

Comment: Frameworks for Theory and Research on Positive Emotions

Journal:	<i>Emotion Review</i>
Manuscript ID	EMR-16-1001.R2
Manuscript Type:	Commentary
Date Submitted by the Author:	07-Jan-2017
Complete List of Authors:	Roseman, Ira; Rutgers University CCAS, Psychology
Area/Discipline:	social < psychology, cognitive < psychology
Keywords:	discrete emotions, positive emotions, emotion functions, emotion strategies
Abstract:	Contributions to this special section on positive emotions are summarized and integrated within a framework for organizing theory and research on particular emotions. Emotions are conceptualized as largely non-conscious strategies (for coping with crises and opportunities), elicited by situational and appraisal antecedents, with phenomenological, physiological, expressive, behavioral, and emotivational goal components. Within this framework, theories are compared, inconsistencies and gaps in knowledge are identified, and issues in emotion theory are discussed.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Running Head: FRAMEWORKS FOR POSITIVE EMOTIONS

Comment: Frameworks for Theory and Research on Positive Emotions

Ira J. Roseman

Rutgers University CCAS

Correspondence to:

Ira Roseman

Rutgers University

Camden, NJ 08102

Email: ira.roseman@rutgers.edu

For Peer Review

Abstract

Contributions to this special section on positive emotions are summarized and integrated within a framework for organizing theory and research on particular emotions. Emotions are conceptualized as largely non-conscious strategies (for coping with crises and opportunities), elicited by situational and appraisal antecedents, with phenomenological, physiological, expressive, behavioral, and emotivational goal components. Within this framework, theories are compared, inconsistencies and gaps in knowledge are identified, and issues in emotion theory are discussed.

KEYWORDS: discrete emotions, positive emotions, emotion functions, emotion strategies

Frameworks for Theory and Research on Positive Emotions

The articles in this special section illustrate the fruitfulness of investigating particular patterns of positive emotion. This burgeoning research domain also presents a challenge: how can the rapidly accumulating collection of ideas and data best be organized, understood, and assimilated?

Extending the approach taken in Sauter's contribution (this issue), Table 1 presents a framework to summarize and structure a number of the authors' contributions and identify gaps in knowledge and possible research directions. The table includes key information, but is *not* a comprehensive review of everything in the articles or the literature on positive emotions, both of which are beyond the scope of this short commentary. I have also included results of relevant research from our lab, on appraisal patterns (Roseman, 2013) and characteristic responses (Roseman, King, Nugent, & Gordon, 2013) distinguishing four positive emotions discussed in this special section (relief, hope, love, and pride) and another positive emotion often studied by researchers (joy), along with theoretical material about their functions.

The rows of Table 1 list hypothesized emotions, and columns show *causes* (situations and appraisals), *components* (phenomenological, physiological, expressive, behavioral, and motivational), and *functions*. The motivational component consists of goals that people want to pursue as part of experiencing the emotion (Roseman, 2011), such as learning more about something when feeling interest (Sauter, this issue), and alleviating the suffering of vulnerable persons when feeling compassion (Stellar et al., this issue). Comparing entries within the table suggests potentially important questions.

What is the most accurate specification of emotions described differently in different theories? For example, two articles present awe as an "epistemological" emotion,

1
2
3 which functions to enhance information processing (Sauter, this issue) and learning (Valdesolo,
4
5 Shtulman, & Baron, this issue). In contrast, Stellar et al. (this issue) view awe as a self-
6
7 transcendent emotion, functioning to “help individuals negotiate their own status vis-à-vis
8
9 another by highlighting their subordinate position,” thereby promoting social cohesion. Of
10
11 course awe might be *both* an epistemological emotion *and* a self-transcendent emotion, with
12
13 emotivational goals of both cognitive and social accommodation.
14
15

16
17 Consistent with the epistemological view, note the striking similarities between awe and
18
19 the emotion of surprise. According to Reisenzein and Meyer (2009, pp. 386-387), surprise is
20
21 elicited by unexpectedness; is associated with a facial expression whose “full-blown” form
22
23 includes “eyebrow raising, eye-widening, and mouth-opening / jaw drop”; is manifest in
24
25 orienting to the surprising event, “investigative activities,” and “the reallocation of processing
26
27 resources to the unexpected event”; and whose function involves “schema update.” Stellar et al.
28
29 also cite research suggesting the experience of awe can be positive or negative in valence, which
30
31 is an attribute that is rare and uncharacteristic of emotions other than surprise.
32
33
34
35

