- Development across the life span

Learning Objective Menu

- Special research methods used to study development
- Looking at cognitive development
- Erikson's theory of psychosocial development
- Theories of why aging occurs and stages of death and dying

Erikson's Theory

- Trained as a Freudian psychoanalyst
- Felt social interactions were more important in development
- Dismissed Freud's emphasis on sexual development
- Focused infant and child's relationship to significant others in the immediate surroundings—parents and then later teachers and even peers

table 7.4 Erikson's Psychosocial Stages of Development

STAGE	DEVELOPMENTAL CRISIS	SUCCESSFUL DEALING WITH CRISIS	UNSUCCESSFUL DEALING WITH CRISIS
1. **Infant** Birth to 1 year old	**Trust Versus Mistrust** Babies learn to trust or mistrust others based on whether or not their needs—such as food and comfort—are met.	If babies' needs are met, they learn to trust people and expect life to be pleasant.	If babies' needs are not met, they learn not to trust.
2. **Toddler** 1 to 3 years old	**Autonomy Versus Shame and Doubt** Toddlers realize that they can direct their own behavior.	If toddlers are successful in directing their own behavior, they learn to be independent.	If toddlers' attempts at being independent are blocked, they learn self-doubt and shame for being unsuccessful.
3. **Preschool Age** 3 to 5 years old	**Initiative Versus Guilt** Preschoolers are challenged to control their own behavior, such as controlling their exuberance when they are in a restaurant.	If preschoolers succeed in taking responsibility, they feel capable and develop initiative.	If preschoolers fail in taking responsibility, they feel irresponsible, anxious, and guilty.
4. **Elementary School Age** 5 to 12 years old	**Industry Versus Inferiority** School-aged children are faced with learning new social and academic skills. Social comparison is a primary source of information.	When children succeed at learning new skills, they develop a sense of industry, a feeling of competence and self-esteem arising from their work and effort.	If children fail to develop new abilities, they feel incompetent, inadequate, and inferior.

table 7.4 Erikson's Psychosocial Stages of Development

STAGE	DEVELOPMENTAL CRISIS	SUCCESSFUL DEALING WITH CRISIS	UNSUCCESSFUL DEALING WITH CRISIS
5. **Adolescence** 13 to early twenties	**Identity Versus Role Confusion** Adolescents are faced with deciding who or what they want to be in terms of occupation, beliefs, attitudes, and behavior patterns.	Adolescents who succeed in defining who they are and finding a role for themselves develop a strong sense of identity.	Adolescents who fail to define their identity become confused and withdraw or want to inconspicuously blend in with the crowd.
6. **Early Adulthood** Twenties and thirties	**Intimacy Versus Isolation** The task facing those in early adulthood is to be able to share who they are with another person in a close, committed relationship.	People who succeed in this task will have satisfying intimate relationships.	Adults who fail at this task will be isolated from other people and may suffer from loneliness.
7. **Middle Adulthood** Forties and fifties	**Generativity Versus Stagnation** The challenge is to be creative, productive, and nurturant of the next generation.	Adults who succeed in this challenge will be creative, productive, and nurturant, thereby benefiting themselves, their family, community, country, and future generations.	Adults who fail will be passive and self-centered, feel that they have done nothing for the next generation, and feel that the world is no better off for their being alive.
8. **Late Adulthood** Sixties and beyond	**Ego Integrity Versus Despair** The issue is whether a person will reach wisdom, spiritual tranquility, a sense of wholeness, and acceptance of his or her life.	Elderly people who succeed in addressing this issue will enjoy life and not fear death.	Elderly people who fail will feel that their life is empty and will fear death.

Developmental Research Designs

- Human development
  - Scientific study of the changes in people
  - from conception until death

- Longitudinal design
  - Participant or group of participants is studied over time

Developmental Research Designs

- Cross-sectional design
  - Different age groups of participants are studied at one particular point in time
- Cross-sequential design
  - Participants are first studied by cross-sectional design
  - Followed and assessed for a period up to six years

table 7.1 A Comparison of Three Developmental Research Designs

CROSS-SECTIONAL DESIGN		
Different participants of various ages are compared at one point in time to determine age-related *differences*.	**Group One:** 20-year-old participants	Research done in 2012
	Group Two: 40-year-old participants	
	Group Three: 60-year-old participants	
LONGITUDINAL DESIGN		
The **same** participants are studied at various ages to determine age-related *changes*.	**Study One:** 20-year-old participants	Research done in 1972
	Study Two: Same participants are 40 years old	Research done in 1992
	Study Three: Same participants are now 60 years old	Research done in 2012
CROSS-SEQUENTIAL DESIGN		
Different participants of various ages are compared at several points in time, for a period of no more than six years, to determine both age-related *differences* and age-related *changes*.	**Study One:** Group One: 20-year-old participants Group Two: 40-year-old participants	Research done in 2012
	Study Two: Group One: participants will be 25 years old Group Two: participants will be 45 years old	Research to be done in 2017

