

Psyc 101, Pomerantz
Section 10: Emotion and Motivation

Thoughts on emotion and motivation

- “The advantage of the emotions is that they lead us astray.”
 - Oscar Wilde
- “Always do what you are afraid to do.”
 - Ralph Waldo Emerson
- “Strong lives are motivated by dynamic purposes.”
 - Kenneth Hildebrand

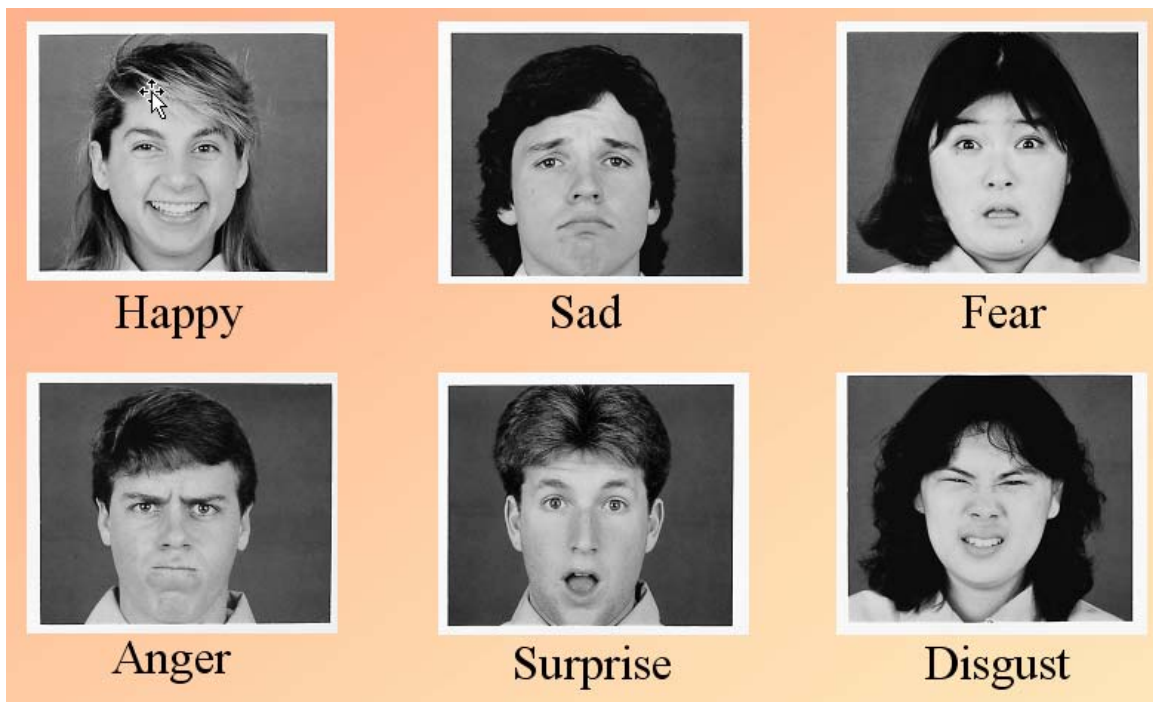
Emotion: A positive or negative reaction to a perceived or remembered object, event, or circumstance, accompanied by a subjective feeling. Thus, two components: a behavioral reaction (observable to outsiders) and a feeling (not observable).

Damasio: The link between motivation and emotions is that emotions motivate us to act, so that we are not lost in thought, knowing what to do but not caring.

Emotional experience can be thought of as another perceptual system, like the visual or auditory system, but focused in this case on the body’s internal state (somewhat like our vestibular or kinesthetic senses)

Emotion

The Six Basic Emotions (Ekman)



The exact number and identity of basic human emotions can be debated but it’s probably similar to the above.

Other emotions arise from combinations of these basic emotions.