36
37 **Should each of these states be considered discrete emotions?** According to Sauter
38
39 (this issue), extant evidence on nonverbal signals suggests that pride, amusement, relief, awe,
40
41 and interest may be the most recognizable positive emotional states, and in that sense “the most
42
43 likely candidates for potentially basic positive emotions, equivalent to the set of negative
44
45 emotions that are reliably communicated via nonverbal signals (e.g., fear, disgust, anger).”
46
47

48
49 If some positive emotion states are not distinct emotions, what else might they be? One
50
51 possibility is *combinations* of emotions. For example, awe might be a combination of fear and
52
53 joy (Konečni, 2005), or, given the correspondences noted above, surprise, fear, and joy.
54
55 Relevant to the role of fear within this mix, Stellar et al. (this issue) cite research linking awe to
56
57
58
59
60

piloerection, which Benedek and Kaernbach (2011) suggest may be associated with “the threatening aspect of being moved” (emotionally). Compassion might involve a combination of love and sadness. Sauter (this issue) notes that studies have found some facial features of sadness in compassion expressions, and that compassion expressions are often mistaken for sadness or confused with love and gratitude expressions. Sauter also cites research indicating that elation is caused by unexpected positive events, and facially expressed by smiles with open mouth, raised brows, and widened eyes; could it be a mixture of joy (manifest in smiling) and surprise (corresponding to the other specified features)?

A second possibility is that some emotion states are types or *variants* of others. For example, Sauter (this issue) cites data showing vocal expressions of love and gratitude are often identified as compassion, suggesting all three vocalizations may communicate a general prosocial affiliative state. Might gratitude and compassion then be variants of love, akin to Harlow’s (1971) “infant love” (which for Harlow encompassed love of any young child for the mother) and “maternal love”? In light of extant research results, Feldman (e.g., 2012) has proposed that oxytocin pathways are among the mediators of maternal, romantic, and peer attachments. Thus there may be commonalities in physiological mechanisms involved in different types of love (though physiological data on oxytocin in attachment to parents is scarce and oxytocin’s effects may vary depending on environment, sex, and other factors, e.g., Hammock, 2015).

A third possibility is suggested by Kringelbach and Berridge’s article (this issue). They review evidence showing that brain substrates of *wanting* are distinct from those of *liking*. Wanting is typically thought of as a motivational construct, linked to instrumental behavior; liking is more of an emotional response, associated with pleasurable feeling. Emotions (such as

1
2
3 joy, pride, fear, and anger), more often than motives (e.g., hunger, thirst, need for achievement),
4
5 have been linked to characteristic facial expressions. This may be relevant to evidence regarding
6
7 the states of desire and interest. According to Sauter's review (this issue), "it cannot currently be
8
9 concluded that desire is associated with a nonverbal signal in any modality." As noted in Table 1,
10
11 interest has been associated with contradictory facial expressions (e.g., lips pressed together or
12
13 parted; eyelids closed or widened), and its forward lean and forward head movements could be
14
15 manifestations of information acquisition and processing motives. Should wanting generally,
16
17 and interest (desire for interaction with certain types of stimuli) and sexual desire in particular,
18
19 be considered motives rather than emotions?
20
21
22
23
24

25 The distinction matters if motives and emotions have different properties. In addition to
26
27 greater likelihood of having nonverbal signals, emotions seem more general and preemptive
28
29 compared to motives (Roseman, 2008; Tomkins, 1970). Regarding generality, motives (e.g.,
30
31 hunger, thirst, and sexual drive) appear more likely to be activated by relatively specific
32
33 conditions (e.g., food and water deprivation, erotic stimuli) and their biological substrates, and
34
35 they direct behavior toward relatively specific ends (e.g., obtaining nutrients, water, sexual
36
37 activity). In contrast, emotions may be elicited by contingencies applicable to any motive. For
38
39 example, attaining any rewarding state (including food when hungry, water when thirsty, and
40
41 sexual activity when aroused) can elicit joy. Fulfillment of any motive, if attributed to another
42
43 person, can elicit affection for that person. Attainment of any motive attributed to the (individual
44
45 or extended) self can result in pride. Although both motives and emotions can engender
46
47 instrumental behavior, the emotivational goals of emotions (e.g., to continue rewarding events in
48
49 joy, to maintain closeness in love, to obtain recognition for whatever accomplishments or
50
51
52
53
54
55
56
57
58
59
60

