

Supplementary Information

Israelsson, A., Seiger, A., & Laukka, P. (2022). *Blended emotions can be accurately recognized from dynamic facial and vocal expressions*. Manuscript submitted for publication.

The supplementary information contains 6 tables (Table S1–S6).

Table S1

Multiple Pairwise Comparisons Between Target and Non-Target Emotion Combinations for Respective Emotion Scale (Study 1).

Anger scale																
Non- target combination	Target emotion combination															
	Ang-disg				Ang-fea				Ang-hap				Ang-sad			
	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%
Disg-fea	9.14	1.96*	0.22	[1.53, 2.40]	12.12	3.06*	0.25	[2.55, 3.57]	7.94	2.01*	0.25	[1.50, 2.53]	11.93	3.49*	0.29	[2.90, 4.09]
Disg-hap	10.95	2.51*	0.23	[2.05, 2.97]	13.37	3.61*	0.27	[3.06, 4.15]	10.46	2.56*	0.24	[2.06, 3.05]	12.97	4.04*	0.31	[3.41, 4.67]
Disg-sad	8.98	2.04*	0.23	[1.58, 2.50]	11.67	3.13*	0.27	[2.59, 3.68]	7.93	2.09*	0.26	[1.55, 2.62]	11.86	3.57*	0.30	[2.96, 4.18]
Fea-hap	10.24	2.54*	0.25	[2.03, 3.04]	12.61	3.63*	0.29	[3.05, 4.21]	9.71	2.58*	0.27	[2.04, 3.12]	12.44	4.06*	0.33	[3.40, 4.73]

Fea-sad	9.34	2.16*	0.23	[1.69, 2.63]	11.83	3.25*	0.28	[2.70, 3.81]	8.24	2.21*	0.27	[1.66, 2.75]	11.76	3.69*	0.31	[3.05, 4.32]
Hap-sad	10.79	2.47*	0.23	[2.01, 2.94]	13.20	3.57*	0.27	[3.02, 4.11]	10.33	2.52*	0.24	[2.03, 3.02]	12.83	4.00*	0.31	[3.37, 4.63]

Disgust scale

Non- target combination	Target emotion combination															
	Ang-disg				Disg-fea				Disg-hap				Disg-sad			
	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%
Ang-fea	10.25	2.78*	0.27	[2.23, 3.32]	12.04	3.37*	0.28	[2.81, 3.94]	10.42	2.47*	0.24	[1.99, 2.95]	7.78	2.04*	0.26	[1.51, 2.57]
Ang-hap	11.86	3.15*	0.27	[2.61, 3.69]	12.86	3.75*	0.29	[3.16, 4.34]	12.15	2.85*	0.23	[2.38, 3.33]	8.85	2.42*	0.27	[1.86, 2.97]
Ang-sad	11.06	3.17*	0.29	[2.59, 3.75]	12.14	3.76*	0.31	[3.13, 4.39]	10.73	2.86*	0.27	[2.32, 3.40]	8.69	2.43*	0.28	[1.86, 2.99]

Fea-hap	12.00	3.21*	0.27	[2.67, 3.75]	14.29	3.80*	0.27	[3.26, 4.34]	13.96	2.90*	0.21	[2.48, 3.33]	9.99	2.47*	0.25	[1.97, 2.97]
Fea-sad	11.07	3.11*	0.28	[2.54, 3.68]	12.57	3.70*	0.29	[3.11, 4.30]	11.20	2.80*	0.25	[2.30, 3.31]	9.06	2.37*	0.26	[1.84, 2.90]
Hap-sad	11.88	3.64*	0.31	[3.02, 4.27]	13.33	4.24*	0.32	[3.60, 4.89]	13.46	3.34*	0.25	[2.84, 3.85]	10.43	2.91*	0.28	[2.34, 3.47]

Fear scale

	Target emotion combination															
	Ang-fea				Disg-fea				Fea-hap				Fea-sad			
	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%
Non-target combination																
Ang-disg	8.62	1.57*	0.18	[1.20, 1.94]	10.02	2.13*	0.21	[1.70, 2.57]	7.57	1.79*	0.24	[1.31, 2.26]	12.38	3.06*	0.25	[2.56, 3.56]
Ang-hap	9.22	1.68*	0.18	[1.31, 2.05]	10.21	2.24*	0.22	[1.80, 2.69]	8.29	1.89*	0.23	[1.43, 2.36]	12.22	3.17*	0.26	[2.64, 3.69]

Ang-sad	7.88	1.53*	0.19	[1.13, 1.92]	9.35	2.09*	0.22	[1.64, 2.54]	6.82	1.74*	0.25	[1.22, 2.26]	11.95	3.01*	0.25	[2.50, 3.52]
Disg-hap	9.58	1.58*	0.16	[1.24, 1.91]	11.92	2.14*	0.18	[1.77, 2.50]	8.67	1.79*	0.21	[1.37, 2.21]	13.90	3.06*	0.22	[2.62, 3.51]
Disg-sad	5.26	0.85*	0.16	[0.52, 1.18]	7.98	1.41*	0.18	[1.05, 1.77]	4.99	1.06*	0.21	[0.63, 1.49]	12.20	2.34*	0.19	[1.95, 2.72]
Hap-sad	9.40	1.88*	0.20	[1.47, 2.28]	10.93	2.44*	0.22	[1.99, 2.89]	8.13	2.09*	0.26	[1.57, 2.61]	12.82	3.36*	0.26	[2.83, 3.89]

