

Supplemental Material

Screening Questionnaire. Each potential observer completed the following (culture appropriate) questionnaire. We selected only those answering ‘no’ to all questions for participation.

Western white Caucasian Observers

Have you ever:

- a) lived in a non-Western* country before (e.g., on a gap year, summer work, move due to parental employment)?
- b) visited a non-Western country (e.g., vacation)?
- c) dated or had a very close friendship with a non-Westerner person?
- d) been involved with any non-Western culture societies/groups?

*By Western groups/countries we are referring to Europe (Eastern and Western), North America, United Kingdom and Australia.

East Asian Observers

Have you ever:

- a) lived in a non-East Asian* country before (e.g., on a gap year, summer work, move due to parental employment)?
- b) visited a non-East Asian country (e.g., vacation)?
- c) dated or had a very close friendship with a non-East Asian person?
- d) been involved with any non-Eastern culture societies/groups?

*By East Asian groups/countries, we are referring to China, Japan, Korea, Mongolia, Thailand, and Taiwan.

Table S1. Proportion of Native English Speakers Rating Each Word as Highly Familiar and Highly Typical of Emotion.

Word	Familiarity	Typicality	Word	Familiarity	Typicality	Word	Familiarity	Typicality	Word	Familiarity	Typicality
abandoned	94	30	bamboozled	74	36	desire	98	60	envy	98	82
abhorrence	46	30	beaten	96	18	desolation	68	30	euphoric	88	86
acceptance	100	20	begrudging	72	24	despair	94	78	exasperated	82	56
aching	92	18	belligerent	48	26	desperation	96	54	excited	100	92
acknowledgement	96	6	bemoaning	30	12	despite	98	60	exhausted	98	34
acrimonious	22	18	bewildered	94	56	despondent	58	48	exhilaration	78	58
admission	98	44	bitter	100	68	determined	74	30	exonerated	36	12
adoration	88	58	blissful	92	58	detest	96	52	expectancy	90	26
adulation	32	22	bored	100	66	diffidence	24	16	exultant	38	40
affectionate	98	52	bothered	96	42	disappointment	100	64	fascination	100	30
afflicted	86	26	calm	98	60	disapproving	96	30	fatigue	98	24
affronted	64	42	cantankerous	32	20	disbelief	98	32	fear	98	94
aggravated	90	62	carefree	100	38	discomfort	96	36	ferocious	84	32
aggressive	98	66	caring	96	48	discontent	96	56	flustered	88	50
agitated	96	64	cheerful	96	92	discouraged	96	40	fond	94	52
agony	94	46	chippy	80	60	disdain	66	26	forgiving	94	28
alarmed	100	48	commiseration	76	22	disenchanted	74	32	freaked	90	60
alert	96	24	compassion	96	64	disgraced	96	28	freaked	100	36
allured	76	26	composed	94	22	disgruntled	84	44	frenzied	80	52
alone	98	34	conceded	72	16	disgust	98	70	frightened	100	92
amazed	98	68	concentration	100	16	disillusioned	94	30	frustration	100	68
amused	98	72	concerned	98	52	dislike	100	44	fuming	94	76
anger	98	92	confident	100	46	dismayed	82	52	fury	94	90
anguish	78	72	confused	98	62	displeasure	90	48	glad	98	80
animosity	70	32	contempt	94	56	disrespected	98	16	glee	86	82
annoyed	98	80	contented	92	54	dissatisfaction	98	18	gloomy	94	70
anticipation	98	28	contite	40	22	dissatisfied	94	44	gloom	92	70
antipathy	46	28	contrition	34	14	distressed	96	68	grateful	100	54
anxious	98	90	cool	100	32	distrust	96	20	gratitude	98	82
appeared	68	20	crabby	80	60	disturbed	96	40	grief	98	48
appeased	68	12	craving	92	30	dolent	42	34	grudge	94	26
appealing	68	58	crazy	100	28	doubt	100	52	grumpy	98	84
apprehensive	92	70	cross	96	82	dread	94	72	guilty	98	78
aroused	100	26	crushed	94	28	dreary	82	34	happy	98	98
arrogant	98	20	curious	98	56	dull	98	24	harassed	96	42
assertive	18	6	cynical	98	42	eager	96	36	hassled	96	26
assiduous	98	62	defeated	90	30	ecstatic	98	86	hate	98	94
astounded	98	18	defence	94	26	elation	78	82	helpless	98	44
attracted	92	48	deference	46	4	embarrassment	98	80	homesick	96	70
audacity	76	14	deflated	86	52	empathy	92	60	hopeful	100	62
aversion	70	20	dejected	70	50	enchanted	90	24	hopeless	100	50
avoidance	96	8	delighted	100	86	enjoyment	98	50	horror	98	62
awe	96	48	demoralised	88	44	enraged	90	76	hostile	94	46
awkward	100	48	depressed	100	90	enthralled	76	54	humiliation	98	66
baffled	88	38	derision	42	16	enthusiastic	100	60	hurt	98	82