1
2
3 attributes are positively valued in pride) may be broader and more variably fulfilled than the
4
5 goals of motives (which appear to be subsets of those that elicit emotions).
6
7

8 With regard to pre-emptiveness: though qualified by the relative intensity of a motive vs.
9
10 an emotion on a particular occasion, emotions may tend to take precedence over motives
11
12 (Leeper, 1970; Tomkins, 1970). Frijda (2007, p. 123) also distinguishes between emotions and
13
14 “concerns” (his term for constructs such as motives, needs, and goals). Appraisals of concern-
15
16 relevance (e.g., of events) give rise to emotions, which have “control precedence” (pp. 28-29):
17
18 focusing attention on emotion-relevant stimuli and tending to interfere with “other pursuits”
19
20 (though Frijda does not specify them, the goal-directedness of “pursuits” suggests they fall
21
22 within the concern domain). We can find positive emotion examples in research by Shaver et al.
23
24 (1987): describing experiences of love, participants reported being preoccupied with the beloved
25
26 person, and also forgetful and distracted. Describing experiences of joy, participants reported
27
28 seeing only the bright side of things and feeling invulnerable. While mild positive affect may be
29
30 associated with cognitive flexibility (Isen, 2008), high levels of positive emotion may lead to
31
32 inattention to dangers and difficulty inhibiting risky behaviors (Gruber, Mauss, & Tamir, 2011).
33
34
35
36
37
38

39 **What can be learned from conceptualizing emotions as strategies?** Looking across
40
41 rows in Table 1 suggests that the components of a given emotion may be understood, not as
42
43 isolated phenomena, but as interrelated responses that have co-evolved, with each emotion
44
45 forming a (typically non-conscious) *strategy* for coping with a particular type of crisis (specific
46
47 negative emotions) or opportunity (specific positive emotions; Roseman, 2011). For example, as
48
49 shown in Table 1, the hypothesized strategy formed by the responses of love involves moving
50
51 toward someone in physical or social space, increasing contact and interaction with a person
52
53
54
55
56
57
58
59
60

1
2
3 whose attributes or actions are appraised as causing satisfaction of motives (affiliation, sex,
4 approval, etc.).
5
6

7
8 The emotivational component of an emotion provides goals that motivate instrumental
9 action to aim for outcomes consistent with the coping strategy that corresponds to the emotion.
10
11 In love, the goal of maintaining closeness and connection with another person motivates
12 behavior that establishes and strengthens interpersonal relationships, within which satisfying
13 contact and interaction can be regularized and facilitated.
14
15
16
17
18

19
20 The behavioral component suggests particular actions likely to achieve emotivational
21 goals and implement the strategy corresponding to the emotion. For example, hugging and
22 stroking are behaviors that can increase closeness and connection between people.
23
24
25
26

27 The expressive component comprises signals that communicate an emotion (e.g., Buck,
28 1984) and its behavioral and motivational components (Frijda, 1986), and thereby prompt
29 perceivers to act in ways that fit with the corresponding strategy. Non-threatening gaze, smiling,
30 and soft speech can communicate love and invite reciprocation. (The specific signals used to
31 communicate an emotion often have additional adaptive functions in the situational context
32 within which the emotion occurs, as when the gaze of lovers allows and facilitates interpersonal
33 interaction, or the expanded posture of pride attracts others' attention upon occasions of
34 relatively likely social reward; cf. Frijda, 1986, pp. 11-29).
35
36
37
38
39
40
41
42
43
44
45

