

PSYC 222

Motivation and Emotions

Session 2 – THE EATING & HUNGER MOTIVATION

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The Eating & Hunger Motivation



Session Overview

- People are motivated (driven towards the need) to at one point or the other in response to the hunger drive. Have you ever wondered why we get hungry? Does the motivation for hunger go beyond simple nourishment? Are there problems associated with eating? This session seeks to help us answer these questions .
- At the end of this session, it is expected that student will be able to:
 - i. Identify and explain the reasons why we get hungry
 - ii. Differentiate between the factors that influence the hunger drive
 - iii. Identify and discuss the eating disorders
 - iv. Identify and discuss the causes as well as management of the eating disorders.

Session Outline

The key topics to be covered in the session are as follows:

- The Biological Basis of Hunger
- The Psychology of Hunger
- Eating Problems/Disorders

Topic One

BIOLOGICAL BASIS OF HUNGER



INTRODUCTION

Hunger is a powerful stimulus that sets us into looking for food. This is exemplified by the sayings of the following authorities:

- Jeane de la Fontaine--- A hungry man has no ears.
- Mahatma Gandhi--- Even god can't speak to a hungry man except in terms of bread



HUNGER DRIVE

Why do people feel hungry?

- The motivation for hunger goes beyond simple nourishment
- There are basically two factors that influence/account for the feeling of hunger.

-Biological factors

-Psychological factors

However, one can not discuss the factors that influence the feelings of hunger without talking about

Eating problems/Disorders



BIOLOGICAL BASIS OF HUNGER

Researchers used to believe that the feeling of hunger comes from the stomach

- Theory test (Refer to lecture slides)
- They however found that central to the biological feelings of hunger is the brain structure known as the hypothalamus
- Two areas of the hypothalamus controls hunger
 - Lateral Hypothalamus
 - Ventromedial hypothalamus

Biological Basis of Hunger

- **Lateral hypothalamus** - Stimulation causes you to feel hunger
- **Ventromedial hypothalamus** - Stimulation makes one full
- If the hypothalamus is functioning normally, these two areas oppose each other and signal impulses to eat and to stop eating

Biology of Hunger

- Various theories have been given that explain the biological basis of hunger. In this session, we will discuss four of such theories
 1. Glucose theory
 2. Insulin theory
 3. Heat Production theory
 4. Set Point Theory

