.00
Period 4	-1.14	0.33	0.00
Period 5	-0.98	0.34	0.00
Period 6	-1.45	0.40	0.00
Constant	1.82	0.62	0.00
Log Likelihood		-6565	
Null Log Likelihood		-7052	
N		2772	

Interval regression models of effect of alter's received punishment on ego's contribution, controlling for ego's prior received punishment and ego's and alter's prior contribution, period fixed effects, and multiple observations of the same ego and multiple observations of the same alter using Huber-White sandwich standard errors.

Table S5b: Effect of Alter's Alter's Received Punishment on Ego's Contribution Three Rounds Later

	Dependent Variable:		
	Ego's Contribution in Period t		
	Coef.	*S.E.*	*p*
Punishment Rec'd by Alter's Alter in Period t – 3	**0.09**	**0.07**	**0.25**
Alter's Alter's Contribution in Period t – 3	0.02	0.04	0.64
Punishment Rec'd by Ego in Period t – 3	0.30	0.08	0.00
Ego's Contribution in Period t – 3	0.75	0.05	0.00
Period 5	-0.08	0.41	0.84
Period 6	-0.74	0.45	0.10
Constant	6.04	0.90	0.00
Log Likelihood		-5004	
Null Log Likelihood		-5244	
N		2118	

Interval regression models of effect of alter's alter's received punishment on ego's contribution, controlling for ego's prior received punishment and ego's and alter's alter's prior contribution, period fixed effects, and multiple observations of the same ego and multiple observations of the same alter's alter using Huber-White sandwich standard errors.

Table S6a: Effect of Alter's Contribution on Ego's Contribution is Similar Regardless of Whether Alter's Contribution is High or Low

	Dependent Variable:					
	Ego's Contribution in Period t					
	Public Goods Game			***Public Goods Game with Punishment***		
	Coef.	*S.E.*	*p*	*Coef.*	*S.E.*	*p*
Alter's Contrib. Period t – 1 X *Alter's Contrib. Period t – 1 > Median*	**-0.23**	**0.14**	**0.10**	**0.02**	**0.10**	**0.87**
Alter's Contrib. Period t – 1 > Median	3.23	0.88	0.00	-0.28	1.86	0.88
Alter's Contrib. Period t – 1	0.23	0.13	0.07	0.17	0.03	0.00
Ego's Contribution Period t – 1	0.98	0.03	0.00	0.82	0.02	0.00
Period 3	-1.09	0.54	0.04	-0.20	0.30	0.51
Period 4	-1.06	0.52	0.04	-0.62	0.28	0.03
Period 5	-1.18	0.54	0.03	-0.15	0.30	0.62
Period 6	-2.53	0.60	0.00	-0.91	0.37	0.01
Constant	-4.28	0.55	0.00	2.28	0.42	0.00
Log Likelihood		-7714			-8190	
Null Log Likelihood		-8499			-9035	
N		3480			3480	

Interval regression models of effect of alter's contribution on ego's contribution, controlling for ego's prior contribution, period fixed effects, and multiple observations of the same ego and multiple observations of the same alter using Huber-White sandwich standard errors. Interaction term shows the differential effect of being a higher-than-median (within the group) contributor. The interaction term is not significant, suggesting the ego does not pay more attention to higher-than-median contributors.

Table S6b: Effect of Alter's Contribution on Ego's Contribution is Similar Regardless of Whether Alter's Contribution is Above or Below Ego's Contribution

	Dependent Variable:					
	Ego's Contribution in Period t					
	Public Goods Game			***Public Goods Game with Punishment***		
	Coef.	*S.E.*	*p*	*Coef.*	*S.E.*	*p*
Alter's Contrib. Period t – 1 X *Ego's Contrib. > Alter's Contrib. Period t – 1*	**-0.11**	**0.07**	**0.11**	**-0.02**	**0.05**	**0.70**
Ego's Contrib. > Alter's Contrib. Period t – 1	1.83	0.69	0.00	0.51	0.77	0.51
Alter's Contrib. Period t – 1	0.26	0.04	0.00	0.20	0.04	0.00
Ego's Contribution Period t – 1	0.93	0.04	0.00	0.80	0.03	0.00
Period 3	-1.10	0.54	0.04	-0.21	0.30	0.49
Period 4	-1.13	0.52	0.03	-0.62	0.28	0.03
Period 5	-1.28	0.54	0.02	-0.16	0.30	0.60
Period 6	-2.64	0.60	0.00	-0.91	0.37	0.01
Constant	-4.67	0.60	0.00	1.93	0.61	0.00
Log Likelihood		-7717			-8190	
Null Log Likelihood		-8499			-9035	
N		3480			3480	

