

Developmental Psychology: Basic Issues and Methodology, p. 252

Controversial Issues in Developmental Psychology, p. 252

Approaches to Studying Developmental Change, p. 253

Heredity and Prenatal Development, p. 254

The Mechanism of Heredity: Genes and Chromosomes, p. 254

The Stages of Prenatal Development: Unfolding According to Plan, p. 255

Negative Influences on Prenatal Development: Sabotaging Nature's Plan, p. 257

The Cognitive Stages of Development: Climbing the Steps to Cognitive Maturity, p. 263

Piaget's Stages of Cognitive Development, p. 263

An Evaluation of Piaget's Contribution, p. 266

Intellectual Capacity during Early, Middle, and Late Adulthood, p. 267

Socialization and Social Relationships, p. 268

Erikson's Theory of Psychosocial Development, p. 269

The Parents' Role in the Socialization Process, p. 271

Peer Relationships, p. 276

Kohlberg's Theory of Moral Development, p. 277

Adult Social Relationships, p. 279

Special Concerns in Later Adulthood, p. 282

Fitness and Aging, p. 282

Terminal Illness and Death, p. 282

Key Terms, p. 285

Thinking Critically, p. 285

Summary & Review, p. 285

8 Development

Physical Development and Learning, p. 259

The Neonate, p. 259

Perceptual Development in Infancy, p. 260

Learning in Infancy, p. 260

Physical and Motor Development: Growing, Growing, Grown, p. 261

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North of Kampala, Uganda, in Africa, the jungle is dark, dense, and lush with a rich variety of exotic plant life and an abundance of animal species. But civil war disturbed the peace and beauty of Uganda for many years, and brutal massacres claimed the lives of many men, women, and children.

In 1984 Ugandan soldiers retreating through the jungle came upon one of the strangest sights they had ever seen. In one tribe of monkeys, they saw a larger creature unlike the others, who was playfully hopping around with them. Intrigued, they came closer and were amazed to discover that this strange creature was a human child.

The soldiers captured the young boy and took him to an orphanage in Kampala, Uganda. Here staff members named him Robert. They estimated that he was between five and seven years old, and they were amazed by his behaviour. He squealed and grunted but could not speak. He didn't walk normally but jumped from one place to another the way a monkey would. He scratched people when they approached him;

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Robert

he ate grass or any other edible thing he could find; and he did not sit but squatted when he was not moving around. Small for his age, Robert was less than a metre tall when he was found and weighed only 10 kilograms. One staff member at the orphanage said that Robert always looked miserable: no one ever saw him smile. Those who studied Robert's case believed that his parents had been slaughtered when he was about a year old and that somehow he had managed to escape the massacre and make his way deep into the jungle.

Genetically, Robert is fully as human as any other human. But for most of his young life he was “adopted” by a monkey tribe whose members protected and nurtured him as though he were one of their own. Developmental psychologists are intrigued by cases like Robert's because they show the profound effect that extreme environmental conditions can have on the course of human development.

Developmental Psychology: Basic Issues and Methodology

Developmental psychology is the study of how we grow, develop, and change throughout the lifespan. Some developmental psychologists specialize in a particular age group, almost anywhere along the continuum from infancy through childhood and adolescence, and into early, middle and late adulthood. Others concentrate on a specific area of interest such as physical development, language or cognitive development, or moral development.

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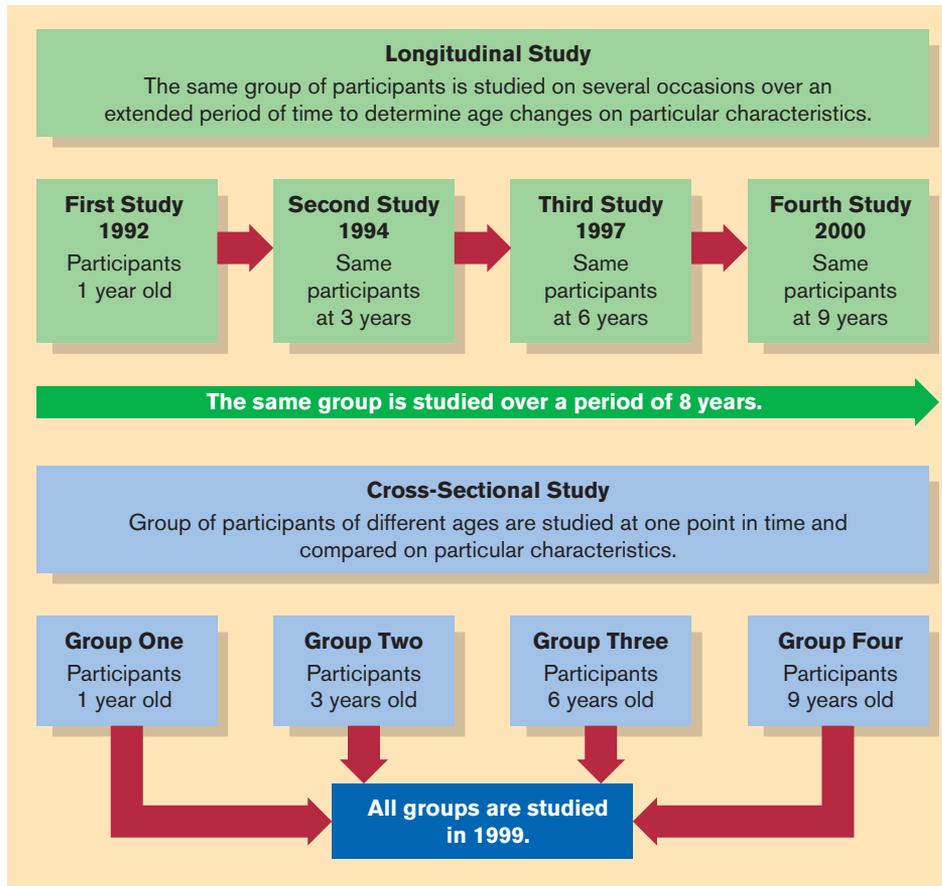
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Controversial Issues in Developmental Psychology

Developmental psychologists must consider several controversial issues as they pursue their work.

1. *To what degree do heredity and environment influence development?* This is the **nature–nurture controversy** that was discussed in the previous chapter. Some take the view that our abilities are determined almost exclusively by our heredity and are transmitted to us through our genes. Others maintain that our environment—the circumstances in which we are raised—determines what we become. Today the question is not whether nature or nurture affects development, but how much each affects various aspects of development.
2. *Is development continuous or does it occur in stages?* Physical growth during middle childhood is usually gradual, continuous, and cumulative. Children change quantitatively as they grow taller, heavier, and stronger. Are other aspects of development—cognitive and moral development, for example—best understood in terms of gradual, continuous, cumulative change? Or does change in some aspects of development occur in spurts in the form of stages, with one stage *qualitatively* different from the next?
3. *To what extent are personal characteristics stable over time?* In this chapter we will discuss whether certain personal traits, such as intelligence, aggression, and aspects of temperament, tend to be stable or changeable over time. How do developmental psychologists study changes over the lifespan?

**FIGURE 8.1**

A Comparison of Longitudinal and Cross-Sectional Studies To study age-related changes using a longitudinal study, researchers examine the same group of individuals over an extended period of time. When using a cross-sectional study, researchers examine and compare groups of different ages at one point in time.

Approaches to Studying Developmental Change

What are two types of studies that developmental psychologists use to investigate age-related changes?

Developmental psychologists use longitudinal and cross-sectional studies to investigate age-related changes. A **longitudinal study** is one in which the same group is followed and measured at different ages, and it may take years to complete. There are some drawbacks to the longitudinal study. It is time-consuming and expensive, and people may drop out of the study, possibly leaving the researcher with a biased sample.

A **cross-sectional study** is a less expensive and less time-consuming method in which researchers compare groups of different ages with respect to various characteristics to determine age-related differences. But in a cross-sectional study, differences found in age groups are based on group averages, and so this approach cannot provide answers to some ques-

tions. For example, it cannot be used to determine whether the temperament of individuals is stable over time. Moreover, there may be certain relevant differences among groups that have less to do with ages than with the eras in which the participants grew up. Figure 8.1 compares the longitudinal and cross-sectional studies.

Development begins before birth. We will trace its course from the beginning.

developmental psychology: The study of how humans grow, develop, and change throughout the lifespan.

nature-nurture controversy: The debate concerning the relative influences of heredity and environment on development.

longitudinal study: A type of developmental study in which the same group of individuals is followed and measured at different ages.

cross-sectional study: A type of developmental study in which researchers compare groups of individuals of different ages with respect to certain characteristics to determine age-related differences.

Heredity and Prenatal Development

The Mechanism of Heredity: Genes and Chromosomes

How are hereditary traits transmitted?

Genes are the biological blueprints that determine and direct the transmission of

all of our hereditary traits. Genes are segments of DNA located on each of the rod-shaped structures called **chromosomes**, which are found in the nuclei of the body cells. Normal body cells, with two exceptions, have 23 pairs of chromosomes (so that there are 46 chromosomes in all). The two exceptions are the sperm cells and the mature egg cells, each of which has 23 single chromosomes. At conception the sperm adds its 23 single chromosomes to the 23 of the egg. This union forms a single cell called a *zygote*, which has the full 46 chromosomes (23 pairs), which in turn contain about 100 000 genes—the genetic information needed to make a human being.

Twenty-two of the 23 pairs of chromosomes are matching pairs, called *autosomes*. Each member of these pairs carries genes for particular physical and mental traits. The chromosomes in the 23rd pair are called **sex chromosomes** because they carry the genes that determine a person's sex, primary and secondary sex characteristics, and other sex-linked traits such as red-green colour blindness, male pattern baldness, and hemophilia.

The sex chromosomes of females consist of two X chromosomes (XX); males have an X chromosome and a Y chromosome (XY). Because the egg cell always contains an X chromosome, the sex of a child depends on whether the egg is fertilized by a sperm carrying an X chromosome, which produces a female, or a sperm carrying a Y chromosome, which produces a male. Half of a man's sperm cells carry an X chromosome, and half carry a Y. Consequently, the chances of conceiving a boy or a girl are about equal.

Each pair of chromosomes contains genes responsible for particular traits and body functions. Genes also determine the sequence of growth and the biological timetable responsible for many of the changes occurring over the lifespan. The majority of genes on each chromosome carry the same information in all humans; this ensures the transmission of the characteristics that we all have in common. For example,

we breathe through lungs rather than gills; we have four fingers and an opposable thumb, rather than claws; and so on.

In some cases a single gene from each pair of chromosomes provides the genetic influence for a particular trait. In many other cases, such as intelligence, height, and weight, a number of genes collectively produce the genetic influence for a particular trait or ability. The Human Genome Project is aimed at identifying the functions of all of the genes and locating them on the chromosomes. Its ultimate goal is to decipher the complete instructions for making a human being. As illustrated in the *It Happened in Canada* box, research on genetics raises some thorny ethical issues.

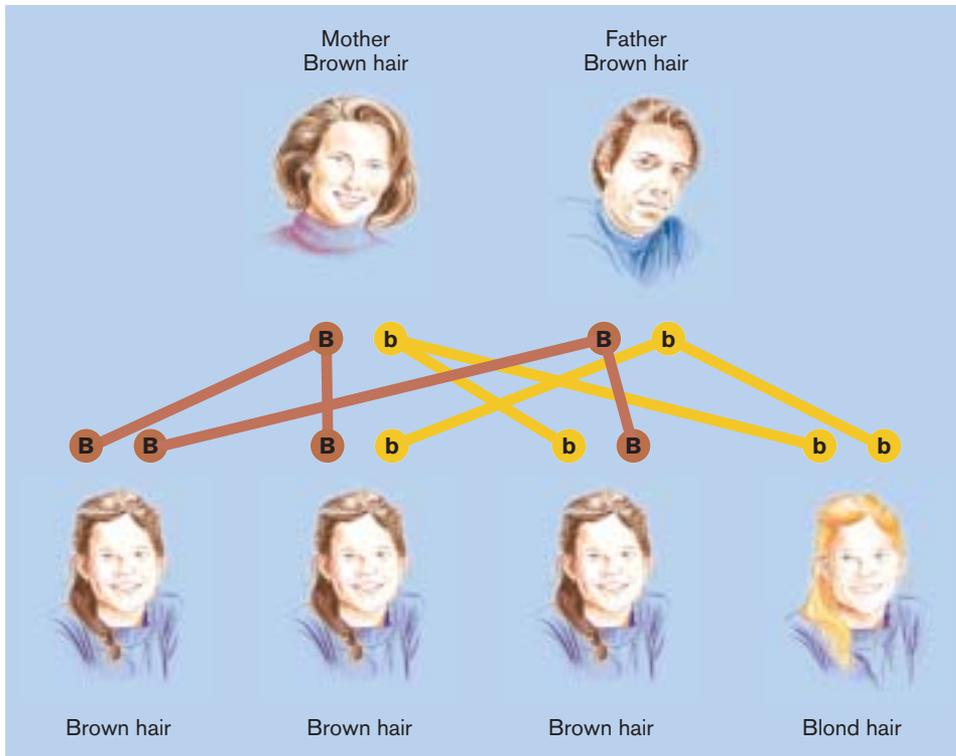
IT HAPPENED IN CANADA

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A Market for Genes

How much are your genes worth? If you lived in Newfoundland, they could potentially be worth billions ("Who owns life," 2000). On February 14, 2000, the people of Newfoundland embarked on a unique business venture that could have a significant impact on their health and economy. The company responsible for all this excitement is called Newfound Genomics. The name *genomics* refers to the study of the relationship between human genes and human health and/or disease. Dr. Wayne Gulliver, a Newfoundlander, helped to initiate this venture to collect the DNA from Newfoundlanders, along with other clinical measures, and sell it to genetics, pharmaceutical, and other biotechnology companies.

