Supplemental Table S1. *Demographic information for the whole sample (129 couples in T1 and 100 couples in T2) and age subgroups (T1 only; 65 middle-aged and 64 older couples) included in data analyses.*

		T1: WHOLE SAMPLE (*n* of dyads = 129)			
		Min	***Max***	***Mean***	***SEM***
YEARS OF MARRIAGE		13	49	30.71	0.90
AGE					
	Husbands	39	70	54.38	0.90
	Wives	37	70	53.09	0.88
YEARS OF EDUCATION					
	Husbands	10	20	16.59	0.25
	Wives	8	20	15.26	0.21

		T2: WHOLE SAMPLE (*n* of dyads = 100)			
		Min	***Max***	***Mean***	***SEM***
YEARS OF MARRIAGE		20	52	35.63	1.02
AGE					
	Husbands	45	75	59.23	1.02
	Wives	42	75	57.91	0.99
YEARS OF EDUCATION					
	Husbands	11	20	16.68	0.29
	Wives	10	20	15.45	0.25

		T1: MIDDLE-AGE COUPLES (*n* of dyads = 65)				T1: OLDER COUPLES (*n* of dyads = 64)			
		Min	***Max***	***Mean***	***SEM***	***Min***	***Max***	***Mean***	***SEM***
YEARS OF MARRIAGE		13	30	21.17	0.42	33	49	40.40	0.45
AGE									
	Husbands	39	50	44.74	0.35	59	70	64.18	0.38
	Wives	37	50	43.67	0.36	55	70	62.66	0.39
YEARS OF EDUCATION									
	Husbands	12	20	16.37	0.33	10	20	16.81	0.37
	Wives	11	20	15.89	0.28	8	20	14.61	0.31

Supplemental Table S2. *List of dyads and their corresponding age cohort, age (in years) of husband and wife, years of marriage (when evaluated in 1989/1990), time in each emotion category (in seconds; minimum value = 0, maximum value = 900) during conflict conversation, and availability of each physiological linkage measure (linkage can be computed only when both partners provided valid time series data). MC = middle-age couple; OC = older age couple; IBI = cardiac interbeat interval; SCL = skin conductance level; FPA = finger pulse amplitude; A = data available; N/A = data not available.*

Dyad #	Age Cohort	Husband's Age (T1)	Wife's Age (T1)	Years of Marriage (T1)	Emotion categories (T1; defined by emotional behaviors)				Emotion categories (T1; defined by subjective experience of emotion)			Physiological measures (T1)			
					Shared positive emotion	Shared negative emotion	Shared neutral emotion	Unshared emotion	Shared positive emotion	Shared negative emotion	Unshared emotion	IBI	SCL	FPA	Total# of Valid Physiological Measures
1	MC	45.6	44.3	20.6	8	133	336	423	100	137	663	A	A	A	3
2	MC	46.2	45.5	24.6	88	3	512	297	382	54	464	A	A	A	3
3	MC	46	44.8	23.8	14	2	746	138	72	290	538	A	A	A	3
4	MC	42	42.7	17	8	315	192	385	76	315	509	N/A	A	A	2
5	MC	50.1	49.2	30.8	13	0	794	93	103	365	432	A	A	A	3
6	MC	46.7	44.5	24.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
7	MC	49.7	44.4	19.7	0	378	89	433	16	300	584	N/A	A	A	2
8	MC	49.3	46.5	24.2	17	103	200	580	161	0	739	A	A	A	3
9	MC	48.2	45.7	22.4	43	104	269	484	164	0	736	N/A	A	A	2
10	MC	42.1	41.7	19.7	50	0	746	104	334	51	515	A	A	N/A	2
11	MC	43.8	40.5	13.2	61	35	493	311	247	191	462	N/A	A	N/A	1
12	MC	47	47.6	17	4	359	69	468	294	126	480	A	A	A	3
13	MC	40.3	43.8	15.7	89	6	572	233	198	6	696	A	A	A	3
14	MC	45.1	44.5	19.7	10	76	466	348	238	132	530	A	A	A	3
15	MC	42	46.3	18.2	43	107	287	463	23	246	631	A	A	A	3
16	MC	41.1	40.8	22.6	23	120	315	442	262	141	497	A	A	A	3
17	MC	48.6	46.4	26.9	0	32	624	244	70	309	521	A	A	N/A	2
18	MC	49.7	49.8	28.4	9	60	344	487	30	234	636	N/A	A	A	2
19	MC	46.4	44.1	19.1	10	25	348	517	269	15	616	A	A	A	3
20	MC	47	41.4	19.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
21	MC	44.4	41.5	19.5	6	37	411	446	111	75	714	A	A	A	3
22	MC	49.5	49.1	28	8	460	63	369	123	265	512	A	A	A	3
23	MC	41.5	39.3	19.1	78	85	330	407	56	266	578	A	A	A	3
24	MC	43.8	40	22.4	26	425	25	424	10	380	510	A	A	A	3
25	MC	40.9	38.3	16	15	455	31	399	137	303	460	A	A	A	3
26	MC	41.1	38.7	18.1	36	190	341	333	341	211	348	A	A	A	3
27	MC	46.9	43.8	22.3	3	319	121	457	19	232	649	N/A	A	A	2
28	MC	42.6	44.8	21.4	30	84	223	563	56	315	529	A	A	A	3
29	MC	42.2	42.3	17.9	10	127	137	626	189	44	667	A	A	A	3
30	MC	46.9	46.4	21	22	6	312	560	144	310	446	A	A	A	3
31	MC	44	40.1	14.1	54	2	201	643	256	141	503	A	A	A	3
32	MC	45.3	43.9	21.1	16	215	80	589	36	443	421	A	A	A	3
33	MC	48.5	48.2	29.6	3	245	249	403	19	323	558	A	A	A	3
34	MC	44.9	44.7	20.1	27	155	152	566	232	35	633	A	A	A	3
35	MC	42.7	42.5	21	49	114	110	627	133	227	540	A	A	A	3
36	MC	46.8	44.4	24	2	63	428	407	271	134	495	A	A	A	3
37	MC	41.7	41.8	23	0	90	274	536	129	315	456	N/A	A	A	2
38	MC	40.7	40.4	18.4	19	239	107	535	126	150	624	A	A	A	3
39	MC	40.6	42.2	18.7	18	49	186	647	134	235	531	A	A	A	3
40	MC	46.6	49.3	23	40	15	372	473	27	276	597	A	A	A	3
41	MC	42.4	44	19.2	146	4	307	443	264	142	494	N/A	A	A	2
42	MC	44.6	42.9	23.7	11	0	567	322	153	115	632	A	A	A	3
43	MC	48.6	48.7	24.6	24	163	117	596	9	140	751	A	A	A	3
44	MC	46.1	43.2	20.4	4	41	475	380	146	169	585	A	A	A	3
45	MC	45.7	46.7	23.4	31	38	322	509	262	22	616	A	A	A	3
46	MC	48	45.9	21.4	0	698	23	179	27	130	743	A	A	A	3
47	MC	43.1	41.5	18.5	0	75	309	516	0	189	711	A	A	A	3
48	MC	44.6	41.4	19.3	34	272	72	522	205	73	622	A	A	A	3
49	MC	41.3	42.7	16.7	10	123	173	594	501	0	399	A	A	A	3
50	MC	45	45.5	20.6	11	32	370	487	307	12	581	A	A	A	3
51	MC	41.2	40.2	16.1	17	44	356	483	372	101	427	A	A	N/A	2
52	MC	43	41.4	21.6	61	137	146	556	142	285	473	A	A	N/A	2
53	MC	46.6	45.7	24.3	18	1	481	400	352	90	458	A	A	A	3
54	MC	44.1	43	22.9	4	373	76	447	124	452	324	A	A	A	3
55	MC	46.4	42.2	20.5	25	648	4	223	16	181	703	A	A	A	3
56	MC	41.3	41	18.5	35	56	303	506	101	48	751	A	A	A	3
57	MC	43.4	42.2	20.9	4	323	58	515	370	92	438	A	A	A	3
58	MC	41.9	37.1	18.9	102	10	486	302	166	172	562	A	A	A	3
59	MC	47.7	43.7	21.8	108	29	226	537	203	6	691	N/A	A	A	2
60	MC	47.5	45.7	25.4	24	280	110	486	0	365	535	A	A	A	3
61	MC	49.6	45.5	20.8	5	695	21	179	24	314	562	N/A	A	A	2
62	MC	42.3	43.5	21.4	31	18	453	398	322	0	578	A	A	N/A	2
63	MC	45.8	45.4	26.6	8	231	110	551	6	133	761	A	A	A	3
64	MC	46.7	41.5	17	28	112	188	572	31	73	796	A	A	A	3
65	MC	48.9	46.1	20.8	0	399	95	406	33	391	476	N/A	A	A	2
66	MC	45.2	46.6	18.7	0	58	301	541	74	133	693	A	A	A	3
67	MC	43.9	40.9	19.8	6	256	188	450	107	166	627	A	A	A	3
68	MC	43.7	40.8	25.9	35	25	323	517	0	3	897	A	A	A	3
69	MC	46.8	50	19.2	0	348	109	443	178	247	475	A	A	A	3
70	MC	39.3	41.4	19	1	80	405	414	0	0	900	A	A	N/A	2

