


# Emotion

Chapter 13  
Psy12000.003  
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## Emotion


Emotions are our body's adaptive response. They help energize, they communicate, they give us and others warnings.



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## Theories of Emotion

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




## Controversy

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

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## Commonsense View

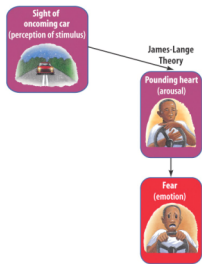
When you become happy, your heart starts beating faster. First comes conscious awareness, then comes physiological activity.



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## James-Lange Theory

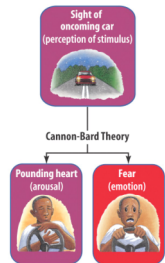
William James and Carl Lange proposed an idea that was diametrically opposed to the common-sense view. The James-Lange Theory proposes that physiological activity precedes the emotional experience.



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## Cannon-Bard Theory

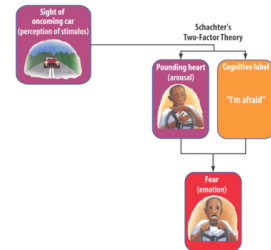
Walter Cannon and Phillip Bard questioned the James-Lange Theory and proposed that an emotion-triggering stimulus and the body's arousal take place simultaneously.



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## Two-Factor Theory

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



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## Embodied Emotion

We know that emotions involve bodily responses. Some of these responses are very noticeable (butterflies in our stomach when fear arises), but others are more difficult to discern (neurons activated in the brain).

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## Misattribution of Arousal

- Suspension bridge study (Aron et al)



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## Emotions and Autonomic Nervous System

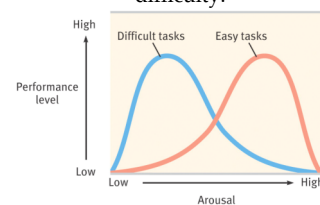
During an emotional experience, our autonomic nervous system mobilizes energy in the body that arouses us.

Autonomic Nervous System Controls Physiological Arousal		
Sympathetic division (arousing)		Parasympathetic division (calming)
Pupils dilate	EYES	Pupils contract
Decreases	SALIVATION	Increases
Peripiles	SKIN	Dries
Increases	RESPIRATION	Decreases
Accelerates	HEART	Slows
Inhibits	DIGESTION	Activates
Secretes stress hormones	ADRENAL GLANDS	Decrease secretion of stress hormones

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## Arousal and Performance

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



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## Physiological Similarities

Physiological responses related to the emotions of fear, anger, love, and boredom are very similar.

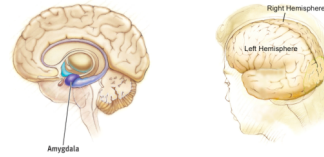


Excitement and fear involve a similar physiological arousal.

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## Physiological Differences

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



The amygdala shows differences in activation during the emotions of anger and rage. Activity of the left hemisphere is different from the right for emotions.

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## 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?

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## Cognition Can Define Emotion

An arousal response to one event spills over into our response to the next event.

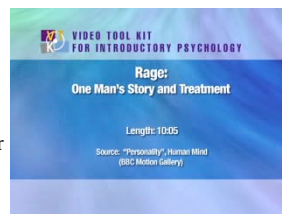


Arousal from a soccer match can fuel anger, which may lead to rioting. "Transference of arousal"

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## Rage, Spilling, and Cognitions

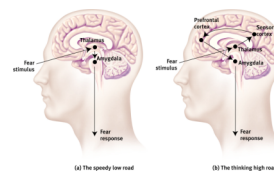
- Emotions overwhelm rationality
- Road rage → home rage
- Change cognitions for triggering events



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## Cognition Does Not Always Precede Emotion

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



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

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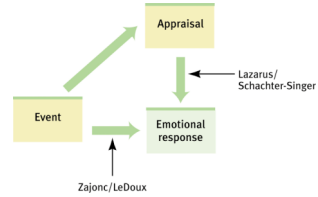
## Cognition Does Not Always Precede Emotion

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



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## Two Routes to Emotion



Zajonc and LeDoux (1984) emphasize that some emotions are immediate, without conscious appraisal. Lazarus, Schachter, and Singer (1998) emphasize that appraisal determines emotions.

