# Guidelines for categorising words as feelings

This page contains the working definition of a 'feeling' as well as descriptions of the 10 categories used for the study. Please familiarise yourself with these descriptions and also consult them for categorising each word and word sense in the study.

### Working definition of a feeling

**Feeling:** A "feeling" is a fundamental construct in the behavioral and neurobiological sciences encompassing a wide range of mental processes and individual experiences, many of which relate to homeostatic aspects of survival and life regulation [1-5]. A broad definition for feeling is a perception/appraisal or mental representation that emerges from physiological/bodily states [1,2,6], processes inside (e.g., psychological processes) and outside the central nervous system, and/or environmental circumstances. However, the full range of feelings is diverse as they can emerge from emotions [1,3,4], levels of arousal, actions [7,8], hedonics (pleasure and pain) [1-4], drives [1,9], and cognitions (including perceptions/appraisals of self [10-12], motives [13], social interactions [1-3], and both reflective [14] and anticipatory perspectives [4,15]).

The duration of feelings can vary considerably. They are often represented in language [16] (although they can sometimes be difficult to recognize and verbalize) and some feelings can be influenced/shaped by culture [17]. Feelings that are adaptive in nature [5,18] serve as a response to help an individual interpret, detect changes in, and make sense of their circumstances at any given point in time. This includes homeostatic feelings that influence other physiological/body states, other mental states including those pertaining to attention and focus, emotions, motives, actions and behaviors in support of adaptation and well-being [1,5]. However, some feelings can be maladaptive in nature and may actually compete and/or interfere with goal-directed behavior.

A 'feeling' is not a synonym for the term 'emotion'. There is standing debate between researchers who posit that discrete emotion categories correspond to distinct brain regions [19] and those who argue that discrete emotion categories are constructed of generalized brain networks that are not specific to those categories [20]. However, both groups acknowledge that in many instances feelings are a discernable component/constituent of an emotional response (which tends to more complex).

Further detail about specific categories of feeling used in this study follow.

## The 10 categories used for the study

#### 1. Physiological/Bodily states

- Feelings related to specific physiological/bodily states (e.g. hungry, warm, nauseus)
  - Includes feelings that relate to current status of mental function (e.g. dizzy, forgetful, etc.)
  - Includes feelings related to energy levels (e.g. vital, tired)

DOES NOT include levels of arousal (e.g., excited, relaxed, etc.)

#### 2. Attraction and Repulsion

- Feelings of attraction (e.g. love, attracted, hooked, etc.)
- Feelings of repulsion (e.g. dislike, disgusted, etc)

#### 3. **Attention**

- Feelings related to focus, attention or interest (e.g. interested, curious, etc)
- Feelings related to a lack of focus, attention or interest (e.g. uninterested, apathetic, etc)

#### 4. Social

• Feelings related to the way a person interacts with others (e.g. accepting, ungrateful, etc.)

- Feelings related to the way others interact with that person (e.g. appreciated, exploited, trusted, etc.)
- Feelings of one person for or towards others (e.g. sympathy, pity, etc.)

DOES NOT include feelings of Anger, Fear, Attraction or Repulsion

#### 5. Actions and Prospects

- Feelings related to goals, tasks and actions (e.g. purpose, inspired)
  - Includes feelings related to planning of actions or goals (e.g., ambitious)
- Feelings related to readiness and capacity of planned actions (e.g. ready, daunted)
- Feelings related to levels of arousal, typically involving changes to heart rate, blood pressure, alertness, etc.
  - Includes physical and mental states of calmness and excitement (e.g. relaxed, excited, etc.)
- Feelings related to a person's approach, progress or unfolding circumstances as it relates to tasks/goals within the context of the surrounding environment (e.g. organized, overwhelmed, surprised, cautious etc.)
- Feelings related to prospects (e.g. afraid, anxious, hopeful, tense, etc.)

DOES NOT include feelings pertaining to Attention, such as curiosity DOES NOT include Physiological energy levels, such as refreshed DOES NOT include Social feelings that reflect attitudes towards others

#### 6. Hedonics

- Feelings that relate to *pleasurable and painful* sensations and states of mind.
  - Where *pleasurable* includes milder feelings related to comfort and pleasure (e.g. comfortable, soothed, etc.)
  - Where *painful* includes feelings related to discomfort and suffering (e.g. suffering, uncomfortable, etc.)

DOES NOT include feelings of Anger, Fear, Attraction, Repulsion or General Wellbeing

#### 7. Anger

• All forms of anger, directed towards self, others or objects / events (e.g. rage, anger, etc)

#### 8. General Well-Being

- Feelings that relate to whether or not someone is happy, content, or sad.
- Feelings of general wellness that refer in a non-specific way to how someone is feeling overall (e.g. great, good, okay, fine, bad, terrible, etc.). If someone used one of these general overarching terms to describe their overall wellness, further questions would be needed to uncover the underlying (more specific) feelings that are contributing to their overall assessment of their general wellness.

