

Instinctual behavior

Instincts are automatic, involuntary, and unlearned behavior patterns that are consistently released in the presence of particular stimuli.

Examples of human instincts:

- alimentary instinct – hunger and eating
- sexual instinct – seeking sexual gratification
- aggressivity – the tendency to be aggressive
- maternal instinct – fiercely protecting their young

Hunger and eating

Biological mechanisms

Hunger is based largely in biological makeup.

- o *The role of stomach cues:*

People often get “hunger pangs” in the stomach when they are hungry and complain of having a “full stomach” after eating a large meal.

The stomach might control the hunger motive; but hunger, it turns out, is not that simple (people who have had their stomachs removed because of illness still experience hunger pangs when they do not eat and still eat normal amounts of food).

- o *The role of taste cues:*

People consume more food during a multicourse meal than when only one type of food is served. This variation in consumption is due in part to the fact that the taste of a given food becomes less and less enjoyable as more of it is eaten.

- The role of the brain:

Two regions of the hypothalamus (a structure in the forebrain) in particular have been studied:

- the lateral area: acts as a “start eating” center:
 - if the lateral hypothalamus is electrically stimulated, one result is that the rats begin to eat vast quantities
 - when fibers in the lateral area of the hypothalamus are destroyed rats stop eating almost entirely
- the ventromedial nucleus: acts as a “stop eating” center:
 - if the ventromedial nucleus is electrically stimulated the rat stops eating
 - when fibers in the ventromedial nucleus are destroyed the rat will eat far more than usual
- the set-point concept:
 - it suggests that a homeostatic mechanism in the brain establishes a level – a set point – based on body weight or a related metabolic signal.
 - normal subjects eat until their set point is reached, then stop until their brain senses a drop in desirable intake, at which time they eat again.
 - destruction or stimulation of the lateral or ventromedial areas of hypothalamus may alter the set point

- Signals for hunger:

- the subjects brains “read” something in the blood that told them when to eat
- the level of glucose: when the level of blood sugar drops, eating increases dramatically (“start eating” function)
- during a meal, CCK (the hormone cholecystokinin) is released from neurons in the hypothalamus; subjects injected with CCK they not only stop eating but also show other signs of being satiated such as grooming and sleeping (“stop eat” function)

Non-biological factors:

- stimulate eating:
 - sights and smells of particular foods elicit eating because of prior associations

- family customs and social occasions often include norms for eating in particular ways
- stress is often associated with eating more
 - inhibit eating:
- contemporary society values thinness, and thus can inhibit eating
- conditioned satiation occurs when certain foods are associated with satiety
- negative emotional reactions sometimes result in a loss of hunger

Sexual behavior

Though not essential for individual survival, sexual motivation is very strong in human beings.

Sources of sexual motivation:

- ***the role of hormones (biological factors):***
 - the feminine hormones are estrogens and progestins; the main ones are estradiol and progesterone
 - the masculine hormones are androgens; the principal androgen is testosterone
 - each of these hormones circulates in the bloodstream of members of both sexes, but relatively more androgens circulate in men and relatively more estrogens and progestins circulate in women
 - these hormones have both organizational and activational effects:
 - the organizational effect:
 - consists in permanent changes in the brain and the way an individual thereafter responds to hormones
 - the organizational effects of hormones occur during very early development – prenatal in humans – when either a “male-like” or a “female-like” pattern of brain connections is laid down
 - it is clear that there are regions of the human brain that are different in males and females

- the activational effect:

- consists in reversible changes in behavior that remain as long as the hormone levels are elevated
- in puberty, hormone levels rise and the activational effects occur
- there is a positive correlation between sexual activity and levels of hormones in the blood
- androgens are the critical hormones for activating sexual interests in both sexes, although estrogens may also activate sexual interest in women

- **nonbiological factors**

- sexual behavior is shaped more precisely by a lifetime of learning
- some sexual behaviors are learned as part of the development of gender roles
- other kinds of early sexual experiences may also be necessary for the development of sexual motivation and behavior
- attitudes toward sexual behavior change as cultural expectations change:
 - In a survey in the 1920s, most husbands wanted more frequent sexual contacts with their wives, whereas wives wanted less
 - In a similar survey in the 1970s, only 2% of wives said that intercourse was too frequent, and 32% thought it was too infrequent

Conclusion:

Social and cultural factors often overweight biological determinants of human sexual behavior, but hormones have important organizational and activational effects.