Biology of Hunger

Glucose theory

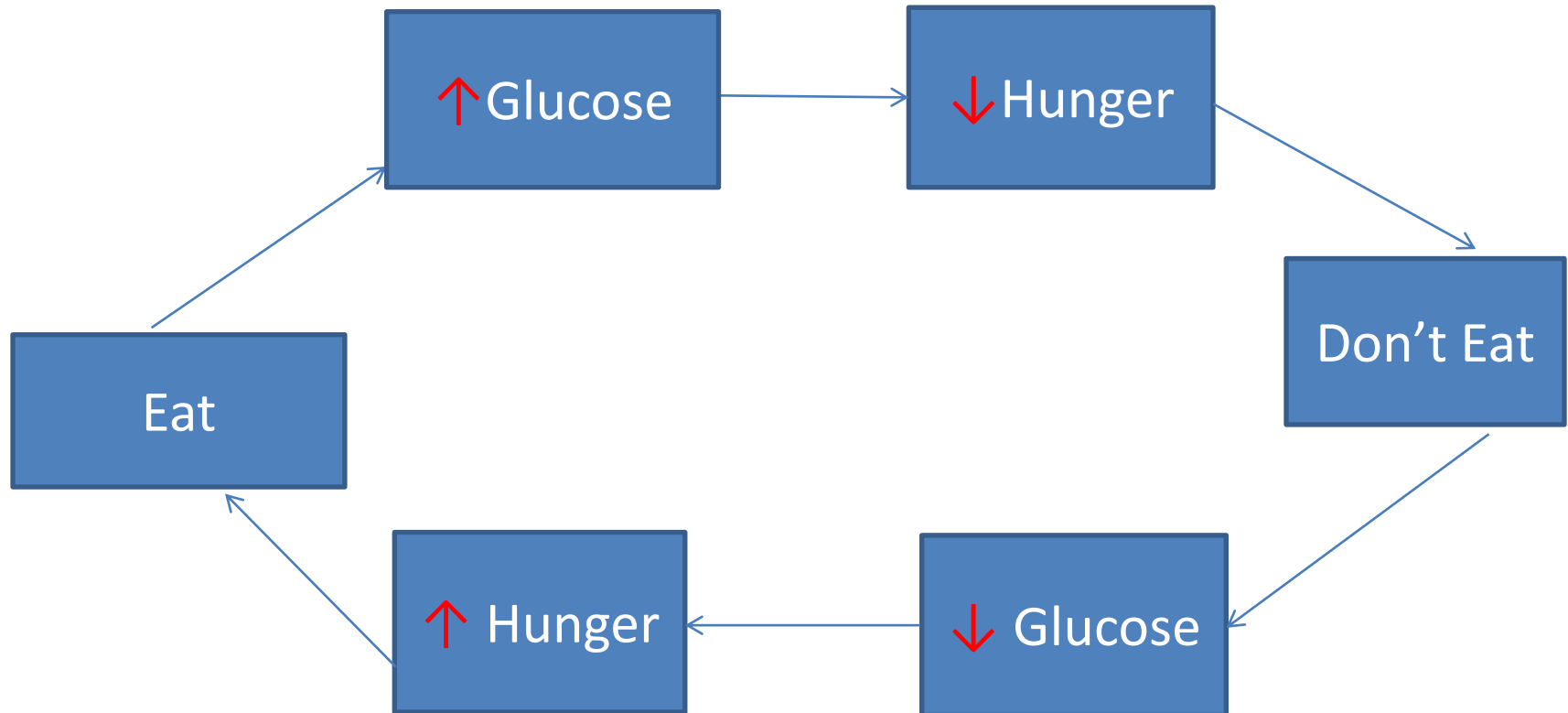
- One biological explanation of hunger is that when one's blood glucose level is low, the person becomes hungry and desires to eat.
- After eating the food, the glucose level raises which in turn reduces the hunger drive.

Biology of Hunger

- As the glucose level diminishes then the hunger sets in and the person has to eat.
- Research (Luckhardt & Carlson,1915; Bash,1939)
- The glucose level is monitored by the hypothalamus (glucoreceptors). The hunger cycle is demonstrated in a diagram below.

Biology of Hunger

- The Hunger Cycle



Biology of Hunger

The Insulin theory of hunger

- The level of insulin is highly correlated with the level of glucose. This theory says it is the level of insulin that determines one's hunger level. Hence reduction leads to hunger whereas an increase will lead to feeling of satiation

Heat Production theory

- According this theory, a drop in body and blood temperature, as sensed by the brain cells leads to increased feelings of hunger

Biology of Hunger

Set Point theory

- The hypothalamus wants to maintain a certain optimum body weight
- When we drop below that weight, the hypothalamus tells us we should eat
- The hypothalamus tells us to stop eating when we reach the set point

Topic Two

PSYCHOLOGY OF HUNGER



Psychology of Hunger



- Factors like the smell, taste, and visual clues can also influence eating habits.
- The four primary tastes like **sweet**, **sour**, **salty** and **bitter** are encountered by everyone.

Psychology of Hunger

- People all over the world prefer the sweet and tasty ones like sugar and tasty food.
- A persons' state of mind can also influence the preference for types of foods.
- For example, stressful events might call for snacks.