This category is only for "general" terms and should not be used when the word sense fits a more specific category.

If none of the above categories apply, select one of the following two:

#### 9. Other

- To be used when "**I feel X[ed]**" is plausible for the given word sense, but none of the above categories fit.
- Includes feelings related to appraisals of the self with respect to categories such as:
  - size (e.g. big, etc.), weight (e.g. fat, etc.), etc.
  - age (e.g. old, etc.), gender (e.g. masculine, etc.), etc
  - fitness (e.g. unfit, etc.), intelligence (e.g. smart, etc.),
  - attractiveness (e.g. beautiful, etc.), dress and adornment (e.g. fashionable, etc.)
  - uniqueness (e.g. unremarkable, etc.), general normality (e.g. weird, etc.)
  - self-esteem (e.g. self-loathing, etc.)

• identity and belonging (e.g. Buddhist, American)

#### 10. Not a feeling

• The working definition does not apply to this word sense, neither "I feel X[ed]" nor "I have a feeling of X" is plausible for the given word sense, and none of the above categories fit either.

Note that this is expected to be quite a common case as the words you annotate can have many different senses and not all of them (or indeed any) need to be feelings.

### References

- 1. Damasio A, Carvalho GB. The nature of feelings: evolutionary and neurobiological origins. Nature reviews. 2013;14(2):143-152.
- 2. LeDoux J. Rethinking the emotional brain. Neuron. 2012;73(4):653-676.
- 3. Panksepp J. Affective neuroscience of the emotional BrainMind: evolutionary perspectives and implications for understanding depression. Dialogues in clinical neuroscience. 2010;12(4):533-545.
- 4. Buck R. Prime Theory: An integrated view of motivation and emotion. Psychological review. 1985;92(3) (3):389-413.
- 5. Strigo IA, Craig AD. Interoception, homeostatic emotions and sympathovagal balance. Philosophical transactions of the Royal Society of London. Series B, Biological sciences. 2016;371(1708).
- 6. Nummenmaa L, Glerean E, Hari R, Hietanen JK. Bodily maps of emotions. Proceedings of the National Academy of Sciences of the United States of America. 2014;111(2):646-651.
- 7. Bernroider G, Panksepp J. Mirrors and feelings: have you seen the actors outside? Neuroscience and biobehavioral reviews. 2011;35(9):2009-2016.
- 8. Gardiner MF. Integration of cognition and emotion in physical and mental actions in musical and other behaviors. The Behavioral and brain sciences. 2015;38:e76.
- 9. Alcaro A, Panksepp J. The SEEKING mind: primal neuro-affective substrates for appetitive incentive states and their pathological dynamics in addictions and depression. Nesroscience and biobehavioral reviews. 2011;35(9):1805-1820.
- 10. Ellemers N. The group self. Science. 2012;336(6083):848-852.
- 11. Frewen PA, Lundberg E, Brimson-Theberge M, Theberge J. Neuroimaging self-esteem: a fMRI study of individual differences in women. Soc Cogn Affect Neurosci. 2013;8(5):546-555.
- 12. Northoff G, Schneider F, Rotte M, et al. Differential parametric modulation of self-relatedness and emotions in different brain regions. Hum Brain Mapp. 2009;30(2):369-382.
- 13. Higgins ET, Pittman TS. Motives of the human animal: comprehending, managing, and sharing inner states. Annu Rev Psychol. 2008;59:361-385.
- 14. Holland AC, Kensinger EA. Emotion and autobiographical memory. Phys Life Rev. 2010;7(1):88-131.
- 15. Miloyan B, Suddendorf T. Feelings of the future. Trends in cognitive sciences. 2015;19(4):196-200.
- 16. Kircanski K, Lieberman MD, Craske MG. Feelings into words: contributions of language to exposure therapy. Psychol Sci. 2012;23(10):1086-1091.
- 17. Immordino-Yang MH, Yang XF, Damasio H. Correlations between social-emotional feelings and anterior insula activity are independent from visceral states but influenced by culture. Frontiers in human neuroscience. 2014;8:728.
- 18. Izard CE. Basic Emotions, Natural Kinds, Emotion Schemas, and a New Paradigm. Perspectives on psychological science: a journal of the Association for Psychological Science. 2007;2(3):260-280.
- 19. Izard CE. The Many Meanings/Aspects of Emotion: Definitions, Functions, Activation, and Regulation. Emotion Review. 2010;2(4):363-370.
- 20. Lindquist KA, Wager TD, Kober H, Bliss-Moreau E, Barrett LF. The brain basis of emotion: a meta-analytic review. The Behavioral and brain sciences. 2012;35(3):121-143. ^M ^M