Word	Familiarity	Typicality	Word	Familiarity	Typicality	Word	Familiarity	Typicality	Word	Familiarity	Typicality
hysterical	96	64	outrage	98	82	self-doubt	94	38	turnoil	90	30
ignoring	100	10	overwhelmed	94	64	self-importance	92	16	umbrage	20	10
inpatient	100	34	pacified	66	20	self-righteous	84	28	uncertain	98	28
incensed	56	54	pacifying	70	20	self-satisfaction	86	32	uncomfortable	98	48
inconsolable	84	50	pain	98	48	sensual	96	40	uneasy	94	54
incredulous	50	26	panic	98	72	serene	72	40	unhappy	100	94
indecision	88	20	passion	100	74	shame	98	76	upset	98	94
indignation	56	32	peaceful	92	40	sheepish	92	36	vanity	90	22
infuriated	92	82	peevish	72	60	shocked	98	82	vehement	38	20
insecure	100	46	persecuted	86	22	shy	100	36	vengeful	78	54
insulted	100	52	perturbed	42	34	sickened	94	48	vexed	54	50
interested	96	26	pessimistic	100	26	smug	96	56	vicious	94	30
ire	32	24	petulant	44	24	snappy	90	40	vigilant	86	16
irritated	98	72	pity	100	62	somber	68	52	vindictive	68	30
jealous	100	90	playful	98	36	soothing	92	30	vulnerable	100	40
jolly	92	82	pleased	96	72	soothed	98	16	wary	94	44
jovial	64	66	powerless	96	36	sorrow	96	84	weary	88	44
joy	98	96	preoccupied	98	14	spiteful	90	48	wicked	98	22
jubilation	66	68	pride	100	62	spooked	94	58	wistful	66	44
livid	90	86	provoked	98	16	startled	96	42	wondering	76	56
loathing	98	70	rage	98	90	stem	92	20	wonderment	100	22
lonely	100	78	regret	96	66	stirred	82	26	worried	72	34
lonesome	92	56	rejoice	88	44	stressed	100	68	worshipping	100	82
longing	94	46	relaxed	98	56	submission	90	12	wounded	92	10
love	100	90	relief	98	70	suffering	96	40	wrath	98	28
lust	96	76	relinquish	68	12	sulky	82	60	zeal	88	48
malevolence	52	24	relish	86	30	superior	96	18	zeal	78	40
melancholy	70	60	reminiscent	84	24	surprise	100	70	zest	54	20
mellow	92	48	remorse	88	70	suspecting	98	26			
merry	92	84	repelled	94	32	suspicious	100	40			
miffed	84	64	repentant	66	48	sympathy	98	52			
mirth	38	38	reprieved	48	16	tedium	54	16			
miserable	98	92	repugnance	38	32	tense	96	58			
mistrust	86	24	repulsion	84	50	terrified	96	86			
moody	98	80	resentment	98	56	tetchy	60	40			
morose	42	42	restless	100	30	thoughtful	98	30			
mortified	92	78	reticence	26	10	thrilled	96	82			
mournful	82	68	revolted	90	56	thwarted	64	16			
nauseated	80	30	revulsion	70	58	timid	94	26			
neglected	100	38	riled	66	48	tired	100	34			
nervous	96	78	sad	100	100	titillation	46	28			
nonchalance	58	22	sanguine	100	18	torment	90	26			
nostalgic	94	52	savage	84	22	tortured	94	26			
obeying	96	10	scared	100	86	tranquil	78	44			
obsessed	98	32	scorned	88	42	trepidation	46	26			
offended	100	58	scoring	80	20	triumphant	94	68			
oppressed	92	30	seeing	82	58	troubled	100	48			
optimism	98	34	self-conscious	100	42	trusting	96	30			

Table S2. Proportion of Native Chinese Speakers Rating Each Word as Highly Familiar and Highly Typical of Emotion.

Word	Familiarity	Typicality	Word	Familiarity	Typicality	Word	Familiarity	Typicality
singleminded 一心一意	96	30	outrageous 令人发指	84	54	sth. one could never imagine 匪夷所思	82	24
fall in love at first sight 一见钟情	98	50	throw back head to laugh long and loud ...	86	70	oppressive 压抑	94	74
an unsettled state of mind 七上八下	88	66	self-willed 任性	96	34	repress 压迫	90	30
be addicted (to sth.) 上瘾	92	16	heart-broken 伤心	94	90	be weary of 厌倦	94	64
not to regard it as right 不以为然	90	30	sorrow 伤悲	92	86	disgusted 厌恶	96	82
have to speak out 不吐不快	86	30	sentimental 伤感	96	80	be sick of 厌烦	94	80
find it unbearable to recall 不堪回首	88	26	hypocrisy 伪善	80	18	forgive 原谅	94	20
uneasy 不安	98	78	(of voice) low and deep 低沉	86	38	antipathy 反感	98	74
disdain to do sth. 不屑	92	56	low and depressed 低落	92	68	revolt 反抗	92	20
will not spare a glance for 不屑一顾	88	34	admire 佩服	92	32	get angry 发火	94	74
unhappy 不开心	96	88	trust 信任	96	28	lose one's temper 发脾气	96	60
be displeased 不快	86	76	be convinced 信服	92	26	pitiful 可怜	92	46
dissatisfied 不满	96	68	go to extremes 偏激	88	40	lovely 可爱	96	14
be at a loss what to do 不知所措	92	54	laugh foolishly 傻笑	98	46	amazed 吃惊	96	88
impatient 不耐烦	94	72	substantial 充实	94	24	bedfellows are having different dreams ...	74	12
not understand 不解	88	26	the fox is sad at the death ...	56	42	sympathy 同情	96	56
dislike 不顺眼	92	46	of a hare 兔死狐悲	94	22	fear after the event 后怕	90	66
at any risk 不顾一切	94	34	dedicate oneself to 全力以赴	96	90	regret 后悔	96	76
upset 不高兴	98	84	(do sth.) with joy and expedition ...	90	78	belatedly realize 后知后觉	78	16
make an arbitrary decision 专断	78	26	excitement 兴奋	96	90	yearn for 向往	88	28
imperious 专横	84	36	be in the best of spirits 兴致勃勃	96	72	rigid 呆板	90	24
lose face 丢脸	96	38	in high spirits with interesting 兴致盎然	86	72	kind and gentle 和善	94	24
hesitate about [lover] what move to make ...	82	42	impulse 冲动	90	76	gentle 和气	90	26
lack of strength 乏力	82	12	determination 决心	98	54	be courteous and accessible 和蔼可亲	96	14
be overwhelmed with joy 乐不可支	64	70	coldness 冷淡	94	42	grief 哀	88	92
be willing 乐意	92	48	indifference 冷漠	94	52	distressed 哀伤	90	94
extreme joy begets sorrow 乐极生悲	84	72	laugh grimly [scomfully] 冷笑	92	40	plaintive 哀怨	88	82
optimistic 乐观	98	58	grim 冷酷	90	44	deep sorrow 哀痛	96	84
strive to be the first 争先恐后	88	22	calm 冷静	94	44	cry 哭泣	94	52
throw oneself down at sb.'s feet in admiration ...	90	34	dignified 凝重	84	46	be a yes-man 唯唯诺诺	72	12
five tastes of mixed into 五味杂成	56	54	fierce 凶恶	92	40	mutter sth. to oneself 喃喃自语	82	10
enjoy 享受	94	42	fierce and cruel 凶残	92	32	kindhearted 善良	98	20
when enemies meet would be extremely furious ...	78	54	exceeding one's expectations 出乎意料	90	44	delighted 喜	94	88
hatred 仇恨	94	76	just one step short of success [completion] ...	80	14	happiness appears on the eyebrows ...	78	82
generation gap 代沟	96	4				unable to contain one's joy 喜不自禁	80	76
make one (feel) sick 令人作呕	82	60				happy and pleased 喜悦	90	92
						weep for joy 喜极而泣	88	88