Interval regression models of effect of alter's contribution on ego's contribution, controlling for ego's prior contribution, period fixed effects, and multiple observations of the same ego and multiple observations of the same alter using Huber-White sandwich standard errors. Interaction term shows the differential effect of being a higher-than-median (within the group) contributor. The interaction term is not significant, suggesting the ego does not pay more attention to alters who contribute more than they did.

Table S7a: Effect of Alter's Contribution on Ego's Contribution, Controlling for Others' Contributions

	Dependent Variable:					
	Ego's Contribution in Period t					
	Public Goods Game			***Public Goods Game with Punishment***		
	Coef.	*S.E.*	*p*	*Coef.*	*S.E.*	*p*
Alter's Contrib. Period t – 1	**0.17**	**0.03**	**0.00**	**0.17**	**0.02**	**0.00**
Ego's Contribution Period t – 1	0.95	0.03	0.00	0.81	0.02	0.00
Other's Contribution Period t – 1	0.17	0.03	0.00	0.17	0.01	0.00
Period 3	-0.77	0.53	0.15	-0.61	0.29	0.03
Period 4	-0.34	0.51	0.51	-1.34	0.28	0.00
Period 5	-0.22	0.54	0.56	-1.01	0.29	0.00
Period 6	-1.47	0.61	0.59	-2.06	0.37	0.00
Constant	-6.70	0.59	0.00	-1.90	0.44	0.00
Log Likelihood		-7673			-8101	
Null Log Likelihood		-8499			-9035	
N		3480			3480	

Interval regression models of effect of alter's contribution on ego's contribution, controlling for ego's prior contribution, period fixed effects, and multiple observations of the same ego and multiple observations of the same alter using Huber-White sandwich standard errors.

Table S7b: Effect of Interaction Between Alter's Contribution and Others' Contributions on Ego's Contribution

	Dependent Variable:					
	Ego's Contribution in Period t					
	Public Goods Game			***Public Goods Game with Punishment***		
	Coef.	*S.E.*	*p*	*Coef.*	*S.E.*	*p*
Alter's Contrib. Period t – 1 X Other's Contribution Period t – 1	**-0.004**	**0.002**	**0.05**	**-0.001**	**0.002**	**0.49**
Alter's Contrib. Period t – 1	0.24	0.04	0.00	0.21	0.06	0.00
Other's Contribution Period t – 1	0.20	0.02	0.00	0.19	0.03	0.00
Ego's Contribution Period t – 1	0.95	0.03	0.00	0.81	0.02	0.00
Period 3	-0.81	0.53	0.13	-0.63	0.29	0.03
Period 4	-0.38	0.51	0.45	-1.34	0.28	0.00
Period 5	-0.25	0.54	0.64	-1.01	0.29	0.00
Period 6	-1.48	0.61	0.02	-2.05	0.37	0.00
Constant	-7.20	0.62	0.00	-2.45	0.81	0.00
Log Likelihood	-7671			-8101		
Null Log Likelihood	-8499			-9035		
N	3480			3480		

Interval regression models of effect of an interaction between alter's contribution and others' contributions on ego's contribution, controlling for alter's contribution, others' contributions, ego's prior contribution, period fixed effects, and multiple observations of the same ego and multiple observations of the same alter using Huber-White sandwich standard errors.

