

Theory of Motivation	Description	Strength(s)	Weakness(es)
Arousal (Yerkes-Dodson)	Proposes that organisms have an optimal level of physiological arousal and behavior is adjusted to either increase or decrease the arousal level	Explains physiological arousal needed for specific tasks	Does not explain motivation for more complex social needs
Hierarchy of Needs (Maslow)	Incorporates the idea that we have various levels of needs, including lower-level physiological and safety needs and higher-level social, self-esteem, actualization, and meaning needs Emphasizes importance of psychological/cognitive factors in motivation	Works well on an intuitive level Recognizes both physiological and psychological needs Recognizes importance of the environment	Lack of empirical support Many people follow advanced levels of needs despite not meeting lower level needs; the order of needs may change in some circumstances Evolutionary psychologists criticize the absence in the hierarchy of the universal human motives to find a mate and reproduce

Figure 13.6 Theories of Motivation

Motivated Behaviors

Theories of motivation present a picture of how motivation works in general, but no single theory is enough to fully explain why people behave as they do. Drives and needs and incentives work together, and sometimes they work in opposition. Psychologists studying motivation, then, often focus on specific behaviors in their attempt to provide a more complete understanding of the factors that influence behaviors in general. This section of the chapter takes such an integrated approach to explain why we engage in two motivated behaviors, eating and sexual behavior, and looks at motivation of social behaviors.

Eating

Why do we eat? Clearly hunger is not the only answer, although hunger plays an important motivational role in eating behaviors. Understanding hunger and **satiety**, the feeling of fullness, is necessary to build a foundation for understanding why we eat.

Biological Bases of Hunger Hunger is often described as a biological drive, probably the most important drive for individual survival. In terms of the drive reduction theory, hunger is a drive that pushes a person to behave in a way that fills a need. Nutrition is the need, and eating is the behavior that allows the person to fill that need. Where does this state of arousal come from?

The nervous and endocrine systems are both active in regulating hunger. The hunger signal has two parts: the “on” signal and the “off” signal. The “on” signal is triggered by something that stimulates the appetite (an **orexigenic**). Two appetite stimulants, the chemicals **ghrelin** and **orexin**, play key roles. In mammals, orexin is produced by neurons in the **lateral hypothalamus (LH)**. (See page 91.) In addition to its role in eating behaviors, orexin has a role in sexual behavior and wakefulness; in each case, it seems to be involved in stimulating the body to “do more”—eat more, engage in more sexual activity, and stay awake longer. Ghrelin is a hormone released by the stomach when the body needs food; it carries the “hungry” signal to the LH. The body produces more ghrelin when it is underweight and less when it is overweight.

The “off” signal occurs when an **anorexigenic**—something that signals satiety—tells the body it feels full and decreases appetite. The satiety system is regulated by the **ventromedial hypothalamus (VMH)**, which receives and responds to satiety hormones such as **leptin** and **peptide YY (PYY)**. For example, leptin is secreted by fat cells in the body, and it travels to the VMH to signal that the body has enough energy to do what it needs to do. Rats with lesions to the VMH don’t receive this internal satiety cue. They continue to eat much more than they need to survive and become dramatically overweight. People, too, with low leptin levels (perhaps due to a genetic mutation) may overeat to obesity; they get the “hungry” signal but don’t receive the “no-longer-hungry” signal.

According to one theory, these on-off signals help an organism maintain homeostasis, with the balance around a **set point** for each individual, the weight range in which the body performs optimally and in which a person stays without any effort to gain or lose weight. A person with a set point of 135 pounds, for example, will probably weigh between 125 and 150 for most of his or her adult life, as long as no extreme situations are present (e.g., poverty leading to malnourishment, overeating beyond the point of satiety). However, with access to all kinds of foods and cultural encouragement to eat, many people overeat and bypass their body’s set point.

An individual’s set point is influenced by his or her **basal metabolic rate**, which is the rate of energy expenditure when the body is at rest. Basal metabolic rate seems to have a genetic component—in other words, some

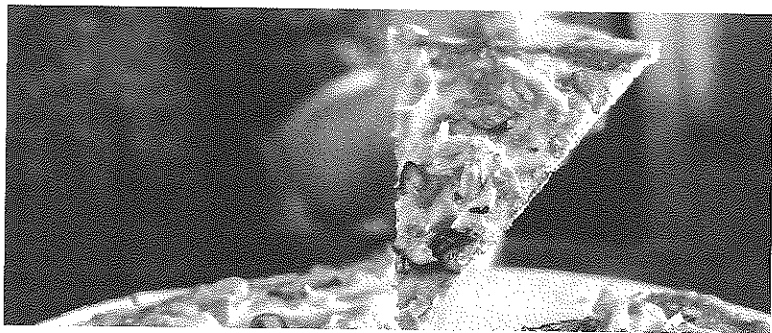
people have more fat cells, while others have fewer; some people burn calories for energy very quickly, while others do so more slowly. But basal metabolism is also influenced by other factors. For example, increasing leptin can lead to an increase in metabolic rate, and extreme dieting can cause a decrease.