Happiness
scale

Non- target combination	Target emotion combination															
	Ang-hap				Disg-hap				Fea-hap				Hap-sad			
	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%

Ang-disg	12.56	2.99*	0.24	[2.51, 3.47]	12.11	3.75*	0.31	[3.12, 4.37]	14.09	4.38*	0.31	[3.75, 5.01]	12.88	3.98*	0.31	[3.35, 4.61]
Ang-fea	12.58	2.98*	0.24	[2.50, 3.45]	12.17	3.73*	0.31	[3.11, 4.35]	14.35	4.37*	0.30	[3.75, 4.98]	12.85	3.96*	0.31	[3.34, 4.59]
Ang-sad	12.08	2.82*	0.23	[2.35, 3.29]	11.62	3.57*	0.31	[2.95, 4.20]	13.72	4.21*	0.31	[3.59, 4.83]	12.26	3.81*	0.31	[3.18, 4.44]
Disg-fea	12.55	2.96*	0.24	[2.48, 3.43]	12.57	3.71*	0.30	[3.11, 4.31]	14.41	4.35*	0.30	[3.74, 4.96]	13.19	3.94*	0.30	[3.34, 4.55]
Disg-sad	11.55	2.91*	0.25	[2.40, 3.42]	11.31	3.67*	0.32	[3.01, 4.32]	13.36	4.30*	0.32	[3.65, 4.96]	12.09	3.90*	0.32	[3.25, 4.55]
Fea-sad	12.32	2.93*	0.24	[2.45, 3.42]	11.77	3.69*	0.31	[3.05, 4.32]	13.76	4.30*	0.32	[3.65, 4.96]	12.96	3.92*	0.30	[3.31, 4.54]
Sadness scale																

Target emotion combination

Non- target combination	Ang-sad				Disg-sad				Fea-sad				Hap-sad			
	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%
Ang-disg	8.66	2.08*	0.24	[1.59, 2.56]	9.25	2.31*	0.25	[1.80, 2.81]	9.34	2.58*	0.28	[2.02, 3.14]	9.22	2.44*	0.27	[1.90, 2.98]
Ang-fea	7.90	1.87*	0.24	[1.39, 2.35]	8.45	2.10*	0.25	[1.60, 2.60]	9.18	2.38*	0.26	[1.85, 2.90]	9.29	2.23*	0.24	[1.75, 2.72]
Ang-hap	8.82	2.34*	0.27	[1.80, 2.88]	9.75	2.57*	0.26	[2.03, 3.10]	10.69	2.85*	0.27	[2.31, 3.38]	11.35	2.70*	0.24	[2.22, 3.18]
Disg-fea	8.10	1.88*	0.23	[1.41, 2.35]	9.59	2.11*	0.22	[1.66, 2.55]	10.34	2.39*	0.23	[1.92, 2.85]	10.26	2.24*	0.22	[1.80, 2.69]
Disg-hap	9.02	2.33*	0.26	[1.81, 2.85]	9.93	2.56*	0.26	[2.04, 3.08]	10.55	2.84*	0.27	[2.29, 3.38]	11.02	2.69*	0.24	[2.20, 3.19]
Fea-hap	8.60	2.26*	0.26	[1.73, 2.79]	9.49	2.49*	0.26	[1.96, 3.02]	10.69	2.77*	0.26	[2.24, 3.29]	11.34	2.63*	0.23	[2.16, 3.10]

Note. $N = 38$. Abbreviations: ang = anger, disg = disgust, fea = fear, hap = happiness, sad = sadness. Values in bold indicate the greatest mean difference for all comparisons for respective target emotion combination. * $p < .0001$ (Bonferroni corrected alpha level = .0017).

Table S2

Multiple Pairwise Comparisons Between Target Emotion Combinations for Respective Emotion Rating Scale (Study 1).

Anger												
	Ang-disg				Ang-fea				Ang-hap			
	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%
Ang-fea	-8.72	-1.10***	0.13	[-1.35, -0.84]	—	—	—	—	—	—	—	—
Ang-hap	-0.33	-0.05	0.15	[-0.34, 0.25]	6.50	1.05***	0.16	[0.72, 1.37]	—	—	—	—
Ang-sad	-9.77	-1.53***	0.16	[-1.85, -1.21]	-4.66	-0.43***	0.09	[-0.62, -0.25]	-7.89	-1.48***	0.19	[-1.86, -1.10]
Disgust												
	Ang-disg				Disg-fea				Disg-hap			
	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%
Disg-fea	-4.02	-0.60**	0.15	[-0.90, -0.30]	—	—	—	—	—	—	—	—
Disg-hap	1.64	0.30	0.18	[-0.07, 0.68]	5.44	0.90***	0.17	[0.56, 1.23]	—	—	—	—
Disg-sad	4.30	0.74**	0.17	[0.39, 1.09]	7.18	1.33***	0.19	[0.96, 1.71]	2.44	0.44	0.18	[0.07, 0.80]