Table S8: Effect of Alter's Punishment Behavior on Ego's Punishment Behavior

	Dependent Variable: Punishment in the Public Goods Game with Punishment		
	Coef.	*S.E.*	*p*
Alters' Punishments Directed at Ego in Period t – 1	**0.01**	**0.04**	**0.83**
Ego's Punishments in Period t – 1	0.72	0.06	0.00
Period 3	0.84	0.36	0.02
Period 4	0.50	0.31	0.10
Period 5	0.21	0.33	0.54
Period 6	0.13	0.30	0.67
Constant	-0.92	0.31	0.00
Log Likelihood		-2150	
Null Log Likelihood		-2306	
N		1160	

Interval regression models of effect of alters' punishments of ego on ego's punishments of others in the next round, controlling for ego's prior punishment behavior, period fixed effects, and multiple observations of the same ego using Huber-White sandwich standard errors.

Table S9a: Effect of Alter Group's Contribution on Ego's Contribution

	Dependent Variable:					
	Ego's Contribution in Period t					
	Public Goods Game			***Public Goods Game with Punishment***		
	Coef.	*S.E.*	*p*	*Coef.*	*S.E.*	*p*
Alter Group's Contrib. Period t – 1	**0.09**	**0.01**	**0.00**	**0.12**	**0.01**	**0.00**
Ego's Contribution Period t – 1	0.56	0.04	0.00	0.61	0.04	0.00
Period 3	-0.45	0.57	0.43	-0.31	0.39	0.42
Period 4	-0.40	0.52	0.36	-0.81	0.30	0.01
Period 5	-0.03	0.49	0.95	-0.64	0.38	0.10
Period 6	-0.69	0.49	0.16	-1.48	0.42	0.00
Constant	0.44	0.51	0.40	1.56	0.38	0.00
Log Likelihood		-3622			-3249	
Null Log Likelihood		-3927			-3583	
N		1160			1160	

Interval regression models of effect of alter group's total contributions on ego's contribution, controlling for ego's prior contribution, period fixed effects, and multiple observations of the same ego and multiple observations of the same alter using Huber-White sandwich standard errors.

Table S9b: Effect of Alter's Alter Group's Contribution on Ego's Contribution

	Dependent Variable:					
	Ego's Contribution in Period t					
	Public Goods Game			***Public Goods Game with Punishment***		
	Coef.	*S.E.*	*p*	*Coef.*	*S.E.*	*p*
Alter's Alter Group's Contribution Period t – 2	**0.07**	**0.03**	**0.01**	**0.09**	**0.03**	**0.00**
Ego's Contribution Period t – 2	0.48	0.04	0.00	0.49	0.05	0.00
Period 4	-0.34	0.46	0.46	-0.55	0.31	0.07
Period 5	0.05	0.61	0.93	-0.67	0.50	0.18
Period 6	-0.21	0.61	0.73	-1.18	0.55	0.03
Constant	0.48	0.84	0.57	5.28	1.11	0.00
Log Likelihood	-2959			-2682		
Null Log Likelihood	-3109			-2837		
N	924			924		

Interval regression models of effect of alter's alter group's total contributions on ego's contribution, controlling for ego's prior contribution, period fixed effects, and multiple observations of the same ego and multiple observations of the same alter using Huber-White sandwich standard errors.

Table S9c: Effect of Alter's Alter's Alter Group's Contribution on Ego's Contribution

	Dependent Variable:					
	Ego's Contribution in Period t					
	Public Goods Game			***Public Goods Game with Punishment***		
	Coef.	*S.E.*	*p*	*Coef.*	*S.E.*	*p*
Alter's Alter's Alter Group's Contribution Period t – 3	**0.02**	**0.03**	**0.47**	**0.11**	**0.03**	**0.00**
Ego's Contribution Period t – 3	0.39	0.05	0.00	0.43	0.05	0.00
Period 5	-0.06	0.45	0.90	-0.39	0.33	0.24
Period 6	-0.39	0.57	0.50	-1.28	0.45	0.00
Constant	1.61	0.97	0.10	5.75	1.26	0.00
Log Likelihood		-2228			-2031	
Null Log Likelihood		-2299			-2116	
N		688			688	

Interval regression models of effect of alter's alter's alter group's total contributions on ego's contribution, controlling for ego's prior contribution, period fixed effects, and multiple observations of the same ego and multiple observations of the same alter using Huber-White sandwich standard errors.