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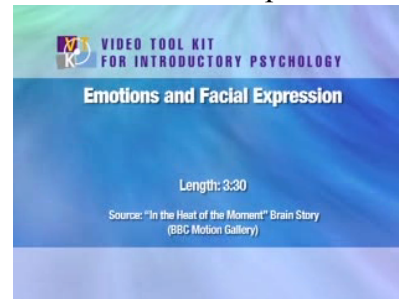
## Expressed Emotion

Emotions are expressed on the face, by the body, and by the intonation of voice. Is this non-verbal language of emotion universal?



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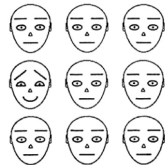
## Ekman's Research on the Universality of Emotional Expression



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## Nonverbal Communication

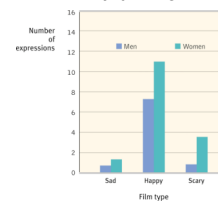
Most of us are good at deciphering emotions through non-verbal communication. In a crowd of faces a single angry face will "pop out" faster than a single happy face (Fox et al. 2000).



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## Gender, Emotion, and Nonverbal Behavior

Women are much better at discerning nonverbal emotions than men. When shown sad, happy, and scary film clips women expressed more emotions than men.



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## Detecting and Computing Emotion

Most people find it difficult to detect deceiving emotions. Even trained professionals like police officers, psychiatrists, judges, and polygraphists detected deceiving emotions only 54% of the time.



Which of Paul Ekman's smiles is genuine?

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## Hindu Dance

In classical Hindu dance, the body is trained to effectively convey 10 different emotions.



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## Culture and Emotional Expression

When culturally diverse people were shown basic facial expressions, they did fairly well at recognizing them (Ekman & Matsumoto, 1989).



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## Emotions are Adaptive

Darwin speculated that our ancestors communicated with facial expressions in the absence of language. Nonverbal facial expressions led to our ancestor's survival.



Charles Darwin (1809-1882)

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## The Evolution of Disgust

VIDEO TOOL KIT FOR INTRODUCTORY PSYCHOLOGY

**The Development of Disgust**

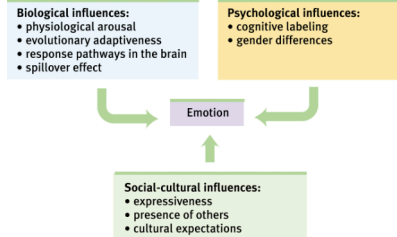
Length: 5:50

Source: "In the Heat of the Moment" Brain Story (BBC Motion Gallery)

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## Analyzing Emotion

Analysis of emotions are carried on different levels.



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## The Effects of Facial Expression

If facial expressions are manipulated, like furrowing brows, people feel sad while looking at sad pictures.



Attaching two golf tees to the face and making their tips touch causes the brow to furrow.

Courtesy of The New York Times, © Michael Grecco

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## Experienced Emotion

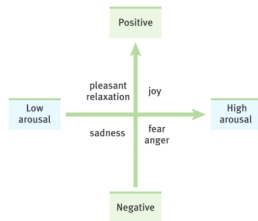
Izard (1977) isolated 10 emotions. Most of them are present in infancy, except for contempt, Shame, and guilt.



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## Dimensions of Emotion

People generally divide emotions into two dimensions.



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## Fear

Fear can torment us, rob us of sleep, and preoccupy our thinking. However, fear can be adaptive – it makes us run away from danger, it brings us closer as groups, and it protects us from injury and harm.

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## Learning Fear

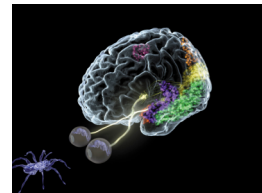
We learn fear in two ways, either through **conditioning** and/or through **observation**.



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## The Biology of Fear

Some fears are easier to learn than others. The amygdala in the brain associates emotions like fear with certain situations.



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## Anger

Anger “carries the mind away,” (Virgil, 70-19 B.C.), but “makes any coward brave,” (Cato 234-149 B.C.).



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## Causes of Anger

1. People generally become angry with friends and loved ones who commit wrongdoings, especially if they are willful, unjustified, and avoidable.
2. People are also angered by foul odors, high temperatures, traffic jams, and aches and pains.

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## Catharsis Hypothesis

Venting anger through action or fantasy achieves an emotional release or “catharsis.”

Research, however, tends to show that expressing anger breeds more anger, and through reinforcement it is habit-forming.