Word	Familiarity		Typicality	Word	Familiarity		Typicality	Word	Familiarity		Typicality	Word	Familiarity		Typicality
love the new and loathe the old ...				lonesome 寂寞	94	62		perturbed 志闷	96	84		be in a rather nervous state 忐忑不安	96	84	
bursting with happiness [joy] 喜气洋洋	90	24		solitude 寂寥	76	42		distressed 忧伤	92	82		worried 忧愁	92	82	
perplexed 困惑	88	74		mean person enjoys success 小人得志	84	24		depressed 忧郁	94	84		happy 快乐	96	82	
puzzle 困扰	94	56		gingeriness 小心翼翼	94	28		joyful 快活	98	84		resentful 忿怨	88	68	
circusee 围观	96	46		extreme pettiness of character 小肚鸡肠	78	24		be unable to contain [restrain suppress] one's anger ...	80	92		cherish the memory of 怀念	52	86	
stubborn 固执	94	2		embarrassment 尴尬	92	56		miss 思念	90	62		bristle with anger 怒发冲冠	70	84	
be restless whether sitting or standing ...	96	26		keep on fighting 屡败屡战	88	10		eager 急切	98	50		storm of fury 怒气冲冲	96	90	
坐立不安	92	72		be in a dilemma 左右为难	86	50		precipitancy 急躁	92	68		be boiling with rage 怒火中烧	88	92	
firm 坚定	92	32		moderate 平和	92	40		in a trance 恍惚	86	46		feel like experiencing of different life time ...	92	36	
hold on consistently and persistently ...	94			calmness 平静	96	54		be suddenly enlightened 恍然大悟	92			threaten 恐吓	70	26	
坚持不懈	92	20		happiness 幸福	96	68		feel like experiencing of different life time ...	92			terrifying 恐怖	94	40	
blame 埋怨	92	52		good fortune 幸运	96	24		be like experiencing of different life time ...	92			fear 恐惧	96	68	
go downhill 堕落	96	16		be delighted 开心	98	84		feel like experiencing of different life time ...	92			panic 恐慌	94	88	
greatly surprised 大吃一惊	94	88		try to show happiness when one is sad ...	88	58		feel like experiencing of different life time ...	92			sickness 恶心	94	92	
affording general satisfaction 大快人心	84	70		strongly 欢笑	82	12		feel like experiencing of different life time ...	92			irritating 恼人	88	66	
wild wrath 大怒	92	96		turned into strangers 形同陌路	82	66		feel like experiencing of different life time ...	92			irritated and furious 恼怒	94	90	
risus 大笑	90	64		walk back and forth 彷徨	82	66		feel like experiencing of different life time ...	92			regret deeply 悔恨	94	78	
naive 天真	96	20		complacent 得意	96	82		feel like experiencing of different life time ...	92			carefree and leisurely and self contented ...	92	56	
lose control and cry out loud 失声痛哭	86	74		get [grow] dizzy with success / become highly conceited / elated to the degree of forgetting one's form ...	96	64		feel like experiencing of different life time ...	92			feel sadness welling up 悲从中来	78	66	
be frustrated 失意	92	70		得意忘形	96	36		feel like experiencing of different life time ...	92			sorrow & sadness 悲伤	96	90	
disappointment 失望	96	84		smile 微笑	96			feel like experiencing of different life time ...	92			grieve 悲哀	92	84	
insomnia 失眠	92	8		feel as if a knife were piercing one's heart ...	90	82		feel like experiencing of different life time ...	92			painfully sad 悲痛	94	94	
lose 失落	92	78		be in a calm mood 心平气和	92	42		feel like experiencing of different life time ...	92			can not control oneself [one's own feelings] ...	92	58	
feel dizzy or giddy 头昏脑胀	94	28		hearts and feelings find a perfect response ...	94	28		feel like experiencing of different life time ...	92			faint from fear 惊厥	54	80	
strive 奋斗	94	8		have sinister motives have evil intentions ...	78	22		feel like experiencing of different life time ...	92			frighten 惊吓	92	66	
sinister [villainous] smile 奸笑	80	34		one's heart is torn with anxiety ...	94	84		feel like experiencing of different life time ...	92						
curious 好奇	96	52		心急如焚	94	24		feel like experiencing of different life time ...	92						
good mood 好心情	94	72		without distractions 心无旁骛	66	64		feel like experiencing of different life time ...	92						
good temper 好脾气	94	20		relaxed and happy 心旷神怡	88			feel like experiencing of different life time ...	92						
as if sitting on a spiked rug 如坐针毡	68	60		one's heart still fluttering with fear ...	88			feel like experiencing of different life time ...	92						
like a fishbone getting stuck in the throat -- necessary to ... vent one's pent-up feelings ...	50	42		心有余悸	88	56		feel like experiencing of different life time ...	92						
如鲠在喉	50			be most willing to 心甘情愿	98	42		feel like experiencing of different life time ...	92						
compromise 妥协	94	18		one is falling love with sb. / sth. / somewhere ...	92	16		feel like experiencing of different life time ...	92						
feel wronged 委屈	94	72		heart-broken 心碎	96	76		feel like experiencing of different life time ...	92						
jealousy 嫉妒	92	68		feeling unsettled / uneasily 心神不宁	88	60		feel like experiencing of different life time ...	92						
lonely 孤单	96	60		narrow-minded 心胸狭窄	94	20		feel like experiencing of different life time ...	92						
loneliness 孤寂	88	60		be highly delighted 心花怒放	92	82		feel like experiencing of different life time ...	92						
too lonely to sleep 孤枕难眠	78	44		afraid of being found out 心虚	92	44		feel like experiencing of different life time ...	92						
feel at ease 安心	94	40						feel like experiencing of different life time ...	92						
anxiety 害怕	94	88						feel like experiencing of different life time ...	92						
be bashful 害羞	88	66						feel like experiencing of different life time ...	92						

