

**MODULE 53 SEXUAL DEVELOPMENT**

**SEX**

- Our biology may influence our gender differences in two ways: genetically, by our differing sex chromosomes, and physiologically, from our differing concentrations of sex hormones.
- Mothers give the X CHROMOSOME while the father determines the sex by either giving an X CHROMOSOME (FEMALE) or a Y CHROMOSOME (MALE).
- If male, TESTOSTERONE is the addition to males that stimulates the growth of the male sex organs in the fetus and the development of the male sex characteristics during puberty.
- PUBERTY is the period of sexual maturation, during which a person becomes capable of reproducing. PRIMARY SEX CHARACTERISTICS is the body structures (ovaries, testes, and external genitalia) that make sexual reproduction possible. SECONDARY SEX CHARACTERISTICS are nonreproductive sexual traits, such as female breasts and hips, male voice quality, and body hair.
- Today, many girls are developing earlier due to increased body fat, increased hormone-mimicking chemicals, and increased stress related to family disruption.
- Intersex individuals are born with intermediate or unusual combinations of male and female physical features. Genetic males, for example, may be born with normal male hormones and testes but without a penis or with a very small one.
- The brain's identity of gender is not determined by physical qualities or lack thereof. Sex-reassignment surgeries at early stages of development can be life threatening to individuals who do not relate with their given sex change. Sex matters.
- AIDS are a life threatening, sexually transmitted infection caused by the human immunodeficiency virus. AIDS depletes the immune system, leaving the person vulnerable to infections.

**SEXUAL ORIENTATION**

- SEXUAL ORIENTATION is an enduring sexual attraction toward members of either one's own sex, the other sex, or both sexes.
- Homosexual people often struggle with their sexual orientation. Efforts to change sexual orientation are unlikely to be successful and involve some risk of harm (think about the political movements of today with the rehabilitation camps...worth your tax paying money? Absolutely not.) Homosexuality, in and of itself, is not associated with mental disorders or emotional or social problems.
- Homosexuals, according to Kinsey Institute investigators, were no more likely to than heterosexuals to have been smothered by love or neglected by their father.
- Some degree of homosexual behavior seems a natural part of the animal world.
- Gay-straight brain differences show that the hypothalamus (SEX) is larger in heterosexual men than in women and homosexual men.

- Gay men make generous uncles. Perhaps the genes that dispose women to be strongly attracted to men, and therefore to have more children, also dispose some men to be attracted to men.
- Identical twins are somewhat more likely than fraternal twins to share a homosexual orientation but there are confounding variables that do not lead directly back to genes.
- Twins also share prenatal environment. Exposure to the hormone levels typically experienced by female fetuses during this period may predispose a person (female or male) to be attracted to males in later life. Men who have older brothers are somewhat more likely to be gay about one-third more likely for each additional older brother. Mother's immune system may have a defensive response to substances produced by male fetuses called older-brother or fraternal birth-order effect.

**Table 53.1****Gay-straight trait differences**

Sexual orientation is part of a package of traits. Studies—some in need of replication—indicate that homosexuals and heterosexuals differ in the following biological and behavioral traits:

- |                               |                                    |
|-------------------------------|------------------------------------|
| • spatial abilities           | • gender nonconformity             |
| • fingerprint ridge counts    | • age of onset of puberty in males |
| • auditory system development | • male body size                   |
| • handedness                  | • sleep length                     |
| • occupational preferences    | • physical aggression              |
| • relative finger lengths     | • walking style                    |

On average (the evidence is strongest for males), results for gays and lesbians fall between those of straight men and straight women. Three biological influences—brain, genetic, and prenatal—may contribute to these differences.

**Brain differences**

- One hypothalamic cell cluster is smaller in women and gay men than in straight men.
- Gay men's hypothalamus reacts as do straight women's to the smell of sex-related hormones.

**Genetic influences**

- Shared sexual orientation is higher among identical twins than among fraternal twins.
- Sexual attraction in fruit flies can be genetically manipulated.
- Male homosexuality often appears to be transmitted from the mother's side of the family.

**Prenatal influences**

- Altered prenatal hormone exposure may lead to homosexuality in humans and other animals.
- Men with several older biological brothers are more likely to be gay, possibly due to a maternal immune-system reaction.

- Homosexual participants were 39% more likely to not be right-handed.
- The consistency of the brain, genetic, and prenatal findings has swung the pendulum toward a biological explanation of sexual orientation.

**BE ABLE TO ANSWER:** What factors have been found to predict sexual restraint among teens?

**PRACTICE FRQ:** Provide examples of a primary and a secondary sex characteristic for both males and females.