





CONCEPT: FACTORS AFFECTING WEIGHT

- ◆ Overweight and obesity are conditions of excessive _____ deposits in the body.
 - Complex issues caused by individual, biology/genetics, and social/environmental factors.

Individual Behavior

- ◆ For most people, individual behavior is the _____ significant factor that contributes to weight gain.
 - **Recall:** Individual behavior is a modifiable determinant of health.



Individual Behavior	
<p>1 Excessive Eating</p>  <ul style="list-style-type: none">▸ Social gatherings and celebrations.▸ _____ eating.	<p>2 Fast Food & Sugary Drinks</p>  <ul style="list-style-type: none">▸ Fast food is high in _____ and may cause metabolic abnormalities.▸ _____ sugary drinks/day can increase ____lb in 20 days.
<p>3 Physical Inactivity</p>  <ul style="list-style-type: none">▸ Jobs that require _____ for extended periods of time.▸ Entertainment through TV, internet, and games.	<p>4 Screen Time and Sleep</p>  <ul style="list-style-type: none">▸ Increased screen time can lead to sleep deprivation.▸ Lack of sleep and sleep debt are linked to high _____.

EXAMPLE

Select the best statement about the factors that contribute to weight gain.

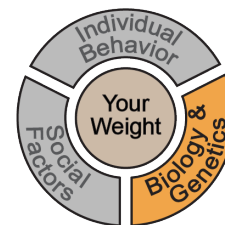
- a) Individuals who can't measure portion sizes are the most likely to be overweight or obese.
- b) Most individuals gain weight because they don't have time for physical activity.
- c) Overweight and obesity result from a complex interaction between individual, biological, and environmental factors.
- d) Many young adults are obese because they are sedentary, and sleep deprived.


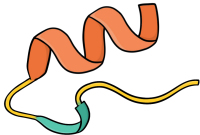

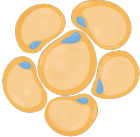
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Biology and Genetics

◆ Biology and genetics affect _____, which in turn impacts a person's weight.

- **Recall:** Biology & genetics are nonmodifiable determinants of health.



Biology and Genetics	
1 BMR  Basal Metabolic Rate	<ul style="list-style-type: none"> ▪ BMR: Energy used to maintain vital functions; reduces _____% a year after the age of _____. ▪ Adaptive Thermogenesis: Body slows down metabolism when food is scarce. <ul style="list-style-type: none"> - Weight Cycling (Yo-Yo Dieting): Pattern of _____ weight loss and again. <p>Dieting → Adaptive Thermogenesis → Quit Dieting → Weight gain</p>
2 Hormones 	<ul style="list-style-type: none"> ▪ Ghrelin is the “_____ hormone”. - Levels _____ after meal in healthy weight individuals. ▪ Leptin signals satiety and suppresses appetite, produced by fat cells. - Impaired leptin regulation is associated with tendency to _____.
3 Genes 	<ul style="list-style-type: none"> ▪ Fat mass and obesity-associated gene (FTO) has the greatest influence. - Obesity-risk FTO variant is associated with _____ ghrelin levels after a meal.
4 Fat Cells 	<ul style="list-style-type: none"> ▪ Hypertrophic Obesity: Fat cells may increase in _____ to store more fat. ▪ Hyperplastic Obesity: _____ in the number of fat cells, occurs at an early age. <ul style="list-style-type: none"> - Healthy: 25-35 billion - Class II and III Obesity: _____ to _____ of healthy individuals

EXAMPLE

Which of the following statements about biological factors of weight gain is incorrect?

- Impaired leptin regulation may lead to the loss of appetite.
- After dieting for a while, adaptive thermogenesis may hinder further weight loss.
- Individuals with obesity-risk variant of the FTO gene have higher ghrelin levels, causing them to overeat.
- Obesity most commonly occurs when fat cells increase in size and store more fat.

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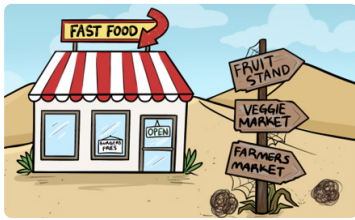
Social and Environmental Factors

- ◆ The environment we live in is “_____”.
- Encourages intake of excess _____ and discourages physical activity.



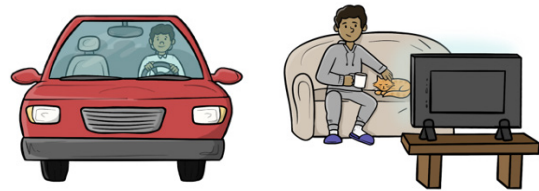
Social and Environmental Factors

1 Access to Calorie-Rich Foods



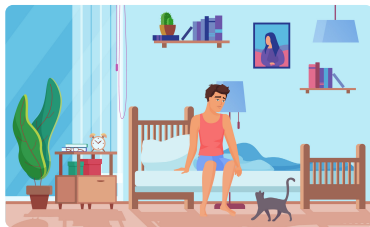
- **Food Deserts:** ____ access to fast foods and ____ access to fresh food.
- Aggressive marketing and _____ portion sizes.

2 Comfort in the Modern World



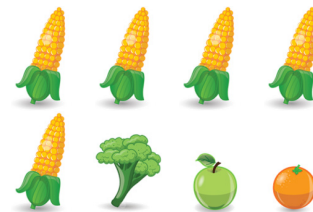
- Average BMI has steadily ____ globally in the last few decades.
- Sedentary activities: less walking, more seated entertainment, etc.

4 COVID-19



- High stress, more food, less physical activity.
- 42% of americans gained an average of 29 lb during the pandemic.

3 Agricultural Policies



- US agricultural policies encourage corn over fruits and vegetables.
- In the last 3 decades, fruit and vegetable prices have _____.

EXAMPLE

Identify each of the following as individual behavior (IB), biology and genetics (BG), or social and environmental (SE) factor.

- | | |
|--------------------------------------|------------------------------------------------------------------|
| a) Having obese parents _____ | d) Government incentives for growing more bioenergy crops _____ |
| b) Preferring fast food _____ | e) Driving to a grocery store 2 blocks away _____ |
| c) Impaired ghrelin regulation _____ | f) Being served high-calorie traditional foods on holidays _____ |

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PRACTICE

Which of the following factors will not directly affect a person's weight?

- a) Low levels of leptin in the blood.
- b) Having a specific variant of FTO gene.
- c) Lack of physical activity.
- d) Frequent air travel.

PRACTICE

Why does weight cycling occur?

- a) Trying to reduce weight by running and not reducing calorie intake.
- b) Body's response to dieting by slowing down metabolism and storing energy.
- c) Easier access to and overconsumption of fast food.
- d) Having an FTO gene variant that causes periodic fluctuations of weight.