Chapter 8

ADOLESCENCE
Physical Development
Biological Changes of Puberty
The Physical Changes of Puberty

• Puberty is a time period of rapid biological growth
• Hormonal changes triggered by hypothalamus
• Two classes of sex hormones:
  ▪ Estrogen—estradiol production 8 times higher in females
  ▪ Androgens—testosterone is 20 times higher in males

LO 8.1 Physical Changes of Puberty
Biological Changes of Puberty
The Physical Changes of Puberty

• Two types of sex characteristics:
  ▪ Primary sex characteristics—directly related to reproduction.
  ▪ Secondary sex characteristics—bodily changes due to rise in sex hormones, NOT directly related to reproduction.
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Age Begins (boys)</th>
<th>Age Begins (girls)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pubic hair</td>
<td>10–15</td>
<td>8–14</td>
</tr>
<tr>
<td>Breast development</td>
<td></td>
<td>8–13</td>
</tr>
<tr>
<td>Growth spurt</td>
<td>10½–16</td>
<td>9½–14½</td>
</tr>
<tr>
<td>Menarche</td>
<td></td>
<td>10–16½</td>
</tr>
<tr>
<td>Change in voice</td>
<td>11–15</td>
<td></td>
</tr>
<tr>
<td>Sperm production</td>
<td>12–14</td>
<td></td>
</tr>
<tr>
<td>Underarm hair</td>
<td>12–17</td>
<td>10–16</td>
</tr>
<tr>
<td>Skin oil and sweat</td>
<td>12–17</td>
<td>10–16</td>
</tr>
</tbody>
</table>

Based on: Goldstein (1976); Chumlea et al. (2003).
Biological Changes of Puberty
The Physical Changes of Puberty

Brain development continues throughout adolescence and beyond.

- Myelination encourages efficiency in thought
- Cerebellum continues to grow
- Math, music, decision making, social skills, understanding humor
- Exuberance and synaptic pruning
  - Especially concentrated in the frontal lobes
  - Responsible for planning ahead, solving problems, making moral judgements

LO 8.1 Physical Changes of Puberty
Sex differences in timing of puberty

- Girls begin puberty about two years earlier than boys
- Note: exception of Kikuyu of Kenya: boys show signs of puberty before girls
Biological Changes of Puberty

Timing of Puberty

Timing of puberty
- Were you an early, on-time or late developer?
- How did this affect you?
- If you could go through adolescence again, would you change the timing of your development? Explain.

LO 8.2 Normative Timing of Puberty
Biological Changes of Puberty

Timing of Puberty

- Secular trend - decrease in the age of menarche
  - The average = 12.5 yrs. in developed countries; as high as 15 yrs. in developing countries

Caused by increases in:
- Nutrition
- Access to health care

LO 8.2 Normative Timing of Puberty
Biological Changes of Puberty

Timing of Puberty

• Early maturation
  ▪ Girls—depressed mood, negative body image, eating disorders
  ▪ Boys—favorable body image, higher popularity, earlier delinquency

• Later maturation may be more negative for boys with fewer problems for girls

LO 8.2 Normative Timing of Puberty
Puberty rituals mark a transition

Girls
- Menstrual blood may be considered dangerous to crops, livestock, and people

Boys
- May be required to show feats of courage, strength, or pain endurance

Circumcision

LO 8.3 Gender Differences in Puberty Rituals
Health Issues in Adolescence

Eating Disorders

- Anorexia
  - Inability to maintain body weight
  - Fear of weight gain
  - Lack of menstruation
  - Distorted body image

LO 8.4 Eating Disorders
Health Issues in Adolescence
Eating Disorders

• Bulimia
  ▪ Fear of weight gain
  ▪ Engage in binge eating then purge
  ▪ Can damage teeth from repeated vomiting

• Tend to maintain normal weight and recognize abnormal eating patterns

• Eating disorders are more common in cultures that emphasize slimness

LO 8.4 Eating Disorders
Health Issues in Adolescence
Eating Disorders

• Treatment options: hospitalization, medication, or psychotherapy
• Effectiveness:
  ▪ 1/3 of individuals treated for anorexia remain ill
  ▪ 1/2 of individuals treated for bulimia relapse
  ▪ Continuing problems as individuals dealing with these disorders age
Health Issues in Adolescence
Substance Use

• Reasons for substance use among adolescents are varied
  ▪ Experimental
  ▪ Social
  ▪ Medicinal
  ▪ Addictive

LO 8.5 Substance Use
Figure 8.3  Substance Use in Western Countries  Why are rates of substance use low in the U.S. and Canada? Source: WHO (2008)
Cognitive Development
Piaget’s Formal Operations

Hypothetical Deductive Reasoning

4th stage - Formal Operations

- begins about 11 yrs.
- Hypothetical Deductive reasoning
- Pendulum problem

Figure 8.4  Pendulum Problem
How does performance on this task test formal operations?
Piaget’s Formal Operations
Critiques

• Individual differences
  ▪ Not seen in all adolescents; not used consistently
  ▪ Adolescents with math/science exhibit it more

• Cultural differences

• Why do you think many from non-Western cultures showed less success with Piagetian tasks?