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## Cultural & Gender Differences

- Boys respond to anger by moving away from that situation, while girls talk to their friends or listen to music.
- Anger breeds prejudice. The 9/11 attacks led to an intolerance towards immigrants and Muslims.
- The expression of anger is more encouraged in cultures that do not promote group behavior than in cultures that do promote group behavior.



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## Happiness

People who are happy perceive the world as being safer. They are able to make decisions easily, are more cooperative, rate job applicants more favorably, and live healthier, energized, and more satisfied lives.



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## Feel-Good, Do-Good Phenomenon

When we feel happy we are more willing to help others.



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## Subjective Well-Being

Subjective well-being is the self-perceived feeling of happiness or satisfaction with life. Research on new “positive psychology” is on the rise.

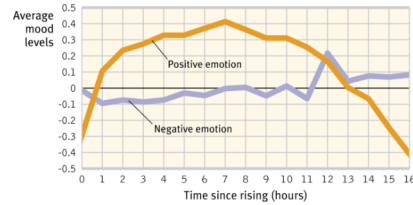


http://web.fishbase.com

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## Emotional Ups and Downs

Our positive moods rise to a maximum within 6-7 hours after waking up. Negative moods stay more or less the same throughout the day.



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## Emotional Ups and Downs

Over the long run, our emotional ups and downs tend to balance. Although grave diseases can bring individuals emotionally down, most people adapt.

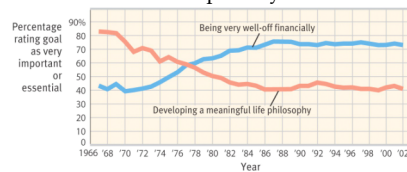


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## Wealth and Well-being

Many people in the West believe that if they were wealthier, they would be happier. However, data suggests that they would only be happy temporarily.



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## Wealth and Well-being

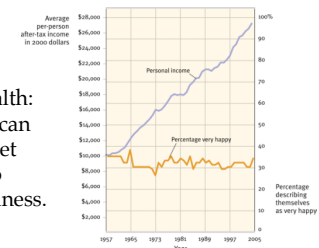
- In affluent societies, people with more money are happier than people who struggle for their basic needs.
- People in rich countries are happier than people in poor countries.
- A sudden rise in financial conditions makes people happy.

However, people who live in poverty or in slums are also satisfied with their life.

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## Does Money Buy Happiness?

Wealth is like health: Its utter absence can breed misery, yet having it is no guarantee of happiness.



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## Happiness & Satisfaction

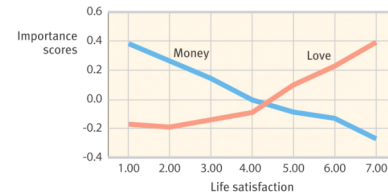
Subjective well-being (happiness + satisfaction) measured in 82 countries shows Puerto Rico and Mexico (poorer countries) at the top of the list.

The Top 10	The Bottom 10
1. Puerto Rico	73. Bulgaria
2. Mexico	74. Belarus
3. Denmark	75. Georgia
4. Ireland	76. Romania
5. Iceland	77. Moldova
6. Switzerland	78. Russia
7. Northern Ireland	79. Armenia
8. Colombia	80. Ukraine
9. Netherlands	81. Zimbabwe
10. Canada	82. Indonesia

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## Values & Life Satisfaction

Students who value love more than money report higher life satisfaction.



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## Happiness & Prior Experience

**Adaptation-Level Phenomenon:** Like the adaptation to brightness, volume, and touch, people adapt to income levels. "Satisfaction has a short half-life" (Ryan, 1999).

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## Happiness & Others' Attainments

Happiness is not only relative to our past, but also to our comparisons with others. **Relative Deprivation** is the perception that we are relatively worse off than those we compare ourselves with.

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## Predictors of Happiness

Why are some people generally more happy than others?

Researchers Have Found That Happy People Tend To	However, Happiness Seems Not Much Related to Other Factors, Such As
Have high self-esteem (in individualistic countries).	Age.
Be optimistic, outgoing, and agreeable.	Gender (women are more often depressed, but also more often joyful).
Have close friendships or a satisfying marriage.	Education levels.
Have work and leisure that engage their skills.	Parenthood (having children or not).
Have a meaningful religious faith.	Physical attractiveness.
Sleep well and exercise.	

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