

EMOTIONS

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Emotions

- **Is a complex psychophysical process that arises spontaneously (involuntary) , rather than through conscious effort.**
- **Evokes psychological response (negative or positive) and physical expressions.**
- **Related to feelings, perceptions or beliefs, in reality or in imagination.**

Emotions

- Emotion is often defined as a complex state of feeling that results in physical and psychological changes that influence thought, behavior and actions.
- There are only two basic emotions that we all experience,
 - love and
 - fear.

All other emotions are variations of these two emotions.

Emotions

- **EMOTIONS DERIVE FROM THE BASIC DRIVES THAT ALL ANIMALS SHARE (FEEDING, SEX, REPRODUCTION, PLEASURE, PAIN, FEAR, AGGRESSION)**
- **HUMAN EMOTIONS ARE LARGELY LEARNED AND INCLUDE: AFFECTION, PRIDE, GUILT, PITY, ENVY, AND RESENTMENT.**

Brain areas related to emotion

- **Emotions are thought to be related to activity in brain areas that direct our attention, motivate our behavior, and determine the significance of what is going on around us.**
- **Broca (1878), Papez (1937), and MacLean (1952) suggested that emotion is related to the limbic system, which includes the hypothalamus, cingulate cortex, hippocampi, and other structures.**

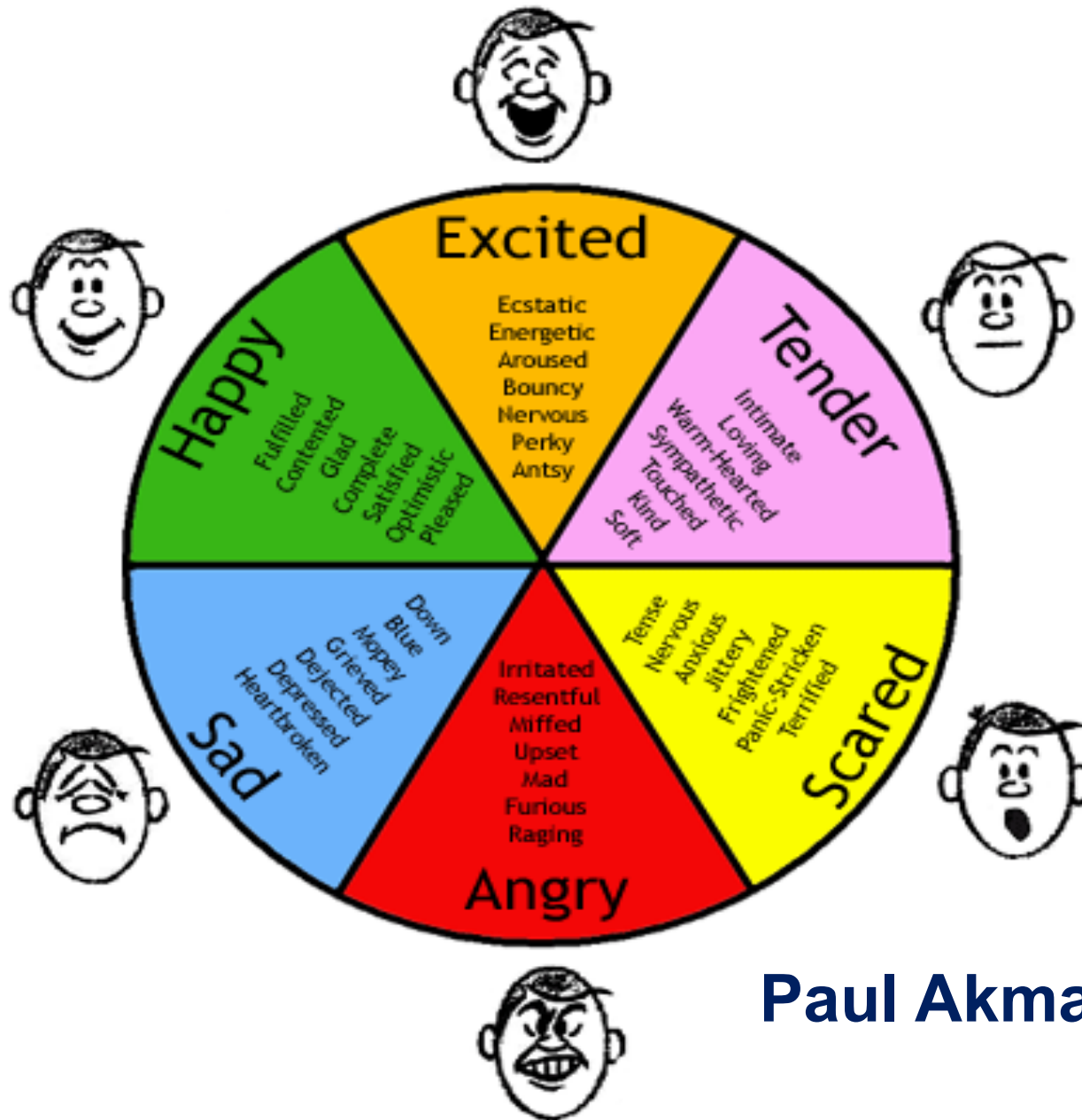
Emotions

- Emotions are represented in the **prefrontal cortex** and the limbic system namely the **Amygdala**.
 - Lesion of the left prefrontal area produces depression.
 - Lesion of right prefrontal produces laughter and euphoria.