Fear

	Ang-fea				Disg-fea				Fea-hap			
	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%
Disg-fea	-3.50	-0.56*	0.16	[-0.88, -0.24]	—	—	—	—	—	—	—	—
Fea-hap	-1.38	-0.21	0.15	[-0.52, 0.10]	2.09	0.35	0.17	[0.01, 0.69]	—	—	—	—
Fea-sad	-7.71	-1.49***	0.19	[-1.88, -1.10]	-5.92	-0.93***	0.16	[-1.24, -0.61]	-6.98	-1.27***	0.18	[-1.64, -0.90]

Happiness

	Ang-hap				Disg-hap				Fea-hap			
	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%
Disg-hap	-4.06	-0.75**	0.19	[-1.13, -0.38]	—	—	—	—	—	—	—	—
Fea-hap	-8.29	-1.39***	0.17	[-1.73, -1.05]	-4.54	-0.64***	0.14	[-0.92, -0.35]	—	—	—	—
Hap-sad	-5.93	-0.99***	0.17	[-1.33, -0.65]	-1.52	-0.23	0.15	[-0.55, 0.08]	2.72	0.40	0.15	[0.10, 0.70]

Sadness

	Ang-sad				Disg-sad				Fea-sad			
	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (37)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%
Disg-sad	-1.62	-0.23	0.14	[-0.52, 0.06]	—	—	—	—	—	—	—	—
Fea-sad	-2.78	-0.51	0.18	[-0.88, -0.14]	-1.78	-0.28	0.16	[-0.59, 0.04]	—	—	—	—
Hap-sad	-1.58	-0.36	0.23	[-0.83, 0.10]	-0.75	-0.13	0.18	[-0.50, 0.23]	0.88	0.14	0.16	[-0.19, 0.47]

Note. N = 38. Abbreviations: ang = anger, disg = disgust, fea = fear, hap = happiness, sad = sadness. Emotion ratings: 0 = Emotion not at all prominent, 10 = Emotion very prominent. *** $p < .0001$, ** $p < .001$, * $p < .0017$ (Bonferroni corrected alpha level = .0017).

Table S3

Overall Mean Emotion Ratings for Each Emotion Combination Across Presentation Modalities, and Mean Proportion Accuracy and Confidence Intervals (Study 2).

Emotion combinat ion	Emotion Scales (M/SD)					Emotion Accuracy			
	Anger	Disgust	Fear	Happiness	Sadness	Strict	CI 95 %	Generous	CI 95 %
Ang-disg	3.87 (2.07)	3.88 (1.37)	0.77 (0.72)	0.50 (0.80)	1.65 (1.61)	.40	[.33, .46]	.92	[.88, .95]
Ang-fea	4.26 (2.13)	1.50 (1.49)	2.47 (1.59)	0.48 (0.78)	1.75 (1.48)	.30	[.25, .36]	.81	[.72, .91]
Ang-hap	2.07 (1.41)	1.17 (1.39)	0.75 (0.54)	4.90 (2.17)	1.29 (1.73)	.37	[.31, .44]	.82	[.75, .89]
Ang-sad	3.28 (1.75)	1.14 (1.47)	1.24 (0.92)	0.85 (0.91)	4.12 (1.36)	.37	[.30, .44]	.93	[.91, .95]
Disg-fea	0.49 (0.64)	4.27 (1.41)	3.39 (1.74)	0.70 (0.92)	1.71 (1.50)	.46	[.40, .53]	.88	[.83, .93]
Disg-hap	0.44 (0.64)	3.68 (1.46)	0.66 (0.66)	4.19 (1.95)	1.82 (1.52)	.40	[.33, .47]	.95	[.93, .97]
Disg-sad	0.64 (0.88)	3.03 (1.32)	1.50 (0.97)	0.60 (0.79)	4.39 (1.28)	.37	[.32, .43]	.95	[.93, .97]
Fea-hap	0.53 (0.77)	1.13 (1.50)	3.26 (1.88)	4.04 (1.73)	1.73 (1.48)	.41	[.34, .48]	.86	[.79, .92]
Fea-sad	0.61 (1.00)	1.23 (1.48)	3.37 (1.84)	0.61 (0.93)	4.78 (1.31)	.50	[.42, .58]	.96	[.93, .98]
Hap-sad	0.42 (0.77)	1.03 (1.42)	0.77 (0.62)	3.73 (1.65)	3.80 (1.36)	.49	[.43, .56]	.94	[.92, .97]

Note. $N = 51$. Abbreviations: ang = anger, disg = disgust, fea = fear, hap = happiness, sad = sadness. Values in bold indicate target emotion combinations (i.e. combinations that contain emotions that correspond to the rating scale). Emotion ratings: 0 = Emotion not at all prominent, 10 = Emotion very prominent. Generous accuracy: chance level = .40. Strict accuracy: chance level = .10.

Table S4

Multiple Pairwise Comparisons Between Target and Non-Target Combinations for Respective Emotion Scale Within Each Modality (Study 2).