Supplemental Table S2. *Continued.*

Dyad #	Age Cohort	Husband's Age (T1)	Wife's Age (T1)	Years of Marriage (T1)	Emotion categories (T1; defined by emotional behaviors)				Emotion categories (T1; defined by subjective experience of emotion)			Physiological measures (T1)			
					Shared positive emotion	Shared negative emotion	Shared neutral emotion	Unshared emotion	Shared positive emotion	Shared negative emotion	Unshared emotion	IBI	SCL	FPA	Total# of Valid Physiological Measures
71	MC	48	49.8	23	11	670	30	189	34	366	500	A	A	A	3
72	MC	41.5	42	22.2	16	548	42	294	0	345	555	A	A	A	3
73	MC	47	46.5	24.9	26	263	109	502	197	313	390	A	A	A	3
74	MC	44.6	44.9	22.6	0	713	28	159	51	307	542	N/A	A	A	2
75	MC	47	43.2	24.4	1	349	33	517	9	299	592	N/A	A	A	2
76	MC	41.9	41.5	21.5	4	130	30	736	220	1	679	A	A	A	3
77	MC	49.8	47.4	26	6	6	675	213	159	26	715	A	A	A	3
78	MC	42.7	41.5	20.1	36	130	223	511	98	157	645	A	A	A	3
79	MC	43	39.3	19.6	0	0	0	0	56	248	596	A	A	A	3
80	MC	39.9	41.1	16	0	257	80	563	21	368	511	A	A	A	3
81	MC	46.1	43.5	26.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
82	MC	49.6	46.1	26.2	139	15	463	283	276	9	615	A	A	A	3
83	OC	61.7	58.9	37.6	20	2	769	109	255	91	554	A	N/A	A	2
84	OC	63.3	64.4	40.4	32	161	287	420	0	101	799	N/A	A	A	2
85	OC	59.8	64	32.6	20	9	245	626	151	57	692	A	A	A	3
86	OC	60.5	61.3	41.3	48	94	155	603	410	72	418	A	A	A	3
87	OC	62.2	65.1	37.6	9	2	758	131	249	91	560	N/A	A	A	2
88	OC	67.4	68.6	43.5	0	4	615	281	0	0	900	N/A	A	N/A	1
89	OC	67.2	64.3	43	3	43	418	436	46	166	688	A	A	A	3
90	OC	69.2	68.5	44.9	9	36	494	361	121	437	342	A	A	A	3
91	OC	62.9	60	35.7	8	239	117	536	167	273	460	A	A	A	3
92	OC	63.5	58	36.9	1	84	228	587	0	214	686	A	A	A	3
93	OC	64.7	60.6	39.2	4	99	332	465	397	110	393	A	A	A	3
94	OC	60.4	62.2	35.8	89	0	675	136	213	97	590	A	A	A	3
95	OC	61.7	62.4	37.2	110	4	295	491	143	71	686	A	A	A	3
96	OC	64.8	64.5	44.2	8	30	203	659	76	377	447	A	A	A	3
97	OC	67.2	65.7	38.1	13	1	543	343	66	45	789	N/A	A	A	2
98	OC	61.3	58.2	39.1	0	390	108	402	98	166	636	A	A	A	3
99	OC	64.1	59.8	38.4	30	0	811	59	259	0	641	N/A	A	N/A	1
100	OC	63	63.3	41.7	8	32	426	434	277	47	576	A	A	A	3
101	OC	61.7	60.7	41.4	42	82	314	462	63	3	834	A	A	N/A	2
102	OC	61.2	61.3	42.6	52	163	148	537	240	286	374	A	A	A	3
103	OC	69	64.9	43.7	11	50	280	559	0	207	693	A	A	A	3
104	OC	61.1	65.2	34.3	117	9	442	332	81	0	819	A	A	A	3
105	OC	60.7	55.4	34	27	160	141	572	20	377	503	A	A	A	3
106	OC	62.6	61.5	40.9	8	57	313	522	128	124	648	A	A	A	3
107	OC	65	66.3	45.2	23	110	32	735	156	268	476	A	A	A	3
108	OC	68.8	63.1	44.4	53	233	136	478	224	69	607	A	A	N/A	2
109	OC	65.3	66.9	39.1	1	228	114	557	0	213	687	N/A	A	A	2
110	OC	68.1	68.9	45.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
111	OC	60.6	57.3	37	9	225	140	526	30	276	594	A	A	N/A	2
112	OC	69.6	67.1	41.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
113	OC	65.7	64.2	42.3	17	125	220	538	89	285	526	A	A	A	3
114	OC	64.9	62	39.1	45	25	257	573	23	277	600	A	A	A	3
115	OC	65	65.5	45	10	654	23	213	55	322	523	N/A	A	A	2
116	OC	60.2	60.6	38.4	0	791	6	103	0	0	900	A	A	A	3
117	OC	70	67.5	49	6	156	320	418	147	230	523	N/A	A	N/A	1
118	OC	69	69.3	44.8	30	159	97	614	220	233	447	A	A	A	3
119	OC	67.2	65.6	44.9	18	11	443	428	210	0	690	A	A	A	3
120	OC	60	60.8	39.9	29	189	288	394	313	0	587	N/A	A	N/A	1
121	OC	65.7	69.1	42.6	38	43	214	605	172	2	726	N/A	A	A	2
122	OC	59.2	61.5	36.7	149	388	308	55	271	0	629	A	A	A	3
123	OC	62.3	63.3	39.4	12	17	478	393	231	84	585	A	A	A	3
124	OC	69.6	65.3	47.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
125	OC	61.1	58	38.7	94	160	135	511	46	201	653	A	A	A	3
126	OC	63.7	59.8	36.1	30	194	204	472	120	298	482	N/A	A	A	2
127	OC	66.1	63.4	39.8	12	223	257	408	36	76	788	A	A	N/A	2
128	OC	66.2	60.6	35.7	3	474	58	365	88	253	559	A	A	N/A	2
129	OC	68.2	66.1	46.6	34	56	362	448	96	404	400	A	A	A	3
130	OC	65.2	61.9	44	38	91	278	493	266	14	620	A	A	N/A	2
131	OC	67.7	63.5	45.1	10	246	216	428	18	326	556	A	A	A	3
132	OC	61.3	59.6	40.1	19	23	556	302	201	114	585	A	A	A	3
133	OC	67.2	64.6	48	26	74	90	710	0	0	900	A	A	A	3
134	OC	60	60.3	39.9	20	8	634	238	178	0	722	A	A	A	3
135	OC	65.7	64.1	41.9	9	198	123	570	52	264	584	A	N/A	A	2
136	OC	60.4	60.1	42	15	136	205	544	184	175	541	A	A	A	3
137	OC	66.9	62.4	45.9	7	203	169	521	264	15	621	A	A	A	3
138	OC	70	61.8	41.1	18	437	70	375	163	17	720	A	A	A	3
139	OC	62.6	63.8	40.3	50	39	224	587	258	0	642	A	A	A	3
140	OC	61	58	38.3	14	11	652	223	300	0	600	A	A	A	3
141	OC	66.8	63.4	44.5	23	183	267	427	281	129	490	A	A	A	3
142	OC	61.5	63.5	37.8	112	173	231	384	229	77	594	A	A	A	3
143	OC	60.4	57	37.2	79	373	22	426	215	285	400	A	A	A	3
144	OC	66.3	63.6	40.5	1	532	83	284	250	34	616	N/A	A	A	2
145	OC	65.9	62.1	41.3	71	68	193	568	241	142	517	A	A	A	3
146	OC	61.3	60.9	38.8	28	14	589	269	295	30	575	A	A	A	3
147	OC	68.8	70	35.6	41	130	142	587	181	33	686	A	A	A	3
148	OC	61.1	59.6	39.5	37	14	603	246	47	313	540	A	A	A	3