Newfoundlanders are particularly interesting because most of the inhabitants descend from a limited "founding" population of English, Irish, and Scottish immigrants who settled the islands between the 17th and 19th centuries (Gemini Genomics, 2000). This means that the gene pool in Newfoundland is more homogeneous than in other parts of Canada where the gene pool is more diverse. When researchers want to find mutations that may be responsible for diseases, they look for a homogeneous sample because differences are more likely to stick out when the genes are similar. In Newfoundland there is a higher level of diseases such as psoriasis, rheumatoid arthritis, and diabetes, and Dr Gulliver hopes that some of the researchers will devote their energy toward discovering the genetic causes and treatments for these diseases. Now, Canadians must quickly grapple with the ethics involved in selling the rights to an entire population's genetic code.

**FIGURE 8.2**

Gene Transmission for Hair Colour This figure shows all the possible combinations in children when both parents carry a gene for brown hair (B) and a gene for blond hair (b). The chance of their having a blond-haired child (bb) or a brown-haired child (BB) is 25 percent in each case. There is a 50 percent chance of having a brown-haired child who carries both the dominant gene (B) and the recessive gene (b).

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Dominant and Recessive Genes: Dominants Call the Shots

When are dominant or recessive genes expressed in a person?

When two different genes are transmitted for the same trait, one of the genes is usually a **dominant gene**—that is, one that causes the dominant trait to be expressed in the individual. The gene for brown hair, for instance, is dominant over the gene for blond hair. An individual having one gene for brown hair and one gene for blond hair will have brown hair. And of course, two dominant genes will produce brown hair (see Figure 8.2).

The gene for blond hair is recessive. A **recessive gene** will be expressed if it is paired with another recessive gene. Therefore, blond-haired people have two recessive genes for blond hair. A recessive gene will not be expressed if it is paired with a dominant gene. Yet a person with such a pair can pass either the recessive gene or the dominant gene along to his or her offspring.

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The Stages of Prenatal Development: Unfolding According to Plan

What are the three stages of prenatal development?

Conception occurs the moment a sperm cell fertilizes the ovum (egg cell), forming the single-celled

zygote. Conception usually takes place in one of the fallopian tubes. Within the next two weeks the zygote travels to the uterus and attaches itself to the uterine wall. During the first five or six days the zygote engages in cell division and produces two parts. The

genes: Within the chromosomes, the segments of DNA that are the basic units for the transmission of hereditary traits.

chromosomes: Rod-shaped structures, found in the nuclei of body cells, that contain all the genes and carry all the hereditary information.

sex chromosomes: The 23rd pair of chromosomes,

which carry the genes that determine one's sex and primary and secondary sex characteristics.

dominant gene: The gene that is expressed in the individual.

recessive gene: A gene that will not be expressed if paired with a dominant gene, but will be expressed if paired with another recessive gene.

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This sequence of photos shows the fertilization of an egg by a sperm (left), an embryo at seven weeks (middle), and a fetus at 22 weeks (right).

cluster of cells in the centre will later lead to the development of the fetus, while the complex outside cell mass becomes the placenta and supporting structures. At the end of this first stage of **prenatal** development, the zygote is only the size of the period at the end of this sentence.

The second stage of prenatal development is the period of the **embryo**, when the major systems, organs, and structures of the body develop. Lasting from week three through week eight, this period ends when the first bone cells form. Though about 2.5 centimetres long and weighing about 4 grams, the embryo already has enough rudimentary features that it can be recognized as a human embryo.

The final stage, called the period of the **fetus**, lasts from the end of the second month until birth. It is a time of rapid growth and further development of the structures, organs, and systems of the body. Table 8.1 describes the characteristics of each stage of prenatal development.

Multiple Births: More Than One at a Time

The types of multiple births described in the *It Happened in Canada* box are two examples of the rarest

and most unusual cases ever recorded. Of course, most multiple births are those of twins. In the case of **identical (monozygotic) twins**, one egg is fertilized by one sperm, but the zygote splits and develops into two embryos with identical genetic codes. Thus, identical twins are always of the same sex. This splitting of the zygote seems to be a chance occurrence, accounting for about 4 in 1000 births.

Fraternal (dizygotic) twins develop when two eggs are released during ovulation and are fertilized by two different sperm. The two zygotes develop into two siblings who are no more alike genetically than ordinary brothers and sisters. The likelihood of fraternal twins is greater if there is a family history of multiple births, if the woman is between 35 and 40, and if she has recently stopped taking birth control pills. Fertility drugs also often cause the release of more than one egg, and some fertility procedures involve the implantation of multiple fertilized eggs. When multiple eggs are released during ovulation, when one or more eggs split before or after fertilization, when multiple eggs are implanted, or when these events occur in combination, multiple births ranging from twins even to sextuplets can result. In July 2000

TABLE 8.1
Stages of Prenatal Development

Stage	Time after Conception	Major Activities of the Stage
Period of the zygote	1 to 2 weeks	Zygote attaches to the uterine lining. At 2 weeks, zygote is the size of the period at the end of this sentence.
Period of the embryo	3 to 8 weeks	Major systems, organs, and structures of the body develop. Period ends when first bone cells appear. At 8 weeks, embryo is about 2.5 cm long and weighs about 4 g.
Period of the fetus	9 weeks to birth (38 weeks)	Rapid growth and further development of the body structures, organs, and systems.

the body representing Canadian obstetricians and gynecologists appealed to the government for more support for families with multiple births because the rate of multiple births has increased dramatically with greater access and use of fertility procedures.

Negative Influences on Prenatal Development: Sabotaging Nature's Plan

What are some negative influences on prenatal development, and when is their impact greatest?

Teratogens are agents in the prenatal environment that can cause birth defects and other problems. The damage done by a teratogen depends on its intensity and on when it is present during prenatal development. Most teratogens (e.g., drugs, diseases, environmental hazards such as X-rays or toxic waste) do the most harm dur-

ing the first three months of development (the first trimester). During this time there are **critical periods** when certain body structures develop. If drugs or infections interfere with development during a critical period, the structure or body part will not form properly and development will not occur at a later time (Kopp & Kaler, 1989).

Researchers have known for many years that viruses and other infectious agents can have devastating effects on the fetus. Many of the most devastating viruses do their damage during the first trimester, although some viruses impact throughout the pregnancy and delivery stages. Probably the best-known viral example is rubella (German measles), which can cause deafness, blindness, mental disability, heart defects, and damage to the central nervous system if the mother contracts it during the first trimester.

Although physical abnormalities are always possible, exposure to risks during the second trimester of pregnancy—the fourth, fifth, and sixth months—is more likely to result in intellectual and social impairment.

Prenatal malnutrition can negatively affect development of the embryo and the fetus; it can have particularly harmful effects on brain development during the final trimester. To maximize the chances

IT HAPPENED IN CANADA

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Multiple Births

In the middle of the Great Depression, Annette, Cecile, Emilie, Marie, and Yvonne Dionne attained celebrity status. Why? They were the first quintuplets on record to survive. They were born on May 28, 1934, in a small town called Corbeil, a few kilometres outside North Bay, Ontario. Although multiple births are now more common (a recent dramatic example is the McCaughey sextuplets, born in Iowa in November 1998), the Dionne quintuplets were unique even by modern standards. Their parents hadn't used fertility drugs, and the five sisters were identical, having developed from a single fertilized egg. Furthermore, they were two months premature and were delivered in a small farmhouse with none of the technology often used to assist premature infants.

The Dionne quintuplets' story is, however, not a completely happy one. They were separated from their parents and raised in a special nursery operated by the Ontario government. Thousands of tourists paid to peer at them through one-way mirrors. In 1997, the three surviving Dionnes, in ill health and living together in financial hardship on Montreal's south shore, sued the Ontario government for compensation for their past exploitation. On March 8, 1998, the government of Ontario announced that it had made a settlement of \$4 million. It also apologized to the Dionne quintuplets and their family for the pain and suffering they endured while growing up.

prenatal: Occurring between conception and birth.

embryo: The developing organism during the period (week three through week eight) when the major systems, organs, and structures of the body develop.

fetus: The developing organism during the period (week nine until birth) when rapid growth and further development of the structures, organs, and systems of the body take place.

identical (monozygotic) twins: Twins with exactly the same genes, who develop after one egg is fertilized by one sperm, and

the zygote splits into two parts.

fraternal (dizygotic) twins: Twins, no more alike genetically than ordinary siblings, who develop after two eggs are released during ovulation and are fertilized by two different sperm.

teratogens: Harmful agents in the prenatal environment that can have a negative impact on prenatal development and even cause birth defects.

critical period: A period that is so important to development that a harmful environmental influence can keep a bodily structure or behaviour from developing normally.

of having a healthy baby, a woman needs proper nutrition and possibly multivitamin supplements (especially folic acid, to minimize the chances of neural tube defects) before as well as during pregnancy (Bendich & Keen, 1993; Menard, 1997).

The Hazard of Drugs

Many drugs cross the placental barrier and directly affect the embryo or fetus. Consequently, both prescription and non-prescription drugs (for example, aspirin, nose sprays, laxatives, douches, weight-reducing aids, baking soda, and vitamin supplements) should be taken only with the approval of a physician (Apgar & Beck, 1982). Some prescription drugs, such as certain antibiotics, tranquilizers, and anti-convulsants, are known to cause specific damage.

HEROIN, COCAINE, AND CRACK The use of heroin, cocaine, and crack during pregnancy has been linked to miscarriage, prematurity, low birth weight, physical defects, and fetal death. Infants prenatally exposed to cocaine often suffer lasting physical development complications (Christmas, 1992; Held et al., 1999). Cocaine use by the father at the time of conception also can be harmful, in that tiny specks of cocaine can bind to sperm and “piggyback” their way into the zygote (Yazigi et al., 1991). Pregnant women who take heroin, cocaine, or crack risk having babies born addicted to those drugs.

ALCOHOL Few people would think of giving a newborn baby a bottle full of beer, wine, or hard liquor, but many people do not realize that even a small amount of alcohol consumed during pregnancy crosses the placental barrier. In fact, alcohol levels in the fetus almost match the alcohol levels in the mother’s blood (Little et al., 1989). And researchers believe that alcohol can alter brain development throughout pregnancy (Streissguth et al., 1989).

Women who drink heavily during pregnancy risk having babies with **fetal alcohol syndrome**. Babies with this syndrome are mentally disabled and have abnormally small heads with wide-set eyes, a short nose, and other anatomical abnormalities. In addition, they exhibit behavioural abnormalities such as hyperactivity (Julien, 1995). Some children prenatally exposed to alcohol may have *fetal alcohol effects*—some of the characteristics of fetal alcohol syndrome but in less severe form (Mattson & Riley, 2000). And it does not take a lot of alcohol—the fetal brain can be

adversely affected if women drink only moderately (Braun, 1996).

Because drinking even small moderate amounts is related to IQ deficits, fine and gross motor deficits, and other problems, it is recommended that women abstain from alcohol altogether during pregnancy (Barr et al., 1990; Guerri et al., 1999). In addition, there is now some evidence that when men ingest large amounts of alcohol, changes in sperm cells occur that can inhibit conception or cause complications in development (Cicero, cited in Dryden, 1994).

SMOKING Smoking decreases the amount of oxygen and increases the amount of carbon monoxide crossing the placental barrier. The embryo or fetus is exposed to nicotine and to several thousand other chemicals as well. Smoking increases the probability that a baby will be premature or of low birth weight (Fourn, 1999; McDonald et al., 1992; Nordentoft et al., 1996). Women smoking one pack per day are at three times the risk for premature birth. Smoking has also been associated with higher rates of spontaneous abortion (Ness et al., 1999), stillbirth, infant mortality, and sudden infant death syndrome (Lincoln, 1986).

CAFFEINE Infante-Rivard and colleagues (1993) reported that miscarriage was linked to caffeine intake during pregnancy and during the month before conception. Animal studies also reveal a link between the intake of caffeine and miscarriage, stillbirth, increased heart rate, fearfulness, and other problems (Reznick, 1999; Schuetze & Zeskind, 1999). Even though some researchers have found no adverse effects (Barr & Streissguth, 1991; Hinds et al., 1996), the wisest course of action is to limit caffeine consumption during pregnancy.

Newborns at High Risk

Low-birth-weight babies—babies weighing less than 2.5 kilograms—and **preterm infants** (born at or before the 37th week) are at risk for survival. The smaller and more premature the baby, the greater the risk (Hoy et al., 1988; Lukeman & Melvin, 1993). According to Apgar and Beck (1982), the handicaps of prematurity range from subtle learning and behaviour problems (in babies closer to normal birth weight) to “severe retardation, blindness, hearing loss, and even death” in the smallest newborns (p. 69).

Poor nutrition, poor prenatal care, smoking, drug use, maternal infection, and too short an interval

Developmental Issues, Heredity, and Prenatal Development

- The cross-sectional study takes longer to complete than the longitudinal study. (true/false)
- In humans, genes are located on how many pairs of chromosomes?
 - 22
 - 23
 - 44
 - 46
- Females have an X and a Y chromosome. (true/false)
- A dominant gene will not be expressed if the individual carries
 - two dominant genes for the trait.
 - one dominant gene and one recessive gene for the trait.
 - two recessive genes for the trait.
 - either one or two dominant genes for the trait.
- Fraternal twins are no more alike than ordinary brothers and sisters. (true/false)
- Match the stage of prenatal development with its description:

___ 1) first 2 weeks of life	a. period of the fetus
___ 2) rapid growth and further development of body structures and systems	b. period of the embryo
___ 3) major systems, organs, and structures	c. period of the zygote
- Negative influences such as drugs, illness, and environmental hazards cause the most devastating consequences during the
 - first trimester.
 - second trimester.
 - third trimester.
 - any trimester.

Answers: 1. false 2. b 3. false 4. c 5. true 6. 1) c 2) a 3) b 7. a

between pregnancies all increase the likelihood of the birth of a low-birth-weight baby with complications.