Word	Familiarity	Typicality	Word	Familiarity	Typicality	Word	Familiarity	Typicality
petrified 惊呆	84	82	defeat 战胜	92	8	expect to 期许	80	24
pleasantly surprised 惊喜	94	88	dance with joy [excitement] 手舞足蹈	88	60	stupefied 木然	62	40
nice surprise 惊喜不已	88	88	have no idea [not to know] what to do with one's ...	90	52	plan ahead 未雨绸缪	72	8
wonder 惊奇	92	82	blow 打击	90	28	like the man of qi who was haunted by the fear that the ...		
astonished 惊异	86	80	feel disappointed 扫兴	90	54	sky might fall / to entertain imaginary ...	38	
startling 惊心	88	80	depression 抑郁	94	76	or groundless fears 杞人忧天	84	
alarmed and panicky 惊恐	94	88	sob 抽泣	84	48	pleasure 欢乐	96	82
thriller 惊悚	88	72	worry 担心	92	66	joyful 欢喜	96	86
consternation 惊愕	82	86	bestir 振作	96	36	happy laughter and cheerful voices ...	92	42
scared 惊慌	96	88	rouse 振奋	94	62	rapture 欢天喜地	88	78
be seized with panic 惊慌失措	90	82	fill people with enthusiasm 振奋人心	90	58	cheerful and light-hearted 欢快	96	80
lose countenance due to panic 惊慌失色	88	76	follow one's own inclination 放任自流	74	16	jubilant 欢欣	88	80
surprised 惊讶	94	90	relax 放松	96	28	delighted 欣喜	92	84
have hardly recovered from a ...			helpless 无助	96	50	be relieved 欣慰	96	58
recent shock 惊魂未定	80	60	feel [be] helpless 无可奈何	92	54	hysteria 歇斯底里	84	78
be pleased 惬意	94	64	feel too ashamed to show one's face ...	92	48	apology 歉意	90	46
ashamed 惭愧	96	68	have no alternative 无奈	94	56	assertive 武断	80	20
terrified 惶恐	96	92	have no type without a single worry ...	90	46	diabolic 毒辣	88	34
delightful 愉快	94	84	merciless 无情	92	46	storm of anger 气冲冲	92	88
joyful 愉悦	98	84	have nothing to do 无所事事	94	10	indignant 气愤	94	90
extraordinarily meaningful 意义非凡	90	14	does not matter 无所谓	96	30	discouragement 气馁	90	58
accident 意外	94	30	no desire and no pursuit 无欲无求	80	30	perspire from embarrassment or shame ...		
stunned 愕然	70	78	be fearless [dauntless undaunted] ...	88	48	汗颜	88	52
sentimental 感伤	90	74	listless 无精打采	92	40	ponder 沉思	96	22
be touched 感动	96	70	bored 无聊	94	46	composure 沉着	90	36
sigh with feeling 感叹	92	54	can do nothing for sb. (about sth.) ...	94	28	imperturbable 沉着冷静	92	40
empathy 感同身受	74	36	have nothing to say in reply 无言以对	90	20	become intoxicated 沉醉	86	54
feel grateful 感恩	96	48	speechless 无语	94	44	heavy 沉重	90	44
sigh with emotion 感慨	90	44	be sleepy [drowsy] 昏昏欲睡	88	16	dismay 沮丧	96	88
be thankful 感激	98	64	dizzy 晕眩的	80	18	cure 治愈	90	8
thank 感谢	94	38	secretly feel very comfortable and happy in one's ...	86	78	placid 波澜不惊	76	34
indignant 愠	40	44	heart 暗爽	86	90	choke with sobs 泣不成声	88	72
detest the world and its ways 愤世嫉俗	90	58	furious 暴怒	86	90	one's face is covered with tears ...	90	58
rage 愤怒	94	82	burst into laughter 暴笑	88	72	low-spirited 消沉	88	60
be ashamed and uneasy 愧疚	88	82	stamp with rage 暴跳如雷	84	90	tear and nasal discharge accompany each other ...	72	68
flurried 慌张	92	64	irascible 暴躁	92	78	calm 淡定	94	60
nurse a grievance 憋屈	80	38	interesting 有趣	94	34	indifferent to fame and self interests ...	88	16
long for 憧憬	88	86	look forward to 期待	96	32	light 淡然	92	38
annoyed 懊恼	94	70				treat with indifference 淡然处之	80	32
feel remorse 懊悔	94	16						
cowardly 懦弱	90	16						
clueless 懵懵懂懂	70	16						

