Chapter 5

TODDLERHOOD
Physical Development
Bodily Growth

LO 5.1 Changes in Physical Growth

• Children lose baby fat and become leaner and longer
• About 6 months of age solid food could become part of diet
• Toddlers in developing countries do not grow as rapidly as toddlers in developed countries WHY?
• Deficiencies can occur
  ▪ **Kwashiorkor**—Protein deficiency
    - lethargic, irritable, thinning hair
  ▪ **Micronutrient deficiency**—Lack of crucial vitamins and minerals: A, B12, C, D, **IRON**, **IODINE**, **ZINC**
  ▪ Iodine inhibits cognitive development lowering IQ scores 10-15 points
  ▪ Iron deficiency is common in in US & higher among Latino toddlers
Brain Development

LO 5.1 Changes in Physical Growth

• Early brain development is marked by two key developments
  ▪ **Synaptic density**—increase of synaptic connections among neurons
    – Frontal cortex heavily impacted
  ▪ **Synaptic pruning**—connections between neurons become fewer, but more efficient
    – Increases efficiency by allowing unused synapses to wither away
Figure 5.2  Changes in Synaptic Density From Birth to Age 2  Synaptic connections increase throughout the first 2 years, with the greatest density occurring at the end of toddlerhood. Source: Conel, 1930/1963
Sleep and Teething

LO 5.3 Changes in Sleeping Patterns

• Sleep declines from 16–18 hours as newborn to about 12–13 hours by second birthday

• Sleeping through the night can be impacted by several things including
  ▪ Resurgence of teething
  ▪ Awareness of separate sleeping arrangements
  ▪ Children in traditional cultures rarely sleep alone throughout their lives.
Motor Development: Gross Motor Development

- 11 months—walk without support
- 15 months—stand and begin to climb
- 18 months—some running
- 24 months—kicks with more dexterity

- Developed and developing countries may show some slight age range differences, but development progresses comparably
- Toddlers in Africa and African Americans reach gross motor milestones earlier than toddlers from European backgrounds.

- What are some reasons why toddlers in traditional cultures have to be restricted?

LO 5.4 Motor Development
<table>
<thead>
<tr>
<th>Age (Months)</th>
<th>Milestone</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-16</td>
<td>Stand alone</td>
</tr>
<tr>
<td>9-17</td>
<td>Walk without support</td>
</tr>
<tr>
<td>11-19</td>
<td>Stand on one leg</td>
</tr>
<tr>
<td>11-21</td>
<td>Climb onto chairs, beds, up stairs, etc.</td>
</tr>
<tr>
<td>13-17</td>
<td>Walk backward</td>
</tr>
<tr>
<td>14-22</td>
<td>Run</td>
</tr>
<tr>
<td>17-30</td>
<td>Jump in place</td>
</tr>
<tr>
<td>16-30</td>
<td>Walk on tiptoes</td>
</tr>
<tr>
<td>22-36</td>
<td>Walk up and down stairs</td>
</tr>
</tbody>
</table>

**Source:** Based on Adolph & Berger (2006); Rayley (2005); Coovadia & Willenbery (2004); Hrankenburg et al. (1992); Murkoff et al. (2006).

**Note:** The range shown is the age period at which 90% of toddlers achieve the milestone.
Motor Development: Fine Motor Development

- Substantial gains in fine motor skills in toddlerhood.
- At 12 months can show left or right preference for eating
- Learns to hold cup, scribble with a pencil, and turn pages of a book
- Second year expands previous fine motor skills
### Table 5.2 Milestones of Fine Motor Development in Toddlerhood

<table>
<thead>
<tr>
<th>Age (Months)</th>
<th>Milestone</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-15</td>
<td>Hold writing instrument (e.g., pencil, crayon)</td>
</tr>
<tr>
<td>8-16</td>
<td>Coordinate actions of both hands</td>
</tr>
<tr>
<td>10-19</td>
<td>Build tower of 2 blocks</td>
</tr>
<tr>
<td>10-21</td>
<td>Scribble vigorously</td>
</tr>
<tr>
<td>12-18</td>
<td>Feed self with spoon</td>
</tr>
<tr>
<td>15-23</td>
<td>Build tower of 3–4 blocks</td>
</tr>
<tr>
<td>20-28</td>
<td>Draw straight line on paper</td>
</tr>
<tr>
<td>24-32</td>
<td>Brush teeth</td>
</tr>
<tr>
<td>26-34</td>
<td>Build tower of 8–10 blocks</td>
</tr>
<tr>
<td>29-37</td>
<td>Copy circle</td>
</tr>
</tbody>
</table>

**Source:** Based on Adolph & Berger (2006); Rayley (2005); Coovadia & Willenbery (2004); Hrankenburg et al. (1992); Murkoff et al. (2006).