Table S10a: Effect of Alter's Contribution on Ego's Contribution in a Model That Includes Additional Lags of Ego's Behavior

	Dependent Variable:					
	Ego's Contribution in Period t					
	Public Goods Game			***Public Goods Game with Punishment***		
	Coef.	*S.E.*	*p*	*Coef.*	*S.E.*	*p*
Alter's Contrib. Period t – 1	**0.23**	**0.05**	**0.00**	**0.16**	**0.04**	**0.00**
Ego's Contrib. Period t – 1	0.80	0.06	0.00	0.55	0.07	0.00
Ego's Contrib. Period t – 2	0.32	0.07	0.00	0.21	0.07	0.00
Ego's Contrib. Period t – 3	0.03	0.07	0.62	0.03	0.06	0.64
Ego's Contrib. Period t – 4	0.18	0.06	0.00	0.27	0.06	0.00
Period 6	-0.99	0.65	0.13	-1.10	0.37	0.00
Constant	-9.17	0.80	0.00	-0.30	0.80	0.71
Log Likelihood		-2621			-3027	
Null Log Likelihood		-2928			-3317	
N		1356			1356	

Interval regression models of effect of alter's contribution on ego's contribution, controlling for ego's prior contributions in periods t-1, t-2, t-3, and t-4, a fixed effect for period 6 (vs. period 5), and multiple observations of the same ego and multiple observations of the same alter using Huber-White sandwich standard errors.

Table S10b: Effect of Alter's Alter's Contribution on Ego's Contribution in a Model That Includes Additional Lags of Ego's Behavior

	Dependent Variable:					
	Ego's Contribution in Period t					
	Public Goods Game			***Public Goods Game with Punishment***		
	Coef.	*S.E.*	*p*	*Coef.*	*S.E.*	*p*
Alter's Alter's Contrib. Period t – 1	**0.07**	**0.03**	**0.03**	**0.06**	**0.02**	**0.00**
Ego's Contrib. Period t – 1	0.70	0.07	0.00	0.50	0.06	0.00
Ego's Contrib. Period t – 2	0.22	0.07	0.00	0.15	0.06	0.02
Ego's Contrib. Period t – 3	0.25	0.06	0.00	0.30	0.06	0.00
Period 6	-0.65	0.72	0.36	-0.85	0.40	0.03
Constant	-8.66	0.85	0.00	3.41	0.69	0.00
Log Likelihood		-8187			-9280	
Null Log Likelihood		-8785			-9951	
N		4068			4068	

Interval regression models of effect of alter's alter's contribution on ego's contribution, controlling for ego's prior contributions in periods t-1, t-2, and t-3, a fixed effect for period 6 (vs. period 5), and multiple observations of the same ego and multiple observations of the same alter using Huber-White sandwich standard errors.

Table S11: Effect of Alter's Contribution on Ego's Contribution in a Model That Includes Ego Fixed Effects

	Dependent Variable:					
	Ego's Contribution in Period t					
	Public Goods Game			***Public Goods Game with Punishment***		
	Coef.	*S.E.*	*p*	*Coef.*	*S.E.*	*p*
Alter's Contrib. Period t – 1	**0.17**	**0.02**	**0.00**	**0.14**	**0.02**	**0.00**
Period 3	-2.41	0.42	0.00	1.16	0.24	0.00
Period 4	-4.02	0.40	0.00	1.52	0.23	0.00
Period 5	-5.41	0.43	0.00	2.40	0.25	0.00
Period 6	-7.36	0.50	0.00	2.06	0.30	0.00
Constant	0.05	1.58	0.00	13.21	0.38	0.00
Log Likelihood		-6699			-7292	
Null Log Likelihood		-8499			-9035	
N		3480			3480	

Interval regression models of effect of alter's contribution on ego's contribution, controlling for ego's prior contribution, period fixed effects, ego fixed effects for 235 subjects, and multiple observations of the same ego and multiple observations of the same alter using Huber-White sandwich standard errors. Coefficients on fixed effects not shown.