LO 8.7 Critiques of Piaget’s Theory
Social Cognition: Imaginary Audience and Personal Fable

- Adolescent Egocentrism has two aspects
  - Imaginary audience
    - Leads to feeling of self-consciousness
  - Personal fable
    - Feeling unique can lead to anguish and risky behavior

LO 8.9 Imaginary Audience and Personal Fable
Lev Vygotsky
• Zone of Proximal Development
• Scaffolding

• What are some skills that adolescents are learning?
Social and Cultural Contexts of Development Schools

- International variations
- School types
  - Comprehensive Schools (only kind in U.S.)
  - Non-Comprehensive Schools (college prep, vocational, & professional) More common in Europe
- Enrollment
  - Developed countries it is the norm
  - Developing countries it is difficult

LO 8.11 Secondary Education
Figure 8.5  International Performance in Reading, Math, and Science, Eight Grade  What explains why Japan and South Korea score highest? Based on: NCES (2011)
• Developed countries
  ▪ Most often serves as disposable income
  ▪ Does not usually prepare them for later careers

What are other negative outcomes of working during high school?  
Would you allow your adolescent to work?

LO 8.12 Adolescent Work
Social and Cultural Contexts of Development Work

• European countries have tradition of apprenticeship
• Common in central and northern Europe
  ▪ Entry at age 16
  ▪ Continued part-time schooling
  ▪ Training that takes place in workplace
  ▪ Preparation for career in a profession

LO 8.12 Adolescent Work
Figure 8.6 Percentages of adolescents indicating Benefits and Costs of employment. Source: Based on Aronson et al. (1996), Table 2.10.
Figure 8.6 Percentages of adolescents indicating Benefits and Costs of employment. (Con’t)
Emotional and Social Development
Emotional and Self-Development
Storm and Stress

- Adolescence thought to be a time of storm and stress
- Experience Sampling Method (ESM) has shown that
  - In U.S. it is a time of emotional volatility
  - Self-conscious, embarrassed, moody, lonely, and nervous

LO 8.13 Adolescent Emotionality
Emotional and Self-Development
LO 8.14 Changes in Self-Concept and Self-Esteem

• Adolescent self—conceptions become complex

• Composed of:
  ▪ Actual self—true self conception
  ▪ Possible self—what you could become
    - Ideal self—would like to be
    - Feared self—would like to avoid becoming
  ▪ False self—what is shown to others
Emotional and Self-Development

LO 8.14 Changes in Self-Concept and Self-Esteem

• Discrepancy between actual self and ideal self can lead to feelings of failure and depression

• Self-esteem tends to fluctuate during adolescence
Emotional and Self-Development
Self-Esteem

• Eight domains of adolescent self-image (Harter)
  • Social acceptance
  • Athletic competence
  • Physical appearance
  • Job competence
  • Romantic appeal
  • Behavioral conduct
  • Close friendship

LO 8.14 Changes in Self-Concept and Self-Esteem
Emotional and Self-Development

Self-Esteem

- Domains most strongly related to global (overall) self-esteem are:
  - Physical appearance
  - Social acceptance from peers

Self-esteem tends to be lower in girls than boys during adolescence. Why?

LO 8.14 Changes in Self-Concept and Self-Esteem
Cultural Beliefs
Religious Beliefs

- Adolescents in industrialized societies are less religious than traditional cultures
- Religion has a low priority and tends to follow no specific traditional doctrine

LO 8.17 Religious Beliefs During Adolescence
<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Believe in God or a universal spirit</td>
<td>84%</td>
</tr>
<tr>
<td>Pray at least once a week</td>
<td>65%</td>
</tr>
<tr>
<td>Religion important in daily life</td>
<td>51%</td>
</tr>
<tr>
<td>Believe in the existence of angels</td>
<td>63%</td>
</tr>
<tr>
<td>Attend religious services at least twice a month</td>
<td>52%</td>
</tr>
<tr>
<td>Involved in a church youth group</td>
<td>38%</td>
</tr>
</tbody>
</table>

*Based on: Smith & Denton (2005).*
Cultural Beliefs
Religious Beliefs

• Differences in religiosity include:
  ▪ Family characteristics
  ▪ Ethnicity

• Religious involvement provides protective factors:
  • Less depression
  • Lower rates of premarital sex, drug use, and delinquent behavior

LO 8.17 Religious Beliefs During Adolescence
In Western countries, conflict with parents increases during early adolescence, then declines in later adolescence.