Anger																
Non-target combination	Target emotion combination															
	Ang-disg				Ang-fea				Ang-hap				Ang-sad			
	<i>t</i> (50)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (50)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (50)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (50)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%
Disg-fea																
vid	12.05	3.97**	0.33	[3.31, 4.63]	12.93	4.96**	0.38	[4.19, 5.72]	7.36	2.09**	0.28	[1.52, 2.66]	10.78	3.55**	0.33	[2.89, 4.22]
aud	10.60	2.78**	0.26	[2.25, 3.31]	10.01	2.59**	0.26	[2.07, 3.10]	6.79	1.06**	0.16	[0.74, 1.37]	8.91	2.02**	0.23	[1.57, 2.48]
Disg-hap																
vid	12.42	4.15**	0.33	[3.48, 4.83]	13.58	5.14**	0.38	[4.38, 5.91]	8.34	2.28**	0.27	[1.73, 2.83]	11.58	3.74**	0.32	[3.09, 4.39]
aud	9.69	2.70**	0.28	[2.14, 3.26]	8.86	2.50**	0.28	[1.94, 3.07]	5.44	0.98**	0.18	[0.62, 1.33]	8.69	1.94**	0.22	[1.49, 2.39]
Disg-sad																
vid	11.20	3.69**	0.33	[3.03, 4.36]	12.19	4.68**	0.38	[3.91, 5.46]	6.24	1.82**	0.29	[1.23, 2.40]	10.19	3.28**	0.32	[2.63, 3.93]

aud	10.32	2.77**	0.27	[2.23, 3.31]	9.77	2.57**	0.26	[2.04, 3.10]	6.06	1.04**	0.17	[0.70, 1.39]	9.23	2.01**	0.22	[1.57, 2.45]
Fea-hap																
vid	12.45	4.12**	0.33	[3.45, 4.78]	13.17	5.06**	0.38	[4.29, 5.83]	8.35	2.24**	0.27	[1.70, 2.78]	12.03	3.71**	0.31	[3.09, 4.33]
aud	9.36	2.56**	0.27	[2.01, 3.11]	9.03	2.25**	0.25	[1.75, 2.76]	4.25	0.83**	0.20	[0.44, 1.23]	7.20	1.80**	0.25	[1.30, 2.30]
Fea-sad																
vid	11.84	4.07**	0.34	[3.38, 4.76]	13.80	5.11**	0.37	[4.36, 5.85]	8.19	2.19**	0.27	[1.66, 2.73]	11.06	3.66**	0.33	[2.99, 4.32]
aud	9.31	2.45**	0.26	[1.92, 2.98]	8.45	2.36**	0.28	[1.80, 2.92]	3.61	0.73*	0.20	[0.32, 1.13]	8.14	1.69**	0.21	[1.27, 2.11]
Hap-sad																
vid	12.41	4.09**	0.33	[3.43, 4.75]	13.61	5.08**	0.37	[4.33, 5.83]	8.10	2.22**	0.27	[1.67, 2.77]	12.03	3.68**	0.31	[3.06, 4.29]
aud	9.87	2.81**	0.28	[2.24, 3.38]	8.93	2.62**	0.29	[2.03, 3.20]	5.06	1.09**	0.21	[0.66, 1.52]	8.25	2.05**	0.25	[1.55, 2.55]

Disgust

Non- target combination	Target emotion combination															
	Ang-disg				Disg-fea				Disg-hap				Disg-sad			
	<i>t</i> (50)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (50)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (50)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (50)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%
Ang-fea																

vid	9.26	2.68**	0.29	[2.10, 3.27]	11.06	4.03**	0.36	[3.30, 4.76]	7.06	2.07**	0.29	[1.48, 2.66]	8.49	2.56**	0.30	[1.95, 3.16]
aud	8.23	2.08**	0.25	[1.57, 2.58]	6.59	1.51**	0.23	[1.05, 1.97]	6.89	2.29**	0.33	[1.62, 2.95]	2.74	0.51	0.19	[0.14, 0.88]
Ang-hap																
vid	11.14	3.00**	0.27	[2.46, 3.54]	11.85	4.34**	0.37	[3.60, 5.08]	9.79	2.38**	0.24	[1.90, 2.87]	10.30	2.87**	0.28	[2.31, 3.43]
aud	8.97	2.44**	0.27	[1.89, 2.98]	7.50	1.87**	0.25	[1.37, 2.37]	7.81	2.65**	0.34	[1.97, 3.33]	4.54	0.87**	0.19	[0.48, 1.25]
Ang-sad																
vid	10.79	3.03**	0.28	[2.46, 3.59]	11.69	4.38**	0.37	[3.62, 5.13]	9.39	2.42**	0.26	[1.90, 2.94]	10.16	2.90**	0.29	[2.33, 3.48]
aud	8.53	2.46**	0.29	[1.88, 3.03]	7.10	1.89**	0.27	[1.35, 2.42]	7.32	2.67**	0.36	[1.94, 3.40]	4.57	0.89**	0.19	[0.50, 1.28]
Fea-hap																
vid	10.65	3.13**	0.29	[2.54, 3.73]	12.10	4.48**	0.37	[3.74, 5.22]	10.16	2.52**	0.25	[2.03, 3.02]	10.95	3.01**	0.27	[2.46, 3.56]
aud	8.44	2.36**	0.28	[1.80, 2.92]	6.99	1.79**	0.26	[1.28, 2.31]	7.05	2.57**	0.36	[1.84, 3.30]	4.07	0.79*	0.19	[0.40, 1.18]
Fea-sad																
vid	9.99	2.85**	0.28	[2.27, 3.42]	11.27	4.19**	0.37	[3.44, 4.94]	8.44	2.23**	0.26	[1.70, 2.77]	9.71	2.72**	0.28	[2.16, 3.28]
aud	8.96	2.47**	0.28	[1.91, 3.02]	8.55	1.90**	0.22	[1.45, 2.34]	8.08	2.68**	0.33	[2.01, 3.34]	5.93	0.90**	0.15	[0.59, 1.20]
Hap-sad																
vid	10.49	3.10**	0.30	[2.51, 3.69]	11.59	4.45**	0.38	[3.67, 5.22]	9.51	2.49**	0.26	[1.96, 3.02]	10.03	2.97**	0.30	[2.38, 3.57]
aud	8.94	2.60**	0.29	[2.02, 3.18]	8.28	2.03**	0.25	[1.54, 2.52]	7.96	2.81**	0.35	[2.10, 3.52]	5.68	1.03**	0.18	[0.67, 1.40]