Nature versus Nurture

- Nature
  - Influence of inherited characteristics on personality, physical growth, intellectual growth, and social interactions
- Nurture
  - Influence of the environment on personality, physical growth, intellectual growth, and social interactions

Physical Development in Infancy and Childhood

- Reflexes
  - Innate (existing from birth) involuntary behavior patterns
  - Include sucking, rooting, Moro (startle), grasping, Babinski.
- Taste and touch are well developed at birth

Physical Development in Infancy and Childhood

- Vision
  - Rods are fairly well developed at birth
  - Cones take another six months
- Gross and fine motor skills develop at a fast pace during infancy and early childhood
- By age one, infant has tripled in weight

Figure 7.4 Five Infant Reflexes
Shown here are (a) grasping reflex; (b) startle reflex (also known as the Moro reflex); (c) rooting reflex (when you touch a baby's cheek it will turn toward your hand, open its mouth, and search for the nipple);

a. 

b. 

c. 

Figure 7.4 (continued) Five Infant Reflexes
(d) stepping reflex; and (e) sucking reflex. These infant reflexes can be used to check the health of an infant's nervous system. If a reflex is absent or abnormal, it may indicate brain damage or some other neurological problem.

d.

e.

Figure 7.5 Six Motor Milestones
Shown here are (a) raising head and chest—2 to 4 months, (b) rolling over—2 to 5 months, (c) sitting up with support—4 to 6 months.

a. 

b. 

c. 

Figure 7.5 (continued) Six Motor Milestones
Shown here are (d) sitting up without support—6 to 7 months, (e) crawling—7 to 8 months, and (f) walking—8 to 18 months. The motor milestones develop as the infant gains greater voluntary control over the muscles in its body, typically from the top of the body downward. This pattern is seen in the early control of the neck muscles and the much later development of control of the legs and feet.

d. 

e. 

f. 

Cognitive Development

- Development of thinking, problem-solving, and memory
- Scheme
  - Mental concept formed through experiences with objects and events

Piaget's Stage Theory

- Children process new experiences through two processes
- Assimilation
  - Children first try to understand new things in terms of schemes they already possess
- Accommodation
  - Altering or adjusting old schemes to fit new information and experiences

Piaget's Stage Theory

- Sensorimotor stage
  - Piaget's first stage of cognitive development
  - Infant uses senses and motor abilities to interact with objects in the environment
  - Object permanence
    - The knowledge that an object exists even when it is not in sight

Piaget's Stage Theory

- Preoperational stage
  - Second stage of cognitive development
  - Child uses language as a means of exploring the world
    - Egocentrism
      - Inability to see the world through anyone else's eyes