Word	Familiarity	Typicality	Word	Familiarity	Typicality	Word	Familiarity	Typicality
careful consideration	深思熟虑	96	insane	疯狂	94	tremble with fear [fright]	胆战心惊	88
deep love	深情	58	fatigue	疲乏	88	self-confident	自信	96
chaos	混乱	32	tired	疲倦	94	feel oneself inferior	自卑	92
moderate	温和	22	exhausted	疲惫	90	arrogant	自大	92
warm	温暖	22	grieve to the extent of wishing to die ...	痛不欲生	90	self-surrender	自弃	84
yearn for	渴望	52	feel deep pain in one's heart	痛彻心扉	82	feel ashamed of one's inferiority ...	自愧不如	94
with joy in one's heart	满心欢喜	88	heartache	痛心	92	search one's conscience	自我反省	94
satisfaction	满意	56	heartache and headache -- with deep hatred ...	痛心疾首	86	complacent	自满	90
content	满足	58	very happy	痛快	86	abandon oneself to vice	自甘堕落	86
care nothing about	漠不关心	36	suffering	痛苦	94	freedom	自由	96
be unconsciously influenced	潜移默化	88	skin-deep smile	皮笑肉不笑	76	be proud of	自豪	96
excite	激动	74	blindness	盲目	92	conceited	自负	88
passion	激情	52	look forward to	盼望	92	support oneself	自食其力	90
intense	激烈	30	feel anxious	着急	96	comfortable	舒适	94
fire catches the eyebrows --	火烧眉毛	92	contradiction	矛盾	92	comfortable	舒服	94
extremely urgent	火烧眉毛	56	smile through tears	破涕为笑	82	entirely free from worry	舒畅	88
be vexed	烦恼	76	break the cauldrons and sink the boats (after crossing) ...	破釜沉舟	86	as if thinking of sth.	若有所思	90
be fidgety	烦躁	78	modest	稳重	96	enjoy life though hard up	苦中作乐	92
irritancy	烦闷	82	down and out	穷困潦倒	86	vexed	苦恼	92
enthusiasm	热情	58	hollow	空虚	96	bitter and astringent	苦涩	90
anxious	焦急	84	be secretly delighted	窃喜	88	bitter smile	苦笑	90
extremely anxious	焦虑	84	warm-hearted	窝心	78	anguish	苦闷	94
restless with anxiety	焦躁	82	try one's best	竭尽全力	94	become enlightened at once	茅塞顿开	84
be familiar with	熟悉	14	grinning all the time	笑口常开	98	vacant	茫然	92
helpless	爱莫能助	80	wear a broad smile	笑容可掬	82	be at one's wit's end	茫然无措	88
feel well	爽快	90	smiling all over one's face	笑容满面	92	despise	蔑视	84
readily	爽快	46	smile silently	笑而不语	88	pious	虔诚	88
hesitate	犹豫	52	wait	等待	94	hypocrisy	虚伪	90
hesitant	犹豫不决	44	nervous	紧张	94	accept ... with an open mind	虚心接受	92
doubt	狐疑	60	tired	累	96	vanity	虚荣	96
heartless	狠心	48	be entangled with	纠结	96	have no choice	被逼无奈	86
vicious	狠毒	32	careful	细心	94	affectation	装模作样	92
rational	理智	22	give up all hope	绝望	96	turn a blind eye	视而不见	88
understand	理解	12	cherish the memory of	缅怀	86	acknowledge	认同	90
sweet	甜蜜	48	shame	羞愧	90	firmly believe	认定	92
angry	生气	90	shy	羞涩	90	serious	认真	94
sulking	生气	64	envy	羡慕	96	disgusting	讨厌	92
speaking one's mind freely [without reticence] ...	畅所欲言	14	timid	胆怯	92	arguments exhausted	词穷	84
fear	畏惧	80				be astonished	诧异	90
be reluctant to leave (a place)	留恋	46				forgive	谅解	90
feel uncertain	疑惑	54				prudent	谨慎	94

Word	Familiarity	Typicality	Word	Familiarity	Typicality	Word	Familiarity	Typicality
bold and generous 豪迈	90	38	contempt 鄙视	92	36	unforgettable 难忘	98	28
skeptic 质疑	92	32	grieved 酸楚	80	62	find it difficult to tear apart 难舍难分	86	50
unconventional 超脱	74	22	be filled with wisdom 醍醐灌顶	64	20	have a hard time 难过	96	86
become stronger and stronger in dealing with trials and ...			come to realize the truth one's error ...			be alive with ambition 雄心勃勃	86	40
tribulations 越挫越勇	86	18	醒悟	94	22	shock 震惊	96	88
hold [carry] one's head high 趾高气扬	86	58	dismiss from one's mind 释怀	80	46	astonish 震撼	94	54
hesitate 踌躇	80	38	wild ambition 野心	94	20	potent 霸道	92	18
mania 躁狂	88	82	unflaggingly 锲而不舍	90	18	pride 骄傲	94	44
look down on 轻视	94	36	be perfectly calm and collected ...			ride a tiger and find it hard to get off ...		
miserable 辛酸	94	56	镇定自若	86	42	骑虎难下	78	26
burn the bridge after crossing / it be ungrateful and ...			stroll idly in a courtyard 闲庭信步	62	18	disturbance 骚动	80	22
leave one's benefactor in the lurch / drop ...			cover tightly 闷	94	58	glad 高兴	98	90
one's benefactor as soon as his help is ...			in a bad mood 闷闷不乐	92	82	tact agreement 默契	94	10
not required 过河拆桥	86	6	shadow 阴影	92	18	eclipse 黯然	84	56
confused 迷茫	94	52	dark 阴暗	90	18	delighted 喜	92	88
adapt 适应	92	6	insidious 阴险	96	26	wrath 怒	90	96
escape 逃避	96	16	be intoxicated 陶醉	94	60	worry 忧	90	88
evil 邪恶	92	24	estrangement 隔阂	76	8	think 思	84	26
gloomy 郁闷	96	82	hard to extricate oneself 难以自拔	90	48	sad 悲	90	92
scorn 鄙夷	78	52	uncomfortable 难受	96	80	afraid 恐	88	90
contempt 鄙视	96	46	unbearable 难堪	94	56	be frightened 惊	92	84