Physical Development and Learning

The Neonate

Although **neonates** (newborn babies) may be beautiful to their parents, they do not yet resemble the babies who pose for the baby ads. They arrive with dry and wrinkled skin, a rather flat nose, and an elongated forehead—the temporary result of the journey through the birth canal. Nevertheless, newborns come equipped with an impressive range of **reflexes**, built-in responses to certain stimuli needed to ensure survival in their new world.

Reflexes: Built-In Responses

Sucking, swallowing, coughing, and blinking are some important behaviours that newborns can perform right away. They will move an arm, leg, or other body part away from a painful stimulus, and they will try

to remove a blanket or a cloth placed over their face, which might hamper breathing. Stroke a baby on the cheek and you will trigger the rooting reflex—the baby's mouth opens and actively searches for a nipple. Neonates also have some reflexes that serve no apparent function; these reflexes are believed to be remnants of our evolutionary past. As the brain develops, behaviours that were initially reflexive—controlled by the lower brain centres—gradually come under the voluntary control of the higher brain centres. The presence of these reflexes at birth (as well as their

fetal alcohol syndrome: A condition, caused by maternal alcohol intake during pregnancy, in which the baby is born mentally disabled, abnormally small, and with facial, organ, and limb abnormalities.

low-birth-weight baby: A baby weighing less than 2.5 kilograms.

preterm infant: An infant born before the 37th week and weighing less than 2.5 kilograms; a premature infant.

neonate: Newborn infant up to one month old.

reflexes: Inborn, unlearned, automatic responses to certain environmental stimuli (examples: coughing, blinking, sucking, grasping).

disappearance between the second and fourth months) provides a means of assessing development of the nervous system.

Perceptual Development in Infancy

What are the perceptual abilities of the newborn?

The five senses, although not fully developed, are functional at birth. The newborn already has preferences for certain odours, tastes, sounds, and visual configurations. Hearing is much better developed than vision in the neonate and is functional even before birth (Busnel et al., 1992; Kisilevsky et al., 1992). Newborns are able to turn their head in the direction of a sound and show a general preference for female voices—especially their mother’s voice (DeCasper & Fifer, 1980). A preference for the father’s voice over a strange male voice does not develop until later. Newborns are able to discriminate among and show preferences for certain odours and tastes (Bartoshuk & Beauchamp, 1994). They favour sweet tastes and are able to differentiate between salty, bitter, and sour solutions. Newborns are also sensitive to pain (Porter et al., 1988) and are particularly responsive to touch, reacting positively to stroking and fondling.

When placed on the visual cliff, most infants older than six months will not crawl out over the deep side, indicating that they can perceive depth.

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Vision: What Newborns Can See

The infant’s vision at birth is about 20/600 and does not reach an adult level until about age two (Held, 1993). Newborns focus best on objects about 20 centimetres away, and they can follow a moving object (MacFarlane, 1978). Infants 22 to 93 hours old already indicate a preference for their own mother’s face over that of an unfamiliar female (Field et al., 1984). At two months, infants can see all or almost all of the colours adults see (Brown, 1990). However, they prefer red, blue, green, and yellow (Bornstein & Marks, 1982).

Gibson and Walk (1960) measured depth perception by having infants crawl across a glass table top that had a checkered pattern below it to simulate depth. This made it appear that there was a large drop-off, a “visual cliff,” on one side. Babies from 6 to 14 months could be coaxed by their mothers to crawl to the shallow side, but few would crawl onto the deep side. Gibson and Walk concluded that “most human infants can discriminate depth as soon as they can crawl” (p. 64).

Later, Campos and colleagues (1970) found that six-week-old infants had distinct changes in heart rate when they faced the deep side of the cliff, but no change when they faced the shallow side. Researchers suggested that the change in heart rate indicated fear and showed that the infants could perceive depth.

Learning in Infancy

What types of learning occur in the first few days of life?

When are babies first capable of learning? We know that learning begins even before birth, because infants’ experiences in the womb can affect their preferences shortly after birth. DeCasper and Spence (1986) had pregnant women read *The Cat in the Hat* to their developing fetuses twice a day during the final six and a half weeks of pregnancy. A few days after birth the infants could adjust their sucking on specially designed, pressure-sensitive nipples wired to electronic equipment to hear their mothers reading either *The Cat in the Hat* or *The King, the Mice, and the Cheese*, a story they had never heard before. Which story did the infants prefer? You guessed it—their sucking behaviour signalled a clear preference for the familiar sound of *The Cat in the Hat*.

Researchers have demonstrated both classical conditioning and operant conditioning in infants in the first few days of life (Lipsitt, 1990; Rovee-Collier & Lipsitt, 1982). The simplest evidence of learning in infants is the phenomenon of **habituation**. When presented with a new or interesting stimulus, infants respond by generally becoming quieter. Their heart rate slows, and they fixate on the stimulus. But when they become accustomed to the stimulus, they stop responding—that is, they habituate to it. Later, if the familiar stimulus is presented along with a new stimulus, infants will usually pay more attention to the new stimulus, indicating that they remember the original stimulus but prefer the new one. Memory can be measured by (1) the speed with which habituation occurs and (2) the relative amounts of time infants spend looking at or listening to a new and an old stimulus. Amazing as it may seem, babies only 42 minutes old can imitate gestures such as sticking out the tongue (Anisfeld, 1996; Meltzoff & Moore, 1977).

Physical and Motor Development: Growing, Growing, Grown

Although physical and motor development persists throughout childhood, the most obvious periods of change are during infancy and adolescence. Some of the changes are due to learning and others are due to maturation. Maturation occurs naturally according to the individual's own genetically determined biological timetable. In some cases some maturational processes may be slowed down or speeded up, but in appropriate environments, these will only be temporary differences.

Infancy

In infancy, many motor milestones, such as sitting, standing, and walking (shown in Figure 8.3), are primarily a result of maturation and ultimately depend on the growth and development of the central nervous system. The rate at which these milestones are achieved is slowed when the infant is subjected to extremely unfavourable environmental conditions, such as severe malnutrition or maternal and sensory deprivation. In some cultures the milestones are achieved earlier because infants are exposed to special motor-training techniques (Kilbride & Kilbride, 1975). However, the faster learning of motor skills has no lasting impact on development.

Although infants follow their own individual timetables, there is a sequence in which the basic motor skills usually appear. Physical and motor development proceeds from the head downward to the trunk and legs, so babies lift their heads before they sit, and sit before they walk. Development also proceeds from the centre of the body outward—trunk to shoulders to arms to fingers. Thus, control of the arms develops before control of fingers.

Puberty

What physical changes occur during puberty?

Adolescence begins with the onset of **puberty**—a period of rapid physical growth and change that culminates in sexual maturity (Rice, 1992). The average age for onset of puberty is 10 for girls and 12 for boys; the normal *range* is 7 to 14 for girls and 9 to 16 for boys (Chumlea, 1982). Every individual's timetable for adolescence is influenced mainly by heredity, although environmental factors also exert some influence.

Puberty begins with a surge in hormone production, which in turn causes a number of physical changes. The most startling change during puberty is the marked acceleration in growth known as the **adolescent growth spurt**. The growth spurt occurs from age 10½ to 13 in girls and about two years later in boys (Tanner, 1961). Because various parts of the body grow at different rates, the adolescent often has a lanky, awkward appearance. Girls attain their full height at 16 or 17, boys between 18 and 20 (Roche & Davila, 1972).

In both sexes, during puberty the reproductive organs develop and **secondary sex characteristics** appear—those physical characteristics not directly involved in reproduction that distinguish mature males from mature females. In girls the breasts develop and the hips round; in boys the voice deepens and

habituation: A decrease in response or attention to a stimulus as an infant becomes accustomed to it.

puberty: A period of rapid physical growth and change that culminates in sexual maturity.

adolescent growth spurt: A period of rapid physical

growth that peaks in girls at about age 12 and in boys at about age 14.

secondary sex characteristics: Those physical characteristics not directly involved in reproduction but distinguishing the mature male from the mature female.

**FIGURE 8.3**

The Progression of Motor Development Most infants develop motor skills in the sequence shown in the figure. The ages indicated are only averages, so normal, healthy infants may develop any of these milestones a few months earlier or later than the average.

facial and chest hair appears. In both sexes there is growth in pubic and underarm (axillary) hair.

For males, the first major sign of puberty is the first ejaculation, which occurs on average at age 13 (Jorgensen & Keiding, 1991). For females, the major landmark is **menarche**—the onset of menstruation—which typically occurs at age 12, with 10 to 15 being the normal age range (Tanner, 1990). Some research suggests that environmental stress, such as parental divorce or conflict, is related to an earlier onset of menarche (Belsky et al., 1991; Wierson et al., 1993).

See the *Apply It!* box at the end of this chapter for a discussion of teenage pregnancy.

Middle Age

What are the physical changes associated with middle age?

The major biological event for women during middle age is **menopause**—the cessation of menstruation—

which occurs between ages 45 and 55 and signifies the end of reproductive capacity. Probably the most common symptom associated with menopause and the sharp decrease in the level of estrogen is hot flashes—sudden feelings of being uncomfortably hot.

Some women also experience anxiety, irritability, mood swings, or depression, but most do not experience psychological problems (Busch et al., 1994). Most women find that menopause is less upsetting than they had anticipated (Jackson et al., 1991; Matthews et al., 1990).

Men experience a gradual decline in their testosterone levels from about age 20 (their peak) until age 60. During late middle age, men may also experience a reduction in the functioning of the prostate gland that affects the production of semen. Usually, the reduction in testosterone and semen production leads to a reduction in the sex drive.

With advancing age, the elderly typically become more farsighted, have increasingly impaired night vision, and suffer hearing loss in the higher frequencies (Slawinski et al., 1993).

Physical Development and Learning

- Compared with a neonate, the number of reflexes you possess is
 - much larger.
 - slightly larger.
 - the same.
 - smaller.
- Which of the following statements about infant sensory development is not true?
 - Vision, hearing, taste, and smell are all fully developed at birth.
 - Vision, hearing, taste, and smell are all functional at birth.
 - Infants can show preferences in what they want to look at, hear, taste, and smell shortly after birth.
 - Hearing is better developed at birth than vision.
- What type(s) of learning occur(s) in the first few days of life?
 - classical conditioning
 - operant conditioning
 - observational learning
 - classical and operant conditioning and observational learning
- Two-month-old Michael likes to look at the soft, multicoloured ball in his crib, but the new black-and-white ball has recently gained his attention. Habituation has occurred, meaning that
 - Michael has gotten used to a stimulus (the multicoloured ball).
 - Michael no longer remembers the stimulus he has seen previously.
- Michael has a short attention span.
 - a complex form of learning has taken place.
- The main factor influencing the attainment of the major motor milestones is
 - experience.
 - maturational.
 - learning.
 - habituation.
- The secondary sex characteristics
 - are directly involved in reproduction.
 - appear at the same time in all adolescents.
 - distinguish mature males from mature females.
 - include the testes and ovaries.

Answers: 1. d 2. a 3. d 4. a 5. b 6. c

The Cognitive Stages of Development: Climbing the Steps to Cognitive Maturity

Piaget's Stages of Cognitive Development

What were Piaget's beliefs regarding stages of cognitive development?

Jean Piaget formulated a comprehensive theory that systematically describes and explains how intellect develops (Piaget, 1963b, 1964; Piaget & Inhelder, 1969). He believed that cognitive development occurs in four stages, which differ not according to the amount of knowledge accumulated, but in the way individuals at different ages reason. Each stage reflects a qualitatively different way of reasoning and understanding the world. The stages occur in a fixed sequence; the accomplishments of one stage provide the foundation for the next. Although everyone is thought to progress through the stages in the

same order, there are individual differences in the rates at which they pass through them. And these rates are influenced by maturation and experience.

According to Piaget, cognitive development begins with a few basic **schemas**—cognitive structures or concepts that are used to

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Jean Piaget

menarche (men-AR-kee): The onset of menstruation.

menopause: The cessation of menstruation, occurring between ages 45 and 55 and signifying the end of reproductive capacity.

schema: Piaget's term for a cognitive structure or concept used to identify and interpret information.

identify and interpret objects, events, and other information in the environment. When confronted with new objects, events, experiences, and information, learners attempt to fit these into their existing schemas, a process known as **assimilation**. But not everything can be assimilated into the existing schemas. If children call a stranger “daddy” or the neighbour’s cat “doggie,” assimilation is not appropriate. When parents and others correct them, or when they discover for themselves that something cannot be assimilated into an existing schema, children will use a process known as accommodation. In **accommodation**, existing schemas are modified or new schemas are created to process new information. It is through the processes of assimilation and accommodation, then, that schemas are formed, differentiated, and broadened.

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The Sensorimotor Stage (Birth to Age Two)

What is Piaget’s sensorimotor stage?

In the first stage, the **sensorimotor stage**, infants gain an understanding of the world through their senses and their motor activities (actions or body movements)—hence the term *sensorimotor*. An infant’s behaviour, which is mostly reflexive at birth, becomes increasingly complex and gradually evolves into intelligent behaviour. At this stage, the intelligence is one of action rather than of thought, and it is confined to objects that are present and events that are directly perceived. The child learns to respond to and manipulate objects, and to use them in goal-directed activity.

At birth, infants are incapable of thought, and they are unable to differentiate themselves from others or from the environment. Living in a world of the here and now, infants are aware that objects exist only when they can actually see them. Take a stuffed animal away from a five-month-old and it ceases to exist as far as the child is concerned. At this age, out of sight is always out of mind.

The major achievement of the sensorimotor period is the development of **object permanence**, which is the realization that objects (including people) continue to exist even when they are out of sight. This

concept develops gradually and is complete when the child is able to represent objects mentally in their absence. This marks the end of the sensorimotor period.

The Preoperational Stage (Ages Two to Seven)

What cognitive limitations characterize a child’s thinking during the preoperational stage?