Fear

Non-target combination	Target emotion combination															
	Ang-fea				Disg-fea				Fea-hap				Fea-sad			
	<i>t</i> (50)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (50)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (50)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (50)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%
Ang-disg																
vid	7.49	1.90**	0.25	[1.39, 2.40]	10.86	3.65**	0.34	[2.97, 4.32]	9.47	2.86**	0.30	[2.25, 3.46]	11.85	3.34**	0.28	[2.78, 3.91]
aud	7.63	1.50**	0.20	[1.11, 1.90]	8.30	1.59**	0.19	[1.21, 1.98]	9.03	2.10**	0.23	[1.64, 2.57]	8.62	1.86**	0.22	[1.43, 2.29]
Ang-hap																
vid	8.21	2.01**	0.25	[1.52, 2.50]	11.27	3.77**	0.33	[3.09, 4.44]	10.22	2.98**	0.29	[2.39, 3.56]	11.58	3.46**	0.30	[2.86, 4.06]
aud	6.40	1.43**	0.22	[0.98, 1.88]	7.10	1.52**	0.21	[1.09, 1.95]	8.24	2.04**	0.25	[1.54, 2.53]	8.62	1.79**	0.24	[1.31, 2.27]
Ang-sad																
vid	7.40	1.74**	0.24	[1.27, 2.22]	10.54	3.50**	0.33	[2.83, 4.16]	9.36	2.71**	0.29	[2.13, 3.29]	11.02	3.19**	0.29	[2.61, 3.77]
aud	4.09	0.73*	0.18	[0.37, 1.08]	4.36	0.82**	0.19	[0.44, 1.19]	5.72	1.33**	0.23	[0.86, 1.80]	6.01	1.08**	0.18	[0.72, 1.45]
Disg-hap																
vid	8.42	2.06**	0.25	[1.57, 2.56]	11.36	3.82**	0.34	[3.14, 4.49]	10.33	3.03**	0.29	[2.44, 3.62]	11.49	3.51**	0.31	[2.90, 4.12]

aud	5.87	1.57**	0.27	[1.03, 2.10]	6.79	1.66**	0.24	[1.17, 2.15]	7.48	2.17**	0.29	[1.59, 2.75]	6.75	1.92**	0.28	[1.35, 2.50]
Disg-sad																
vid	5.32	1.27**	0.24	[0.79, 1.75]	9.69	3.02**	0.31	[2.40, 3.65]	7.72	2.23**	0.29	[1.65, 2.81]	10.96	2.72**	0.25	[2.22, 3.21]
aud	3.67	0.68*	0.19	[0.31, 1.06]	4.42	0.77**	0.17	[0.42, 1.12]	5.76	1.29**	0.22	[0.84, 1.74]	5.12	1.04**	0.20	[0.63, 1.45]
Hap-sad																
vid	7.71	1.97**	0.26	[1.46, 2.48]	10.72	3.72**	0.35	[3.02, 4.42]	9.69	2.93**	0.30	[2.32, 3.54]	10.96	2.72**	0.30	[2.22, 3.21]
aud	5.99	1.44**	0.24	[0.96, 1.92]	6.90	1.53**	0.22	[1.08, 1.98]	7.58	2.04**	0.27	[1.50, 2.59]	5.12	1.04**	0.24	[0.63, 1.45]