46 The thoughts and feelings of the phenomenological component make important aspects
47 of a situation salient and cue retrieval of other experiences of the emotion and associated
48 information, thereby influencing automatic and effortful action. This is consistent with evidence
49 for emotion-congruent memory, e.g., as discussed by Levine & Pizarro, 2004, and effects of
50 discrete emotions on judgments, e.g., as demonstrated by Lerner & Keltner, 2000). In love,
51
52
53
54
55
56
57
58
59
60

1
2
3 appreciating and thinking we belong with someone focus attention on the partner's desirable
4
5 qualities and mutual compatibilities, which may increase memory for similar thoughts and
6
7 experiences. Feeling drawn to the person gives priority and urgency to the emotivational goals
8
9 and behaviors of love, which can strengthen the relationship.
10
11

12
13 The physiological component comprises the biological substrate of each of the other
14
15 components. Increases in oxytocin and activity of the dopamine reward system (De Boer, Van
16
17 Buel, & Ter Horst, 2012) may contribute to love's feeling of being drawn to someone, and its
18
19 salience and urgency.
20
21

22
23 Other emotions in Table 1 can be similarly analyzed. If the strategy that corresponds to
24
25 awe is to enhance information processing (Sauter, this issue) or facilitate the development of new
26
27 worldviews (Valdesolo et al., this issue), we can examine whether there are
28

- 29
30 • characteristically present emotivational goals (e.g., uncertainty reduction and
31
32 explanation-seeing) whose pursuit tends to implement the strategy;
- 33
34 • behaviors (e.g., exploration) likely to achieve those goals;
- 35
36 • nonverbal displays that communicate the emotion to others, prompting them to act
37
38 in ways consistent with the expresser's coping strategy (e.g., providing
39
40 information in response to awe-struck looks) or directly contribute to the strategy
41
42 (e.g., by increasing information intake).
- 43
44 • thoughts (e.g., of uncertainty) and feelings (e.g., of humility) that make awe
45
46 elicitors salient and direct cognition and instrumental action toward coping with
47
48 them.
49
50
51
52

53
54 We can also examine the extent to which people feeling awe pursue goals related to self-
55
56 diminishment and the hypothesized function of subordination to a group; enact behaviors
57
58
59
60

instrumental to those goals (self-deprecation? compliance?); display nonverbal signals related to the strategy (submission gestures?), etc.

If compassion functions to encourage care of people in need (Stellar et al., this issue), then

- the emotivational goal of caring for vulnerable others is consistent with that strategy;
- helping is behavior instrumental to that goal;
- patting touch may communicate sympathy and encourage recipients to accept care;
- thoughts of similarity and connection to others may overcome obstacles to care-giving;
- PAG activity may contribute to feeling others' pain and to parental nurturance behaviors (Simon-Thomas et al., 2012).

Researchers can also study whether there is similar coherence among responses related to the hypothesized function of promoting non-kin cooperation.

If the strategy corresponding to gratitude is to promote non-kin reciprocity (Stellar et al., this issue) and strengthen social bonds (Armenta, Fritz, & Lyubomirsky, this issue), then

- seeking to repay the benefactor (Armenta et al.) is an emotivational goal which seems consistent with that strategy;
- helping the benefactor is instrumental to that goal;
- verbal expressions of thanks communicate gratitude and may prompt additional prosocial action by the benefactor (Stellar et al.);

- thoughts about connectedness and feelings of humility (Armenta et al.) may encourage and give priority to reciprocating.

We can also investigate whether self-improvement is integral to the various components comprising the response syndrome of gratitude (Armenta et al.).

Are all responses associated with an emotion part of a coherent strategy? What if the goal of self-improvement were not related to the strategy of promoting reciprocity and strengthening social bonds? That might suggest weaker links between gratitude and self-improvement, but it would not invalidate observed relationships. Motivation for self-improvement may be a frequent *effect* of gratitude, or of one or more of gratitude's components, such as feelings of humility (Armenta et al., this issue). It could be a second-order effect of the appraisal pattern that elicits gratitude, with perceptions of the benefactor's generosity evoking an emotional state of elevation, which in turn inspires self-improvement (Armenta et al.). Similarly, prosocial behavior might be an effect of awe. Piff et al. (2015) found evidence that awe triggers the sense of a small self, which in turn leads to greater prosocial behavior.