Other hormones and chemicals also play a role in hunger signals. **Glucose**, a type of sugar, is an important source of energy that comes from food; food is broken down into sugars that are passed through the blood to cells throughout the body. **Insulin**, a hormone released by the pancreas, regulates the level of glucose in the bloodstream. When people are hypoglycemic (i.e., have low levels of glucose in the blood—*hypo* means “low” or “less than normal”), their body temperature rises, their heart rate increases, and they tend to feel chilled, shaky, and irritable (think about the candy commercial that describes people as “hangry,” a combination of hungry/angry that is typical of hypoglycemia). The body is signaling that it needs more glucose, and the person may respond by eating (often something sweet).

Sometimes, though, people eat even without the chemical signals indicating that food is needed for energy. Have you ever looked at the clock, noticed it was close to your regular meal time, and suddenly felt hungry? The clock signaled a hunger response, serving as a cue that you should eat.

External Cues That Influence Eating Behaviors External eating cues are signals and situations that are linked with food. Some examples of eating cues are smells and other sensory experiences, the clock, specific people, and certain emotions.

The taste, smell, texture, and sight of food can lead to eating (and overeating), even when a person isn’t hungry. Have you ever eaten a whole container of ice cream, a box of cookies, or too many candy corns? Sweet tastes can stimulate appetite by triggering insulin release, leading to a drop in blood glucose. The opposite can happen too—the smell of something unappealing can suppress feelings of hunger. To a large degree, these responses are inherent in humans and other animals; they are evolutionarily important to encourage eating when energy is low and to discourage eating in situations where the food may be spoiled or poisoned.



Ads for pizza companies are timed to be shown around dinnertime and are external cues triggering a taste for pizza.

Learning plays a role too. Classical conditioning (described in Chapter 9) often leads to otherwise-neutral stimuli becoming motivators for eating. For example, the smell of food serves as an unconditioned stimulus—a person feels immediately hungry (the unconditioned response). If the person generally cooks and eats dinner at 6 p.m., the smell of the food will become associated with the time (the conditioned stimulus) and the person will begin to feel hungry as 6 p.m. nears (the conditioned response) even before the food is cooked. Do you eat your meals sitting in front of the television? If so, you may have learned to associate television with food, prompting hunger when watching the screen.

Most people develop associations between food and certain environmental factors. For example, people whose environment contributes to stressful feelings reach for sweet foods. Sugars in the bloodstream provide energy to the body, and people experience a rush of energy after eating food containing sugars. Carbohydrates—foods like candy bars, cookies, pasta, and breads—are among those foods that can lead to the “sugar high” feeling. Other foods, such as eggs, cheese, nuts, salmon, and tofu, trigger a release of serotonin, a chemical (neurotransmitter) in the brain that is involved in feelings of pleasure (see Chapter 5).

Culture, too, is a major motivator of eating behaviors. What one culture considers a delicacy, another might consider disgusting. Would you eat crickets, mealworms, or scorpions? What about that balut mentioned earlier or haggis, a Scottish “pudding” made from organ meat? You’re probably more likely to reach for a bag of potato chips or chocolate chip cookies.

Many people in America prefer foods that are salty and sweet, and if they were not raised with spicy foods, they often dislike foods prepared with curries and peppers. In contrast, those flavors are common and preferred in many Latin American and Asian countries. Children raised in multicultural families whose parents like to travel or cook grow up with access to a variety of different cuisines, have more cultural cues motivating them to eat, and are more likely to grow up to be adventurous eaters.

Some cultures have rules about which items are appropriate on certain occasions. For some, a cake is a common high-calorie dessert at celebrations of birthdays, graduations, and engagements. For some, certain foods are to be avoided, such as beef, pork, or insects. Are those delicacies in your household, or are they taboos?

Does your family sit down to a common table, focusing on the food and conversation? If so, how does that affect your eating? Being with others tends to motivate eating, a phenomenon known as social coaction (an idea related to social facilitation that you will read about in the social psychology unit). People at a party, for example, eat more than they would if they were alone. However, in some circumstances, being with others serves to decrease eating behaviors. In Western cultures in which thin is the ideal, when women eat less in social situations they may be seen as more feminine and therefore more

desirable. Family and cultural practices related to parental control of eating and meal customs also exert influence on eating patterns. Many of us were raised with the “you must clean your plate” rule before we could leave the table. This attempt at control by parents over children can carry over into adult eating behavior.