Table S3. Average Valence, Arousal and Dominance Ratings for Chinese Emotion**Words.****Table S3. Average Valence, Arousal and Dominance Ratings of Chinese Emotion Words.**

Word		Valence	Arousal	Dominance
joyful	欢喜	7	6	6
delighted	喜	7	6	5
happy & pleased	喜悦	7	6	6
glad	高兴	7	6	5
feel well	爽	8	7	6
pleasantly surprised	惊喜	8	6.5	7
amazed	吃惊	5	5	5
greatly surprised	大吃一惊	5	7	6
surprised	惊讶	5	6	5
alarmed & panicky	惊恐	3	7	6
scared	惊慌	4	6	6
fear	恐惧	3	6	6
afraid	恐	4	6	5
anxiety	害怕	3	6	5.5
disgusted	厌恶	3	5.5	5.5
bristle with anger	怒发冲冠	2	8	5.5
furious	暴怒	2	7	7
wild wrath	大怒	3	7	6
storm of fury	怒气冲冲	3	6.5	5
storm of anger	气冲冲	4	6	3
indignant	气愤	3	7	5.5
wrath	怒	4	6	5.5
rage	愤怒	3	6	6
distressed	哀伤	3	4.5	6
heart-broken	伤心	3	5	5
sorrow & sadness	悲伤	3	5	5
have a hard time	难过	4	4.5	5
grief	哀	4	4	6
dismay	沮丧	3	4.5	6
anguish	苦闷	3	3.5	5
worry	忧	4	4.5	5
vexed	苦恼	3	4	6
unhappy	不开心	4	3.5	4.5
embarrassment	尴尬	4	5	5.5
shame	羞愧	3	6	5
pride	骄傲	7	6	5
despise	蔑视	3	5	5

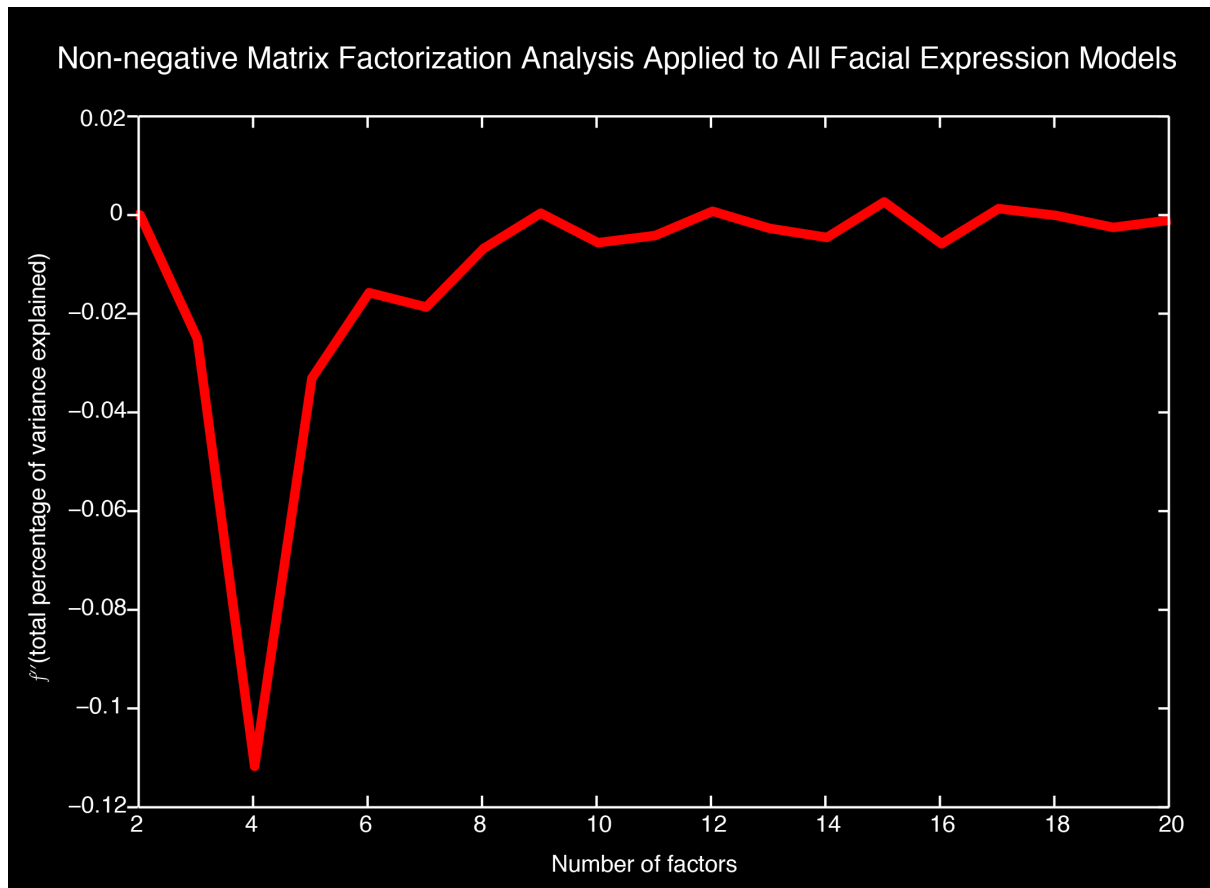


Figure S1. Determining the Optimal Number of Factors to Represent the Models of Facial Expressions of Emotion Across Cultures. To identify the optimal number of factors to represent the models of facial expressions of emotion across cultures, we proceeded in three steps. First, we pooled the 25 Western Caucasian and 37 East Asian models of facial expressions of emotion (each represented as a 1 X 42-dimensional vector detailing the coefficients of each AU's positive correlation with the categorization responses), resulting in a matrix (i.e., 62 facial expressions X 42 AUs) of real values. To this matrix, we then applied Non-Negative Matrix Factorization (NMF) in an iterative manner ($k = 2$ to 20 factors, 1000 replicates per iteration), computed the variance explained at each iteration, and identified the minimum of the curve using the second derivate (Cattell, 1966). Our analysis revealed that four factors best represent the pooled Western Caucasian and East Asian models of facial expressions of emotion.

