Motivation: Drives, Hunger, and the Hierarchy of Needs
Motivation Guides Behavior

• **Motivation**: is a need or desire that serves to energize behavior.

• Behavior is guided by both physiological and psychological needs/desires.

• What types of things motivate us?
major theories of MOTIVATION

• Instinct / Evolutionary Perspective
• Drive Reduction
• Incentive
• Arousal Theory
• Maslow’s hierarchy of needs
Instinct
(Motivational Theory 1)

• Refers to inherited patterns of behavior that are unlearned. Mostly common in species outside of humans.

• **Ex:** Imprinting (Lorenz)
Instinct
(Motivational Theory 1)

Pros and cons of this theory in explaining human behavior

+ Provides survival value

– Doesn’t meet the complexity of most human behavior
Internal Motivation

• How do you know when it is time for a glass of water?
This Feeling of Thirstiness Creates a Drive

- **Drive**: type of motivation that is experienced as an aroused state of psychological /physiological tension caused by some need. **Ex:** Sex Drive

- Drives motivate us to do something.

- The goal of our body according to some psychologists, is to ELIMINATE all drives so that we can experience **homeostasis**: a balanced or constant internal state that the body regulates.
Drive Reduction Theory (Motivational Theory 2)

- **Drive Reduction Theory**: idea that physiological (biological) needs create tension states (drives) which motivates organism to satisfy the need.
- Ex: Thirstiness (physiological need) creates tension state (drive) which motivates you to get water.
- After you drink, the drive is reduced and you are closer to homeostasis.
Drive Reduction Theory (Motivational Theory 2)

Pros and cons of this theory in explaining human behavior

+ Primary drives satisfied
+ Homeostasis for bio needs

– Does not account for secondary motives
Drive Reduction Theory
(Motivational Theory 2)

Examples of secondary motives:
• curiosity
• sensation seeking
• play
• achievement
• affiliation
• power

Drive Reduction Theory does not account for any of these!
Incentives Theory
(Motivational Theory 3)

• **Incentives Theory:** a positive or negative ENVIRONMENTAL (has to be external) stimulus that motivates behavior apart from the “need” to reduce drives.

• Ex: money, etc.
Incentives Theory
(Motivational Theory 3)

Pros and cons of this theory in explaining human behavior

+ Secondary drives satisfied

- Does not account for primary motives
Contrasting approaches

**Drive reduction theory**
- “push”
- 5 hours since last meal
- Hunger
- internal

**Incentive theory**
Arousal Theory
(Motivational Theory 4)

• Based on 2 basic ideas:
  – Individuals perform tasks at different levels of arousal (wakefulness/stress).
  – Each individual seeks to find its **optimal level of arousal** to perform tasks and to avoid boredom.

• People with high levels of optimal arousal may be more susceptible to thrill seeking activities while those with low levels may seek out more relaxing quiet activities.

• We are motivated to do some things to maintain our arousal.
Monkeys Illustrating Optimal Arousal
Optimal Arousal Theory Continued

- **Yerkes-Dodson Principle of Arousal:** (graph forms an inverted-U) which states basic/general tasks are completed best with a moderate level of arousal.
Inverted-U Graph only Relates to General/Basic Tasks (Yerkes-Dodson)

• What level of arousal is optimal for most individuals when they are completing DIFFICULT/SKILL BASED TASKS? (McGraw Hill, p. 148)

• What level of arousal is optimal for most individuals when they are completing EASY/EFFORT BASED TASKS?
Maslow’s Hierarchy of Needs (Motivation Theory 5)

- Physical Needs at bottom must be met first.
- Psychological goals come after... ultimate goal is self actualization.
Quick Review: Why Do We Eat?

- **Incentive Theory** would argue:

- **Drive Reduction Theory** would argue:

- **Optimal Arousal Theory** would argue:
Biological Theories of Hunger

- Stomach contractions (hunger pangs) accompany our feelings of hunger.

What does this experiment show us?
Biological Basis of Hunger

Hunger does NOT come from our...

It comes from our...