Supplemental Table S2. *Continued.*

Dyad #	Age Cohort	Husband's Age (T1)	Wife's Age (T1)	Years of Marriage (T1)	Emotion categories (T1; defined by emotional behaviors)				Emotion categories (T1; defined by subjective experience of emotion)			Physiological measures (T1)			
					Shared positive emotion	Shared negative emotion	Shared neutral emotion	Unshared emotion	Shared positive emotion	Shared negative emotion	Unshared emotion	IBI	SCL	FPA	Total# of Valid Physiological Measures
149	OC	61	61	34.8	11	19	198	672	72	69	759	A	A	A	3
150	OC	67.2	65.6	40.1	23	464	128	285	268	302	330	A	A	A	3
151	OC	62.3	59.6	39.5	5	107	377	411	201	155	544	A	A	A	3
152	OC	67.4	67.8	46.2	0	56	433	411	110	24	766	A	A	A	3
153	OC	60.9	58.2	36	0	675	46	179	0	370	530	A	A	N/A	2
154	OC	65.8	63.6	40.2	41	19	380	460	288	238	374	A	A	A	3
155	OC	65.9	61.6	39.6	8	292	218	382	112	0	788	A	A	N/A	2
156	OC	62.9	58.5	36	4	461	175	260	23	0	877	A	A	A	3

Supplemental Table S3. Parametric and non-parametric *inter-correlations between physiological linkage subtypes (Total, in-phase, and anti-phase).*

	Pearson's Correlations		
	Total	**In-phase**	**Anti-phase**
Total	--	.86***	-.65***
In-phase	.86***	--	-.17*
Anti-phase	-.65***	-.17*	--

	Spearman's rho		
	Total	**In-phase**	**Anti-phase**
Total	--	.84***	-.69***
In-phase	.84***	--	-.28***
Anti-phase	-.69***	-.28***	--

Note. Total = Total linkage, the total degree to which the couples' physiological responses are linked to each other's. In-phase = In-phase linkage, a component of total linkage, which represents the degree to which the couples' physiological responses are positively correlated or change in the same directions Anti-phase = Anti-phase linkage, a component of total linkage, which represents the degree to which the couples' physiological responses are negatively correlated or change in the opposite directions. $^{*}p < .05$; $^{***}p < .001$.

Supplemental Table S4. *Tests of normality. Kolmogorov-Smirnov tests (K-S) were performed to determine whether averaged physiological linkage/reactivity scores for each emotion category were normally distributed in our research sample. A p value smaller than 0.05 (bolded) indicates the absence of normality.*

Analysis	Assessment time	Physiological measure	Corresponding fig.	Linkage measure	Emotion category	Kolmogorov-Smirnova		
						Statistic	*df*	*p*
Main analyses	T1	ANS composite	Fig. 4A	In-phase	Shared positive emotion	0.04	129	0.200*
					Shared negative emotion	0.08	129	**0.03**
					Shared neutral emotion	0.14	129	**0.00**
					Unshared emotion	0.08	129	**0.04**
				Anti-phase	Shared positive emotion	0.23	129	**0.00**
					Shared negative emotion	0.19	129	**0.00**
					Shared neutral emotion	0.06	129	0.200*
					Unshared emotion	0.07	129	0.200*
Over-time Reliability	T2	ANS composite	Fig. 4B	In-phase	Shared positive emotion	0.10	100	**0.03**
					Shared negative emotion	0.11	100	**0.00**
					Shared neutral emotion	0.16	100	**0.00**
					Unshared emotion	0.12	100	**0.00**
				Anti-phase	Shared positive emotion	0.22	100	**0.00**
					Shared negative emotion	0.12	100	**0.00**
					Shared neutral emotion	0.06	100	0.200*
					Unshared emotion	0.10	100	**0.02**
Adjusting for time difference	T1	ANS composite (adjusted)	Fig. 5A	In-phase	Shared positive emotion	0.05	129	0.200*
					Shared negative emotion	0.05	129	0.200*
					Shared neutral emotion	0.12	129	**0.00**
					Unshared emotion	0.09	129	**0.01**
				Anti-phase	Shared positive emotion	0.12	129	**0.00**
					Shared negative emotion	0.15	129	**0.00**
					Shared neutral emotion	0.08	129	**0.03**
					Unshared emotion	0.13	129	**0.00**
Adjusting for ACT linkage	T1	ANS composite (adjusted)	Fig. 5B	In-phase	Shared positive emotion	0.19	128	**0.00**
					Shared negative emotion	0.08	128	**0.03**
					Shared neutral emotion	0.07	128	0.08
					Unshared emotion	0.06	128	0.200*
				Anti-phase	Shared positive emotion	0.13	128	**0.00**
					Shared negative emotion	0.13	128	**0.00**
					Shared neutral emotion	0.09	128	**0.02**
					Unshared emotion	0.06	128	0.200*
Generalizability to individual physiological measures	T1	IBI	Fig. 6A	In-phase	Shared positive emotion	0.06	110	0.200*
					Shared negative emotion	0.08	110	0.08
					Shared neutral emotion	0.12	110	**0.00**
					Unshared emotion	0.08	110	0.08
				Anti-phase	Shared positive emotion	0.16	110	**0.00**
					Shared negative emotion	0.10	110	**0.01**
					Shared neutral emotion	0.09	110	**0.04**
					Unshared emotion	0.07	110	0.18
		SCL	Fig. 6B	In-phase	Shared positive emotion	0.05	116	0.200*
					Shared negative emotion	0.07	116	0.19
					Shared neutral emotion	0.07	116	0.200*
					Unshared emotion	0.07	116	0.200*
				Anti-phase	Shared positive emotion	0.18	116	**0.00**
					Shared negative emotion	0.11	116	**0.00**
					Shared neutral emotion	0.07	116	0.200*
					Unshared emotion	0.07	116	0.200*
		FPA	Fig. 6C	In-phase	Shared positive emotion	0.04	115	0.200*
					Shared negative emotion	0.12	115	**0.00**
					Shared neutral emotion	0.05	115	0.200*
					Unshared emotion	0.06	115	0.200*
				Anti-phase	Shared positive emotion	0.10	115	**0.01**
					Shared negative emotion	0.16	115	**0.00**
					Shared neutral emotion	0.05	115	0.200*
					Unshared emotion	0.07	115	0.200*