Happiness

Non- target combination	Target emotion combination															
	Ang-hap				Disg-hap				Fea-hap				Hap-sad			
	<i>t</i> (50)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (50)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (50)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (50)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%
Ang-disg																
vid	12.96	4.91**	0.38	[4.15, 5.68]	12.85	4.68**	0.36	[3.95, 5.41]	12.21	4.59**	0.38	[3.83, 5.34]	11.75	4.24**	0.36	[3.51, 4.96]
aud	10.45	3.90**	0.37	[3.15, 4.65]	8.40	2.71**	0.32	[2.06, 3.36]	9.97	2.49**	0.25	[1.99, 2.99]	8.23	2.23**	0.27	[1.69, 2.77]

Ang-fea

vid	13.77	4.94**	0.36	[4.22, 5.66]	13.26	4.70**	0.35	[3.99, 5.42]	12.81	4.61**	0.36	[3.89, 5.33]	12.07	4.26**	0.35	[3.55, 4.97]
aud	11.01	3.91**	0.36	[3.20, 4.63]	8.80	2.73**	0.31	[2.11, 3.35]	10.70	2.50**	0.23	[2.04, 2.98]	8.91	2.25**	0.25	[1.74, 2.75]

Ang-sad

vid	12.45	4.46**	0.36	[3.74, 5.17]	12.28	4.22**	0.34	[3.53, 4.91]	11.49	4.13**	0.36	[3.41, 4.85]	11.11	3.78**	0.34	[3.09, 4.46]
aud	10.03	3.66**	0.36	[2.93, 4.39]	7.95	2.48**	0.31	[1.85, 3.10]	9.06	2.25**	0.25	[1.75, 2.75]	7.65	1.99**	0.26	[1.47, 2.52]

Disg-fea

vid	12.93	5.08**	0.39	[4.29, 5.87]	12.85	4.84**	0.38	[4.09, 5.60]	12.23	4.75**	0.39	[3.97, 5.53]	11.74	4.40**	0.37	[3.65, 5.15]
aud	9.28	3.34**	0.36	[2.61, 4.06]	6.73	2.15**	0.32	[1.51, 2.79]	7.72	1.93**	0.25	[1.42, 2.43]	6.03	1.67**	0.28	[1.11, 2.23]

Disg-sad

vid	13.55	4.97**	0.37	[4.23, 5.70]	13.50	4.73**	0.35	[4.03, 5.43]	12.88	4.64**	0.36	[3.91, 5.36]	12.31	4.29**	0.35	[3.59, 4.99]
aud	9.75	3.64**	0.37	[2.89, 4.39]	7.49	2.46**	0.33	[1.80, 3.11]	8.66	2.23**	0.26	[1.71, 2.75]	6.99	1.97**	0.28	[1.41, 2.54]

Fea-sad

vid	13.34	5.05**	0.38	[4.29, 5.81]	12.98	4.81**	0.37	[4.07, 5.56]	12.68	4.72**	0.37	[3.97, 5.47]	12.05	4.37**	0.36	[3.64, 5.10]
aud	9.24	3.53**	0.38	[2.77, 4.30]	7.35	2.35**	0.32	[1.71, 2.99]	8.02	2.12**	0.27	[1.59, 2.66]	6.77	1.87**	0.28	[1.31, 2.42]

Sadness

Non-target combination	Target emotion combination															
	Ang-sad				Disg-sad				Fea-sad				Hap-sad			
	<i>t</i> (50)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (50)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (50)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (50)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%
Ang-disg																
vid	9.38	2.85**	0.30	[2.24, 3.46]	9.46	2.77**	0.22	[2.18, 3.36]	11.96	3.89**	0.33	[3.24, 4.54]	8.06	2.25**	0.28	[1.69, 2.81]
aud	6.70	2.09**	0.31	[1.46, 2.71]	8.42	2.72**	0.22	[2.07, 3.36]	8.50	2.38**	0.28	[1.82, 2.94]	6.59	2.04**	0.31	[1.42, 2.66]
Ang-fea																
vid	10.26	3.15**	0.31	[2.53, 3.76]	9.90	3.07**	0.21	[2.45, 3.69]	12.56	4.19**	0.33	[3.52, 4.86]	9.31	2.55**	0.27	[2.00, 3.10]
aud	6.57	1.59**	0.24	[1.10, 2.07]	8.43	2.22**	0.21	[1.69, 2.74]	7.97	1.88**	0.24	[1.40, 2.35]	6.28	1.54**	0.25	[1.05, 2.04]
Ang-hap																
vid	10.06	3.43**	0.34	[2.74, 4.11]	10.13	3.35**	0.23	[2.69, 4.02]	12.21	4.47**	0.37	[3.74, 5.21]	9.18	2.83**	0.31	[2.21, 3.45]
aud	7.69	2.23**	0.29	[1.65, 2.82]	9.07	2.86**	0.23	[2.23, 3.49]	8.84	2.52**	0.29	[1.95, 3.10]	8.34	2.19**	0.26	[1.66, 2.71]
Disg-fea																
vid	9.99	3.28**	0.33	[2.62, 3.94]	10.21	3.21**	0.21	[2.58, 3.84]	12.54	4.33**	0.35	[3.63, 5.02]	8.92	2.69**	0.30	[2.08, 3.29]
aud	5.87	1.52**	0.26	[1.00, 2.04]	8.73	2.15**	0.21	[1.66, 2.64]	7.64	1.81**	0.24	[1.33, 2.29]	6.04	1.48**	0.24	[0.99, 1.97]
Disg-hap																