What part of the brain?
Body Chemistry’s Influence on Hunger

- **Glucose**: blood sugar that provides energy to the body tissues.
- When your glucose levels are LOW you will feel hungry, when glucose levels are HIGH you will feel full.
- The hormone **insulin** is the primary regulator of glucose levels.
- Without insulin the body does not effectively dispose of glucose and provide it as energy (diabetes).
Hypothalamus

Lateral Hypothalamus
- When stimulated it makes you **hungry**.
- When lesioned (destroyed) you will never be **hungry** again.

Ventromedial Hypothalamus
- When stimulated you feel **full**.
- When lesioned you will never feel **full** again.
Brain Chemical that Affects Hunger

• **Leptin**: is a protein produced by bloated fat cells; when these levels rise the body tells you to stop eating and pursue some type of activity.

• Mice Experiment
Neurotransmitters Influence on Hunger

- Like glucose, if the following neurotransmitters are at low levels you will feel hungry, and if they are at high levels you will feel full:
  - Norepinephrine
  - Dopamine
  - Serotonin
Genetic Influences on Hunger/Weight

1. Number of fat cells is determined by genetics to a certain extent.

2. **Set Point:** body’s ideal weight set by its “weight thermostat.”
   When body falls below weight; hunger increases and a lowered metabolic rate continues.

3. **Basal Metabolic Rate** (metabolism): body’s resting rate of energy expenditure.

Some individuals’ metabolisms are much higher than others.
Obesity Theory #1: Obesity and Set point (genetic)

Obese Person → Higher set point

- Eat more to feel satisfied
- If eat less, become very sensitive to external cues
Set Point theory

- Set Point

![Bar chart showing # of fat cells, Size of cells, and Body weight]
Gaining weight

- Increase in body weight
- Increase in # and size of fat cells
- Raises set point
Losing weight

- No decrease in the number of fat cells
- Decrease in cell size
- **set point** doesn’t drop
Obesity Theory #2: Obesity and External Cues (Environment)

- Oversensitivity to external cues
  - Based on social convention
    - (Sight, availability, time of day)

- Insensitivity to internal cues
  - (stomach contractions)
Other external cues

- Eat by the clock
- Sight of other people eating
- Social settings
Obesity Theory #3: Obesity and Settling point (Genetics and Environment)

- Rapid rise in obesity in USA
- 10% population in 1980, 31% in 1991
- Cultural differences in diet
- Fast food nation
Advice from weight loss experts

• There is no easy route to wt loss
• Permanent changes in your lifestyle
• Set reasonable goals
• Exercise: critical factor in long run
• Avoid fad diets
• Don’t feel guilty
Time’s Affect on Hunger

- Memory of our last meal can also affect hunger along with our schedule of when we usually eat.

Ex. Amnesia Patients who cannot remember their last meal with readily eat another meal soon after the previous one.
Learning (External Environment) and Hunger

• If good eating habits are positively reinforced and bad habits punished, children will often eat healthy. Type of conditioning?

• People can also develop taste aversions due to certain associations.

• **Ex:** chemotherapy patients.

• **Modeling:** imitation of healthy or poor eating habits can effect a child’s eating.
  – **Ex:** Parents Eat Junk Food
Culture’s Influence on Eating

• Although our preferences for sweet and salty foods are genetic and universal, our culture’s eating norms affect our specific eating habits.

Monkey Stew is a popular dish in some Eastern cultures.

This steak would seem repulsive to eat to most Hindus.
Reinforcements Influence on Eating

• Example: May finish your vegetables to stop your mom from nagging you or to make your grandma happy.

• If you eat broccoli, you get dessert
Culture’s Influence on Eating (disorders)

Many argue the impossible standards of beauty put out by popular culture has lead to an increase in eating disorders:

- **Anorexia Nervosa**: eating disorder in which a normal-weight person diets and becomes significantly underweight, yet still feels fat and starves themselves.

- **Bulimia Nervosa**: an eating disorder usually characterized by excessive eating followed by vomiting.
Culture’s Influence on Eating (disorders)

Which eating disorder is characterized in this picture?
Changing Beauty Standards Correlate with Eating Disorders

IDEAL UNTIL 1900S

MARILYN MONROE

KATE MOSS
Women’s Distorted Ideals of Body Image

- Thinnest
- Women’s ideal
  - What women believed men preferred
- Women’s current body image
  - What men actually preferred
- Fattest