**Note:** The range shown is the age period at which 90% of toddlers achieve the milestone.
Socializing Physical Functions: Toilet Training

- Occurs from 18-30 months
- 4 ways to identify it is time for toilet training
  - Staying dry for hour or two during the day
  - Regular bowel movements at same time of day
  - Increased anticipation of the event
  - Directly asking to use the toilet or wear underwear
- Why are children in the US toilet trained later than children in 1950s?
- Who do children from traditional cultures learn “controlled elimination” from?
Socializing Physical Functions: Weaning

- Breastfeeding for 2–3 years has been typical human custom
- Transition from infancy to toddlerhood varies from different cultures
- In Bali parents feed babies some solid food from birth to ease the transition by age 2. Mother will also coat breast w/bitter tasting herbs.
- In Turkey mother coats breast with tomato paste
- The Fulani people separate infants from their mothers during weaning. Grandmother might offer breast to child.
- In US most middle class parents use child-led weaning.

LO 5.6 The Weaning Process
Cognitive Development
Piagetian Theory

LO 5.7 Cognitive Achievements According to Piaget

- Piaget’s sensorimotor stage continues into toddlerhood
  - Stage 5: Tertiary Circular Reactions—Intentionally try out different behaviors
    - Little scientists
    - Flushing toilet until it breaks
  - Stage 6: Mental Representations—Think about possibilities and select actions
    - Symbolic thought seen in art, play, language
Further cognitive advancements during toddlerhood according to Piaget:

- **Object Permanence**
  - A-not-B error is avoided - now look for objects where they last saw it hidden.

- **Deferred Imitation**
  - Piaget suggested 18 months, but shown to begin sooner

- **Categorization**
Vygotsky's Sociocultural Theory
LO 5.8 Vygotsky’s Sociocultural Theory

• Lev Vygotsky viewed cognitive development as both a social and cultural process
• Social- children learn through interaction with others
• Cultural- what children need to know is determined by the culture in which they live
Vygotsky’s Sociocultural Theory

LO 5.8 Vygotsky’s Sociocultural Theory

• Two influential ideas are Zone of Proximal Development and Scaffolding
  ▪ Zone of Proximal Development (ZPD)—range of skills child can perform IF guided, but can’t accomplish alone
  ▪ Scaffolding—Degree of assistance provided

• Led to extension of theory
  ▪ Guided Participation—Teaching interaction between two people
Many evolutionary biologists believe language developed for its social functionality

Important distinguishing feature of human language is

- **Infinite Generativity**—Combine symbols in infinite ways
Figure 5.4 • Illustration of the Brain Lobes Showing Location of Broca’s Area and Wernicke’s Area
Language Development: Milestones

• Begins slowly then begins to rise sharply during toddlerhood
• 12–18 months called the *slow expansion*
• First 50 words or so part of toddler routine

LO 5.10 Language Development Milestones
Slow Expansion

- Holophrases
- Overextensions
- Underextensions
Slow Expansion

- Holophrases- single word represents a whole sentence.
  ex: “cup” can mean “fill my cup”

- Overextension-single word represents many related objects.
  Ex: Lovey my dog's name
  Call all dogs or any thing that reminds him/her of dog Lovey

- Underextension- applying a general word to specific object.
  Ex: word “doggie” only applies to his/her dog
     “kitty”
Naming Explosion

- Fast Mapping
- Telegraphic Speech

Naming Explosion
Naming Explosion

Fast mapping—learning & remembering the name of an object after being exposed to it only once.

