

### Adolescent Development

- Cognitive Development
  - Piaget: Period of Formal Operations
  - Elkind: Adolescent Egocentrism
- Physical Development: Puberty
  - Primary and Secondary Sex Characteristics
  - Sequence of Puberty
- Sexual Behavior
- Teenage Pregnancy

### Cognitive Development

- Piaget: period of **formal operations** (12-16 years)
    - Teenagers learn to **reason logically** about **abstract** concepts
    - Transition from thoughts based in **reality** to thoughts regarding **possibility**
  - Characteristic Abilities
    - hypothetical thought - thinking about possibilities
    - deductive and inductive reasoning
      - deductive reasoning—reasoning from general principle via logical steps to specific conclusion
      - inductive reasoning—reasoning specific experiences or facts to a general conclusion
    - Understand **symbols** as representations of symbols
    - Look to and think about the future and its possibilities
- \*\*\***Reflective Thinking**: thinking about thought

### Elkind: Adolescent Egocentrism

- **Adolescent Egocentrism**: characteristic of adolescent thinking that sometimes leads young people to focus on themselves to the exclusion of others and to believe that their thoughts feelings and experiences are unique.
  - **Invincibility fable**: believe self immune to laws of mortality and probability (affects risk-taking behavior)
  - **Personal fable**: adolescents imagine their own lives as mythical or heroic; believe in uniqueness of own experience
  - **Imaginary audience**: see self as center of attention, everyone else as member of an attentive “audience”

### Physical Development

- **Puberty**: Period of rapid physical growth and sexual maturation which brings individual to adult size, shape, and sexual potential—typically completed three to four years after first visible signs
  - Typically occurs between 8-14 years of age
- Puberty begins with hormone production in brain
  - hormones from hypothalamus trigger production in pituitary glands
  - in turn this triggers hormone production in adrenal glands and sex glands (gonads)

### Direct Effects on Emotions (covered in text)

- Rapidly increasing hormone levels precede rapid arousal of emotions
- Hormonal levels correlate with quick shifts in emotional extremes
- For boys this increase precipitates thoughts about sex and masturbation
- For girls hormonal changes during menstrual cycle produce mood changes
- Hormone levels produce visible signs of sexual maturation, which in turn create expectations of new maturity
  - social responses to biological signs trigger adolescent moods and reactions

The most obvious changes of puberty are associated with sexual maturity:

- **Primary sex characteristics** - parts of the body that are directly involved in reproduction: vagina, uterus, testes, penis
  - girls: uterus grows, vaginal lining thickens
  - boys: testes, penis, scrotal sac enlarge
- **Secondary sex characteristics** - body characteristics not directly involved in reproduction but indicating sexual maturity
  - Boys and girls: growth of underarm and pubic hair; body hair becomes coarser and darker
  - Boys: voice change, body shape, beard growth
  - Girls: breast development, change in body shape (accumulation of fat)

### Typical Sequence of Pubertal Change

#### Girls

- Breast buds, beginning of pubic hair development
- Peak growth spurt
- Development of breasts and pubic hair
- **Menarche** (first menstruation) occurs between 9-15 years of age (average = 12 years)

Note that irregular menstrual cycles are the norm initially (anovulatory)

#### Boys

- Growth of testes/scrotum, beginnings of pubic hair, growth of penis
- Growth spurt
- Voice change and facial hair
- First ejaculation (spermarche)

(Note that normal *cephalocaudal* and *proximodistal* patterns of growth are reversed during this period)

### Sexual Behavior

- With puberty occurring earlier than it used to in the United States, and marriage later, long period between first sexual urges and marriage
- More than 25 percent of teens are sexually active by age 14; about one-half active by high school graduation
- Fact: too many teens are sexually active and not enough of them are educated enough about the topic to approach their activity safely and responsibly
- Sexually active teenagers have higher rates of most common STDs—gonorrhea, genital herpes, syphilis, and chlamydia—than any other age group

- Risk of exposure to HIV virus increases if a person is
  - already infected with other STDs
  - has more than one partner in a year
  - does not use condoms during intercourse

Factors associated with **not** being a sexually active teen:

- Good relationships with parents (communication)
- High self esteem
- Good school performance
- Involvement in sports/extracurricular activities
- Not using alcohol

### Limitations of Adolescent Decision Making

- Every decision requires weighing risk against opportunity
- Consequences are discounted, probability miscalculated, and their future put at risk
- Sex differences
  - boys more likely to take risks
  - girls admire risk-taking boys
- Adolescents think about possibilities, not practicalities; thus, few decide important matters rationally
  - egocentrism and intuitive thinking make it hard to analyze and plan ahead
  - adolescents overrate the joys of the moment and ignore future costs

### Importance of Education

- New wave of sex education
  - more practical
  - focus on social interaction: communication and specific knowledge
  - information from friends, older siblings, and parents
- Teaching teens about sex does not necessarily lead them to act upon what they've learned
- Use of contraception, especially by teenage boys, has at least doubled in most nations since 1990 and tripled in the United States since that time.