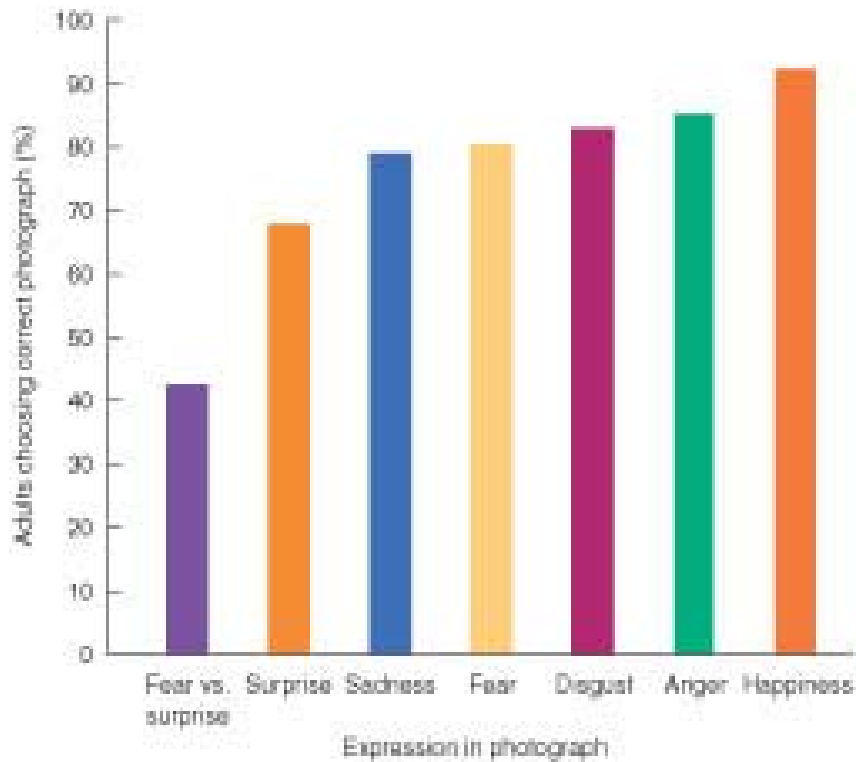
- Cf. mixtures of wavelengths to produce colors

There are subtypes of emotions. E.g., three types of disgust with different expressions:

- Bad smells (wrinkle your nose)
- Bad foods (“yech” reaction)
- Morbidity or filth (raised upper lip)

Are Emotions Universal? They seem to be:

- Darwin and many others: the facial expression of emotions seems to be the same around the world
- Blind people tend to show the same emotional facial expressions as the sighted, suggesting that emotional expression is inborn, not learned
- The Fore tribe in New Guinea identifies Caucasian facial expressions well (except for distinguishing fear from surprise):



Note: Chance performance would be 33.3%.

Beyond basic emotions

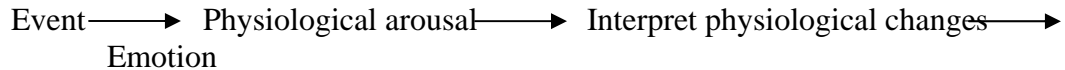
- Social learning: recognize emotions within your own racial/ethnic group better
- Combinations of emotions
 - Basic emotions are independent of each other

Concurrent (simultaneous or mixed) emotions

- Positive and negative emotions can coexist: “I laughed, I cried”
- Judgments we make of other people are often polarized, mixed bags
- Approach emotions: left frontal lobe EEG response
 - love and happiness
- Withdrawal emotions: right frontal lobe
 - fear and disgust

What causes emotions? Three historical theories, all with some support
1. James-Lange Theory of Emotion

A brilliant, counter-intuitive notion:



Thus, by this account, you feel emotions only after your body reacts

You feel sad because you cry, feel happy because you laugh, etc.