Telegraphic speech—2 word phrases
“Big car” means “Look at that big car.”
“My ball” means “This is my ball.”
Language Development: Milestones

• During third year toddler becomes more adept at language
• Diminished frequency of overextension and underextension
• Show understanding of rules of language
• Show overregularization - applying grammatical rules in cases that call for exception.
  • EX: mouse/mice          foot/feet
A toddler might say mices, feets

LO 5.10 Language Development Milestones
Language Development: Cultural Variations

• Some believe parent-child interaction is most important for language development

• Cultural differences suggest that social environment is also important

• Cultural beliefs dictate the importance of conversation with parents, mixed age groups become more important

LO 5.11 Parents’ Stimulation of Toddler’s Language
Research on U.S. children and parents focuses on how language is fostered

- Sex differences & Social class differences
  - Which sex is typically more talkative? Why?
  - Which socioeconomic group (high, middle, low income) showed better vocabulary? Why?

- Maternal responsiveness
  - Affirmations and expansions correlated positively with early milestones

LO 5.11 Parents’ Stimulation of Toddler’s Language
Emotional and Social Development
Self-Development in Toddlerhood
LO 5.12 Emotional Development

• This is the stage of life when a distinct sense of self first develops
• Self-awareness reflects an understanding of the distinction between self and the external world
  ▪ Self-recognition—recognizing image of self
  ▪ Self-reflection—think about themselves as they would think about others
Emotional Regulation
LO 5.12 Emotional Development

• Emotional regulation advances in 4 ways
  ▪ Behavioral development What might a toddler do when he is scared?
  ▪ Use of language What might a toddler say when he is scared or doesn't like something?
  ▪ Social demands (external requirements)
    What does a parent say when he sees his toddler getting frustrated and starts hitting or biting?
  ▪ Development of sociomoral emotions
guilt, shame and embarrassment motivates toddlers to avoid these feelings
Ex: yelling in an angry voice at a grocery store. How does the parent respond to this behavior?
Ex: Bayer spilled the water. How did his mother respond?
• “Terrible twos” may occur because of increased sense of self
Emotional Development

LO 5.12 Emotional Development

- Primary emotions develop in infancy
  - anger, fear, happiness
- Social emotions/secondary emotions/sociomoral emotions develop in toddlerhood
- They include
  - Guilt
  - Shame
  - Embarrassment
  - Envy
  - Pride
• Known as sociomoral emotions
• Empathy is an extremely important sociomoral emotion
• Infants show empathy by crying when they hear another infant cry
• What might a toddler do if they see someone who is upset, sad, or crying?
Erikson 2\textsuperscript{nd} Stage

Autonomy vs. Shame & Doubt

What is happening in this stage?
Gender Identity

LO 5.14 Gender Development

• Children begin to identify as male or female during toddlerhood
  ▪ **Sex**—Biological status of being male or female
  ▪ **Gender**—Cultural categories of male and female
• Culture communicates gender expectations to boys and girls

Do you remember some examples of how your culture has taught you the expectations of your gender?
Gender Identity

LO 5.14 Gender Development

- Adults asked to play with the same infant; some told it was a girl, some told it was a boy, some given no information

1. When told that the infant was a **boy**
50% men, 80% women chose football

2. When told that the infant was a **girl**
89% men, 73% women used doll
   - Sidorowicz & Lunney (1998)
What do you think is the reason why we attach to our caregivers?
• In the 20^{th} century (1900s) it was believed that human infants became attached to their mothers because of food.

• In 1962 John Bowlby found that food was not the main reason for attachment.
1. Rene Spitz a French psychiatrist
   • Studied infants in orphanages from 3-12 months old.
   • Each nurse cared for 7 infants. Fed and changed diapers but could not spend a lot of individual time w/each infant

• Infants lost weight and were passive, emotional delays developed even when infants’ physical needs met
Attachment Theory (cont'd)

LO 5.15 Attachment Theory

- Harry Harlow—baby monkey spent more time with cloth monkey even if being fed by a wire monkey

- Ethologists showed that bonding occurred immediately after birth. Konrad Lorenz-imprinting
  ex: baby goslings imprint on the mother goose.
• Bowlby discovered that attachment was not based on food.
• Attachment was based on protection and care that a mother/caregiver provides for many years.
• Primary attachment figure is the person that the child goes to when he/she is feeling distressed or threatened.

Who was your primary attachment figure?
• At 6 months when an infant will develop stranger anxiety.
• How do infants show stranger anxiety?
• If an infant is moving around and they see an unfamiliar person they may move toward their secure base, which is their primary attachment figure.
• Mary Ainsworth was a colleague of Bowlby who devised a procedure to evoke attachment behavior

• The strange situations devised to assess attachment by going through 8 vignettes. Done w/toddlers who were 12-24 months old.