Supplemental Table S4. *Continued.*

Analysis	Assessment time	Physiological measure	Corresponding fig.	Linkage measure	Emotion category	Kolmogorov-Smirnova *Statistic*	*df*	*p*
Generalizability rating dial data	T1	ANS composite	Fig. 7	In-phase	Shared positive emotion	0.07	123	0.200*
					Shared negative emotion	0.13	123	**0.00**
					Unshared emotion	0.08	123	0.05
				Anti-phase	Shared positive emotion	0.07	123	0.200*
					Shared negative emotion	0.07	123	0.200*
					Unshared emotion	0.05	123	0.200*
Generalizability to middle-age couples	T1	ANS composite	Fig. 8A	In-phase	Shared positive emotion	0.08	65	0.200*
					Shared negative emotion	0.11	65	0.06
					Shared neutral emotion	0.15	65	**0.00**
					Unshared emotion	0.10	65	0.17
				Anti-phase	Shared positive emotion	0.25	65	**0.00**
					Shared negative emotion	0.19	65	**0.00**
					Shared neutral emotion	0.08	65	0.200*
					Unshared emotion	0.12	65	**0.03**
Generalizability to older couples	T1	ANS composite	Fig. 8B	In-phase	Shared positive emotion	0.06	64	0.200*
					Shared negative emotion	0.08	64	0.200*
					Shared neutral emotion	0.18	64	**0.00**
					Unshared emotion	0.08	64	0.200*
				Anti-phase	Shared positive emotion	0.20	64	**0.00**
					Shared negative emotion	0.20	64	**0.00**
					Shared neutral emotion	0.09	64	0.200*
					Unshared emotion	0.08	64	0.200*

Analysis	Assessment Time	Physiological measure	Corresponding fig.	Partner	Emotion category	Kolmogorov-Smirnova *Statistic*	*df*	*p*
Physiological change	T1	ANS composite	Fig. 9	Husbands	Shared positive emotion	0.15	127	**0.00**
					Shared negative emotion	0.18	127	**0.00**
					Unshared emotion	0.08	127	0.08
				Wives	Shared positive emotion	0.12	128	**0.00**
					Shared negative emotion	0.16	128	**0.00**
					Unshared emotion	0.11	128	**0.001**

* lower bound of the true significance.

Supplemental Table S5. *Mean total time (in seconds) spent in each emotion category across conflict conversation and total numbers of epochs [1] per emotion category across dyads included in data analyses.*

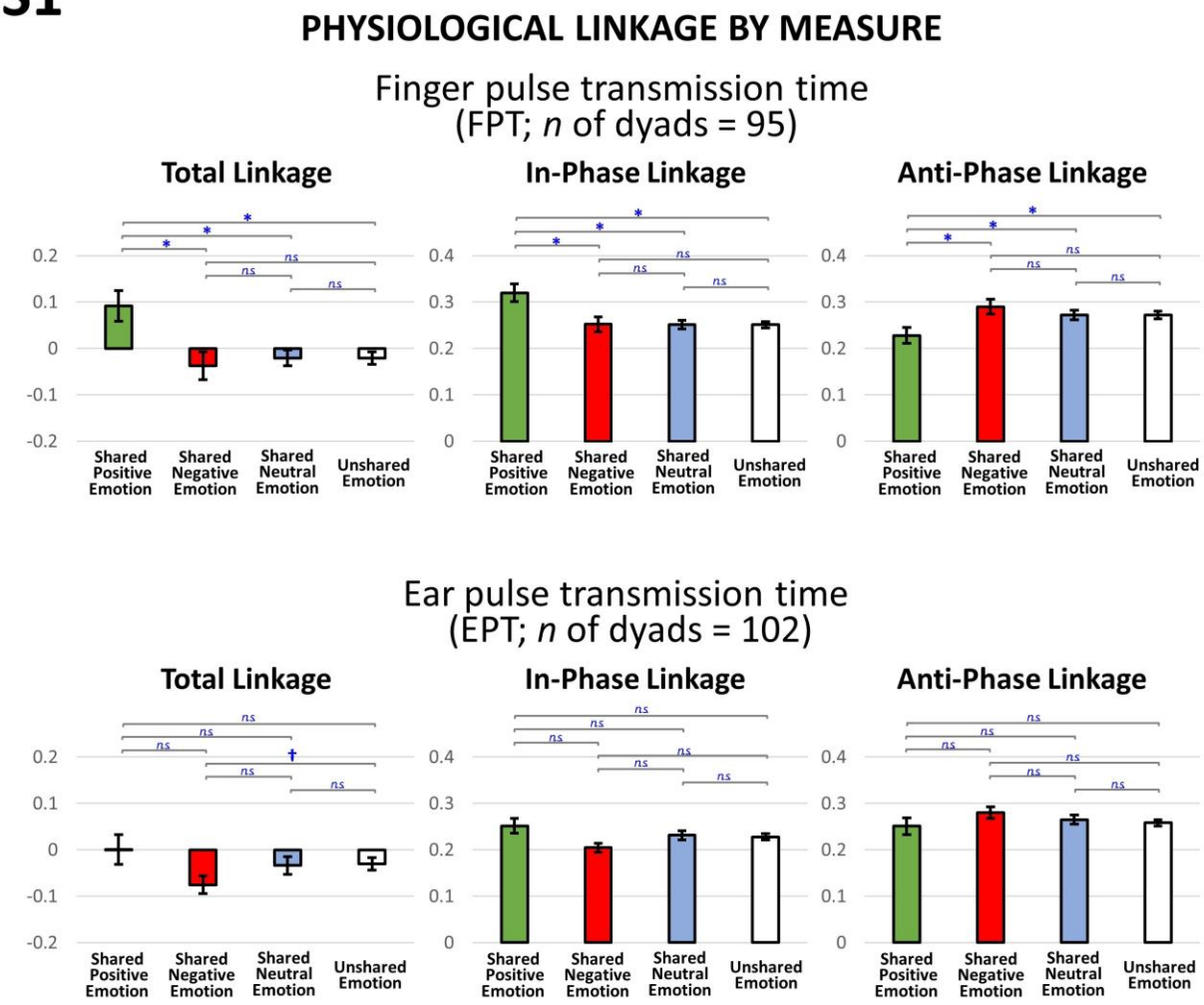
Analyses	Assessment time	Corresponding fig.	Emotion category	Total time periods (sec.)		Number of epochs	
				Mean	*SEM*	*Mean*	*SEM*
Main analyses; Possible explanations; Generalizability to IBI, SCL, FPA	T1	Fig 4A; Fig 5A, 5B; Fig 6A, 6B, 6C	Shared positive emotion	30.30	2.79		
			Shared negative emotion	157.17	14.27		
			Shared neutral emotion	263.82	15.43		
			Unshared emotion	448.71	11.85		
Over-time reliability	T2	Fig. 4B	Shared positive emotion	29.61	4.08		
			Shared negative emotion	92.84	11.74		
			Shared neutral emotion	360.63	18.30		
			Unshared emotion	416.92	12.79		
Generalizability to rating dial data	T1	Fig. 7	Shared positive emotion	152.32	9.38		
			Shared negative emotion	181.28	10.90		
			Unshared emotion	566.41	10.00		
Generalizability to middle-age couples	T1	Fig. 8A	Shared positive emotion	31.31	4.03		
			Shared negative emotion	168.20	21.59		
			Shared neutral emotion	249.49	21.40		
			Unshared emotion	451.00	15.46		
Generalizability to older couples	T1	Fig. 8B	Shared positive emotion	29.27	3.88		
			Shared negative emotion	145.97	18.67		
			Shared neutral emotion	278.38	22.27		
			Unshared emotion	446.39	18.12		
Physiological change	T1	Fig. 9	Shared positive emotion			8.02	0.58
			Shared negative emotion			22.70	1.38
			Shared neutral emotion			28.60	1.33

[1] Although emotion classifications were completed on a second-by-second basis, emotion often occurred in "epochs" of several seconds. We counted the number of epochs for the three emotion categories (i.e., shared positive emotion, shared negative emotion, and shared neutral emotion) for each dyad.