vid	9.88	2.77**	0.28	[2.21, 3.34]	9.71	2.70**	0.21	[2.14, 3.25]	11.77	3.82**	0.32	[3.16, 4.47]	8.45	2.18**	0.26	[1.66, 2.69]
aud	5.99	1.82**	0.30	[1.21, 2.43]	8.01	2.45**	0.21	[1.83, 3.06]	7.40	2.11**	0.28	[1.54, 2.68]	6.46	1.77**	0.27	[1.22, 2.32]
Fea-hap																
vid	10.73	3.41**	0.32	[2.77, 4.05]	10.98	3.34**	0.20	[2.73, 3.95]	13.04	4.46**	0.34	[3.77, 5.14]	10.02	2.82**	0.28	[2.25, 3.38]
aud	5.74	1.36**	0.24	[0.89, 1.84]	8.78	1.99**	0.20	[1.53, 2.44]	7.92	1.65**	0.21	[1.23, 2.07]	5.87	1.32**	0.22	[0.87, 1.77]

Note. N = 51. Abbreviations: ang = anger, disg = disgust, fea = fear, hap = happiness, sad = sadness, vid = video modality (face/body cues only), aud = audio modality (voice cues only). Values in bold indicate the greatest mean difference for all comparisons for respective target emotion combination within each modality. Emotion ratings: 0 = Emotion not at all prominent, 10 = Emotion very prominent. ** $p < .0001$, * $p < .0008$ (Bonferroni corrected alpha level = .0008).

Table S5

Multiple Pairwise Comparisons Between Target Emotion Combinations for Respective Emotion Rating Scale Within Each Modality (Study 2).

Anger scale												
	Ang-disg				Ang-fea				Ang-hap			
	$t(50)$	M^{diff}	SE	CI 95%	$t(50)$	M^{diff}	SE	CI 95%	$t(50)$	M^{diff}	SE	CI 95%
Ang-fea												
Vid	-5.85	-0.99**	0.17	[-1.33, -0.65]	—	—	—	—	—	—	—	—
Aud	1.40	0.20	0.14	[-0.09, 0.48]	—	—	—	—	—	—	—	—
Ang-hap												
Vid	8.04	1.88**	0.23	[1.41, 2.34]	10.10	2.87**	0.28	[2.30, 3.44]	—	—	—	—
Aud	9.30	1.73**	0.19	[1.35, 2.10]	7.58	1.53**	0.20	[1.12, 1.93]	—	—	—	—
Ang-sad												
Vid	2.04	0.41	0.20	[0.01, 0.82]	6.81	1.40**	0.21	[0.99, 1.82]	-6.56	-1.46**	0.22	[-1.91, -1.02]
Aud	4.76	0.76**	0.16	[0.44, 1.08]	3.72	0.56*	0.15	[0.26, 0.86]	-5.86	-0.97**	0.17	[-1.30, -0.64]

Disgust scale												
	Ang-disg				Disg-fea				Disg-hap			
	$t(50)$	M^{diff}	SE	CI 95%	$t(50)$	M^{diff}	SE	CI 95%	$t(50)$	M^{diff}	SE	CI 95%
Disg-fea												
Vid	-6.35	-1.35**	0.21	[-1.77, -0.92]	—	—	—	—	—	—	—	—
Aud	3.66	0.57*	0.16	[0.26, 0.88]	—	—	—	—	—	—	—	—
Disg-hap												
Vid	3.43	0.61	0.18	[0.25, 0.97]	8.47	1.96**	0.23	[1.49, 2.42]	—	—	—	—
Aud	-1.12	-0.21	0.19	[-0.59, 0.17]	-3.98	-0.78*	0.20	[-1.17, -0.39]	—	—	—	—
Disg-sad												
Vid	0.61	0.13	0.21	[0.29, 0.55]	6.47	1.47**	0.23	[1.02, 1.93]	-2.83	-0.48	0.17	[-0.83, -0.14]
Aud	6.99	1.57**	0.22	[1.12, 2.02]	5.93	1.00**	0.17	[0.66, 1.34]	6.89	1.78**	0.26	[1.26, 2.30]

Fear scale												
	Ang-fea				Disg-fea				Fea-hap			
	<i>t</i> (50)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (50)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (50)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%
Disg-fea												
Vid	-7.02	-1.75**	0.25	[-2.25, -1.25]	—	—	—	—	—	—	—	—
Aud	-0.39	-0.09	0.23	[-0.54, 0.36]	—	—	—	—	—	—	—	—
Fea-hap												
Vid	-5.22	-0.96**	0.18	[-1.33, -0.59]	4.10	0.79**	0.19	[0.40, 1.18]	—	—	—	—
Aud	-2.40	-0.60	0.25	[-1.11, -0.10]	-3.26	-0.51	0.16	[-0.83, -0.20]	—	—	—	—
Fea-sad												
Vid	-5.91	-1.45**	0.24	[-1.94, -0.95]	1.53	0.31	0.20	[-0.09, 0.71]	-2.07	-0.48	0.23	[-0.95, -0.02]
Aud	-1.87	-0.36	0.19	[-0.74, 0.03]	-1.28	-0.27	0.21	[-0.69, 0.15]	1.20	0.25	0.21	[-0.17, 0.66]