Table S4. All Action Units (AUs) Corresponding to Each Factor.

Table S4. All Action Units (AUs) Corresponding to Each Factor.

Factor 1	Factor 2	Factor 3	Factor 4
Lip Corner Puller (AU12)	Brow Lowerer (AU4)	Upper Lid Raiser (AU5)	Nose Wrinkler (AU9)
Lip Corner Puller-Cheek Raiser (AU12-6)	Lip Stretcher (AU20)	Mouth Stretch (AU27)	Upper Lip Raiser (AU10)
Dimpler (AU14)	Eyes Closed (AU43)	Jaw Drop (AU26)	Upper Lip Raiser Left (AU10L)
Lip Corner Puller Left (AU12L)	Lip Pressor (AU24)	Outer Brow Raiser (AU2)	Upper Lip Raiser Right (AU10R)
Sharp Lip Puller (AU13)	Lip Stretcher Right (AU20R)	Inner Brow Raiser-Outer Brow Raiser (AU1-2)	Nasolabial Deepener Left (AU11L)
Lip Corner Puller Right (AU12R)	Lip Stretcher Left (AU20L)	Outer Brow Raiser Left (AU2L)	Lower Lip Depressor (AU16)
Dimpler Left (AU14L)	Chin Raiser (AU17)	Lips Part (AU25)	Lip Funneler (AU22)
Dimpler Right (AU14R)	Cheek Raiser Left (AU6L)		Nasolabial Deepener Right (AU11R)
Lip Corner Puller-Lips Part (AU12-25)	Cheek Raiser Right (AU6R)		Lid Tightener Right (AU7R)
Inner Brow Raiser (AU1)	Lip Corner Depressor (AU15)		Lid Tightener (AU7)
Nostril Dilator (AU38)	Lip Tightener (AU23)		
	Cheek Raiser (AU6)		
	Nostril Compressor (AU39)		
	Lid Tightener Left (AU7)		

Table S5. Median Linear Coefficient Value and Number of Models per Factor and Culture.

Table S5. Median Linear Coefficient Value and Number of Models per Factor and Culture.

		Factor 1	Factor 2	Factor 3	Factor 4
Western	M	0.22	0.28	0.25	0.28
	SE	0.17	0.12	0.17	0.15
	N (%)	6 (24)	9 (36)	5 (20)	5 (20)
East Asian	M	0.14	0.19	0.22	0.23
	SE	0.10	0.06	0.12	0.14
	N (%)	8 (21.6)	14 (37.8)	6 (16.2)	9 (24.3)