Supplemental Table S6. *Associations between T2 physiological linkage and T2 perceived quality of couples' interactions and relationships.*

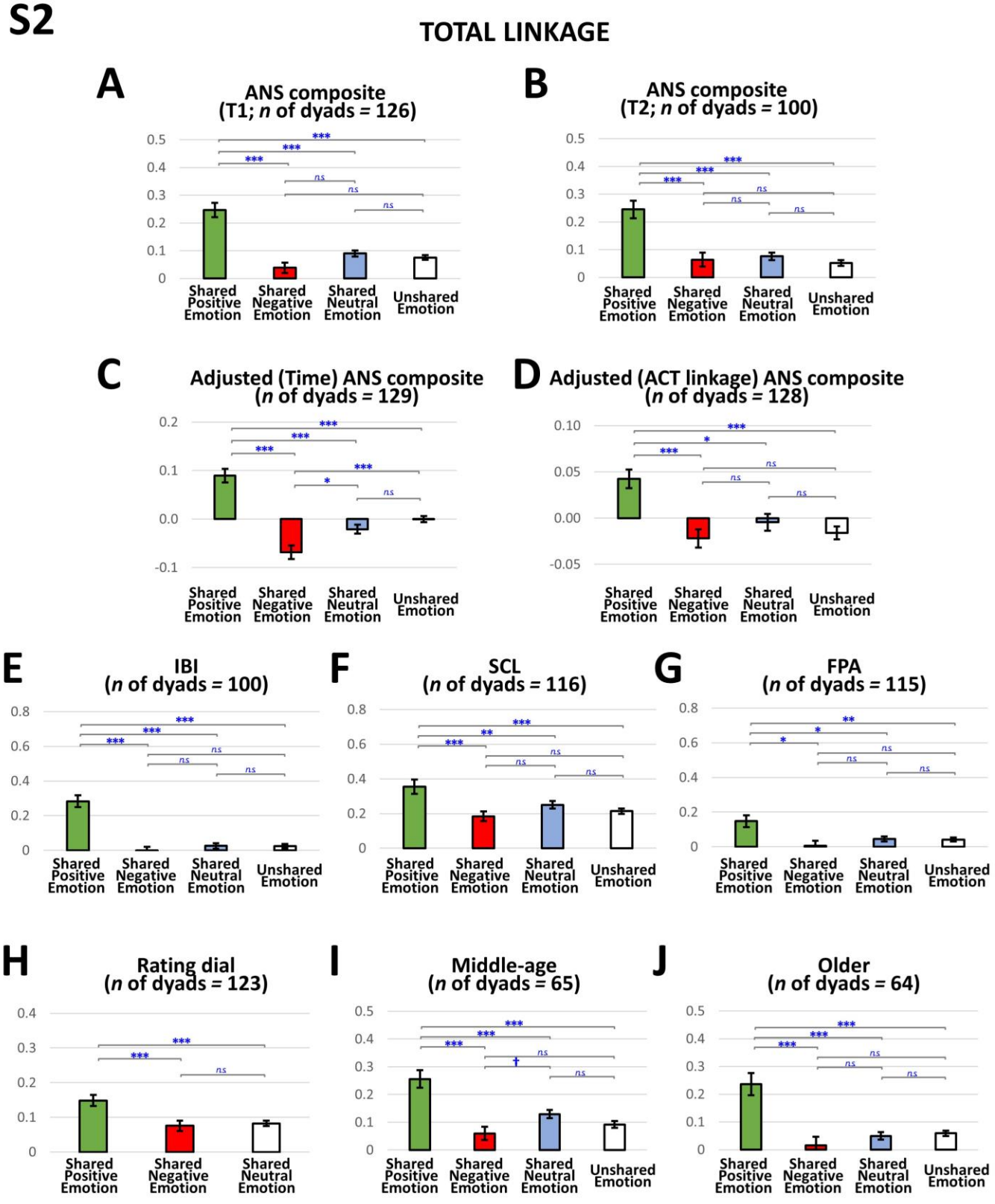
	Quality of interactions T2 (97 dyads)		Quality of relationships T2 (100 dyads)	
	Beta	***p***	***Beta***	***p***
Model 1				
T2 In-phase linkage during shared positive emotion	0.18	0.149	0.23	0.067
T2 Anti-phase linkage during shared positive emotion	0.22	0.076	**0.28**	**0.017**
T2 In-phase linkage during shared negative emotion	0.02	0.861	-0.10	0.406
T2 Anti-phase linkage during shared negative emotion	-0.12	0.327	-0.15	0.226
T2 In-phase linkage during shared neutral emotion	0.07	0.611	0.05	0.714
T2 Anti-phase linkage during shared neutral emotion	0.06	0.606	0.15	0.206
Model 2				
T2 In-phase linkage during shared positive emotion	0.15	0.273	0.19	0.151
T2 Anti-phase linkage during shared positive emotion	0.23	0.063	**0.28**	**0.017**
T2 Overall in-phase linkage during entire conversation	0.06	0.651	0.01	0.942
T2 Overall anti-phase linkage during entire conversation	-0.10	0.358	-0.04	0.749