Note: we have tears of laughter and tears of sadness, so it’s the constellation of bodily reactions that matters

Supporting James Lange: the Facial feedback hypothesis

- We experience emotions in part as a result of the positions of our facial muscles
 - Smiling makes you feel happier
 - Frowning makes you feel sadder
- Cf. experiment on testing headphones

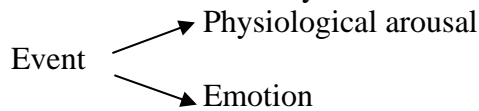
2. Cannon-Bard Theory:

Claim: James-Lange over-emphasizes the experience of bodily signals

Bodily reactions are often slow, but emotions are often split second, sometimes even preceding any cognitive awareness of the situation:

- The Iowa card study: we sometimes react physiologically (GSR) and even behaviorally (choices made) before our cognitive systems react (verbal explanation of the rules of the game).

Cannon-Bard: the brain is all that matters: it generates the bodily response and the emotion simultaneously



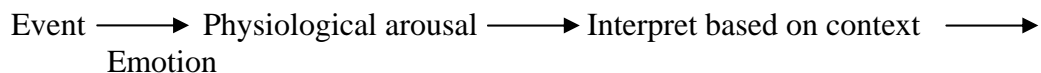
Thus, the event causes both arousal and emotion simultaneously, not sequentially

Emotions are accompanied by distinct patterns of bodily responses:

- Anger leads to heart rate and skin temperature increases
- Fear leads to heart rate increases but skin temperature decreases, etc.

3. Cognitive Theory

Emotion arises when you interpret the whole situation:



Your arousal and the context combine to form emotions

The famous Schacter-Singer Experiment (1962) Participants are told they are receiving a vitamin supplement

- They actually receive epinephrine (aka adrenaline, a neurotransmitter that causes general arousal)
- Half wait with “manic” confederates, end up reporting feeling “happy”
- Half wait with “angry” confederates, end up reporting feeling “angry”
- Thus, emotional response depended on context
- Control condition: participants who received no epinephrine showed no such effect
- “Misattribution of arousal”

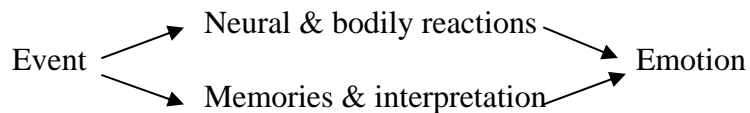
4. LeDoux’s Theory: a contemporary integration of the above three historical theories.

Idea: we have different neural systems for different emotions

Some of these system act as reflexes, independent of cognition

Others depend on thoughts and interpretation

Thus, this theory is more complicated than the others, but is probably closer to the truth.



Thus, different emotions rely on different combinations of body and brain reactions and interpretation

LeDoux’s theory is the most widely accepted one today. Also, the most complex.

- There do appear to be separate events and brain systems underlying fear
- Bodily (physiological) responses and emotions do seem to occur simultaneously (as in Bard-Cannon)
- Cognitive interpretation of events does matter sometimes
- Thus, we have both cognitive and bodily sources for emotions.

Fear: the most negative emotion?

- “Fear-potentiated startle”: we are easily startled when we are afraid (i.e., on high alert)
- Four basic facts about fear
 - Fear can be an emotional reflex, recurring later with no thought or interpretation
 - Fear can be classically conditioned and resists extinction, never goes away completely
 - Fear interacts with mental processes: we can think ourselves into being scared
 - The amygdala does not play a role in producing the emotional “feel” of fear. People with damaged amygdalae still experience fear, but they find it hard to detect fear in others.
- Q: how to make people fearful, e.g., in the movies

Happiness: the most positive emotion?

- What makes us happy?
 - Money

- Social support, friendship
- Marriage
- Reviewing our successes, reviewing others' disappointments
- Cultural differences exist, however
- Our memories of happiness, etc., are biased (Kahneman studies show memory is driven by peaks and endings)

Expressing emotion

- Cultural display rules
- Body language
 - Nonverbal communication
 - Gender differences
 - Role in conveying sexual interest
- Lie detectors
 - Polygraph
 - Control question technique
 - Guilty-knowledge test: detects guilt 84% of time, innocence 94%
 - Is that good enough?

Motivation: why do we do the things we do?