Psychology of Hunger

Ecology of Eating

- The presence of others can either inhibit or help people to eat.
- In general, people tend to eat more in the company of others, especially friends or family members.
- Cultural preferences

Learning plays an important role in what we eat. Hence, the culture in which one finds him/herself can influence eating habits (Refer to lecture slides for examples)

Psychology of Hunger

- Some of us eat even though our hypothalamus is not sending us any cues
- If you are motivated to eat by external cues such as stress, smell or just the fact that food is available then you are an **external**
- Those motivated to eat by internal cues like feelings of hunger, empty stomach are **internals**
- **The points discussed above are considered as the psychological basis of hunger**

Topic Three

EATING PROBLEMS/DISORDERS



Eating Problems/Disorders

Three main Problems;

1. Obesity

2. Anorexia Nervosa

3. Bulimia Nervosa

Obesity

- Obesity is described as excess of body fat accounting for 25% of weight in a person.
- As far back as in 2002, the World Health Organization (WHO) described obesity as a global epidemic.



Obesity

- Obesity is measured as **BMI (Body Mass Index) = Weight (kg)/Height (m²)**
- The norms for interpreting the values are;
< 18.5 = Underweight
18.5-24.9 = Normal
25-29.9 = Overweight
30+ = Obese

Obesity

- **Why obesity**
- The disorder is caused mostly by a consumption of calories that are more than what the body needs, therefore the excess is stored as fat.
- Obesity could be caused by **physiological state** due to the following factors;
- Genetic factors

The following researches give some support to the genetic basis of hunger

Adopted versus natural children; identical versus fraternal twins (Stunkard et al., 1985, 1990;Carriere, 2003; Frayling et al., 2007)

Obesity

- It is also believed that certain individuals inherit the potential to consume a lot of high calorie foods
- **Other Factors**
- Age
 - Slowing of metabolism rate
- Malfunctions of the hypothalamus
 - Lesions of the ventromedial nuclei of the hypothalamus produce overeating
- Internal- External theory of hunger and eating
- Environmental
 - Those who live sedentary lives
 - Those who take fast foods.

Obesity

- **Psychological Factors**

Eating in response to negative emotions

- **Illness**

Hormone problems (hypothyroidism), depression

- **Medications**

Steroids, antidepressants

Problems of obesity

Once one is said to have obesity, there are a number of problems which may come along with the disorder

- Diabetes
- Heart problems
- Respiratory problems
- Cancer
- High cholesterol
- Pregnancy complications

Management of Obesity

Obesity can be managed in the following ways:

- The person should eat low fatty diet of food
- The person should exercise on regular basis
- Psychotherapy
- Drugs
- Surgery to remove fat
- Bypass surgery

Anorexia Nervosa

- This is an eating disorder common in girls or young women.
- About 95% of those affected are females.
- In this condition, the person becomes very fearful of gaining weight, ignores eating and becomes emaciated and might even starve to death.

Signs/Symptoms

Dieting despite being thin

Obsession with calories, fat grams, nutrition

Feeling fat despite being underweight

Compulsive exercising

Anorexia Nervosa

Causes

- Biological Causes
 - Neurochemicals

Low or high levels of certain neurochemicals can cause this disorder

Eg., Low levels in norepinephrine, a neurochemical for regulation of eating, high levels of cortisol
- Learned Factors
 - Families that place emphasis on slenderness
 - Activities that require slenderness
- Sociocultural variables
- Some societies consider being slender as what is acceptable especially for women



Anorexia Nervosa

- Anorexia has a number of problems associated which include:
 - Severe mood swings
 - Lack of energy and weakness
 - Dry yellowish skin, brittle nails
 - Tooth decay, gum damage
 - Reproductive problems

Bulimia Nervosa

- This condition is common in young women
- It is characterized by binge eating followed by self – induced vomiting or use of laxatives.
- Such an individual may take ten balls of kenkey or 5 fried chickens all at one sitting and then purge them. This binge -purge episode may occur 2 – 14 times in a week.
- Frequent vomiting may lead to abdominal problems and dehydration.



Bulimia Nervosa

Like anorexia nervosa, the condition is attributable to

- Genetic factors.
- Cultural and social pressures (Low weight)
- Other mental health problems (Common in people with Anxiety, OCD, personality disorders)

Bulimia Nervosa

Problems associated with Bulimia

- Abdominal problems
- Bowel problems
- Dehydration
- Irregular periods
- Chemical imbalances leading to tiredness, weakness and kidney damage
- Poor skin and hair

RECAP



Questions?



Thank You