S1

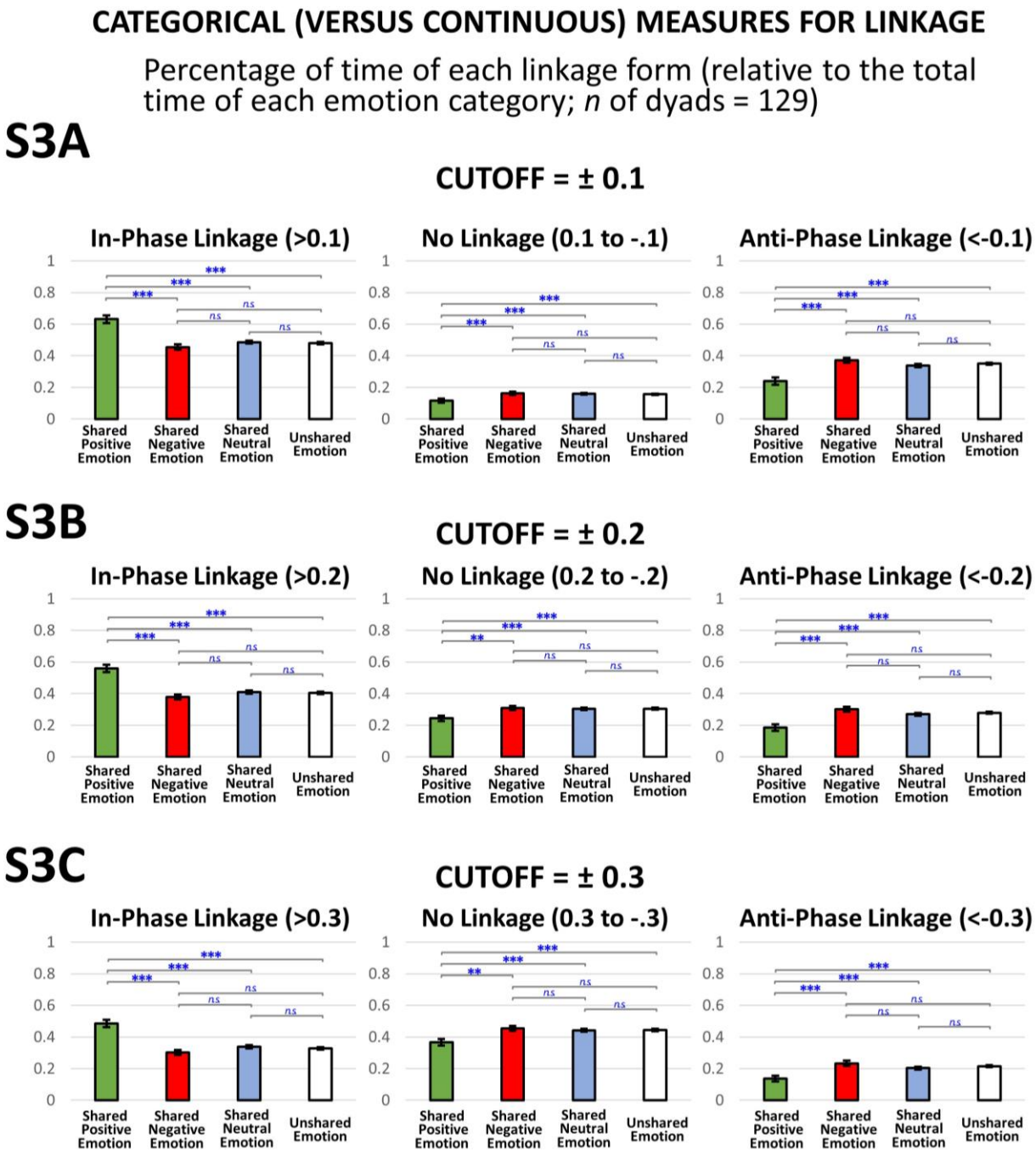


Supplemental Figure S1. Averages of total, in-phase, and anti-phase linkage for pulse transmission time to the finger (FPT) and pulse transmission time to the ear (EPT) as individual ANS measures. Brackets indicate performed between-category comparisons (*n* of comparison = 6 for each linkage measure). Annotations indicate statistically significant or trending effects. Multiple comparisons were corrected using the *Bonferroni* method. *Mean* ± 1 *SEM*. †p<.10. *p<.05. **p<.01. ***p<.001. *n. s.* = effects not significant or trending.

S2

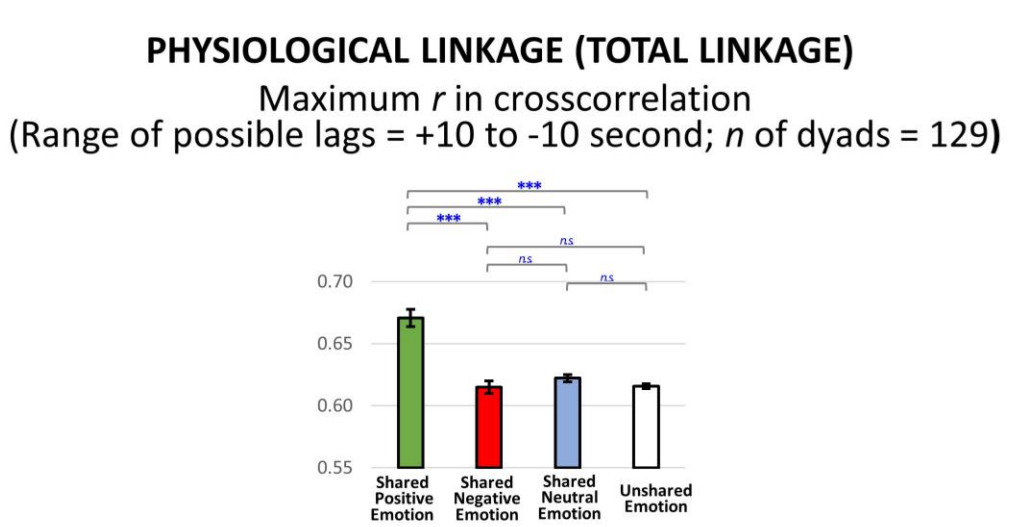


Supplemental Figure S2. A-B: Averages of total linkage in ANS composite measure at T1 and T2. C-D: Averages of total linkage in adjusted ANS composite measures. E-G: Averages of total linkage in IBI, SCL, and FPA. H: Averages of total linkage in emotion categories defined by subjective experience (rating dial). I-J: Averages of total linkage in middle-aged and older couples. Brackets indicate performed between-category comparisons. Annotations indicate statistically significant or trending effects. Multiple comparisons were corrected using the *Bonferroni* method. *Mean* ± 1 *SEM*. †p<.10. *p<.05. **p<.01. ***p<.001. *n. s.* = effects not significant or trending.

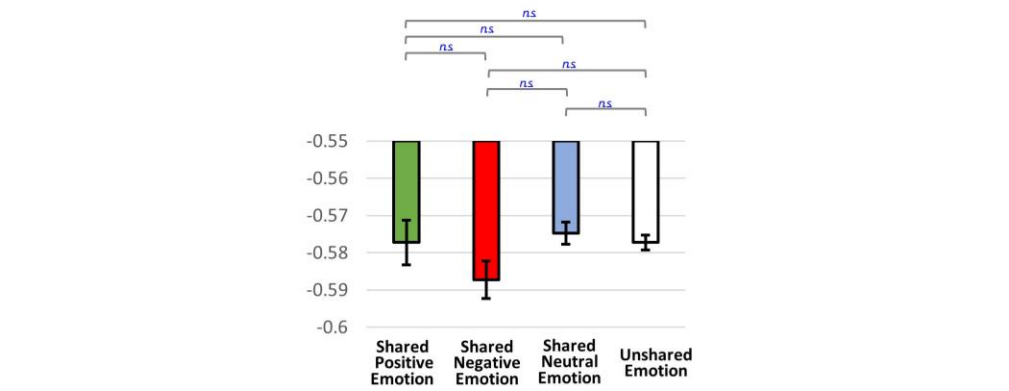


Supplemental Figure S3. Analyses operationalizing physiological linkage as a categorical, instead of continuous measure. We applied three cutoffs, including (A) ± 0., (B) ± 0.2, and (C) ± 0.3, and characterized physiological linkage in each second of the conversation into either of the following three linkage forms: In-phase linkage, no linkage, and anti-phase linkage. Data presented here are averaged percentage of time (or rate) that the couples exhibited in-phase linkage, no linkage, and anti-phase linkage relative to the total time of each emotion category. Brackets indicate performed between-category comparisons (*n* of comparison = 6 for each analysis). Annotations indicate statistically significant or trending effects. Multiple comparisons were corrected using the *Bonferroni* method. *Mean* ± 1 *SEM*. †p<.10. *p<.05. **p<.01. ***p<.001. *n. s.* = effects not significant or trending.