Emotions

- Emotion is a term that describes subjective and conscious experience that is characterized primarily by:
 - psycho physiological expressions
 - biological reactions
 - mental states
- Emotions are influenced by:
 - hormones (cortisol, oxytocin) and
 - neurotransmitters (DA, NA, Serotonin)

Basic Emotions



Paul Ekman

Classification of emotions

- Two fundamental viewpoints:
 - 1st emotions are **discrete** and fundamentally different constructs.
 - 2nd emotions are **dimensional** in groupings.
- A distinction is made between:
 - **emotional episodes** and
 - **emotional dispositions**.
- Emotional dispositions are also comparable to character traits.

Theories of Emotion

- **Somatic theories**
- **Cognitive theories**
- **The evolutionary perspective**

Somatic theories

- William James (late 19th century)

believed that emotional experience is largely due to the experience of bodily changes: visceral, postural, or facially expressive.

- James-Lange theory

a changed situation leads to a changed bodily state, which in turn gives rise to an emotion.

Somatic theories

- Walter-Cannon & Bard

Emotion is produced when an appropriate stimulus is perceived by the thalamus, which in turn activates part of the cerebral cortex concerned with emotional experience and causes the physiological changes in the periphery.

Cognitive theories

- **The Singer- Schachter theory (two factor theory):**
 - Emotional experiences were the result of :
 - Physiological arousal which is undifferentiated
 - Cognitions which are different in different emotions
 - **Example:**
 - Spot a bear in a forest-- Adrenalin is released, hearts starts beating faster
 - The sight of a bear is interpreted as being dangerous for the health
 - The emotion fear arises.

Theories of Emotions

Cognitive theories

Lazarus' theory; emotion is a disturbance that occurs in the following order:

- A. Cognitive appraisal**—The individual assesses the event cognitively, which cues the emotion.
- B. Physiological changes**—The cognitive reaction starts biological changes such as increased heart rate or pituitary adrenal response.
- C. Action**—The individual feels the emotion and chooses how to react.

The evolutionary perspective

- **In the 1870s, Charles Darwin proposed that emotions evolved because they had adaptive value.**
- **E.g., fear evolved because it helped people to act in ways that enhanced their chances of survival.**
- **Darwin believed that facial expressions of emotion are innate.**
- **Facial expressions allow people to quickly judge someone's hostility or friendliness and to communicate intentions to others.**

The evolutionary perspective

Human cultures share several primary emotions, including happiness, contempt, surprise, disgust, anger, fear, and sadness.

- They believe that all other emotions result from blends and different intensities of these primary emotions.

E.g., terror is a more intense form of the primary emotion of fear.

Primary and secondary emotion

Primary emotions

- **innate emotions, such as fear**
- **depend on limbic system circuitry," with the amygdala and anterior cingulate gyrus being "key players".**

Primary emotions

Robert Plutchik described eight primary emotions:

Anger

sadness

disgust

curiosity

fear

joy

surprise

acceptance

Similar to the way primary colors combine, primary emotions are believed to blend together to form the full spectrum of human emotional experience.

Secondary emotion

- Feelings attached to objects (e.g., to dental drills), events, and situations through learning, require additional input, based largely on memory, from the prefrontal and somatosensory cortices.**
- The stimulus is analyzed in the thought process.**
- Thoughts and emotions are interwoven; every thought, almost always, carries with it some emotional response**

Dimensions of Emotion

- **Emotion has multiple dimensions:**
 - **Behavioral expression**
 - **Physiological arousal**
 - **Subjective feeling (conscious experience)**
 - **Cognitive**

Physical responses in different Emotions

- *Fear*

is felt as a heightened heartbeat, increased “flinch” response, and increased muscle tension .

- *Anger*

is based on sensation, seems indistinguishable from fear.

- *Happiness*

is often felt as an expansive or swelling feeling in the chest and the sensation of lightness or buoyancy, as if standing underwater.

Physical responses in different Emotions

- **Sadness**

is often experienced as a feeling of tightness in the throat and eyes, and relaxation in the arms and legs.

- **Shame**

can be felt as heat in the upper chest and face.

- **Desire**

can be accompanied by a dry throat, heavy breathing, and increased heart rate.

Positive and negative perception

- **Emotions are experienced as either:**
 - **Positive X Negative.**
 - **Pleasant X Unpleasant.**
- **Emotions do not seem to be neutral.**

- **Psychotherapy propose that distressing emotions are relieved by emotional “*discharge*”. Hence crying, laughing, sweating, shaking, and trembling.**
- **These actions commonly associated emotions, are thought to not be the original sensation, but instead nearly automatic responses that dispel the discomfort of disturbing feelings.**