The **preoperational stage** is a period of rapid development in language. Children become increasingly able to represent objects and events mentally with words and images. Now their thinking is no longer restricted to objects and events that are directly perceived and present in the environment. Evidence of representational thought is the child’s ability to imitate the behaviour of a person who is no longer present (deferred imitation). Other evidence is the child’s ability to engage in imaginary play using one object to stand for another, such as using a broom to represent a horse.

Although children’s thinking at the preoperational stage is more advanced than at the previous stage, it is still quite restricted. Thinking is dominated by perception, and the children at this stage exhibit egocentrism in thought. They believe that everyone sees what they see, thinks as they think, and feels as they feel.

At this stage children also show animistic thinking, believing that inanimate objects such as a tree, the sun, and a doll are alive and have feelings and intentions as well (Piaget, 1960, 1963a). That explains why two-year-old Meghan says “hello” to her food before she eats it, and why three-year-old Beth shows distress when her brother throws her doll into her toy box. Children also believe that all things, even the sun, the moon, and the clouds, are made for people and usually even by people.

The preoperational stage is so named because children are not yet able to perform mental operations (manipulations) that follow logical rules. Children at this stage are not aware that a given quantity of matter (a given number, mass, area, weight, or volume of matter) remains the same if it is rearranged or changed in its appearance, as long as nothing has been added or taken away. This concept is known as **conservation** and is illustrated in *Try It!*

Centration and irreversibility are two restrictions on thinking that lead children to wrong conclusions.

Try It!

Understanding the Conservation Concept

If you know a child of preschool age, try this conservation experiment. Show the child two glasses of the same size, and then fill them with the same amount of juice. After the child agrees they are the same, pour the juice from one glass into a tall, narrow glass. Now ask the child if the two glasses have the same amount of juice, or if one glass has more than the other. Children at this stage will insist that the taller, narrower glass has more juice, although they will quickly agree that you neither added juice nor took it away.



Centration is the tendency to focus on only one dimension of a stimulus and ignore the other dimensions. For example, in *Try It!*, children focused on the tallness of the glass and failed to notice that it was also narrower. At this stage, taller means more.

Preoperational children have not developed **reversibility** in thinking—the realization that after any change in shape, position, or order, matter can be returned mentally to its original state. The preoperational child in *Try It!* cannot mentally return the juice to the original glass and realize that once again the two glasses of juice are equal.

The Concrete Operations Stage (Ages Seven to Eleven or Twelve)

What cognitive abilities do children acquire during the concrete operations stage?

In the third stage, the **concrete operations stage** (ages 7 to 11 or 12), children gradually overcome the obstacles to logical thought associated with the preoperational period. Their thinking is less egocentric, and they come to realize that other people have thoughts and feelings that may be different from their own. Children acquire the ability to mentally carry out the operations essential for logical thought. They can now decentre their thinking—that is, attend to two or more dimensions of a stimulus at the same time. They can also understand the concept of reversibility, which is crucial in problem solving. Finally, during this stage children acquire the concept of conservation. But children are able to apply logical operations only to

assimilation: The process by which new objects, events, experiences, or pieces of information are incorporated into existing schemas.

accommodation: The process by which existing schemas are modified and new schemas are created to incorporate new objects, events, experiences, or information.

sensorimotor stage: Piaget's first stage of cognitive development (birth to age two), culminating in the development of object permanence and the beginning of representational thought.

object permanence: The realization that objects continue to exist even when they are no longer perceived.

preoperational stage: Piaget's second stage of cognitive development (ages two to seven), characterized by rapid development of language,

and thinking that is governed by perception rather than logic.

conservation: The concept that a given quantity of matter remains the same despite rearrangement or change in its appearance, as long as nothing has been added or taken away.

centration: The child's tendency during the preoperational stage to focus on only one dimension of a stimulus and ignore the other dimensions.

reversibility: The realization, during the concrete operations stage, that any change occurring in shape, position, or order of matter can be returned mentally to its original state.

concrete operations stage: Piaget's third stage of cognitive development (ages 7 to 11 or 12), during which a child acquires the concepts of reversibility and conservation and is able to apply logical thinking to concrete objects.

concrete problems that they can perceive directly. They cannot apply these mental operations to verbal, abstract, or hypothetical problems. Surprisingly, the concepts of conservation of number, substance (liquid, mass), length, area, weight, and volume are not all acquired at once. They come in a certain sequence and usually at the ages shown in Figure 8.4.

The Formal Operations Stage (Age Eleven or Twelve and Beyond)

What new capability characterizes the formal operations stage?

In the **formal operations stage**, adolescents and adults can apply reversibility and conservation

to abstract, verbal, or hypothetical situations and to problems in the past, present, or future.

Not all people attain full formal-operational thinking (Kuhn, 1984; Neimark, 1981; Papalia & Bielby, 1974) and those who do attain it usually apply it only in those areas where they are most proficient (Ault, 1983; Martorano, 1977). Some suggest that it is because this level of thinking requires training (Siegler, 1991) that some adults do not attain it.

FIGURE 8.4

Piaget's Conservation Tasks Pictured here are two of Piaget's conservation tasks. The ability to answer correctly develops over time according to the ages indicated for each task. (From Berk, 1997.)

Piaget's four stages of development are summarized in Review & Reflect 8.1.

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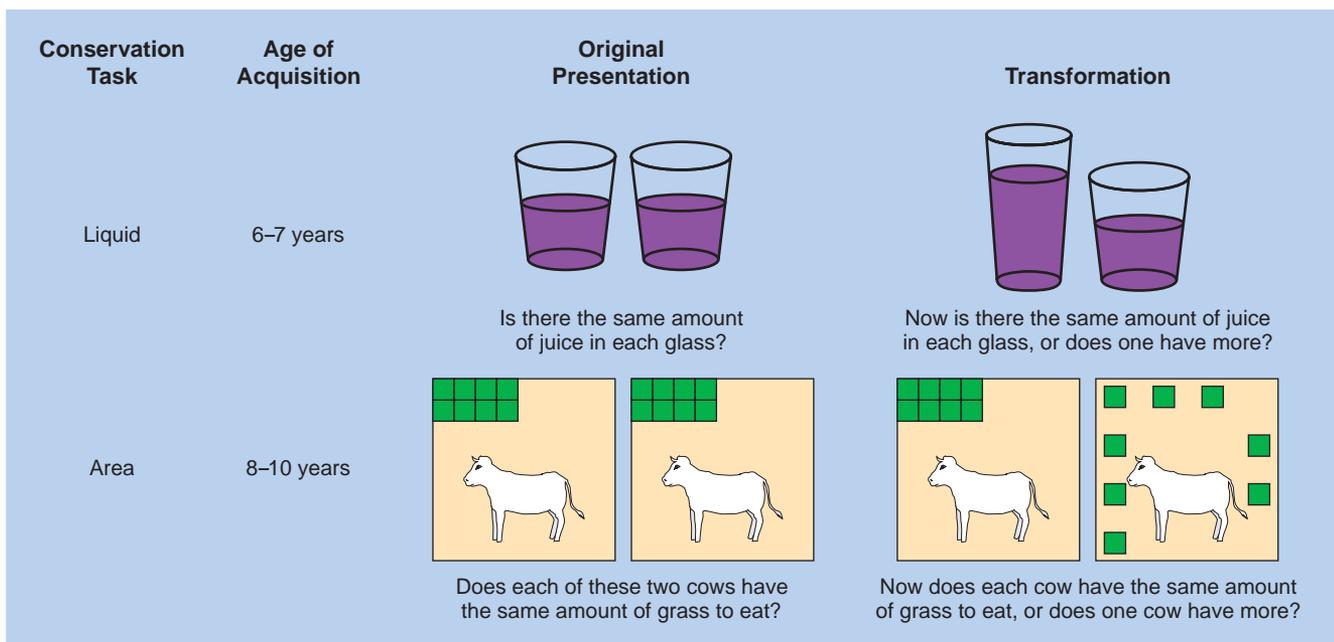
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An Evaluation of Piaget's Contribution

Although Piaget's genius and his monumental contribution to our knowledge of mental development are rarely disputed, his methods and some of his findings and conclusions have been criticized (Halford, 1989).

Piaget was limited in the information he could gather about infants because he relied on observation and on the interview technique, which depended on verbal responses. Newer techniques requiring non-verbal responses—sucking, looking, heart-rate changes, reaching, and head turning—have shown that infants and young children are more competent than Piaget proposed (Flavell, 1992).

Few developmental psychologists believe that cognitive development takes place in the general stage-like fashion proposed by Piaget. If it did, children's cognitive functioning would be similar across all cognitive tasks and content areas (Flavell, 1992). Neo-Piagetians believe that while there are impor-



REVIEW & REFLECT 8.1

Piaget's Stages of Cognitive Development

Stage	Description
Sensorimotor (birth to age 2) 	Infants experience the world through their senses, actions, and body movements. At the end of this stage, toddlers develop the concept of object permanence and can mentally represent objects in their absence.
Preoperational (ages 2 to 7) 	Children are able to represent objects and events mentally with words and images. They can engage in imaginary play (pretend), using one object to represent another. Their thinking is dominated by their perceptions, and they are unable to consider more than one characteristic of an object at the same time (centration). Their thinking is egocentric—that is, they fail to consider the perspective of others.
Concrete operational (ages 7 to 11 or 12) 	Children at this stage become able to think logically in concrete situations. They acquire the concepts of conservation and reversibility, and can order objects in a series and classify them according to multiple dimensions.
Formal operational (age 11 or 12 and beyond) 	At this stage, adolescents learn to think logically in abstract situations, learn to test hypotheses systematically, and become interested in the world of ideas. Not all people attain full formal operational thinking.

tant general properties in cognitive development, there is also more variability in how children perform on certain tasks than Piaget described (Case, 1987, 1992). This variability results from the expertise children acquire in different content areas through extensive practice and experience (Flavell 1992). This also applies to adults: the expertise they have in a particular content area will influence whether they use formal operational reasoning or fall back on concrete operational reasoning when they approach a given task.

It is fair to say that Piaget has stimulated more research in developmental psychology than any other theorist in recent times (Beilin, 1992). Piaget's work has had a profound impact on the fields of psychology and education. His influence has led teachers to arrange richer learning environments in which children gain knowledge and improve cognitive skills through exploration and discovery.

Intellectual Capacity during Early, Middle, and Late Adulthood

In general, can adults look forward to an increase or decrease in intellectual performance from their 20s to their 60s?

Conventional wisdom has held that intellectual ability reaches its peak in the late teens or early 20s, and that it's all downhill after that.

Fortunately, conventional wisdom is wrong. Although younger people tend to do better on tests requiring speed or rote memory, intellectual performance in adults continues to increase in other areas. In tests measuring general information, vocabulary, reasoning

formal operations stage: Piaget's fourth and final stage, characterized by the ability to apply logical thinking to abstract problems and hypothetical situations.

ability, and social judgment, older individuals usually do better than younger ones because of their greater experience and education (Horn, 1982; Horn & Donaldson, 1980). Adults actually continue to gain knowledge and skills over the years, particularly when they lead intellectually challenging lives. Neil Charness (1989), while at the University of Waterloo, found no differences in recall performance for young and older populations when participants were tested in their area of expertise.

Canadian data from the Victoria Longitudinal study were used to determine whether actively participating in the activities of everyday life could buffer individuals against cognitive decline as they aged. Findings from this research, and others, suggest that living an “engaged” life protects against cognitive decline (Hultsch et al., 1999; Pushkar et al. 1999; Shimamura et al., 1995). Several factors that are positively correlated with good cognitive functioning in the elderly are education level (Lykestos et al., 1999), a complex work environment, a long marriage to an intelligent spouse, and a higher income (Schaie, 1990). Women also have the advantage as they generally live longer and do not experience the same level of cognitive decline.

It was long assumed that the number of neurons declined sharply in later adulthood, but this assump-

tion appears to be false (Gallagher & Rapp, 1997). Recent research suggests that the shrinking volume of the aging cortex is due more to breakdown of the myelin that covers the axons in the white matter than to loss of the neurons that make up the grey matter (Wickelgren, 1996). As you learned in Chapter 2, the myelin sheath facilitates the rapid conduction of neural impulses. The breakdown of myelin thus explains one of the most predictable characteristics of aging—the slowing of behaviour. When the myelin breaks down, the brain takes longer to process information, and reaction time is slower.

Socialization and Social Relationships

Every one of us is born into a society. To function effectively and comfortably within that society, we must come to know the patterns of behaviour that it considers desirable and appropriate. The process of learning socially acceptable behaviours, attitudes, and values is called **socialization**. Many people play a role in our socialization, including parents and peers. School, the media, and religion are also important influences.

Piaget's Stages of Cognitive Development

- Which statement reflects Piaget's thinking about the cognitive stages?
 - All people pass through the same stages but not necessarily in the same order.
 - All people progress through the stages in the same order but not at the same rate.
 - All people progress through the stages in the same order and at the same rate.
 - Very bright children sometimes skip stages.
- Three-year-old Danielle says “Airplane!” when she sees a helicopter for the first time. She is using the process Piaget called
 - assimilation.
 - accommodation.
 - centration.
 - conservation.
- Four-year-old Kendra rolls her ball of clay into the shape of a wiener to make “more” clay. Her

actions demonstrate that she has *not* acquired the concept of

- reversibility.
 - animism.
 - centration.
 - conservation.
- Not all individuals reach the stage of formal operations. (true/false)
 - Match the stage with the relevant concept.

___ 1) abstract thought	a. concrete operations
___ 2) conservation, reversibility	b. sensorimotor stage
___ 3) object permanence	c. formal operations
___ 4) egocentrism, centration	d. preoperational stage

Answers: 1. b 2. a 3. d 4. true 5. 1) c 2) a 3) b 4) d

Erikson's Theory of Psychosocial Development

What is Erikson's theory of psychosocial development?