Eating Behaviors Out of Balance: Obesity Over human history, thrifty genes directing us to eat fatty foods have evolved as an adaptation for when food was scarce. Now that high-fat, high-sugar food is no longer scarce, that gene has become maladaptive. Many genes related to body weight regulation vary among individuals and contribute to obesity. The Pima Indians of Arizona have a high level of obesity within their culture for those following a modern high-fat diet. For those who follow a more traditional low-fat diet, obesity is much less common.

Once fat cells increase in the body, they seldom decrease in number. Early childhood eating patterns as well as adult overeating contribute to the increase in the number of fat cells. Weight-loss diets can usually shrink fat cells, but they do not destroy them. While we may have a set point, it can get reset by the body when it increases in size. A person’s metabolism can also have an impact on body weight. The lower the metabolism, the easier it is to gain weight. There is that one friend in just about every group who “has a hollow leg” and “eats like a horse” and never gains weight—that lucky situation shows genetics and metabolism at work. A challenging problem with weight-loss diets is that while they can help a person shed pounds, they can also lower a person’s metabolic rate—making it even harder to lose weight.

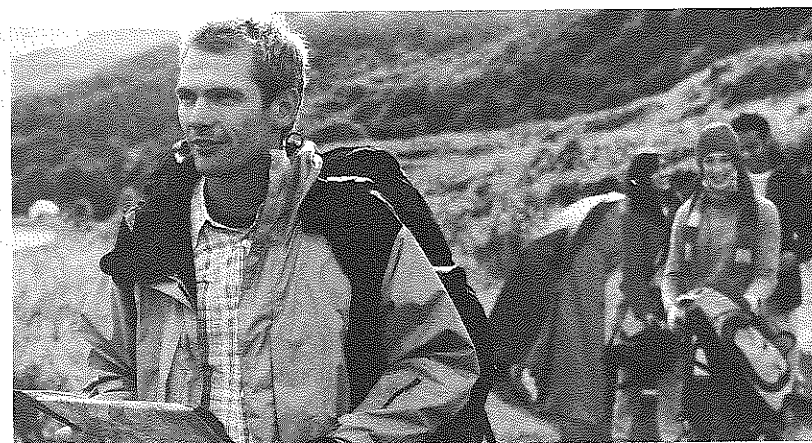
Some parents will use food to placate children. This practice can create a system that becomes unbalanced very quickly. One child who cried every time he was hungry was given food to calm him. By the time he was twelve, he weighed 300 pounds. Many such children have been in the news over the past few years, and their parents are being held accountable for endangering their health.

In the United States, high-calorie fast foods are available in even the smallest of towns. The documentaries *Fast Food Nation* and *Super Size Me* show just how widespread fast food is and how challenging to health it has become. The media contribute to the problem with ads describing or showing these foods as irresistible. In some places, fast food is the only affordable food.

While genetics and predispositions are factors in weight and health issues, you can also exert control if you are concerned about your own health. For example, try examining your portion size. Rather than use a full dinner plate, use smaller plates and smaller cups and glasses. Resist eating everything you are served in a restaurant: The larger plate size and portion size in American restaurants does lead to increased caloric intake. Another way to keep an eye on your calories and your mix of carbohydrates, fats, and proteins is to use a fitness or weight app on your phone. Simply keeping track of what you eat can reduce

overeating. Research shows that obesity can contribute to such health problems as diabetes (blood sugar/insulin issues), joint problems, high blood pressure, and stresses on the heart, so preventing or reducing it is a step toward good health.

One current definition of obesity is based on a measurement of BMI, or body mass index. BMI is a ratio of weight to body size and assumed body fat. Though BMI provides some useful information when examining entire populations, its value for use on an individual person is questionable. Some people who are considered obese—that is, who have a high BMI—can run more than ten miles several times per week or are professional athletes. Other people who are considered too thin can also perform at high levels. In short, do not use BMI scores for finding your appropriate weight for your height. More important indicators of health are physical fitness and underlying measurements of cholesterol levels, blood pressure, insulin resistance, and cardiovascular abilities.



Fitness comes in a variety of dimensions.

Rather than focusing on what the scale or BMI measure says, focus on how you feel. Are you able to go hiking and enjoy the experience, or do you need to stop every hundred yards because you are out of breath? Can you run a mile or more? Are you getting quality sleep, or is severe snoring (possibly a sign of sleep apnea) getting in the way?

You only get one body. What are you going to do with it? Will you take care of it—eat in a healthy way and exercise? Or will you fill it with junk and mistreat it so that it breaks down? If you want to lose weight, avoid falling for diet fads or “cleanses.” They are not based in science and only end up hurting your body. Healthy habits are the only way to properly take care of your body.

Sexual Motivation

Sexual motivation is the desire to have erotic experiences that are pleasurable. Sexual desire and romantic love are not always connected with each other. Sexual desire has roots in mating and passing along one’s genes, while romantic love has attachment in concert with sexual desire. Each has distinct brain