Results from the requirements and desires that lead animals (including humans) to behave in a particular way at a particular time and place

Instinct theory of motivation: Evolutionary Psychology

Organisms have inherited tendencies to produce organized and unalterable responses to particular stimuli

- Weakness: Human behaviors are more complex and flexible than instincts can explain
- Too many instincts have been proposed

Drive theory of motivation

We have a dashboard of indicators; all must be kept within range

In response to internal imbalances, drives push you to reach homeostasis (cf. thermostat)

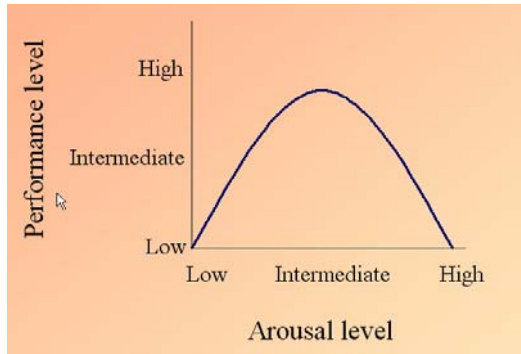
- Weakness: Assumes the goal is homeostasis, but sometimes people seek increased or decreased arousal

Arousal theory of motivation

We seek intermediate levels of stimulation: when under-stimulated, we seek arousal; when over-stimulated, we seek less stimulation

- Weaknesses
 - Cannot explain motivation to engage in activities that result in high arousal
 - Cannot explain long-term motivations

Yerkes-Dodson Law: performance peaks at intermediate arousal level:



Incentive and reward theory of motivation (cf. the Law of Effect):

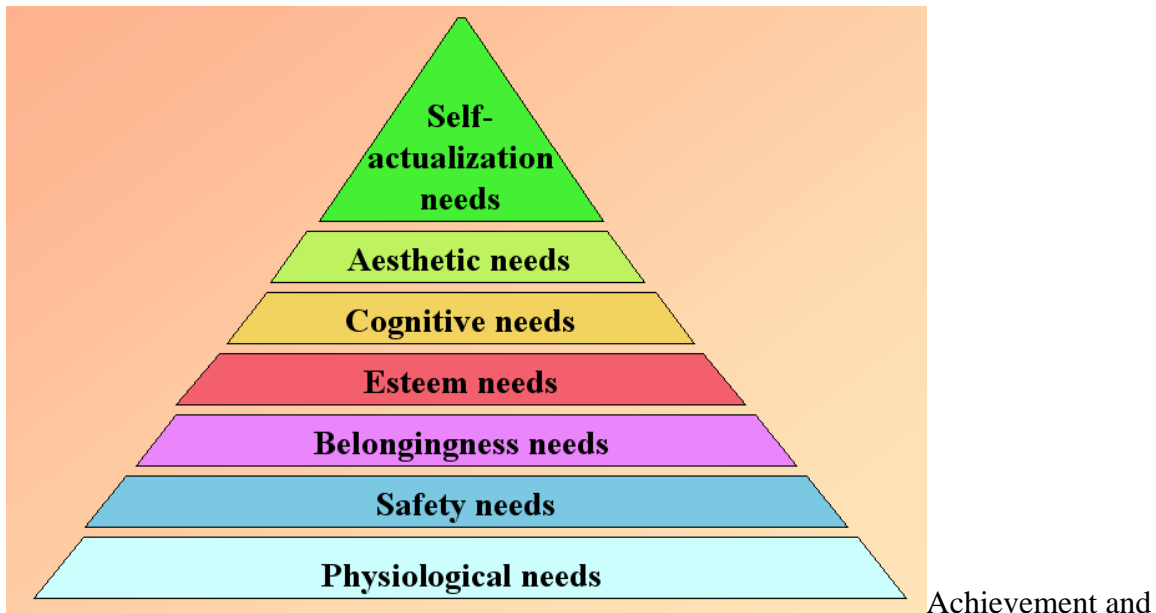
We are motivated toward particular goals in anticipation of a reward

- Incentive (note: see below; not the same as a drive, because no basic need is involved)
- Reward
- Expectations of reinforcement: activation of areas that rely on dopamine
- Classical conditioning: the bell becomes a reward