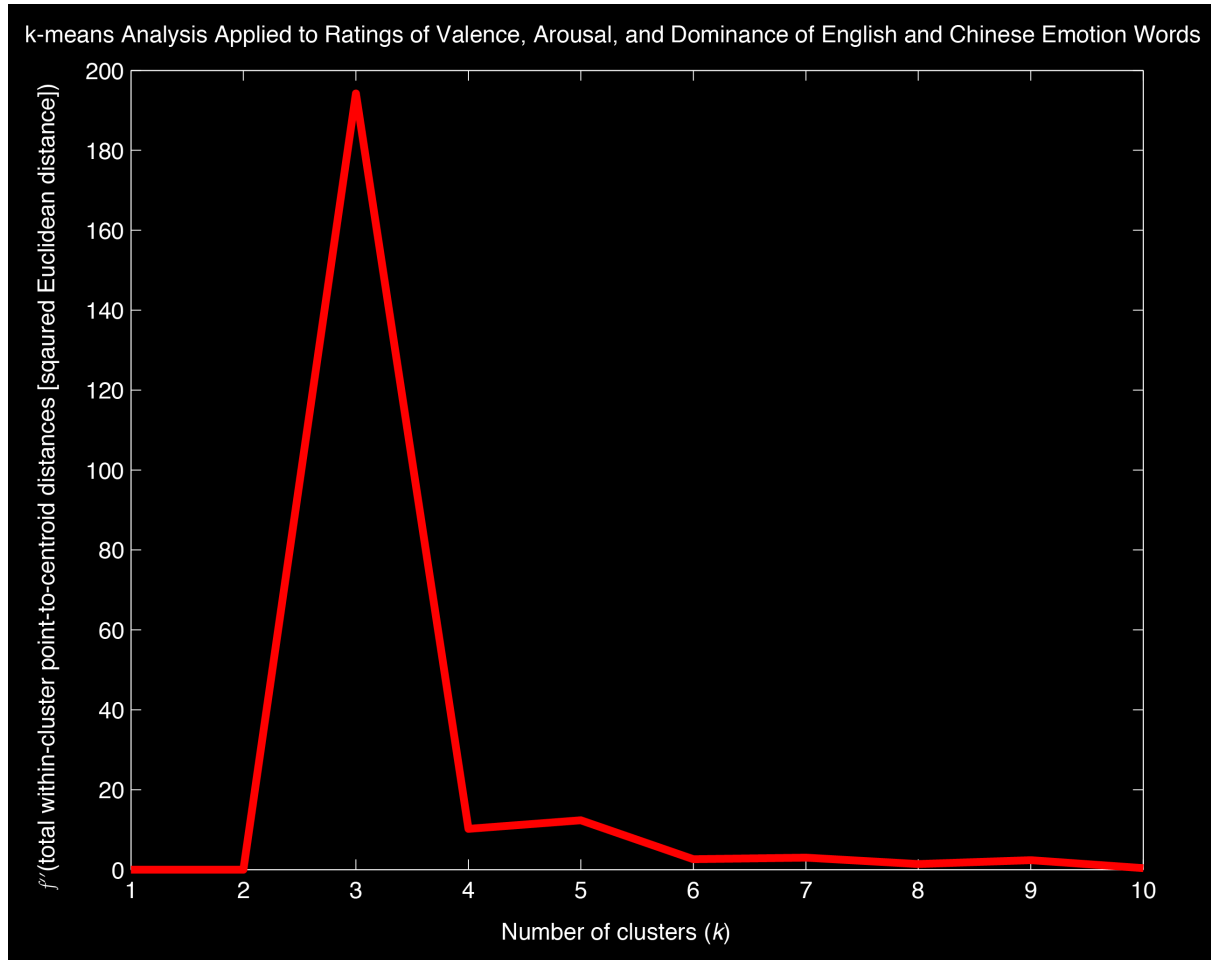


Figure S2. Determining the Optimal Number of Clusters to Represent Facial

Expressions of Emotion According to Valence, Arousal, and Dominance. To identify the optimal number of clusters to represent facial expressions of emotion according to valence, arousal and dominance, we proceeded as follows. First, we extracted the average ratings of valence, arousal, and dominance for each emotion word a culturally valid facial expression model (i.e., $d\text{-prime} > 1$; see *Method – Valence, arousal, and dominance of emotion words in each language*), thereby producing a 62 (emotion words) X 3 (valence, arousal, dominance) matrix of real values ranging from 1 (lowest rating) to 9 (highest rating). We then applied to this matrix a k-means cluster analysis in an iterative manner ($k = 2$ to 10 clusters, 1000 replicates per iteration), computed the total within-cluster point-to-centroid distances (squared Euclidean distance) at each iteration, and identified the maximum of the curve using

the second derivate (Cattell, 1966). Our analysis revealed that three clusters best represent the data, with each cluster representing specific ratings of valence, arousal, and dominance.

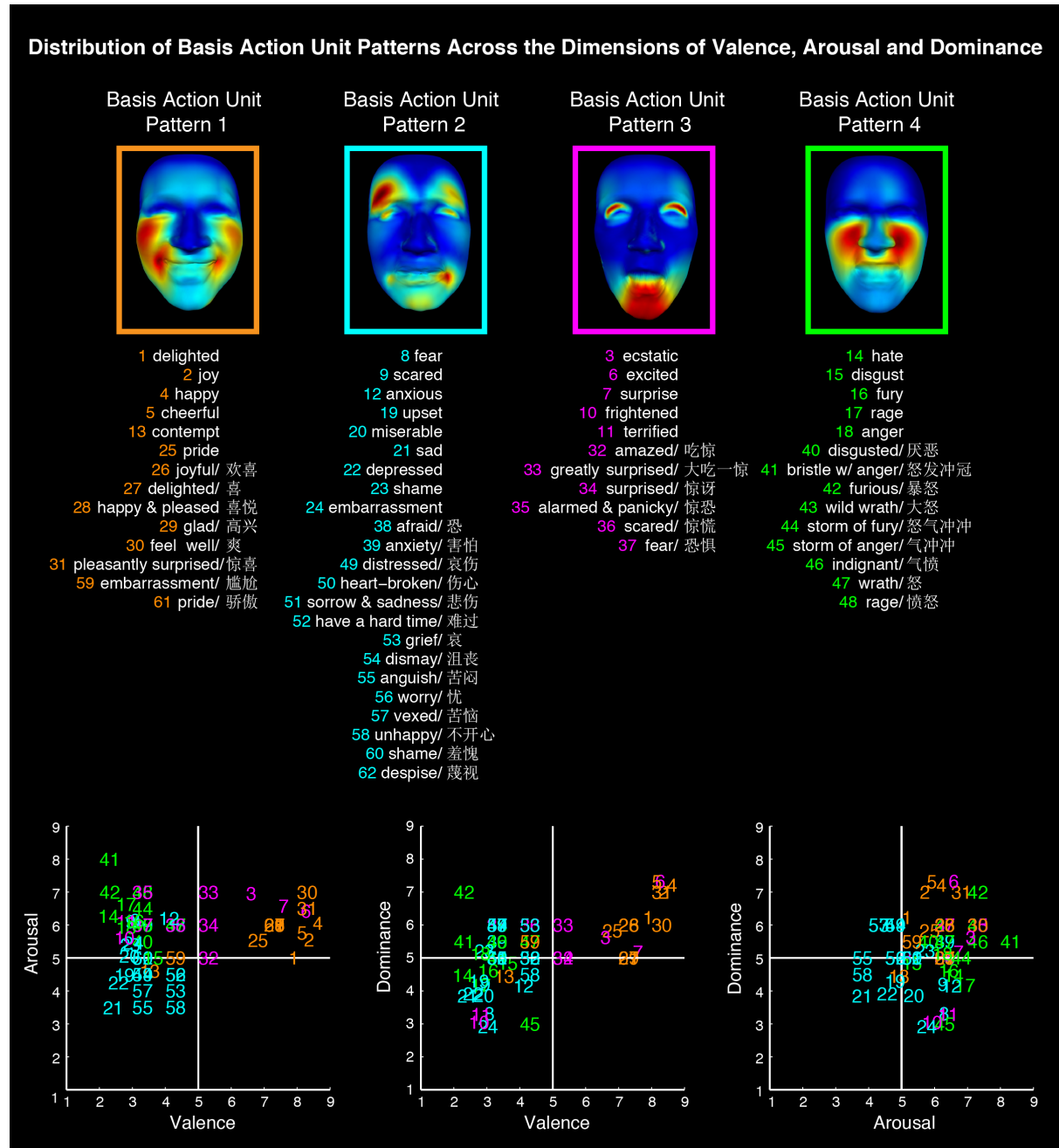


Figure S3. Distribution of Basis Action Unit Patterns Across the Dimensions of Valence, Arousal and Dominance. We replicate the portion of Figure 5 that shows the list of color-coded emotion words associated with each basis AU pattern, and the distribution of emotion

words across the dimensions of valence, arousal and dominance as three separate 2-dimensional plots.