Introduction to Emotion

Module 38

Emotion

Theories of Emotion

Embodied Emotion

- Emotions and The Autonomic Nervous System
- Physiological Similarities Among Specific Emotions
- Physiological Differences Among Specific Emotions
Emotion

Emotions are our body’s adaptive response.

Theories of Emotion

Emotions are a mix of 1) physiological activation, 2) expressive behaviors, and 3) conscious experience.

Where do emotions come from? Why do we have them? What are they made of?

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OBJECTIVE 38.1 Identify three components of emotions, and contrast James-Lange, Canon-Bard and two factor theories of emotion.

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Controversy

1) Does physiological arousal precede or follow your emotional experience?
2) Does cognition (thinking) precedes emotion (feeling)?
Commonsense View

As you become happy your heart starts beating faster. First comes conscious awareness then comes physiological activity.

James-Lange Theory

William James and Carl Lange proposed an idea that was diametrically opposed to the common-sense view. James-Lange theory proposes that physiological activity precedes the emotional experience.

Cannon-Bard Theory

Walter Cannon and Phillip Bard questioned James-Lange theory and proposed emotion-triggering stimulus and body’s arousal take place simultaneously.

1) Cannon suggested that body’s responses were not distinct enough to evoke different emotions. 2) Physiological responses seemed too slow to trigger sudden emotions.
Two-Factor Theory

Stanley Schachter and Jerome Singer proposed yet another theory which suggested that our physiology and our cognitions create emotions. Emotions have two factors—physical arousal and cognitive label.

Embodied Emotion

We know that emotions involve bodily response. Some of these response are easy to notice (butterflies in stomach when fear arises) but others are more difficult discern (neurons activated in the brain).

Emotions and Autonomic Nervous System

During an emotional experience our autonomic nervous system mobilizes energy in the body and arouses us.

OBJECTIVE 38-2| Describe the role of the autonomic nervous system during emotional arousal.
Arousal and Performance

Arousal in short spurts is adaptive. We perform better under moderate arousal, however optimal performance varies with task difficulty.

OBJECTIVE 38-3 | Discuss the relationship between arousal and performance.

Physiological Similarities

Physiological responses are pretty much similar across the emotions of fear, anger, love and boredom.

Excitement and fear involve similar physiological arousal.

OBJECTIVE 38-4 | Name three emotions that involve similar physiological arousal.

Physiological Differences

Physical responses like finger temperature and facial muscles change during fear, rage and joy.

Amygdala shows differences in activation during emotions of anger and rage. Activity of left hemisphere (happy) is different from right (depressed) in emotions.

OBJECTIVE 38-5 | Describe some physiological and brain pattern indicators of specific emotions.
Cognition and Emotion

What is the connection between how we think (cognition) and how we feel (emotion)?

Can we change our emotions by changing our thinking?

Cognition Can Define Emotion

Arousal response to one event spills over into our response to the next event.

Arousal from a soccer match can fuel anger, which can descend into rioting.

Cognition Does Not Always Precede Emotion

A subliminally presented happy face can prime subjects to drink more than when presented with an angry face (Berridge & Winkielman, 2003).

Emotions are felt directly through amygdala (a) or through cortex for analysis (b).

OBJECTIVE 38-6 | Explain how spillover effect influences our experience of emotion.

OBJECTIVE 38-7 | Distinguish the two alternate pathways that sensory stimuli may travel when triggering an emotional response.
Cognition Does Not Always Precede Emotion

When fearful eyes were subliminally presented to subjects, fMRI scans revealed higher levels of amygdala’s activity than in the control (Whalen et al. 2004).

Two Routes to Emotion