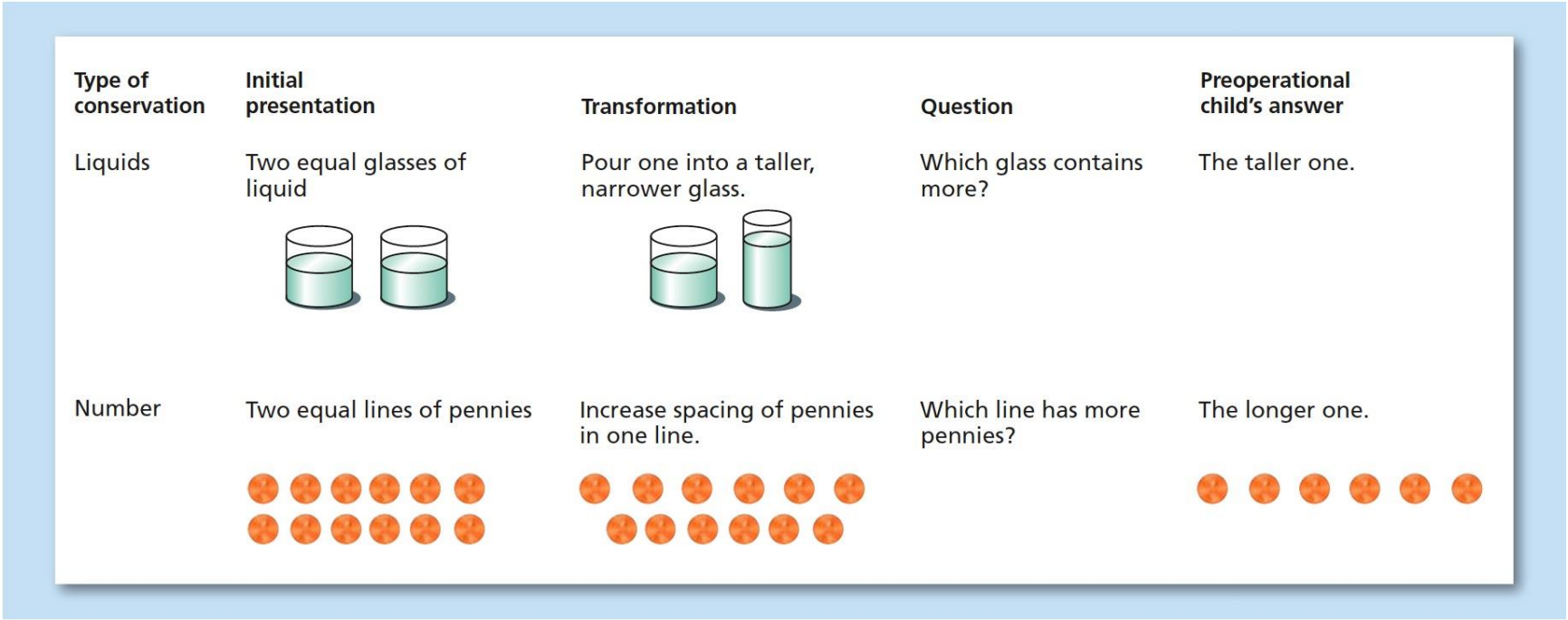
Piaget's Stage Theory

- Preoperational stage
  - Child uses language as a means of exploring the world
    - Centration
      - Child to focus only on one feature of object
      - Ignores other features
    - Conservation
      - Changing the appearance of an object does not change the object's nature

Piaget's Stage Theory

- Preoperational stage
  - Child uses language as a means of exploring the world
    - Irreversibility
      - Inability to mentally reverse an action

Figure 7.6 Conservation Experiment
A typical conservation task consists of pouring equal amounts of water into two glasses of the same size and shape. When the water from one of these glasses is poured into a taller, narrower glass, children who cannot yet conserve tend to focus (centrate) on the height of the water in the second glass, assuming that the second glass now has more water than the first one. In the second example, pennies are laid out in two equal lines. When the pennies in the top line are spaced out, the child who cannot yet conserve will centrate on the top line and assume that there are actually more pennies in that line.



Piaget's Stage Theory

- Concrete operations
  - Ages 7-12
  - Capable of conservation and reversible thinking
  - Begins to think more logically about beliefs
  - Concrete concepts
    - Are about objects, written rules, and real things

Piaget's Stage Theory

- Formal operations
  - Ages 12-adult
  - Adolescent becomes capable of abstract thinking
  - Only 35 percent of all college students reach formal operations

Egocentric Thinking

- Personal fable
  - Adolescent believes he/she is unique
  - Protected from harm
- Imaginary audience
  - Adolescent believes others are just as concerned about his/her thoughts and characteristics as much as they, themselves, are

table 7.3 Piaget's Stages of Cognitive Development

STAGE		COGNITIVE DEVELOPMENT
Sensorimotor	Birth to 2 years old	Children explore the world using their senses and ability to move. They develop object permanence and the understanding that concepts and mental images represent objects, people, and events.
Preoperational	2 to 7 years old	Young children can mentally represent and refer to objects and events with words or pictures, and they can pretend. However, they can't conserve, logically reason, or simultaneously consider many characteristics of an object.
Concrete Operations	7 to 12 years old	Children at this stage are able to conserve, reverse their thinking, and classify objects in terms of their many characteristics. They can also think logically and understand analogies but only about concrete events.
Formal Operations	12 years old to adulthood	People at this stage can use abstract reasoning about hypothetical events or situations, think about logical possibilities, use abstract analogies, and systematically examine and test hypotheses. Not everyone can eventually reason in all these ways.

Vygotsky's Theory

- Scaffolding
  - Skilled learner gives help to a less skilled learner
  - Reducing the amount of help as the less skilled learner becomes more capable
- Zone of proximal development (ZPD)
  - Difference between what a child can do alone and what that child can do with the help of a teacher

This boy is helping his younger sister learn to read a book. Vygotsky's view of cognitive development states that the help of skilled others aids in making cognitive advances such as this one.

Theories of Aging

- Cellular clock theory
  - Cells only have so many times that they can reproduce
  - Limit reached, damaged cells accumulate
- Wear-and-tear theory
  - Repeated use and abuse of body's tissues
  - Unable to repair all the damage

Theories of Aging

- Free radical theory
  - Oxygen molecules with an unstable electron move around the cell
  - Damages cell structures as they go

Stages of Death and Dying

- Elizabeth Kubler-Ross
  - Based on interviews conducted with dying
- Five Stages:
  - Denial
  - Anger
  - Bargaining
  - Depression
  - Acceptance

One way to age successfully and maintain psychological health is to remain active and involved in life. This woman is volunteering in a grade school classroom as a teacher's aide. This not only allows her to feel useful but also helps her to stay mentally alert and socially involved.