Needs vs. wants

- Need - a condition that arises from the lack of a requirement
- Want - a condition that arises when you have an unmet goal that will not fill a requirement
- Types of rewards
 - Deprived reward: when you have filled a biological need; dopamine pathways involved, and blocking dopamine can prevent reward
 - Non-deprived reward: when you meet a want, not a need; effects in brainstem
- Types of needs
 - Need for achievement (nAch)
 - Need for cognition
 - Dozen's more proposed (like instincts): competence, social approval, etc.
 - Maslow's hierarchy of needs

Maslow's hierarchy of needs:



culture

- Individualist culture
- Collectivist culture
- Achievement motivation

Hungry = opposite of full?

- Role of the stomach
- Role of the brain
 - Hypothalamus, detecting glucose and fatty acids in the blood
 - Destroying hypothalamus has significant effects on hunger, thirst

Appetite

- Appetizer effect
- Opioids
- Hypothalamus
- Role of social factors
- Insulin

The taste of food: yummy or not?

- Cognitive taste aversion
- Role of culture

Overeating

- **Set point:** your normal weight
 - If you lose weight, fat cells become less likely to give up their stored energy
 - You also become hungrier than you would be normally
 - Thus, your body appears to be defending a set point: a body weight that is easiest for an animal to maintain.
 - Metabolism
- Obesity

- Defense mechanism theory
- Genetics
- Environment

Sexual behavior

- Difficult to study (e.g., the Kinsey Report)
 - Sampling bias
 - Response bias

Sexual response cycle (Masters & Johnson, 1960s)

- Excitement
- Plateau
- Orgasm
- Resolution
 - Refractory period (in men)

Role of chemicals

- Hormones
 - Androgens
 - Testosterone
 - Estrogens
- Pheromones

Sexual stimuli

- Visual stimuli
- Olfactory stimuli
- Factors
 - Gender
 - Culture
 - Relationship status

Mating preferences and selection

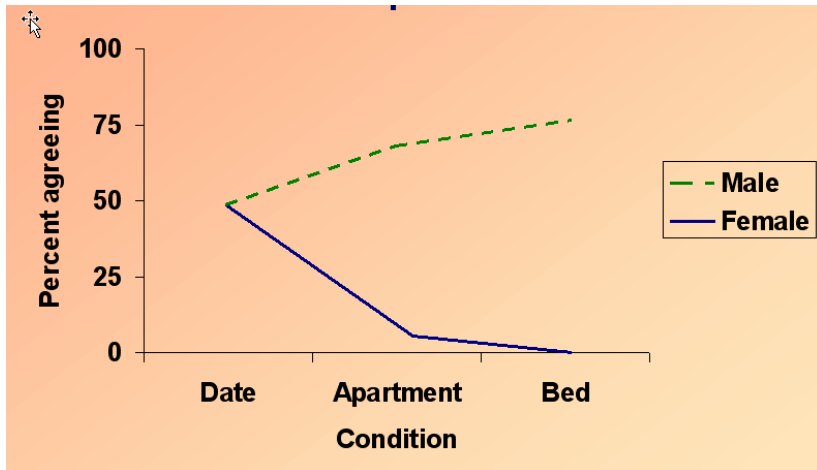
- Evolutionary theories
 - Parental investment
 - Dealing with infidelity
 - Methodological issues

Clark and Hatfield experiments

“I have been noticing you around campus. I find you very attractive.”

- (a) “Would you *go out* with me tonight?”
- (b) “Will you *come over to my apartment*?”
- (c) “Will you *go to bed* with me?”

Results:



Sexual Orientation

- Heterosexual
- Homosexual
- Bisexual
- Nature versus nurture
 - Biological differences
 - Twin studies
 - Temperament and environment

What is considered “normal”?

- Cultural variations
- Sexual dysfunction
 - Male erectile dysfunction
 - Female arousal dysfunction
- Atypical sexual behavior
 - Fetishes
- Sexual abnormality