Erik Erikson proposed a theory that emphasizes the role of social forces on human development throughout the lifespan. He was the first to stress that society plays an important role in personality development, and that so do the individuals themselves; that is, he did not focus exclusively on the influence of parents. Erikson's is the only major theory of development to include the entire lifespan.

According to Erikson, individuals progress through eight **psychosocial stages** during the lifespan. Each stage is defined by a conflict involving the individual's relationship with the social environment that must be resolved satisfactorily in order for healthy development to occur. Although failure to resolve a conflict impedes later development, resolution may occur at a later stage and reverse any damage done earlier.

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Erikson Tutorial Home Page

Stage 1: Basic Trust versus Basic Mistrust (Birth to 12 Months)

During the first stage, **basic trust versus basic mistrust**, infants develop a sense of trust or mistrust depending on the degree and regularity of care, love, and affection they receive from the mother or primary caregiver. Erikson (1980) considered “basic trust as the cornerstone of a healthy personality” (p. 58).

Stage 2: Autonomy versus Shame and Doubt (Ages One to Three)

The second stage, **autonomy versus shame and doubt** (ages one to three), is one in which infants are developing their physical and mental abilities and want to do things for themselves. They begin to express their will or independence and develop a “sudden violent wish to have a choice” (Erikson, 1963, p. 252). “No!” becomes one of their favourite words. Erikson believed that parents must set appropriate limits but at the same time facilitate children's desires for autonomy by encouraging their appropri-

ate attempts at independence. If parents are impatient or overprotective, they may make children feel shame and doubt about their efforts to express their will and explore their environment.

Stage 3: Initiative versus Guilt (Ages Three to Six)

In the third stage, **initiative versus guilt**, children go beyond merely expressing their autonomy and begin to develop initiative. Enjoying their new locomotor and mental powers, they begin to plan and undertake tasks. They initiate play and motor activities and ask questions.

If children's appropriate attempts at initiative are encouraged and their inappropriate attempts are handled firmly but sensitively, they will leave this stage with a sense of initiative that will form “a basis for a high and yet realistic sense of ambition and independence” (Erikson, 1980, p. 78).

Stage 4: Industry versus Inferiority (Age Six to Puberty)

During the fourth stage, **industry versus inferiority**, children develop enjoyment and pride in making things and doing things. The encouragement of teachers as well as parents is important for a positive resolution of this stage. “But parents who see

socialization: The process of learning socially acceptable behaviours, attitudes, and values.

psychosocial stages: Erikson's eight developmental stages, which are each defined by a conflict that must be resolved in order for healthy personality development to occur.

basic trust versus basic mistrust: Erikson's first psychosocial stage (birth to 12 months), when infants develop trust or mistrust depending on the quality of care, love, and affection provided.

autonomy versus shame and doubt: Erikson's second psychosocial stage (ages one to three), when

infants develop autonomy or shame depending on how parents react to their expression of will and their wish to do things for themselves.

initiative versus guilt: Erikson's third psychosocial stage (ages three to six), when children develop a sense of initiative or guilt depending on how parents react to their initiation of play, their motor activities, and their questions.

industry versus inferiority: Erikson's fourth psychosocial stage (age six to puberty), when children develop a sense of industry or inferiority depending on how parents and teachers react to their efforts to undertake projects.

their children's efforts at making and doing as 'mischief' and as simply 'making a mess,' help to encourage in children a sense of inferiority" (Elkind, 1970, pp. 89–90).

Stage 5: Identity versus Role Confusion (Adolescence)

Erikson's fifth stage of psychosocial development, **identity versus role confusion**, is the developmental struggle of adolescence. "Who am I?" becomes the critical question at this stage, as adolescents seek to establish their identity and find values to guide their lives (Erikson, 1963). They must develop a sense of who they are, where they have been, and where they are going. Adolescents are seriously looking to the future for the first time and considering an occupational identity—what they will choose as their life's work. Erikson (1968) believed that "in general it is the inability to settle on an occupational identity that most disturbs young people" (p. 132). The danger at this stage, he said, is that of role confusion—not knowing who one is or where one belongs.

Stage 6: Intimacy versus Isolation (Young Adulthood)

Erikson contended that if healthy development is to continue, young adults must establish intimacy in a relationship. This sixth stage of psychosocial development he called **intimacy versus isolation**.

What kind of intimacy was Erikson referring to? He meant more than sexual intimacy alone. Intimacy means the ability to share with, care for, make sacrifices for, and commit to another person. Erikson believed that avoiding intimacy results in a sense of isolation and loneliness. Erikson and others argue that young adults must first establish their own identity before true intimacy is possible.

Stage 7: Generativity versus Stagnation (Middle Adulthood)

Erikson's seventh psychosocial stage is called **generativity versus stagnation**. Erikson (1980) maintained that in order for mental health to continue into middle adulthood, individuals must develop generativity—an "interest in establishing and guiding the next generation" (p. 103). This interest should extend beyond the immediate family to include making the world a better place for all young people.

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According to Erikson, in middle adulthood people develop generativity—an interest in guiding the next generation.

People who do not develop generativity become self-absorbed and "begin to indulge themselves as if they were their own one and only child" (p. 103). Personal impoverishment and a sense of stagnation often accompany such self-absorption. We enlarge ourselves when we have concern for others.

Stage 8: Ego Integrity versus Despair (Late Adulthood)

In Erikson's eighth stage, **ego integrity versus despair**, the outcome depends primarily on whether a person has resolved the conflicts at the previous stages (Erikson et al., 1986). Those who have a sense of ego integrity believe their life has had meaning. They can look back on their life with satisfaction and a sense of accomplishment, and they are not burdened with major regrets:

At the other extreme is the individual who looks back upon [his or her] life as a series of missed opportunities and missed directions; now in the twilight years [she or he] realizes that it is too late to start again. For such a person the inevitable result is a sense of despair at what might have been. (Elkind, 1970, p. 112)

Remember It!

Erikson's Psychosocial Stages of Development

- According to Erikson, if the basic conflict of a given stage is not resolved satisfactorily, the individual
 - will not enter the next stage.
 - will acquire the unhealthy basic attitude associated with the stage, which will adversely affect development at the next stage.
 - will be permanently damaged regardless of future experiences.
 - will be fixed at that stage.
- Match the psychosocial stage with the appropriate phrase.

___ 1) needs regular care and love	a. basic trust versus mistrust
___ 2) initiates play and motor activities, asks questions	b. industry versus inferiority
___ 3) strives for sense of independence	c. initiative versus guilt
___ 4) undertakes projects, makes things	d. autonomy versus shame and doubt
- Which of the following was *not* identified by Erikson as a developmental task in his psychosocial stage for adolescence?
 - forming an intimate relationship
 - planning for an occupation
 - forming an identity
 - finding values to live by
- Erikson believed that an active interest in guiding the next generation is necessary for good mental health in
 - adolescence.
 - young adulthood.
 - middle age.
 - old age.
- Erikson believed that the main task in young adulthood is to
 - develop generativity.
 - forge an identity.
 - start a family.
 - form an intimate relationship.
- According to Erikson, older people who feel they did not reach many of their goals or contribute positively to others will experience
 - stagnation.
 - despair.
 - isolation.
 - inferiority.

Answers: 1. b 2. (1) a (2) c (3) d (4) b 3. a 4. c 5. d 6. b

Review & Reflect 8.2 on the next page describes Erikson's stages.

The Parents' Role in the Socialization Process

For children, the parents' role in the socialization process consists of the examples they set, their teachings, and their approach to discipline. Parents are usually more successful if they are loving, warm, nurturant, and supportive (Maccoby & Martin, 1983). In fact, a longitudinal study (Franz et al., 1991) that followed individuals from ages 5 to 41 revealed that "children of warm, affectionate parents were more likely to be socially accomplished adults who, at age

identity versus role

confusion: Erikson's fifth psychosocial stage, when adolescents need to establish their own identity and to form values to live by; failure can lead to an identity crisis.

intimacy versus isolation:

Erikson's sixth psychosocial stage, when the young adult must establish intimacy in a relationship in order to avoid feeling isolated and lonely.

generativity versus

stagnation: Erikson's seventh psychosocial stage, occurring during middle

age, when the individual becomes increasingly concerned with guiding and assisting the next generation rather than becoming self-absorbed and stagnating.

ego integrity versus

despair: Erikson's eighth and final psychosocial stage, occurring during old age, when individuals look back on their lives with satisfaction and a sense of accomplishment or have major regrets about missed opportunities and mistakes.

REVIEW & REFLECT 8.2**Erikson's Psychosocial Stages of Development**

Stage	Ages	Description
Trust vs. mistrust	Birth to 12 months	Infant learns to trust or mistrust depending on the degree and regularity of care, love, and affection from mother or primary caregiver.
Autonomy vs. shame and doubt	Ages 1 to 3	Children learn to express their will and independence, to exercise some control, and to make choices. If not, they experience shame and doubt.
Initiative vs. guilt	Ages 3 to 6	Children begin to initiate activities, to plan and undertake tasks, and to enjoy developing motor and other abilities. If not allowed to initiate or if made to feel stupid and are considered a nuisance, they may develop a sense of guilt.
Industry vs. inferiority	Age 6 to puberty	Children develop industriousness and feel pride in accomplishing tasks, making things, and doing things. If not encouraged, or if rebuffed by parents and teachers, they may develop a sense of inferiority.
Identity vs. role confusion	Adolescence	Adolescents must make the transition from childhood to adulthood, establish an identity, develop a sense of self, and consider a future occupational identity. Otherwise, role confusion can result.
Intimacy vs. isolation	Young adulthood	Young adults must develop intimacy—the ability to share with, care for, and commit themselves to another person. Avoiding intimacy brings a sense of isolation.
Generativity vs. stagnation	Middle adulthood	Middle-aged people must find some way of contributing to the development of the next generation. Failing this, they may become self-absorbed, personally impoverished, and reach a point of stagnation.
Ego integrity vs. despair	Late adulthood	Individuals review their lives. If they are satisfied and feel a sense of accomplishment, ego integrity will result. If dissatisfied, they may sink into despair.

41, were mentally healthy, coping adequately, and psychosocially mature in work, relationships, and generativity” (p. 593).

The first social relationship in our lives is the one we forge with our caretakers. Human newborns are among the most helpless and dependent of all animal species and cannot survive alone. Fortunately, infants form a strong attachment to their primary caregivers. Because their attachment is a two-way affair, the term *bonding* has been used to describe this mutual attachment (Brazelton et al., 1975).

What precisely is the glue that binds caregiver and infant? For decades people believed that an infant's attachment to its caregiver was formed primarily because the caregiver provided the nourishment that sustains life. However, a series of classic studies by Harry Harlow on attachment in rhesus monkeys suggests that life-sustaining physical nourishment is not enough to bind infants to their primary caregivers.

Attachment in Infant Monkeys: Like Humans in So Many Ways

What did Harlow's studies reveal about maternal deprivation and attachment in infant monkeys?

Harlow found that the behaviour of monkeys deprived of mothering was not unlike that of children raised in orphanages. Typically, motherless monkeys would “sit in their cages and stare fixedly into space, circle their cages in a repetitive stereotyped manner and clasp their heads in their hands or arms and rock for long periods of time” (Harlow & Harlow, 1962, p. 138).

To investigate systematically the nature of attachment and the effects of maternal deprivation on infant monkeys, Harlow constructed two artificial monkey “mothers.” One was a plain wire-mesh cylinder with a wooden head; the other was a wire-mesh cylinder that was padded, covered with soft terry cloth, and

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restrictions.

Harlow found that infant monkeys developed a strong attachment to a cloth-covered surrogate mother and little or no attachment to a wire surrogate mother—even when the wire mother provided nourishment.

fitted with a somewhat more monkey-like head (see the photograph above). A baby bottle could be attached to one or the other “mother” for feeding.

Newborn monkeys were placed in individual cages with equal access to a cloth surrogate and a wire surrogate. The source of their nourishment (cloth or wire surrogate) was unimportant. “The infants developed a strong attachment to the cloth mothers and little or none to the wire mothers” (Harlow & Harlow, 1962, p. 141). Harlow found that it was contact comfort—the comfort supplied by bodily contact—rather than nourishment that formed the basis of the infant monkey’s attachment to its mother.

The Necessity for Love

Harlow’s research reveals the disastrous effects that maternal deprivation can have on infant monkeys. Human infants, too, need love in order to grow physically and psychologically. Between 1900 and 1920 many infants under a year old who were placed in orphanages did not survive, even though they were given adequate food and medical care (Montagu, 1962). Usually kept in cribs, the sides draped with sheets, these unfortunate infants were left to stare at the ceiling. Lacking a warm, close, personal caregiver and the all-important ingredient of love, the infants who survived their first year failed to gain weight and grow normally—a condition known as “deprivation dwarfism” (Gardner, 1972). And they were far behind other children in their mental and motor development (Spitz, 1946). To survive, infants need

to become attached to someone. That someone can be nearly anyone.

The Development of Attachment in Humans

When does the infant have a strong attachment to the mother?

No strong emotional attachment between mother and infant is present at birth; nor does it develop suddenly. Rather, as a result of the mother and the infant responding to each other with behaviours that provide mutual satisfaction, the attachment develops gradually. The mother holds, strokes, talks to, and responds to the baby; and the baby gazes at and listens to the mother and even moves in synchrony with her voice (Condon & Sander, 1974; Lester et al., 1985). The baby’s responses reinforce the mother’s attention and care. Even crying can promote attachment, because the mother is motivated to relieve the baby’s distress and feels rewarded when she is successful.

John Bowlby (1951), one of the foremost theorists on attachment, maintains that to grow up mentally healthy, infants and young children “should experience a warm, intimate, and continuous relationship” with their attachment figure that is mutually satisfying and enjoyable (p. 13).

Once the attachment has formed, infants show **separation anxiety**—fear and distress when the parent leaves them with another caretaker.

Ainsworth’s Study of Attachment: The Importance of Being Securely Attached

What are the four attachment patterns identified in infants?