S4A

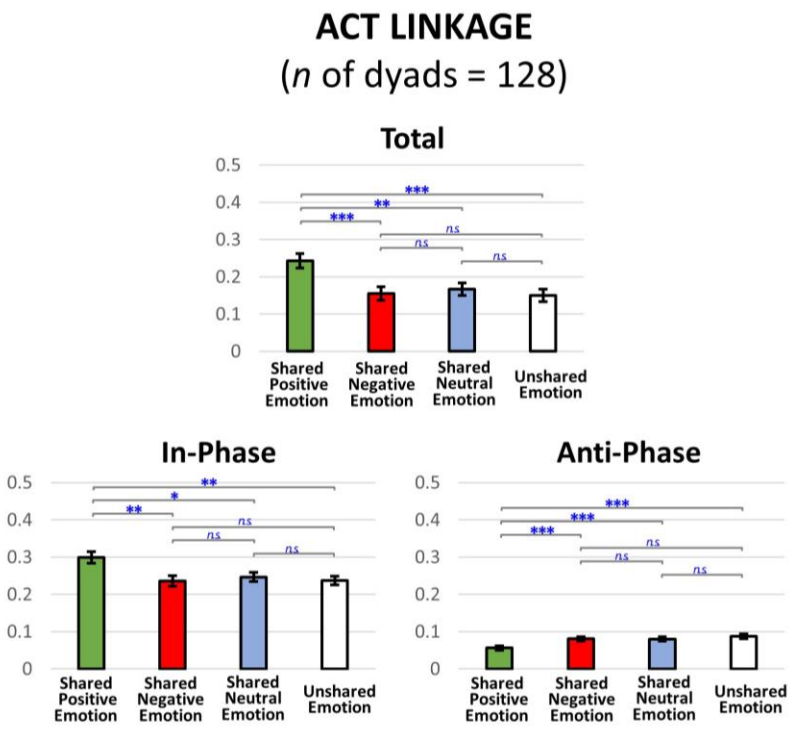


S4B



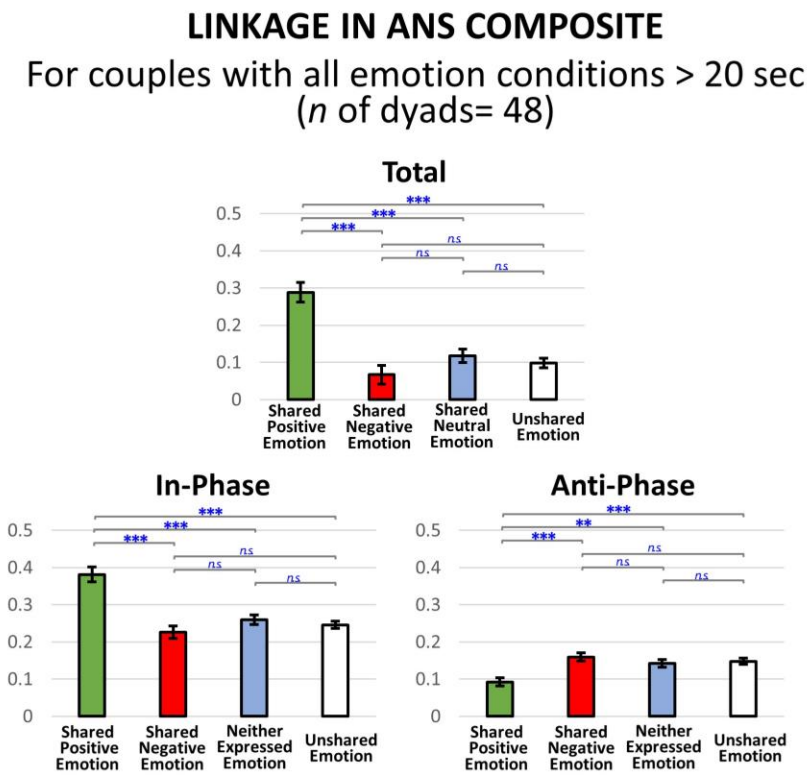
Supplemental Figure S4. Analyses with applying dynamic time lags. Physiological linkage score for each second of the conversation was re-defined as the (A) *maximum* (representing in-phase) or (B) *minimum* (representing anti-phase) correlation coefficient from a 10-lag cross-correlation (therefore range of time lag = -10 to +10 seconds) computed using a 15 second rolling window. Brackets indicate performed between-category comparisons (*n* of comparison = 6 for each measure). Annotations indicate statistically significant or trending effects. Multiple comparisons were corrected using the *Bonferroni* method. *Mean* ± 1 *SEM*. †$p<.10$. *$p<.05$. **$p<.01$. ***$p<.001$. *n. s.* = effects not significant or trending.

S5

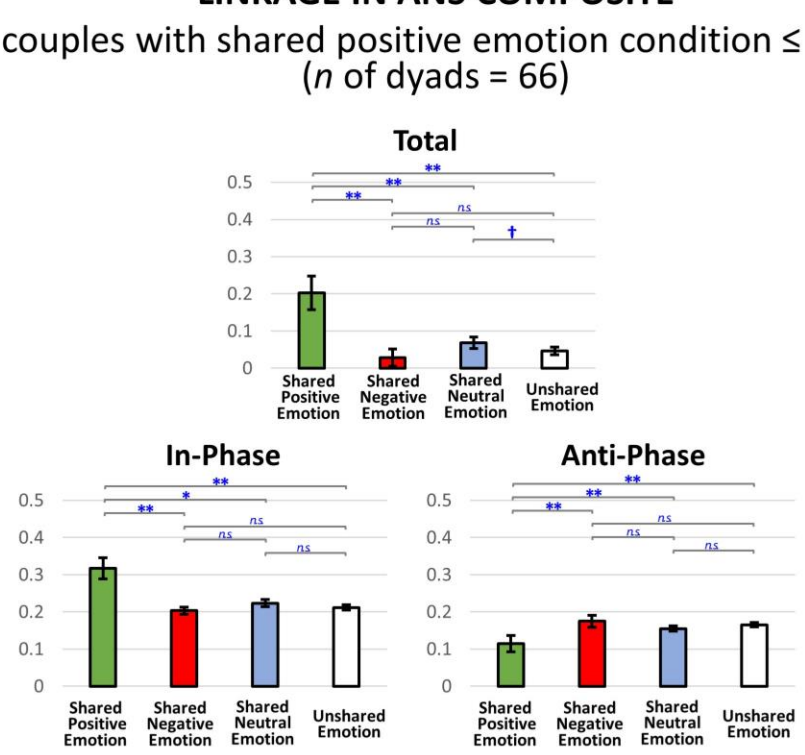


Supplemental Figure S5. Averages of total, in-phase, and anti-phase linkage for general somatic activity (ACT). Brackets indicate performed between-category comparisons (*n* of comparison = 6 for each linkage measure). Annotations indicate statistically significant or trending effects. Multiple comparisons were corrected using the *Bonferroni* method. *Mean* ± 1 *SEM*. †p<.10. *p<.05. **p<.01. ***p<.001. *n. s.* = effects not significant or trending.