Can gaps in the framework be filled? Empty and partially filled cells in Table 1 suggest the need for research. For example, we may try to identify nonverbal expressions of hope, action tendencies of elation, emotivational goals of sensory pleasure, and the physiological substrates of the differentiated emotional responses in the table. Some empty cells (e.g., antecedents of interest, physiology of sexual desire) can be filled from existing research not reviewed in this special section.

This framework may help make sense of the rapidly accumulating knowledge about positive emotions presented in and beyond this special section. A prototype approach to defining emotions suggests that (1) the more components of prototypical emotions a particular state is

1
2
3 found to have, the more likely it is to be regarded as an emotion; (2) the more distinctive features
4 that comprise a state (e.g., as shown in Table 1), the more likely it is to be regarded as a distinct
5 or “discrete” emotion; and (3) the more that two states overlap in features, the more likely they
6 are to be considered variants of a single emotion. For example, the differentiable observed
7 nonverbal displays of amusement, awe, interest, and relief lead Sauter to suggest them as the
8 most likely candidates for potentially basic positive emotions. The overlap in features between
9 contentment and sensory pleasure, and confusions in distinguishing between them, raise
10 questions about their status as distinct emotions.

11
12
13
14
15
16
17
18
19
20
21
22 **Beyond perfect coherence.** But this approach, though it seems useful, is not definitive.
23 Suppose there is *no* nonverbal expression of hope. Could it still be considered an emotion
24 (Cohen-Chen, Crisp, & Halperin, this issue) based on its having other emotion components and
25 properties, which form a strategy for coping (with situations of potential goal attainment)?
26 Suppose that there are no distinct brain networks corresponding to the different positive emotion
27 states distinguished in Table 1 (see Lindquist, Wager, Kober, Bliss-Moreau, & Barrett, 2012).
28 Would it mean that the empirical relationships among responses documented by the articles in
29 this special section don’t really exist, or are not based in brain and bodily response?

30
31
32
33
34
35
36
37
38
39
40
41 Insofar as there are patterns among responses, identifying them adds to scientific
42 knowledge. Debating whether a given state is or is not a discrete emotion can advance the field
43 insofar as the classification facilitates prediction. Proposing that a particular state is a positive
44 emotion prompts us to look for (in addition to positive hedonic tone) the likely presence of
45 nonverbal signals, action tendencies, and emotivational goals, together with related properties
46 such as subjective urgency and control precedence. I say *likely* presence because relationships
47 among variables in science very rarely hold under all conditions. The authors whose work
48
49
50
51
52
53
54
55
56
57
58
59
60

appears in this special section are to be commended for contributing to what we know about the causes, components or correlates, and functions of such a rich variety of states.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

For Peer Review

References

Armenta et al. (this issue)

Benedek, M., & Kaernbach, C. (2011). Physiological correlates and emotional specificity of human piloerection. *Biological Psychology*, *86*(3), 320-329.

Buck, R. (1984). *The communication of emotion*. New York: Guilford.

Cohen-Chen et al., (this issue)

De Boer, A., Van Buel, E.M., & Ter Horst, G J. (2012). Love is more than just a kiss: a neurobiological perspective on love and affection. *Neuroscience*, *201*, 114-124.

Feldman, R. (2012). Oxytocin and social affiliation in humans. *Hormones and Behavior*, *61*(3), 380-391.

Frijda, N.H. (1986). *The emotions*. New York: Cambridge.

Frijda, N.H. (2007). *The laws of emotion*. Mahwah, NJ: Erlbaum.

Gruber, J., Mauss, I.B., & Tamir, M. (2011). A dark side of happiness? How, when, and why happiness is not always good. *Perspectives on Psychological Science*, *6*(3), 222-233.

Hammock, E.A. (2015). Developmental perspectives on oxytocin and vasopressin. *Neuropsychopharmacology*, *40*(1), 24-42.

Harlow, H.F. (1971). *Learning to love*. San Francisco: Albion.

Konečni V.J. (2005). The aesthetic trinity: Awe, being moved, thrills. *Bulletin of Psychology and the Arts*, *5*, 27-44.

Kringelbach & Berridge (this issue).