Happiness scale												
	Ang-hap				Disg-hap				Fea-hap			
	<i>t</i> (50)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (50)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (50)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%
Disg-hap												
Vid	1.37	0.24	0.17	[-0.11, 0.58]	–	–	–	–	–	–	–	–
Aud	6.14	1.18**	0.19	[0.80, 1.57]	–	–	–	–	–	–	–	–
Fea-hap												
Vid	1.97	0.33	0.17	[-0.01, 0.66]	0.48	0.09	0.19	[-0.30, 0.48]	–	–	–	–
Aud	7.38	1.41**	0.19	[1.03, 1.79]	1.31	0.23	0.17	[-0.12, 0.57]	–	–	–	–
Hap-sad												
Vid	3.38	0.68*	0.18	[0.32, 1.03]	2.27	0.44	0.20	[0.05, 0.84]	1.94	0.35	0.18	[-0.01, 0.71]
Aud	7.64	1.67**	0.22	[1.23, 2.10]	2.85	0.48	0.17	[0.14, 0.82]	1.72	0.26	0.15	[-0.04, 0.56]

Sadness scale												
	Ang-sad				Disg-sad				Fea-sad			
	<i>t</i> (50)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (50)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%	<i>t</i> (50)	<i>M</i> ^{diff}	<i>SE</i>	CI 95%
Disg-sad												
Vid	0.42	0.08	0.18	[-0.29, 0.44]	–	–	–	–	–	–	–	–
Aud	-4.10	-0.63*	0.15	[-0.93, -0.32]	–	–	–	–	–	–	–	–
Fea-sad												
Vid	-5.27	-1.04**	0.20	[-1.44, -0.65]	-7.05	-1.12**	0.16	[-1.44, -0.80]	–	–	–	–
Aud	-1.77	-0.29	0.16	[-0.62, 0.04]	2.04	0.34	0.17	[0.00, 0.67]	–	–	–	–
Hap-sad												
Vid	3.75	0.60*	0.16	[0.28, 0.91]	2.74	0.52	0.19	[0.14, 0.90]	8.00	1.64**	0.21	[1.23, 2.05]
Aud	0.23	0.05	0.21	[-0.37, 0.46]	3.17	0.67	0.21	[0.25, 1.10]	1.63	0.34	0.21	[-0.08, 0.75]

Note. N = 51. Abbreviations: ang = anger, disg = disgust, fea = fear, hap = happiness, sad = sadness, vid = video modality (face/body cues only), aud = audio modality (voice cues only). Emotion ratings: 0 = Emotion not at all prominent, 10 = Emotion very prominent. ** $p < .0001$, * $p < .0008$ (Bonferroni corrected alpha level = .0008).

Table S6

Mean Differences in Emotion Ratings Between Modalities for Each Emotion Combination (Study 2).

Anger				
Emotion combination	Video vs Audio			
	$t(50)$	M^{diff}	SE	CI 95%
Ang-disg	5.36	0.99 **	0.18	[0.62, 1.35]
Ang-fea	8.67	2.17 **	0.25	[1.67, 2.67]
Ang-hap	4.04	0.84 *	0.21	[0.42, 1.25]
Ang-sad	5.35	1.33 **	0.25	[0.83, 1.83]
Disgust				
Ang-disg	0.12	0.03	0.26	[-0.49, 0.55]
Disg-fea	6.69	1.95 **	0.29	[1.36, 2.53]
Disg-hap	-3.66	-0.79 *	0.22	[-1.22, -0.36]
Disg-sad	6.14	1.47 **	0.24	[0.99, 1.96]
Fear				
Ang-fea	1.88	0.42	0.22	[-0.03, 0.87]
Disg-fea	6.44	2.09**	0.32	[1.44, 2.74]
Fea-hap	3.63	0.78*	0.22	[0.35, 1.21]
Fea-sad	6.18	1.51**	0.24	[1.02, 2.00]

Happiness				
Ang-hap	5.50	1.10 **	0.20	[0.70, 1.51]
Disg-hap	9.31	2.05 **	0.22	[1.61, 2.49]
Fea-hap	11.17	2.18 **	0.20	[1.79, 2.58]
Hap-sad	7.10	2.09 **	0.29	[1.50, 2.68]
Sadness				
Ang-sad	2.88	0.69	0.24	[0.21, 1.17]
Disg-sad	-0.06	-0.01	0.22	[-0.45, 0.42]
Fea-sad	5.67	1.45 **	0.25	[0.93, 1.96]
Hap-sad	0.65	0.14	0.22	[-0.30, 0.58]

Note. N = 51. Abbreviations: ang = anger, disg = disgust, fea = fear, hap = happiness, sad = sadness. Emotion ratings: 0 = Emotion not at all prominent, 10 = Emotion very prominent.

** $p < .0001$, * $p < .0008$ (Bonferroni corrected alpha level = .0008).