Virtually all infants will develop an attachment to a caregiver by age two, but vast differences exist in the quality of that attachment. In a classic study of mother–child attachment, Mary Ainsworth (1973, 1979) observed mother–child interactions in a laboratory procedure called the “Strange Situation.” On the basis of infants’ reactions to their mothers after two brief separations, Ainsworth and others identified four patterns of attachment: secure, avoidant, resistant, and disorganized/disoriented (Ainsworth et al., 1978; Main & Solomon, 1990).

separation anxiety: The fear and distress an infant feels when left with another caretaker.

SECURE ATTACHMENT Securely attached infants (about 65 percent of North American infants) are usually distressed when separated from their mothers. They eagerly seek to re-establish contact after separation and then show an interest in play. Moreover, securely attached infants use their mothers as a “safe base” from which to explore, much as Harlow’s monkeys had done when unfamiliar objects were placed in their cages. Securely attached infants are the most responsive, obedient, and content. They also cry less than babies who are less strongly attached (Ainsworth et al., 1978). The mothers of securely attached infants tend to be the most sensitive, accepting, and affectionate, as well as the most responsive to their infants’ cries and needs (Isabella et al., 1989; Pederson et al., 1990). This finding contradicts the notion that mothers who respond promptly to an infant’s cries end up with spoiled babies who cry more.

Securely attached infants are likely to grow up to be more sociable, more effective with peers, more interested in exploring the environment, and generally more competent than less securely attached infants (Masters, 1981). Furthermore, their interactions with friends tend to be more harmonious and less controlling (Park & Walters, 1989).

Secure attachment is the most common type across cultures. However, cross-cultural research has revealed a higher incidence of insecure attachment patterns in Israel, Japan, and Germany than in the United States (Collins & Gunnar, 1990). But Ainsworth’s procedure, the Strange Situation, may not be valid for assessing mother–child attachment in all cultures. Some also argue that the laboratory setting of the

strange situation is not necessarily what would be observed in naturalistic settings.

AVOIDANT ATTACHMENT About 20 percent of North American infants are considered to have an avoidant attachment to their mothers. Infants with this attachment pattern are usually unresponsive to the mother when she is present and are not troubled when she leaves. When the mother returns, the infant may actively avoid contact with her or, at least, not readily greet her. The mother of an avoidant infant tends to show little affection and to be generally unresponsive to her infant’s needs and cries.

RESISTANT ATTACHMENT Between 10 and 15 percent of North American infants show a resistant attachment pattern toward their mothers. Prior to a period of separation, resistant infants seek and prefer close contact with their mothers. Yet they do not tend to branch out and explore like securely attached infants. And when the infant’s mother returns to the room after a period of separation, the resistant infant displays anger, and many push the mother away or hit her. When picked up, the infant is hard to comfort and may continue crying.

DISORGANIZED/DISORIENTED ATTACHMENT Between 5 and 10 percent of North American infants show a disorganized/disoriented attachment pattern, which is the most puzzling and apparently least secure pattern. When reunited with their mothers, these infants exhibit contradictory and disoriented responses. Rather than looking at the parent while being held, the infant may purposely look



Attachment

- Which of the following was *not* true of infant monkeys raised with surrogate mothers?
 - They showed inappropriate aggression.
 - They would not interact with other monkeys.
 - Their learning ability was impaired.
 - They became abusive mothers.
- A strong attachment between infant and mother usually occurs shortly after birth. (true/false)
- Ainsworth found that most infants had a secure attachment. (true/false)
- The most common type of interaction most fathers have with their infant is in the context of caregiving—feeding, changing, and bathing. (true/false)
- Infants raised with adequate physical care but without the attention of a close, personal caregiver often become mentally and/or physically disabled. (true/false)

Answers: 1. c 2. false 3. true 4. false 5. true

away or approach the parent with an expressionless or depressed demeanour.

Parenting Styles: What Works and What Doesn't

What are the three parenting styles discussed by Baumrind, and which did she find most effective?

Diane Baumrind (1971, 1980, 1991) has identified three parenting styles—the authoritarian, the authoritative, and the permissive. She related

these styles first to different patterns of behaviour in preschool children and later to those in older children and adolescents. The outcomes found for each parenting style are based on research with predominantly white, middle-class children.

AUTHORITARIAN PARENTS **Authoritarian parents** make the rules, expect unquestioned obedience from their children, punish misbehaviour (often physically), and value obedience to authority. Rather than giving a rationale for a rule, authoritarian parents consider “because I said so” a sufficient reason for obedience. Parents using this parenting style tend to be uncommunicative, unresponsive, and somewhat distant. Baumrind (1967) found preschool children disciplined in this manner to be withdrawn, anxious, and unhappy.

If the goal of discipline is eventually to have children internalize parental standards, the authoritarian approach leaves much to be desired. When parents fail to provide a rationale for rules, children find it hard to see any reason for following them. When a parent says, “Do it because I said so” or “Do it or you’ll be punished,” the child may do what is expected when the parent is present, but not when the parent is not around.

AUTHORITATIVE PARENTS **Authoritative parents** set high but realistic and reasonable standards, enforce limits, and at the same time encourage open communication and independence. They are willing to discuss rules and supply rationales for them. When children know why the rules are necessary and important, they find it easier to internalize and follow them, whether or not their parents are present. Authoritative parents are generally warm, nurturant, supportive, and responsive; they also show respect for their children and their opinions. Children raised in this way are the most mature, happy, self-reliant, self-controlled, assertive, socially competent, and responsible. Furthermore, this parenting style is associated with

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Authoritative parents are warm, nurturant, supportive, and responsive.

higher academic performance, independence, higher self-esteem, and internalized moral standards in middle childhood and adolescence (Dornbusch et al., 1987; Lamborn et al., 1991; Steinberg et al., 1989).

Michael Pratt and Mary Lou Arnold (1995) at Wilfrid Laurier University interviewed mothers and fathers and their teenagers about moral values and family discussions. They found that children of authoritative parents reported a more positive “family climate.” These teens enjoyed moral discussions with their parents and tended to adopt some of their parents’ ways of thinking about and discussing moral issues.

PERMISSIVE PARENTS **Permissive parents**, although rather warm and supportive, make few rules or demands and usually do not enforce those that are made. They allow children to make their own decisions and control their own behaviour. Children raised in this manner are the most immature, impulsive, and dependent; they also seem to be the least self-controlled and the least self-reliant.

authoritarian parents:

Parents who make arbitrary rules, expect unquestioned obedience from their children, punish transgressions, and value obedience to authority.

authoritative parents:

Parents who set high but realistic standards, reason

with the child, enforce limits, and encourage open communication and independence.

permissive parents:

Parents who make few rules or demands and allow children to make their own decisions and control their own behaviour.

Permissive parents also come in the indifferent, unconcerned, and uninvolved variety (Maccoby & Martin, 1983). In adolescents, this parenting style is associated with drinking problems, promiscuous sex, delinquent behaviour, and poor academic performance.

Peer Relationships

How do peers contribute to the socialization process?

Infants begin to show an interest in each other at a very young age. At only six months they already demonstrate an interest in other infants by looking, reaching, touching, smiling, and vocalizing (Vandell & Mueller, 1980). Friendships begin to develop by age three or four. Relationships with peers become increasingly important, and by middle childhood, membership in a peer group is central to a child's happiness. At a time when adolescents feel the need to become more independent from their family, friends become a vital source of emotional support and approval. Adolescents usually choose friends who have similar values, interests, and backgrounds (Duck, 1983; Epstein, 1983).

The peer group serves a socializing function by providing models of appropriate behaviour, dress, and language. It is a continuing source of both reinforcement for appropriate behaviour and punishment for deviant behaviour. The peer group also provides an objective measure against which individuals can eval-

uate their own traits and abilities (e.g., how smart or how good at sports they are).

Adolescent Egocentrism: On Centre Stage, Unique, and Indestructible

David Elkind (1967, 1974) believes that the early teenage years are marked by adolescent egocentrism, which takes two forms—the imaginary audience and the personal fable.

Do you remember, as a teenager, picturing how your friends would react to the way you looked when you made your grand entrance at a big party? At this stage of life, it never occurred to us that most of the other people at the party were preoccupied not with us, but with the way *they* looked and the impression *they* were making. This **imaginary audience** of admirers (or critics) that an adolescent conjures up exists only in the imagination; “but in the young person's mind, he/she is always on stage” (Buis & Thompson, 1989, p. 774).

Teenagers also have an exaggerated sense of personal uniqueness and indestructibility that Elkind calls the **personal fable**. They cannot fathom that anyone has ever felt as deeply as they feel or loved as they love. Elkind suggests that this compelling sense of personal uniqueness may be why many adolescents believe they are somehow protected from the misfortunes that befall others, such as unwanted pregnancies, car accidents, or drug overdoses. Belief in the personal fable may account for many of the risks teens take during adolescence.

Quadrel and colleagues (1993) dispute Elkind's explanation for adolescent risk taking. They found that both high-risk adolescents (from group homes or juvenile centres) and middle-class, low-risk adolescents were more likely than adults (the parents of the group of middle-class adolescents) to anticipate experiencing certain negative events—injury in an auto accident, alcohol dependency, mugging, and so forth. Apparently adolescents are willing to engage in high-risk behaviours *in spite of* the risks involved, perhaps because of peer pressure, or because the pleasure outweighs the risk.

And according to Bjorklund and Green (1992), risk taking may have some positive consequences. It may enable adolescents to “experiment with new ideas and new tasks and generally behave more independently. Many of these experiences will be adaptive for adult life and for making the transition to adulthood” (p. 49).

Parenting Style and Peer Relationships

1. Match the parenting style with the approach to discipline.

- | | |
|---|--------------------------|
| ___ 1) expect unquestioned obedience | a. permissive parents |
| ___ 2) set high standards, give rationale for rules | b. authoritative parents |
| ___ 3) set few rules or limits | c. authoritarian parents |

2. The peer group is usually a negative influence on social development. (true/false)

Answers: 1. 1) c 2) b 3) a 2. false

Kohlberg's Theory of Moral Development

What are Kohlberg's three levels of moral reasoning?

How do we develop our ideas of right and wrong? Lawrence Kohlberg (1981, 1984, 1985) believed that moral reasoning is closely related to cognitive development and that it, too, evolves in stages. Kohlberg (1969) studied moral development by presenting a series of moral dilemmas to male participants from a number of countries.

Read one of his best-known dilemmas in the *Try It!*

Try It!



Test Your Moral Judgment

In Europe a woman was near death from a special kind of cancer. There was one drug that the doctors thought might save her. It was a form of radium that a druggist in the same town had recently discovered. The drug was expensive to make, and the druggist was charging 10 times what the drug cost him to make. He paid \$200 for the radium and charged \$2000 for a small dose of the drug. The sick woman's husband, Heinz, went to everyone he knew to borrow the money, but he could only get together \$1000, which was half of what it cost. He told the druggist that his wife was dying and asked him to sell it cheaper or let him pay later. But the druggist said, "No, I discovered the drug, and I am going to make money from it." So Heinz got desperate and broke into the man's store to steal the drug for his wife (Colby et al., 1983, p. 77).

What moral judgment would you make about the dilemma? Should Heinz have stolen the drug? Explain.

Levels of Moral Reasoning

Kohlberg was less interested in how people judged Heinz's behaviour than in the *reasons* for their responses. He found that moral reasoning had three levels, with each level having two stages.

THE PRECONVENTIONAL LEVEL At the **preconventional level**, moral reasoning is governed by the standards of others rather than an individual's own internalized standards of right and wrong. An act is judged good or bad on the basis of its physical con-

sequences. In Stage 1, "right" is whatever avoids punishment; in Stage 2, "right" is whatever is rewarded, benefits the individual, or results in a favour being returned. "You scratch my back and I'll scratch yours" is the thinking common at this stage. Children through age 10 usually function at the preconventional level.

THE CONVENTIONAL LEVEL At the **conventional level**, the individual has internalized the standards of others and judges right and wrong in terms of those standards. Stage 3 is sometimes called the "good boy–nice girl orientation." "Good behaviour is that which pleases or helps others and is approved by them" (Kohlberg, 1968, p. 26). At Stage 4, the orientation is toward "authority, fixed rules, and the maintenance of the social order. Right behaviour consists of doing one's duty, showing respect for authority, and maintaining the given social order for its own sake" (p. 26). Kohlberg believed that a person must have reached Piaget's concrete operations stage in order to reason morally at the conventional level.

THE POSTCONVENTIONAL LEVEL Kohlberg's highest level of moral reasoning is the **postconventional level**, which requires the ability to think at Piaget's level of formal operations. According to Kohlberg, most often this level is found among middle-class, well-educated people. At this level, people do not simply internalize the standards of others. Instead, they weigh moral alternatives, realizing that at times the law may conflict with basic human rights. At Stage 5,

imaginary audience: A belief of adolescents that they are or will be the focus of attention in social situations and that others will be as critical or approving as they are of themselves.

personal fable: An exaggerated sense of personal uniqueness and indestructibility, which may be the basis of the risk taking that is common during adolescence.

preconventional level of moral reasoning: Kohlberg's lowest level, based on the physical consequences of an act; "right" is whatever avoids

punishment or gains a reward.

conventional level of moral reasoning: Kohlberg's second level, in which right and wrong are based on the internalized standards of others; "right" is whatever helps or is approved of by others, or whatever is consistent with the laws of society.

postconventional level of moral reasoning: Kohlberg's highest level, in which moral reasoning involves weighing moral alternatives; "right" is whatever furthers basic human rights.

the person believes that laws are formulated to protect both society and the individual and should be changed if they fail to do so. At Stage 6, ethical decisions are based on universal ethical principles, which emphasize respect for human life, justice, equality, and dignity for all people. People who reason morally at Stage 6 believe that they must follow their conscience even if it results in a violation of the law.