Leeper, R.W. (1970). The motivational and perceptual properties of emotions as indicating their fundamental character and role. In M.B. Arnold (Ed.), *Feelings and emotions: The Loyola symposium* (pp. 151-168). New York: Academic Press.

- 1
2
3 Lerner, J.S., & Keltner, D. (2000). Beyond valence: Toward a model of emotion-specific
4
5 influences on judgement and choice. *Cognition & Emotion*, 14(4), 473-493.
6
7
8 Levine, L.J., & Pizarro, D.A. (2004). Emotion and memory research: A grumpy overview. *Social*
9
10 *Cognition*, 22, 530-554.
11
12
13 Lindquist, K.A., Wager, T.D., Kober, H., Bliss-Moreau, E., & Barrett, L.F. (2012). The brain
14
15 basis of emotion: a meta-analytic review. *Behavioral and Brain Sciences*, 35, 121-143.
16
17
18 Piff, P.K., Dietze, P., Feinberg, M., Stancato, D.M., & Keltner, D. (2015). Awe, the small self,
19
20 and prosocial behavior. *Journal of Personality and Social Psychology*, 108(6), 883-899.
21
22
23 Reizenzein, R., & Meyer, W.U. (2009). Surprise. In D. Sander, & K.R. Scherer (Eds.), *Oxford*
24
25 *companion to emotion and the affective sciences* (pp. 386-387). New York: Oxford.
26
27
28 Roseman, I.J. (2008). Motivations and emotivations: Approach, avoidance, and other tendencies
29
30 in motivated and emotional behavior. In A. J. Elliot (Ed.), *Handbook of approach and*
31
32 *avoidance motivation* (pp. 343-366). New York: Psychology Press.
33
34
35 Roseman, I.J. (2011). Emotional behaviors, emotivational goals, emotion strategies: Multiple
36
37 levels of organization integrate variable and consistent responses. *Emotion Review*, 3(4),
38
39 434-443.
40
41
42 Roseman, I.J. (2013). Appraisal in the emotion system: Coherence in strategies for coping.
43
44 *Emotion Review*, 5, 141-149.
45
46
47 Roseman, I.J., King, E., Nugent, M.K., & Gordon, P.L. (2013, August). *Are positive emotions*
48
49 *empirically distinguishable?* Paper presented at the 20th Conference of the International
50
51 Society for Research on Emotions, Berkeley, CA.
52
53 Sauter (this issue)
54
55
56
57
58
59
60

1
2
3 Shaver, P., Schwartz, J., Kirson, D., & O'Connor, C. (1987). Emotion knowledge: Further
4
5 exploration of a prototype approach. *Journal of Personality and Social Psychology*, 52,
6
7 1061-1086.
8
9

10 Simon-Thomas, E.R., Godzik, J., Castle, E., Antonenko, O., Ponz, A., Kogan, A., & Keltner,
11
12 D.J. (2012). An fMRI study of caring vs self-focus during induced compassion and
13
14 pride. *Social Cognitive and Affective Neuroscience*, 7(6), 635-648.
15
16

17 Tomkins, S.S. (1970). Affect as the primary motivational system. In M. B. Arnold (Ed.), *Feelings*
18
19 *and emotions: The Loyola Symposium* (pp. 101-110). New York: Academic Press.
20
21

22 Valdesolo et al. (this issue)
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

FRAMEWORKS FOR POSITIVE EMOTIONS

17

Table 1. Special section content within a framework for studying proposed positive emotions.¹