• Led to the development of four attachment classifications

LO 5.15 Attachment Theory
Figure 5.5 The strange situation. The Strange Situation features a series of episodes in which (a) the mother leaves the room, (b) the toddler is alone with the stranger, and (c) the mother returns to the room and is reunited with the toddler.
Variations in Attachment

LO 5.15 Attachment Theory

- **Secure attachment**—Mom is secure base, cry upon separation, return to mom upon return

  **separation anxiety**

- **Insecure avoidant attachment**—No interaction with mom, no response upon separation or return
Variations in Attachment

LO 5.15 Attachment Theory

• **Insecure resistant attachment**—less likely to explore the toys when mother is present, show distress upon separation, show ambivalence upon return

• **Disorganized-disorientated**—extremely unusual behavior, dazed when mom leaves and fear upon return
Attachment Quality and Later Development

- Attachment theory suggests quality influenced by
  - Maternal Sensitivity — what a child needs at any given time
  - Maternal Responsiveness — quick to assist or soothe when needed

LO 5.16 Quality of Attachment
Attachment Quality and Later Development

• Bowlby suggested that “internal working model of attachment” can apply to later relationships.
• Securely attached children are able to love and trust others b/c they could love and trust their primary caregivers.
• Insecurely attached children show hostility, indifference, or over dependence on others in later relationships. They do not believe that others will be worthy of their love/trust.

LO 5.16 Quality of Attachment
• What role did your father play in your life when you were an infant/toddler?
• Was he involved in raising you? How?
• What are the two main reasons why fathers have not been involved with raising infants and toddlers?
Fathers in traditional cultures

- Provider and disciplinarian (but can be warm)
  - Some contrasts are the Warlpiri (aboriginal Australia) who have unique bond with daughter and the Manus (New Guinea) who become primary attachment figure by toddlerhood.

LO 5.18 Father Involvement
The Social World of the Toddler
The Role of Fathers

• Fathers in developed countries
  ▪ Provider and interact less with more play than care
    - Change to more egalitarian in recent years
    - Parenting learned, not innate

LO 5.18 Father Involvement
The Social World of the Toddler

Siblings: Younger and Older

• In traditional cultures older siblings may be responsible for the care of the younger sibling

• Older sibling can provide emotional comfort and security if primary not around

LO 5.19 Relations With Siblings, Peers, & Friends
The Social World of the Toddler
Siblings: Younger and Older

- Younger siblings can lead to negative consequences including attachment changes, increased aggressiveness
- Parents can help but conflict is more common in siblings than any other relationship

LO 5.19 Relations With Siblings, Peers, & Friends
The Social World of the Toddler
Peers and Friends

• Peer interaction can be understood by types of play
  ▪ Solitary play—all by themselves
  ▪ Parallel play—same activity but not with each other
  ▪ Simple social play—talking, smiling, sharing

LO 5.19 Relations With Siblings, Peers, & Friends
The Social World of the Toddler
Peers and Friends

- Toddlers in day care exhibit social play sooner
- Friendships can develop as in later ages: Companionship, mutual affection, and emotional closeness

LO 5.19 Relations With Siblings, Peers, & Friends
Autism: A Disruption in Social Development

• Features for diagnosis include
  ▪ Lack of interest in social relations
  ▪ Abnormal language development
  ▪ Repetitive behaviors
  ▪ Need for predictive routines
  ▪ Some may have exceptional skills.

LO 5.20 Autism Spectrum Disorders
Toddlers with autism have deficits in their social and language development. Here, a boy plays alone at a school for children with autism in Beijing, China.
Autism: A Disruption in Social Development

- 1:500 children affected by autism
- 4:100 have features (Autistic Spectrum Disorder)
- Origins are unclear can be genetic or environmental such as vaccines and food.
- Rates have increased in developed countries
- Although diagnosed between 18–30 months, it can be seen in infancy
- May never develop language
- As adults, may live with parents or in sponsored group homes
The Social World of the Toddler
Media Use in Toddlerhood

• 58% of children under 3 watch TV every day
• Toddlers understand images are not real although it is not completely clear
• Can encourage pro-social behavior
• Displacement effect is a concern

What other things can you be doing instead of watching tv that is beneficial for you?
• It is suggested that children watch no more than 2 hours of television per day

LO 5.21 Television Use in Toddlerhood