• Why?

In traditional cultures, it is rare for parents and adolescents to engage in frequent conflicts.

• Why?

LO 8.18 Cultural Variations in Family Relationships
Figure 8.9 Parental conflict in adolescence. Why does conflict peak in the mid-teens?
Social and Cultural Contexts of Adolescence: Peers and Friends

- Friends provide companionship and intimacy
- In traditional cultures adolescents spend more time with family than peers
- Intimacy most distinctive feature of adolescent friendships

LO 8.19 Cultural Variations in Friendships
Social and Cultural Contexts of Adolescence: Peers and Friends

• Girls talk more with their friends than boys do
• Non-Western countries adolescents are close to families even as they are close to friends

LO 8.19 Cultural Variations in Friendships
Social and Cultural Contexts of Adolescence: Peers and Friends

• Adolescent social groups include:
  ▪ Cliques—small group of friends
  ▪ Crowds—larger, reputation-based groups; not necessarily friends

• Crowds help adolescents define their own identities

• What crowds existed in your school?

LO 8.19 Cultural Variations in Friendships
Social and Cultural Contexts of Adolescence: Peers and Friends

• Three components of bullying:
  - Aggression—physical or verbal
  - Repetition—pattern over time
  - Power imbalance—higher peer status

• Negative effects include helplessness, anxiety, and unhappiness

• Cyberbullying—highest in early adolescence

LO 8.19 Cultural Variations in Friendships
Social and Cultural Contexts of Adolescence: Love and Sexuality

- Romantic relationships increase over time
- Asian cultures later than other groups
- Romance is less formal than in previous cohorts

LO 8.20 Cultural Variations in Love and Sexuality
Social and Cultural Contexts of Adolescence: Love and Sexuality

• Culture influences views on relationships and sexuality
  ▪ Permissive cultures tolerate adolescent sexuality
  ▪ Semirestrictive cultures have prohibitions, but not strictly enforced & easily evaded
  ▪ Restrictive cultures have strong prohibitions (although double standard is common)

LO 8.20 Cultural Variations in Love and Sexuality
Rates of premarital pregnancy:

• Low in both restrictive and permissive cultures

• Higher rate in U.S. than in any other developed country. Why?

LO 8.20 Cultural Variations in Love and Sexuality
Figure 8.11   Teenage Pregnancy Rates in Developed Countries

Why are rates so high in the United States? Based on: WHO (2010)
Social and Cultural Contexts of Development: Pregnancy

- Pregnancy and contraception use vary by type of country
- Permissive adolescent sex attitudes—low rates of conception
  - Influenced by availability and attitudes about safe sex and contraception

LO 8.20 Cultural Variations in Love and Sexuality
Social and Cultural Contexts of Development Sexual Orientation

- Adolescence is when sexual orientation is fully aware
  - Historically kept secret now more likely to “come out”
  - Homophobia can make coming out traumatic
  - Parental rejection a concern
  - Acceptance by peers may be increasing

LO 8.20 Cultural Variations in Love and Sexuality
Social and Cultural Contexts of Development Media Use

• Electronic games
  ▪ Become more popular among boys
  ▪ Favorite games involve violence
  ▪ Could be related to anxiety and depression
  ▪ Use may be related to feelings of power, fame, and dealing with stress

LO 8.21 Media Use
Problems and Resilience
Crime and Delinquency

• Crime rates peak about 18 then decline
• Age-crime relationship
  ▪ Increased peer importance coupled with independence from parents
• Two types of delinquency
  ▪ Life course—persistent delinquents
  ▪ Adolescence limited delinquents

LO 8.22 Crime and Delinquency
Problems and Resilience

Depression

- Types of depression
  - Depressed mood
  - Major depressive disorder
- Two types of treatment
  - Anti-depressant
  - Psychotherapy

LO 8.23 Depression and Treatments
Problems and Resilience

Resilience in Adolescence

• Resilience—good outcomes in spite of threats to adaptation and development

• Protective factors are:
  ▪ High intelligence
  ▪ Effective parenting
  ▪ Adult mentor
  ▪ Physical attractiveness
  ▪ Religiosity

LO 8.24 Resilience