Proposed Emotion	Causes of Emotion		Emotion Components, Part I	
	Antecedents	Appraisals	Phenomenological	Physiological
Sexual desire				
Sensory pleasure	physical stimulus, e.g., food or sex; pleasant touch; learned associations ^b		enjoyment ^b	nucleus accumbens, ventral pallidum, mid anterior orbitofrontal cortex^c
Interest				
Awe	high-ranking other person; nature, art, religious experiences^d	vastness, not immediately understood ^d something greater than oneself ^b expectation violation ^f	humility, reduced entitlement; connectedness; positive or negative valence^d uncertainty^f	piloerection^d
Joy		increased reward, certain^g	something great; excited^h	
Contentment	satisfaction of basic needs ^b			
Amusement	resolution of incongruity ^b		funny ^b	
Elation	specific positive event ^b	unexpected ^b	high arousal ^b	
Relief	unpleasant ends, won't occur, or will be less bad ^b	decreased aversive, certain^g	worst over; tension decrease^h	
Hope	imagining situation better and different from current state; see others' hope ⁱ	change is desirable and possible ⁱ uncertain improvement^g	what will happen next^h	
Love		improvement caused by other person^g	appreciate, belong with other person; drawn to other person^h	
Compassion	Other's distress ^{b,d}	other vulnerable or suffering; other will reciprocate ^d	concern for another's suffering: trust; connection to others^d	↑ vagal activity, PAG activation; ↓ heart rate; slower respiration^d
Gratitude	Other's kindness ^d Other helps ^b	benefit from other's intentional action ^d	feelings of connectedness^e humility^e	
Admiration	other's insight, artistic feat ^b	other's extraordinary achievement ^b		
Pride	completion of a goal ^b	improvement caused by self ^g	accomplished; powerful^h	

FRAMEWORKS FOR POSITIVE EMOTIONS

18

Table 1 (continued)

Proposed Emotion	Emotion Components, Part 2			Emotion Strategy or Function
	Expressive	Behavioral	Emotivational goal	
Sexual desire	lip touch, lick, bite; tongue protrusion^b		sexual activity ^b	
Sensory pleasure	long, low, variable vocalizations; smile with closed eyes; mouth opening ^b			
Interest	fast speech; parted lips or lip press; eyes widened, closed, or squinting; forward lean, head movement ^b	exploration ^b	learn more about something ^b	
Awe	head forward, up; open jaw; raised inner brow; widened eyes; inhalation^{b,d}	generosity; helping^{d,e} ethical decision-making^e exploration^f	↓ self-interest motivation ^d accommodate ^{e,f} ↓ uncertainty; seek explanation ^f	enhance information processing ^b , new worldviews ^f ; subordinate to leader/group; ↑ social cohesion ^d
Joy	smile ⁱ	celebrate^h	keep good times coming^h	move toward something ^k
Contentment	low intensity smiles, pressed lips ^{?b}			
Amusement	laughter; large smile with open jaw, crow's feet; head movement^b			
Elation	smiles with widened eyes; arms out; repetitive, fast limb movements^b			
Relief	sighs; low intensity smile with mouth opening; head movement up^b	slow down; take break^h	recuperate^h	stop moving away from something ^k
Hope		anticipate; wait^h think and plan how to achieve goalⁱ	have what you want happen^h	guide goal-directed action ⁱ ; prepare to move toward or to stop moving away from something ^k
Love	low volume, pitch, variability, slow speech; smile; mutual gaze; forward lean, affiliative hand gestures^b	hold other; touch other^h hugging, stroking^b	be close to other person; be connected to other person^h commitment^b	move toward other person (in social space) ^k
Compassion	patting, stroking^b patterns of vocalization^d	helping²	care for vulnerable others ^d	encourage care of offspring; promote non-kin cooperation ^d
Gratitude	touch^d; verbal responses^d handshake^{?b}	prosocial behavior to benefactor^d kind acts to others^e	contribute to society^e; repay^{b,e} self-improvement efforts^e	promote non-kin reciprocity ^d ↑ social bonds; self-improvement ^e
Admiration	wow ^{?b}			
Pride	sexpanded posture with head back, small smile^b	show what you can do ^h	get recognition ^h	move toward self (manifest own qualities) ^k ; enhance social status ^b

^aFootnotes refer to articles in this special section (secondary sources); they list authors of original research and theories (primary sources). ^bSauter (this issue). ^cKringelbach and Berridge (this issue). ^dStellar et al. (this issue). ^eArmenta et al. (this issue). ^fValdesolo et al. (this issue). ^gRoseman, Antoniou, and Jose (1996). ^hRoseman, King, Nugent, and Gordon (2013). ⁱCohen-Chen et al. (this issue). ^jMatsumoto and Ekman (2008). ^kRoseman (2011). **Bold** indicates special section contributors clearly referenced empirical support.