

Social interactions shape individual and collective personality in social spiders Supplementary material

Further information on group compositions

After the first week of our study, the average boldness of all group compositions converged, with the 'all bold' groups reducing their average boldness substantially (Figure S1). We used a one-way ANOVA to compare mean group boldness of the three different group compositions, for the latter six weeks of our experiment, excluding week one. We did not detect a significant difference in average boldness between the three compositions for the latter six weeks ($F(2,141)=1.335$, $p=0.27$, Figure S1).

Average group-level boldness by initial group composition

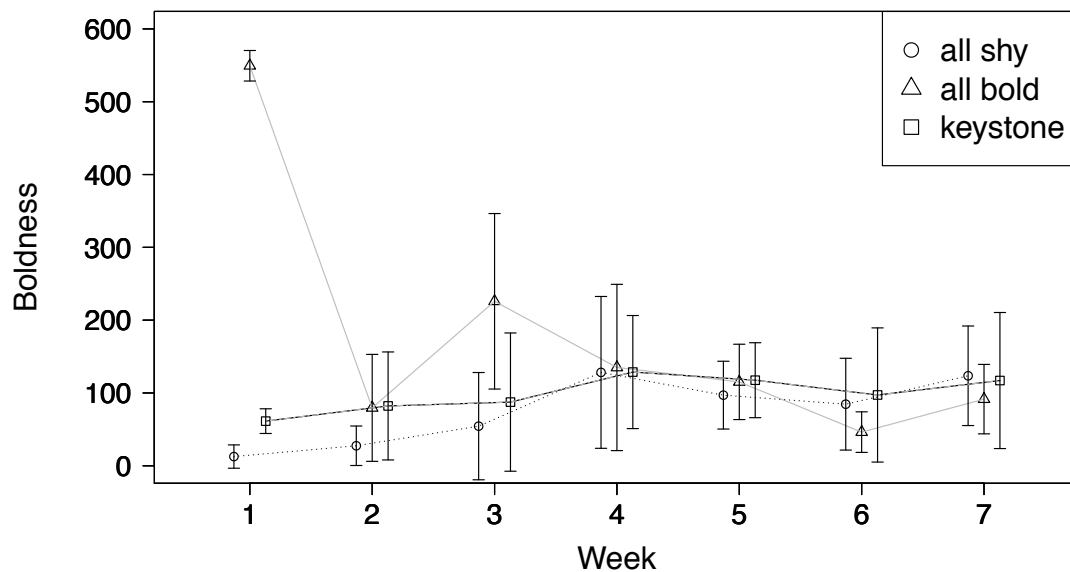


Figure S1: Mean group boldness by initial boldness composition. Error bars indicate standard deviation. There were N=9 groups of all shy spiders, N=5 groups of all bold, and N=10 keystone groups (i.e., all shy with one bold).

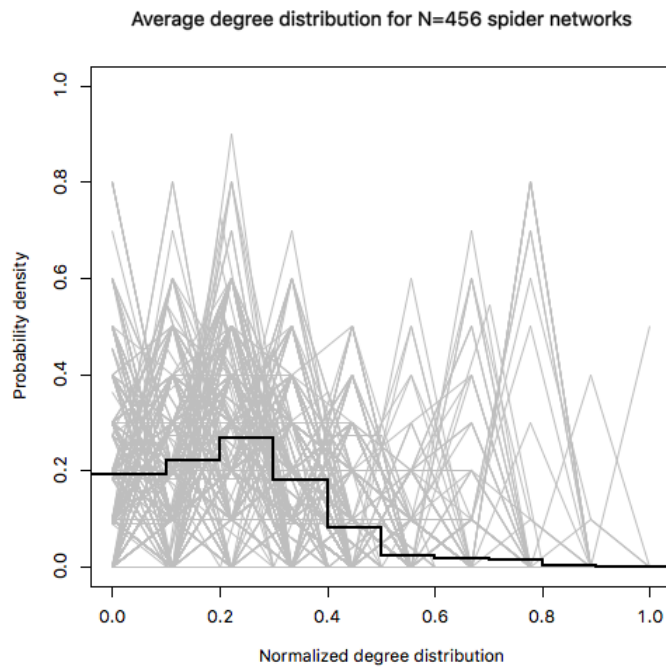


Figure S2: Average degree distribution across all N=456 networks is shown as the black line. Because the range of the degree distribution depends on the group size, it is normalized to 0-1 for comparability, where 1 is the maximum degree (N-1). The average distribution is unimodal, with most spiders having a normalized degree of 0.1-0.4 (for 10 spiders, 0.9-3.6 physical interactions).

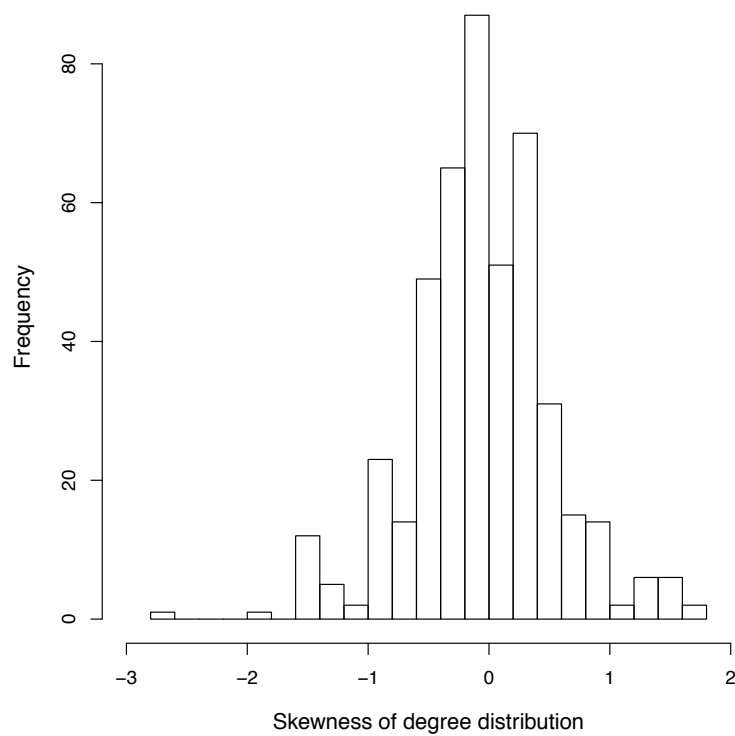


Figure S3. The skewness of the networks' degree distribution is centered around zero (mean = -0.046)

Table S1. The 24 spider groups were aggregated into 8 SAOM models as specified here.

Source colony	Group ID	Initial boldness composition	SAOM model number
BR10	BR10-1	All bold	1
	BR10-2		
	BR10-10		
BR13	BR13-5	All bold	2
	BR13-9		
BR10	BR10-3	Keystone	3
	BR10-4		
	BR10-5		
	BR10-9		
BR13	BR13-1	Keystone	4
	BR13-2		
	BR13-6		
BR3	BR3-2	Keystone	5
	BR3-3		
	BR3-4		
BR10	BR10-6	All shy	6
	BR10-7		
	BR10-8		
BR13	BR13-3	All shy	7
	BR13-4		
	BR13-7		
	BR13-8		
BR3	BR3-1	All shy	8
	BR3-5		