Couldn't this kind of moral reasoning provide a convenient justification for any act at any time? Not according to Kohlberg, who insisted that an action must be judged in terms of whether it is right and fair from the perspective of *all* the people involved. In other words, the person must be convinced that the action would be proper even if he or she had to change positions with any individual, from the most favoured to the least favoured, in the society.

We should point out that Kohlberg had second thoughts about this sixth stage and was unsure whether it exists except as a matter of theoretical and philosophical speculation (Levine et al., 1985).

Review & Reflect 8.3 describes Kohlberg's stages of moral development.

The Development of Moral Reasoning

According to Kohlberg, we progress through moral stages one stage at a time in a fixed order. We do not skip stages, and if movement occurs, it is to the next higher stage. Postconventional reasoning is not possible, Kohlberg said, until people fully attain Piaget's level of formal operations. They must be able to think in terms of abstract principles and be able to think through and apply ethical principles in hypothetical situations (Kohlberg & Gilligan, 1971; Kuhn et al., 1977). Attaining a high level of cognitive development, however, does not guarantee advanced moral reasoning. Current research by Joan Grusec, at the University of Toronto, and by Jacqueline Goodnow (1994), suggests that in order for children to acquire moral values from their parents they must listen to and understand the information given *and* they must also accept it.

REVIEW & REFLECT 8.3

Kohlberg's Stages of Moral Development

Method	Limitations
<p>Level I: Preconventional Level (ages 4 to 10) Moral reasoning is governed by the standards of others; an act is good or bad depending on its physical consequences—whether it is punished or rewarded.</p>	<p>Stage 1 The stage where whatever avoids punishment is right. Children obey out of fear of punishment.</p> <p>Stage 2 The stage of self-interest. Whatever benefits the individual or gains a favour in return is right. "You scratch my back and I'll scratch yours."</p>
<p>Level II: Conventional Level (ages 10 to 13) The person internalizes the standards of others and judges right and wrong according to those standards.</p>	<p>Stage 3 The morality of mutual relationships. The "good boy–nice girl" orientation. Child acts to please and help others.</p> <p>Stage 4 The morality of the social system and conscience. Orientation toward authority. Morality is doing one's duty, respecting authority, and maintaining the social order.</p>
<p>Level III: Postconventional Level (after age 13, at young adulthood, or never) Moral conduct is under internal control; this is the highest level and the mark of true morality.</p>	<p>Stage 5 The morality of contract; respect for individual rights and laws that are democratically agreed on. Rational valuing of the wishes of the majority and welfare of the people. Belief that society is best served if citizens obey the law.</p> <p>Stage 6 The highest stage of the highest social level. The morality of universal ethical principles. The person acts according to internal standards independent of legal restrictions or opinions of others.</p>

Research on Kohlberg's Theory

What do cross-cultural studies reveal about the universality of Kohlberg's theory?

In a review of 45 studies of Kohlberg's theory conducted in 27 countries, Snarey (1985) found support for the virtual universality of Stages 1 through 4, and for the invariant sequence of these stages in all groups studied. Stage 5 was evident in almost all samples from urban or middle-class populations and absent in all of the tribal or village societies studied. And a more recent study by Snarey (1995) supports the conclusions reached a decade earlier.

Kohlberg indicated that most women remain at Stage 3, while most men attain Stage 4. Do men typically attain a higher level of moral reasoning than women? Carol Gilligan (1982) asserts that Kohlberg's theory is sex-biased. Not only did Kohlberg fail to include any females in his original research, Gilligan points out, but he limited morality to abstract reasoning about moral dilemmas. Furthermore, at his highest level, Stage 6, Kohlberg emphasized justice and equality but not mercy, compassion, love, or concern for others. Gilligan and others (Wark & Krebs, 1996) suggest that females tend more than males to view moral behaviour in terms of compassion, caring, and concern for others. Thus Gilligan agrees that the content of moral reasoning differs between the sexes, but she contends that males and

females do not differ in the complexity of their moral reasoning. Kohlberg's theory does emphasize rights and justice over concern for others; even so, researchers have found that females score as high as males in their moral reasoning (Walker, 1989; Walker et al., 1987).

Adult Social Relationships

Marriage

A review of 93 studies of life satisfaction revealed that married people report much higher levels of well-being than unmarried people, and that married women report slightly higher levels of well-being than married men (Mookherjee, 1997). Inglehart (1990) reported that studies in Europe and North America show that married couples were happier than people who were unmarried, separated, or divorced. Lesbian couples, too, report being happier than lesbians living alone (Wayment & Peplau, 1995). Levenson and others (1993) found that older couples tended to be happier in their marriages than middle-aged couples, experiencing less conflict and more sources of pleasure than their younger counterparts.

Divorce and Staying Single

The marriages most likely to fail are teenage marriages, those in which the bride was pregnant, and those between people whose parents were divorced.

Remember It!

More on Socialization and Social Relationships

- Match Kohlberg's level of moral reasoning with the rationale for engaging in a behaviour.

___ 1) to avoid punishment or gain a reward	a. conventional
___ 2) to ensure that human rights are protected	b. preconventional
___ 3) to gain approval or to follow the law	c. postconventional
- For adolescents, the most effective parenting style is the _____; the least effective is the _____.
 - authoritative; authoritarian
 - authoritarian; permissive
 - authoritative; permissive
 - permissive; authoritarian
- For most adolescents, the peer group serves some useful functions. (true/false)

Answers: 1. 1) b 2) c 3) a 2. c
3. true

Note that marriages that do survive are not necessarily happy. Many couples stay together for reasons other than love—because of religious beliefs, for the sake of the children, for financial reasons, or out of fear of facing the future alone.

Recently, greater interest has been directed toward adults who remain single throughout their lives. Some report lower life satisfaction for this group (Frazier et al., 1996) but this finding appears to be moderated by available social support. When social support is higher, life satisfaction is also higher (Barrett, 1999; Newtonson & Keith, 1997).

Parenthood

What effect does parenthood have on marital satisfaction?

Even though most couples want children, satisfaction with marriage does tend to decline after the birth of the first child (Belsky et al., 1989; Cowan & Cowan, 1992). Women in general find the period of child rearing the least satisfying time of marriage. The problems centre mainly on the division of work—who does what. Even though men are helping with

children more than in the past, child care still generally ends up being primarily the responsibility of the woman. Unless a woman holds very traditional views of sex roles, her dissatisfaction after the birth of the first child often depends on how much help with child care and housework she receives relative to what she expected (Hackel & Ruble, 1992).

The *On the Cutting Edge in Canada* box discusses studies that have been done on adoption.

Remaining Childless

Some couples are choosing not to have children. Recent studies suggest that the advantages for this decision include “fewer worries or problems, financial benefits, greater freedom, and career flexibility” (Connidis & McMullin, 2000). A few studies indicate that such couples are happier and find their marriages more satisfying than couples with children (Campbell, 1975; Somers, 1993). However, this same sense of satisfaction may not continue into middle and old age, when couples may wonder if their decision to remain childless was a good one (Connidis & McMullin, 2000).

on the cutting edge in canada

Adoption Research

Perhaps the most central debate in psychology is whether who we are—our sense of self, identity, or personality—develops as a result of our genetic coding passed on from our parents and family of origin, or whether our upbringing and early parental socialization determines who we become. The resolution of the “nature–nurture debate” has been hotly disputed for decades, but most psychologists would now agree that both factors influence our development.

Adoption research has contributed immensely to our understanding of human development, especially in the consideration of the similarities and differences that arise in the sense of identity of children raised in either a biological or adoptive family. Early Canadian research documented the various differences between adoptive and birth families. While both types of families may provide an excellent environment for the positive development of children, adoptive and birth families are not necessarily similar.

For well over twenty years, Michael Sobol, a psychologist at the University of Guelph, has been active both as a researcher and lobbyist on issues of adoption. His work focuses on the centrality of a personal history—a connec-

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Michael Sobol

tion with one’s past that may only be understood once a person is aware of his or her family of origin.

In his research, Dr. Sobol has argued for the need to create more

Life at Work

Today, nearly one out of three young adults will not only change jobs but will even change occupational field (Phillips & Blustein, 1994). Probably no other part of life is so central to identity and self-esteem as a person's occupation or profession, with the possible exception of motherhood for some women. A career often becomes a basic part of a person's definition of self and a major factor in the way others define him or her. A career can define your lifestyle—the friends you choose, the neighbourhood you live in, your habits, and even your ideas and opinions. And job satisfaction affects general life satisfaction. Yet, most retirees are happy to leave the world of work. Generally, those most reluctant to retire are better-educated, hold high-status jobs with a good income, and find fulfillment in their work. Life satisfaction also appears to be related to participation in community service and social activities (Harlow & Cantor, 1996).

Personality and Social Development in Middle Age

Many people consider middle age the prime of life. Reaching middle age, men and women begin to

express personality characteristics that they had earlier suppressed. Men generally become more nurturant and women more assertive (Neugarten, 1968). Many women “feel that the most conspicuous characteristic of middle age is the sense of increased freedom” (Neugarten, 1968, p. 96).

Wink and Helson (1993) found that after children leave home, most women work at least part-time and tend to experience an increase in self-confidence and a heightened sense of competence and independence. Contrary to the conventional wisdom—that parents feel empty and depressed when their children grow up and leave—most parents seem to be happier when their children are on their own (Campbell, 1975; Miller, 1976; Rollins & Feldman, 1970). Parents have more time and money to pursue their own goals and interests, and they are happy about it. “For the majority of women in middle age, the departure of teenage children is not a crisis, but a pleasure. It is when the children do *not* leave home that a crisis occurs (for both parent and child)” (Neugarten, 1982, p. 163). For most people, an empty nest is a happy nest.

openness in adoption policies. Adoption laws, he argues, must recognize the right of an individual to understand where he or she comes from, to know his or her background or family history. His research has shown, for instance, that learning about the adoptee's family of origin need not become a threat to the adopted family. Instead, he suggests that adoptive parents and the adopted child should work together on “a journey of discovery in which the adoptee begins to write chapter 1 of his or her life. Without that information, the adoptee's own self-understanding is destined to start at chapter 2” (Sobol, personal communication, 2000). The biological mother, too, should have the option of reconnecting with her child at some point in the future. Her decision to part with a child is often related to difficult

personal circumstances beyond her control. The choice to reconnect at some point in the future should not be discouraged by a rigid adoption system.

Dr. Sobol's research has examined some of the psychological ramifications of the adoption process (Sobol & Cardiff, 1983; Sobol & Daly, 1992). He has shown that the adopted family's negative discussions about the birth family is often associated with a greater desire on the part of the adoptee to search for the family of origin. Similarly, openness in adoption, the early positive discussion of the fact that one is adopted, and more information provided about the birth family tend to be associated with better outcomes. It is also interesting to note that greater similarity between adopted parents and the adoptee in terms of

aptitudes and interests also tends to be connected with more positive psychological outcomes for the adoptee (Sobol et al., 2000).

But Dr. Sobol's interests in adoption issues have not been strictly limited to research. He has also been very active in lobbying efforts to change Canadian laws to open adoption records. In a contribution to the Royal Commission on New Reproductive Technology (Sobol & Daly, 1992), he argued for the need of offspring made possible through reproductive technology to have access to identifying genetic material. For his efforts, he received the David Kirk Award for research in Adoption given by the Adoption Council of Canada and, more recently, the 2000 Adoption Activist Award by the North American Council on Adoptable Children.

Special Concerns in Later Adulthood

Age 65 or 70 is generally considered the beginning of old age. What are your perceptions of life after 65? Complete *Try It!* by answering *true* or *false* to the statements about older adults.

Try It!

Testing Perceptions of Older Adults

Are the following statements true or false?

- 1. Older adults tend to express less satisfaction with life in general than younger adults do.
- 2. A lack of money is a serious problem for most people over 65.
- 3. Marital satisfaction declines in old age.
- 4. Mandatory retirement forces most workers out of jobs before they are ready to leave.
- 5. The majority of retirees do not adjust well to retirement.
- 6. A large percentage of individuals over 85 end up in nursing homes or institutions.

Answers: All of the statements are false!

Most people give the wrong answers to questions such as these about older adults. The statements are all false. But one thing we do know is that when we reach our 70s or 80s, strenuous physical activity is definitely out for us—right? Wrong! Many older adults are physically (and mentally) running circles around younger people.

Fitness and Aging

Men and women in their 60s and 70s who exercise properly and regularly can have the energy and fitness of people 20 to 30 years younger (deVries, 1986).

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Older adults who stay fit and active have a better chance of remaining healthy.

Recent research suggests that physical exercise enhances the performance of older adults on tests of reaction time, working memory, and reasoning (Clarkson-Smith & Hartley, 1990). “People rust out faster from disuse than they wear out from overuse” (Horn & Meer, 1987, p. 83). In a recent study, 100 frail nursing-home residents, whose average age was 87, exercised their thigh and hip muscles vigorously on exercise machines for 45 minutes three times a week. At the end of 10 weeks, they had increased their stair-climbing power by 28.4 percent and their walking speed by 12 percent, and four were able to exchange a walker for a cane (Fiatarone et al., 1994). Most of us have the potential to remain fit and vigorous as we age. As pointed out in recent research by Benjamin Schlesinger (1996), even the pleasures of sex are still enjoyed by many who are well advanced in years.

Terminal Illness and Death

One of the developmental tasks for the elderly is to accept the inevitability of death and to prepare themselves for it. At no time does this become more critical than when people face a terminal illness.

Kübler-Ross on Death and Dying

According to Kübler-Ross, what stages do terminally ill patients experience as they come to terms with death?

Psychiatrist Elisabeth Kübler-Ross (1969) interviewed some 200 terminally ill people and found com-

monalities in their reactions to dying. In her book *On Death and Dying*, she identifies five stages that most of those she interviewed went through in coming to terms with death.

In the first stage, *denial and isolation*, most patients feel shock and disbelief. When denial can no longer be maintained, it gives way to the second stage, *anger*, which is marked by envy of those who are young and healthy, and resentment. “Why me?” is the question that rages inside. In the third stage, *bargaining*, the person attempts to postpone death for a specific period of time in return for “good behaviour.”