S6A

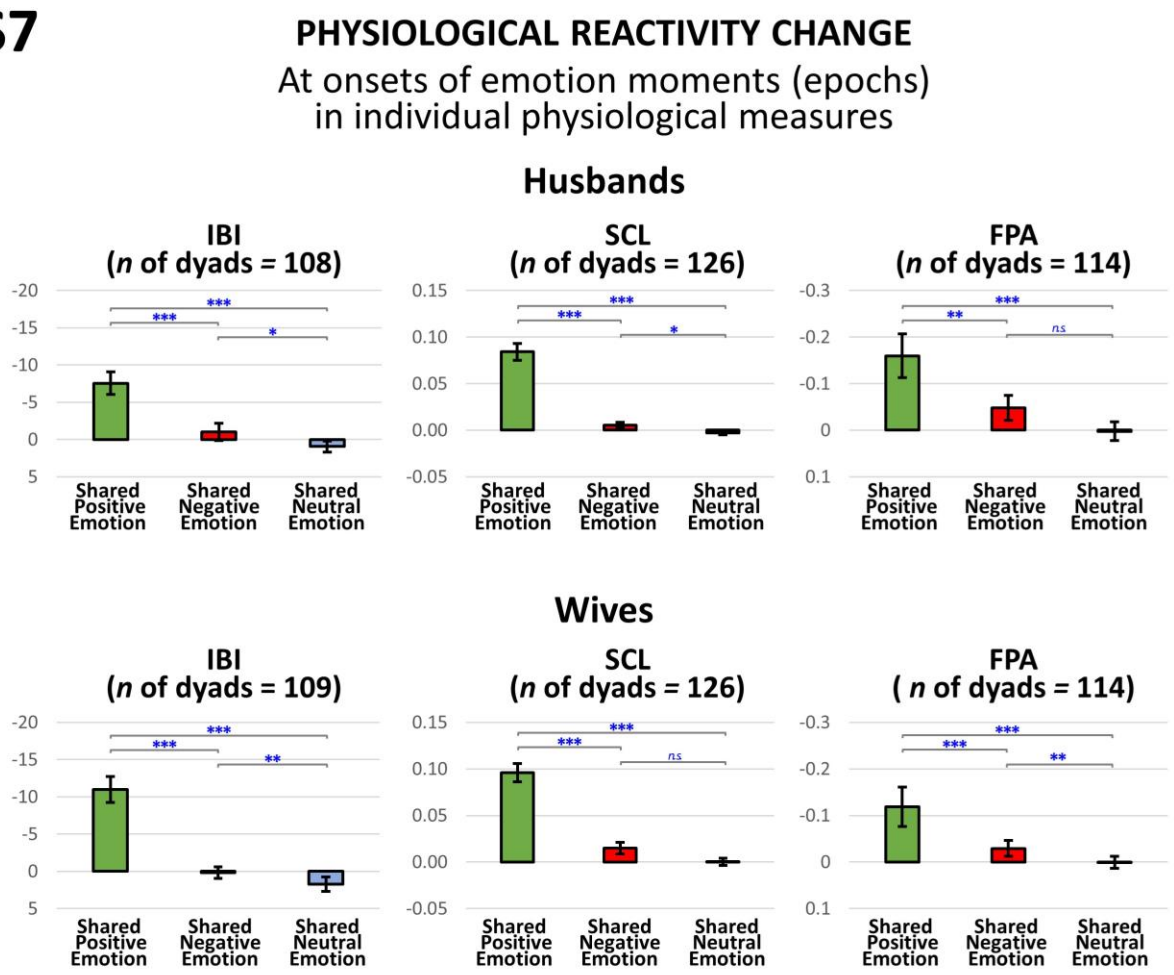


S6B



Supplemental Figure S6. Averages of total, in-phase, and anti-phase linkage in ANS composite in (A) a subgroup of couples (*n* of couples = 48) who had at least 20 seconds for each of the four emotion categories, and (B) a subgroup of couples (*n* of couples = 66) who exhibited shared positive emotion equal to or less than 20 seconds. Brackets indicate performed between-category comparisons (*n* of comparison = 6 for each linkage measure). Annotations indicate statistically significant or trending effects. Multiple comparisons were corrected using the *Bonferroni* method. *Mean* ± 1 *SEM*. †p<.10. *p<.05. **p<.01. ***p<.001. *n. s.* = effects not significant or trending.

S7

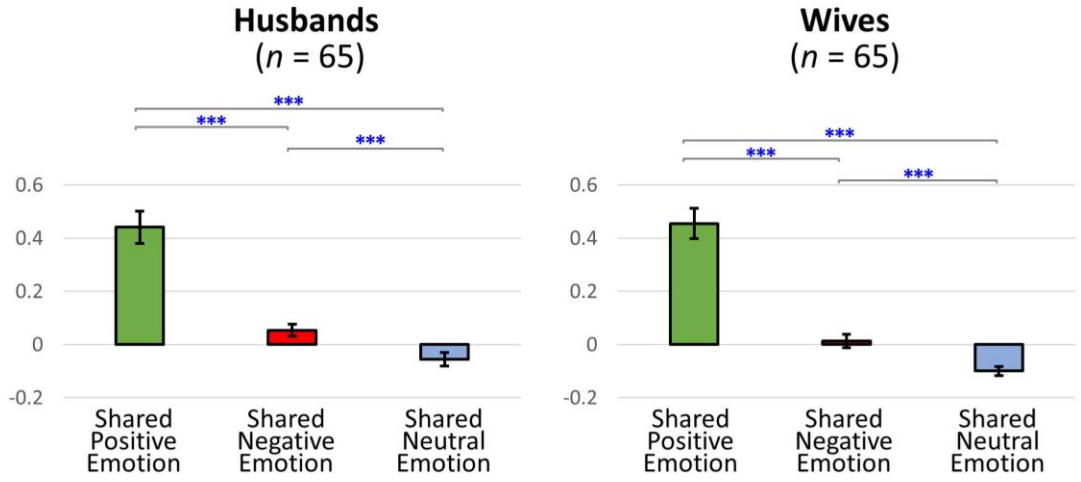


Supplemental Figure S7. Determining physiological activation/deactivation at onsets of shared positive and negative emotion in individual physiological measures. Separately for husbands and wives, analyses tested whether onsets of shared positive emotion, shared negative emotion, and shared neutral emotion would be associated with different degrees of change in cardiac interbeat intervals (IBI), skin conductance level (SCL), and finger pulse amplitude (FPA) over five-second time windows before versus after the onsets. Brackets indicate performed between-category *post hoc* comparisons (*n* of comparison = 3). Annotations indicate statistically significant or trending effects. *Mean* ± 1 *SEM*. †p<.10. *p<.05. **p<.01. ***p<.001. *n. s.* = effects not significant or trending.

S8

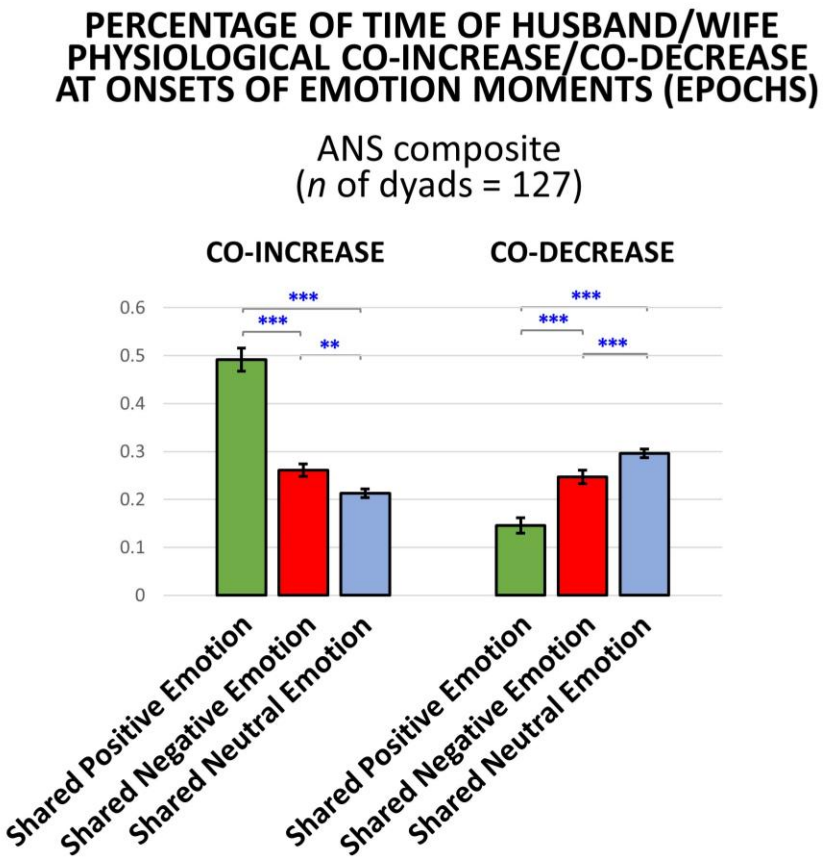
PHYSIOLOGICAL REACTIVITY CHANGE AT ONSETS OF EMOTION MOMENTS (EPOCHS)

Excluding epochs (a) lasting less than five seconds or (b) immediately following moments in which either one of the partners expressed the same target emotion



Supplemental Figure S8. Determining physiological activation/deactivation at onsets of shared positive and negative emotion, excluding epochs (a) lasting less than five seconds, and (b) immediately following incidents in which either one of the partners expressed the same target emotion (e.g., a husband started expressing positive emotion *before* the onset of the husband's and wife's shared positive emotion). Separately in the husbands and wives, analyses tested whether onsets of shared positive emotion, shared negative emotion, and shared neutral emotion would be associated with different degrees of change in physiological activity (in a composite measure) over five-second time windows before versus after the onsets. Brackets indicate performed between-category *post hoc* comparisons (*n* of comparison = 3). Annotations indicate statistically significant or trending effects. *Mean* ± 1 *SEM*. †p<.10. *p<.05. **p<.01. ***p<.001. *n. s.* = effects not significant or trending.

S9



Supplemental Figure S9. Percentage of time that the husband and wife showed physiological co-increase or co-decrease at the onsets of shared positive emotion, shared negative emotion, and shared neutral emotion in the ANS composite. Brackets indicate performed between-category *post hoc* comparisons (*n* of comparison = 3 for each measure). Annotations indicate statistically significant or trending effects. *Mean* ± 1 *SEM*. †p<.10. *p<.05. **p<.01. ***p<.001. *n. s.* = effects not significant or trending.