Eventually the bargaining gives way to the fourth stage, *depression*. This stage brings a great sense of loss—physical loss, loss of ability to work, loss of the role of mother, father, husband, or wife. This depression takes two forms—depression over past losses and over impending losses.

If enough time remains, patients usually reach the final stage, *acceptance*, in which they are neither depressed nor angry. They stop struggling against death and are able to contemplate its coming without fear or despair. Kübler-Ross found that the family also goes through stages similar to those experienced by the patient.

Kübler-Ross has made the public aware of the needs and feelings of the dying. Although other researchers acknowledge that her proposed stages often do occur, they deny their universality and their

invariant sequence (Butler & Lewis, 1982; Kastenbaum, 1992). We must keep in mind that each person is unique. We should not expect the reactions of all the terminally ill to conform to some rigid sequence of stages; nor should we dismiss their anguish as merely a stage they are going through.

Bereavement

Many of us have experienced the grieving process—the period of bereavement that follows the death of a loved one and sometimes lingers long after. Contrary to what many believe, those who suffer the most intense grief initially, who weep inconsolably and feel the deepest pain, do not get through their bereavement more quickly than others (Bonanno et al., 1995). For most people the loss of a spouse is the most stressful event of a lifetime. Both widows and widowers are at a greater risk for health problems and have a higher mortality rate, particularly within the first six months, than their age mates who are not bereaved (Martikainen & Valkonen, 1996). Folkman and her colleagues (1996) found that the grieving process for male caregivers whose partners were dying of AIDS was similar to that experienced by spouses.

Death and dying are not pleasant subjects, but remember that life itself is a terminal condition, and each day of life should certainly be treasured like a precious gift.

Remember It! Adults

- The highest levels of life satisfaction are reported by _____; the lowest levels by _____.
 - singles; married people
 - married people; widowed people
 - married people; singles
 - married people; divorced people
- Compared with older adults who are mentally and physically active, younger adults do better on
 - tests requiring speed.
 - comprehension tests.
 - general information tests.
 - practical problem solving.
- According to Kübler-Ross, the first stage experienced by terminally ill patients in coming to terms with death is _____; the last stage is _____.
 - anger; depression
 - denial; depression
 - bargaining; acceptance
 - denial; acceptance

Apply It!

Teenage Pregnancy

The Consequences for Mother and Child

Among teens who give birth before 18 and choose to keep their babies, half will never complete high school. As a group, their earning power will be about half that of those who did not have babies at this early age (National Research Council, 1993), and many will eventually go on welfare (Brooks-Gunn & Furstenberg, 1986). About one-third of pregnant teenagers marry the baby's father, but the divorce rate for these marriages is two to three times the national average.

Early pregnancy can have serious physical consequences. Teen mothers are 60 percent more likely than women in their 20s to suffer complications or death during pregnancy or delivery. And pregnant teens who do not have abortions are more likely to come from poor backgrounds, which means that they are less likely to receive early prenatal medical care and may suffer from inadequate nutrition. As a result, they are twice as likely to give birth to premature or low-birth-weight infants than mothers who are over 18, and their babies are at greater risk for poor health and emotional and educational problems (Brooks-Gunn & Furstenberg, 1986; Furstenberg et al., 1989). Moreover, their babies have two to three times the normal risk of dying in infancy. And since teen mothers are more likely than older mothers to be single parents living in poverty, their

children often grow up in an environment where economic security, discipline, and attention are all lacking.

Teen mothers often are unable to attend school because there is no one to care for the baby. They also face economic barriers. Although most teen mothers have some work experience, they find it difficult to earn enough to support themselves and pay for child care.

Little research has been done on teen fathers. The few studies that have been conducted have found that many young fathers want to play a part in the lives of the mother and child, but they also want to complete their education and find a good job. They therefore experience stresses similar to those affecting the mother. A teen father is more likely to marry the mother of his child if he can find a job that provides enough income to support a family. However, few such jobs are available to young people who have not completed high school.

Preventing Pregnancy and Cultural Contradictions

Many sexually active teens between 15 and 19 do not use contraception at all; many others use it only occasionally.

Why are teenagers unwilling to use contraceptives? Some feel guilty about their sexual activity; to them, planning to have sex seems more wrong than simply letting it happen spontaneously. Some find it too embarrassing to buy contraceptives. Others believe con-

traceptives interfere with sexual pleasure. In addition, many sexually active teens greatly underestimate the risk of getting pregnant. As a result, 62 percent of those who are sexually active and fail to use contraceptives do become pregnant (Zelnik et al., 1979).

Parents are divided on the question of sex education in schools. Some favour it; others fear that teaching children about sex will encourage them to engage in sexual activities. Scores of magazines and TV programs focus on sex and casual sexual activity, yet frank discussion of sexual behaviour in homes and schools is not common. Thus, teenagers are led to desire sex but not taught much about how to control their desires or avoid the ill consequences of sexual behaviour if they engage in it.

For whatever reasons, (including fear of AIDS), a growing number of teens have decided to postpone sex until the time is right for them.

There are two competing schools of thought on how best to deal with teen sex and its consequences (White & DeBlasse, 1992). One view accepts teen sex as inevitable and natural and focuses on preventing its negative consequences through condom distribution and other birth control measures. The other view holds that teens can be taught to avoid sexual intercourse, or to delay it until they are older, and recommends helping them understand their sexual desires and how to deal with them.



KEY TERMS

- accommodation, p. 264
 adolescent growth spurt, p. 262
 assimilation, p. 264
 authoritarian parents, p. 275
 authoritative parents, p. 275
 autonomy versus shame and doubt, p. 269
 basic trust versus basic mistrust, p. 269
 centration, p. 265
 chromosomes, p. 254
 concrete operations stage, p. 265
 conservation, p. 265
 conventional level of moral reasoning, p. 277
 critical period, p. 257
 cross-sectional study, p. 253
 developmental psychology, p. 252
 dominant gene, p. 255
 ego integrity versus despair, p. 270
 embryo, p. 256
 fetal alcohol syndrome, p. 258
 fetus, p. 256
 formal operations stage, p. 266
 fraternal (dizygotic) twins, p. 256
 generativity versus stagnation, p. 270
 genes, p. 254
 habituation, p. 261
 identical (monozygotic) twins, p. 256
 identity versus role confusion, p. 270
 imaginary audience, p. 276
 industry versus inferiority, p. 269
 initiative versus guilt, p. 269
 intimacy versus isolation, p. 270
 longitudinal study, p. 253
 low-birth-weight baby, p. 258
 menarche, p. 262
 menopause, p. 262
 nature–nurture controversy, p. 252
 neonate, p. 259
 object permanence, p. 264
 permissive parents, p. 275
 personal fable, p. 276
 postconventional level of moral reasoning, p. 277
 preconventional level of moral reasoning, p. 277
 prenatal, p. 256
 preoperational stage, p. 264
 preterm infant, p. 258
 psychosocial stages, p. 269
 puberty, p. 262
 recessive gene, p. 255
 reflexes, p. 259
 reversibility, p. 265
 schema, p. 263
 secondary sex characteristics, p. 262
 sensorimotor stage, p. 264
 separation anxiety, p. 273
 sex chromosomes, p. 254
 socialization, p. 268
 teratogens, p. 257

THINKING CRITICALLY

Evaluation

In your opinion, do Erikson's psychosocial stages for adolescence and early adulthood accurately represent the major conflicts of these periods of life? Explain.

Point/Counterpoint

Prepare an argument supporting each of these positions:

- Physical development peaks in the early adult years and declines thereafter.
- Physical development can be maintained throughout life.

Psychology in Your Life

Using Erikson's theory, try to relate the first four stages of psychosocial development to your life.

- Using Baumrind's scheme, classify the parenting style your mother and/or father used in rearing you.
- Cite examples of techniques they used that support your classification.
 - Do you agree with Baumrind's conclusions about the effects of that parenting style on children? Explain.

SUMMARY & REVIEW

Developmental Psychology: Basic Issues and Methodology

What are two types of studies that developmental psychologists use to investigate age-related changes?

To investigate age-related changes, developmental psychologists use (1) the longitudinal study, in which the same group of participants is followed and measured at different ages; and (2) the cross-sectional study, in which researchers compare groups of participants of different ages with respect to various characteristics to determine age-related differences.

Heredity and Prenatal Development

How are hereditary traits transmitted?

Hereditary traits are transmitted by genes, which are located on each of our 23 pairs of chromosomes.

When are dominant or recessive genes expressed in a person?

When there are alternative forms of a gene for a specific trait, the dominant gene will be expressed. A recessive gene is expressed when it is paired with another recessive gene.

What are the three stages of prenatal development?

The three stages of prenatal development are the period of the zygote, the period of the embryo, and the period of the fetus.

What are some negative influences on prenatal development, and when is their impact greatest?

Some common hazards in the prenatal environment include certain prescription and non-prescription drugs, psychoactive drugs, poor maternal nutrition, and maternal infections and illnesses. Their impact is greatest during the first trimester.

Physical Development and Learning

What are the perceptual abilities of the newborn?

All of the newborn's senses are functional at birth, and the neonate already has preferences for certain odours, tastes, sounds, and visual configurations.

What types of learning occur in the first few days of life?

Newborns are capable of habituation and can acquire new responses through classical and operant conditioning and observational learning.

What physical changes occur during puberty?

Puberty is a period marked by rapid physical growth (the adolescent growth spurt), further development of the reproductive organs, and the appearance of the secondary sex characteristics. The major event for girls is menarche (first menstruation); for boys it is the first ejaculation.

What are the physical changes associated with middle age?

Physical changes associated with middle age are a need for reading glasses, a greater susceptibility to life-threatening disease, menopause (for women), and a declining reproductive capacity (for men).

The Cognitive Stages of Development: Climbing the Steps to Cognitive Maturity

What were Piaget's beliefs regarding stages of cognitive development?

Piaget believed that intellect develops in four stages, each representing a qualitatively different form of reasoning and understanding. He also believed the stages to be universal and to occur in an invariant sequence, although the rate at which children progress through them might differ.

What is Piaget's sensorimotor stage?

During the sensorimotor stage (birth to age two), infants gain knowledge and understanding of the world through their senses and motor activities. The major accomplishment of this stage is object permanence.

What cognitive limitations characterize a child's thinking during the preoperational stage?

Children at the preoperational stage (ages two to seven) are increasingly able to represent objects and events mentally, but they exhibit egocentrism and centration, and they have not developed the concepts of reversibility and conservation.

What cognitive abilities do children acquire during the concrete operations stage?

When working on concrete problems, children at the concrete operations stage (ages 7 to 11 or 12 years) become able to decentre their thinking and to understand the concepts of reversibility and conservation.

What new capability characterizes the formal operations stage?

At the formal operations stage (ages 11 or 12 years and beyond) adolescents are able to apply logical thinking to abstract problems and hypothetical situations.

In general, can adults look forward to an increase or decrease in intellectual performance from their 20s to their 60s?

Although younger people tend to do better on tests requiring speed or rote memory, intellectual performance shows modest gains until the mid-40s. A modest decline occurs from the 60s to the 80s. Scholars, scientists, and those in the arts are usually most productive in their 40s.

Socialization and Social Relationships

What is Erikson's theory of psychosocial development?

Erikson believed that individuals progress through eight psychosocial stages during the lifespan, each defined by a conflict with the social environment that must be resolved. The four stages in childhood are basic trust versus basic mistrust (birth to age two), autonomy versus shame and doubt (ages one to three), initiative versus guilt (ages three to six), and industry versus inferiority (age six to puberty). Adolescents experience the fifth stage, identity versus role confusion. The three stages of adulthood are intimacy versus isolation (young adulthood), generativity versus stagnation (middle adulthood), and ego integrity versus despair (late adulthood).

What did Harlow's studies reveal about maternal deprivation and attachment in infant monkeys?

Harlow found that the basis of attachment in infant monkeys is contact comfort, and that monkeys raised with surrogates showed normal learning ability but abnormal social, sexual, and emotional behaviour.

When does the infant have a strong attachment to the mother?

The infant has usually developed a strong attachment to the mother at six to eight months.

What are the four attachment patterns identified in infants?

Ainsworth identified four attachment patterns: secure, avoidant, resistant, and disorganized/disoriented attachments.

What are the three parenting styles discussed by Baumrind, and which did she find most effective?

The three parenting styles discussed by Baumrind are the authoritarian, the permissive, and the authoritative; she found authoritative to be best.

How do peers contribute to the socialization process?

The peer group serves a socializing function by modeling and reinforcing behaviours it considers appropriate, by punishing inappropriate behaviour, and by providing an objective measurement against which children can evaluate their own traits and abilities.

What are Kohlberg's three levels of moral reasoning?

At Kohlberg's preconventional level, moral reasoning is based on the physical consequences of an act—"right" is whatever averts punishment or brings a reward. At the conventional level, right and wrong are based on the internalized standards of others—"right" is whatever helps or is approved of by others, or whatever is consistent with the laws of society. Postconventional moral reasoning involves weighing moral alternatives—"right" is whatever furthers basic human rights.

What do cross-cultural studies reveal about the universality of Kohlberg's theory?

Cross-cultural studies support the universality of Kohlberg's Stages 1 through 4 and their invariant sequence. Stage 5 was found in almost all urban or middle-class samples but was absent in the tribal and village folk societies.

What effect does parenthood have on marital satisfaction?

Even though most couples want children, satisfaction with marriage, particularly in women, tends to decline after children arrive. This decline can be explained in part by the unequal workload carried by mothers employed outside the home.

Special Concerns in Later Adulthood

According to Kübler-Ross, what stages do terminally ill patients experience as they come to terms with death?

Kübler-Ross maintains that terminally ill patients go through five stages in coming to terms with death: denial, anger, bargaining, depression, and acceptance.